OKLAHOMA RESEARCH DAY 2008

NORTHEASTERN STATE UNIVERSITY
BROKEN ARROW, OKLAHOMA

11.14.08

ABSTRACTS
Abstract Submission History, 1999-2008

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Abstract Submission by Discipline

2008

A Arts & Music: 37
B Business: 94
C Education: 116
D Liberal Arts: 116
E Math & Science: 231
On behalf of the Council on Research for Regional Universities and NSU President Dr. Don Betz, let me welcome you to the 10th annual Oklahoma Research Day, 2008. This year represents the largest number of research abstracts ever submitted for an Oklahoma Research Day event. Clearly, research is being widely encouraged, supported, and carried out in Oklahoma to an ever growing extent. This exciting trend would not be possible without the consortium of Oklahoma Regional Universities as well as all institutions of higher education in the State of Oklahoma. The quest for new information, processes and knowledge is, for most of us, the most honorable of all pursuits.

Significant financial support for Oklahoma Research Day has been provided by the Oklahoma State Regents for Higher Education (OSRHE), the National Science Foundation (NSF)-Oklahoma Experimental Program for Stimulating Competitive Research (EPSCoR), the National Institutes for Health (NIH)-INBRE, the Oklahoma Center for the Advancement of Science and Technology (OCAST), and the participating Oklahoma Regional Universities. Without this support, Oklahoma Research Day would not be possible and so significant appreciation is extended to these groups.

I would like to express significant appreciation to the University of Central Oklahoma for hosting Oklahoma Research Day for the previous nine years. Northeastern State University is proud to provide a host environment for both 2008 and 2009, which coincides with NSU’s Centennial Celebration. On behalf of all universities, supporters, faculty, staff and students involved in Oklahoma Research Day, I extend my thanks and welcome to you all. May your day be productive, may you network and collaborate well with others in your discipline, may you demonstrate your research with pride and most of all, may you both learn from and enjoy your day to the fullest possible extent.
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Dr. Kelvin K. Droegemeier

Kelvin K. Droegemeier earned a B.S. with Special Distinction in Meteorology in 1980 from the University of Oklahoma, and M.S. and Ph.D. degrees in atmospheric science in 1982 and 1985, respectively, from the University of Illinois at Urbana-Champaign. He joined the University of Oklahoma in September, 1985 and was promoted to Professor in July, 1998.

Dr. Droegemeier was co-founder in 1989 of the NSF Science and Technology Center (STC) for Analysis and Prediction of Storms (CAPS), and served for five years as its deputy director. He then directed CAPS from 1994 until 2006, and today CAPS is recognized around the world as the pioneer of storm-scale numerical weather prediction. Dr. Droegemeier is now Director Emeritus of CAPS. In 1998, Dr. Droegemeier was named a President’s Associates Presidential Professor at the University of Oklahoma, and for 2 years, beginning in summer 1999, wrote a daily weather science column for the Daily Oklahoman newspaper, which is Oklahoma’s largest. He was awarded a Regents’ Professorship at OU in fall, 2001, which is a life-long title. In 2003, Dr. Droegemeier co-founded the NSF Engineering Research Center for Collaborative Adaptive Sensing of the Atmosphere (CASA) and currently serves as its deputy director. He is the only person in the nation to have co-founded an NSF Science and Technology Center and an NSF Engineering Research Center. In 2003, Dr. Droegemeier co-founded the NSF Engineering Research Center for Collaborative Adaptive Sensing of the Atmosphere (CASA) and currently serves as its deputy director. He is the only person in the nation to have co-founded an NSF Science and Technology Center and an NSF Engineering Research Center. In 2004, he was awarded the Roger and Sherry Teigen Presidential Professorship and became the first OU professor to receive two Presidential Professorships. In 2005, he was named the Weathernews Chair in Applied Meteorology at the University of Oklahoma and also the Director of the Sasaki Institute, a non-profit organization that fosters the development and application of knowledge, policy, and advanced technology in the government, academic and private sectors. In 2004, Dr. Droegemeier was appointed by President George W. Bush to a 6-year term on the National Science Board, the governing body of the National Science Foundation that also provides science policy guidance to the Congress and President. In 2005, Dr. Droegemeier was appointed Associate Vice President for Research at the University of Oklahoma.

Dr. Droegemeier has been an invited speaker at or organizer of several international conferences and symposia on meteorology, high-performance computing, and computational fluid dynamics in the U.S., England, Japan, Australia, Korea, and France, notably the series of Joint US-Korea Workshops on Storm and Mesoscale Weather Analysis and Prediction, which he initiated in the mid 1990s. Dr. Droegemeier has generated over $40 million in external research funding. He has authored and co-authored nearly 60 refereed journal articles and over 200 conference publications. He is a Fellow of the American Meteorological Society, and in 2004 was elected a Councilor.
Dr. Don Betz

President Don Betz has enjoyed a distinguished career in higher education for nearly 38 years. During that time he developed a reputation for teaching and encouraging students, leadership development, and diplomacy through his international activities, most notably associated with the United Nations and its affiliated non-government organizations.

On July 1, 2008, Dr. Betz became the 17th president of Northeastern State University, where he began his academic career in 1971. He served as Chancellor at the University of Wisconsin-River Falls since 2005, and previously was Provost and Vice President for Academic Affairs at Palmer College, Davenport, Iowa; and Provost and Vice President for Academic Affairs and Professor of Political Science at the University of Central Oklahoma.

Since 2002, Dr. Betz has been a member of the founding implementation committee for AASCU’s American Democracy Project. He will soon begin a two-year term as chair of the AASCU International Education Committee, having served as vice-chair since 2006. Dr. Betz was the recipient of the 1991 Medal of Excellence in University Teaching from the Oklahoma Foundation for Excellence.

He received his B.A. in Political Science and Philosophy from the University of San Francisco and his M.A. and Ph.D. in International Studies from the Graduate School of International Studies at the University of Denver. He completed Harvard University’s Institute for Educational Management (IEM).

Dr. Houston Davis

Dr. Houston Davis currently serves as Vice Chancellor for Academic Affairs for the Oklahoma State Regents for Higher Education. Prior to his work at OSRHE, Davis worked as Associate Vice Chancellor for Academic Affairs for the Tennessee Board of Regents, in academic leadership for Austin Peay State University, as a fiscal and academic affairs staff member for the Tennessee Higher Education Commission and as a regional counselor for the University of Memphis. In addition to these roles, he serves as the Project Director for the National Educational Needs Index project. He received his Ph.D. from Vanderbilt University with earlier degrees from the University of Memphis and Tennessee State University.
Dr. Glen D. Johnson

Dr. Glen D. Johnson became the 8th chancellor of the Oklahoma State System of Higher Education in January 2007. Previously, Dr. Johnson served as president of Southeastern Oklahoma State University in Durant for ten years. He began his career in higher education as Director of Public Policy and Professor of Law at the University of Oklahoma College of Law.

Before making his mark as one of the state’s outstanding advocates for higher education, Dr. Johnson established a reputation for leadership through his service in the Oklahoma House of Representatives from 1982 to 1996, and as Speaker of the House from 1990 to 1996. At the time of his election as Speaker he was the youngest sitting Speaker in the United States.

Dr. Johnson is recognized both statewide and nationally as a strong, untiring advocate for funding for Oklahoma education, both secondary and higher education. His powerful political career was a model of success in leadership, as evidenced by the variety of his many major accomplishments and the improvements he initiated that have benefited citizens throughout Oklahoma.

A native of Muskogee, Dr. Johnson is a graduate of the University of Oklahoma, with an undergraduate degree in political science and a Juris Doctor degree from the University of Oklahoma’s College of Law.

Dr. Frank Waxman

Dr. Frank Waxman is a Professor of Microbiology & Immunology at The University of Oklahoma Health Sciences Center. Dr. Waxman completed his undergraduate education at UCLA and received his Ph.D. in Microbiology from The University of Illinois Medical Center. He held faculty positions at Washington State University and Ohio State University and served as a Senior Staff Fellow at the NIH Rocky Mountain Laboratories. He is a patent holder, co-founder of a publicly traded biotechnology company, the author of more than fifty scientific publications, and the recipient of more than $50 million dollars in external grant funding. Dr. Waxman previously served as the Vice President for Research at The University of Oklahoma Health Sciences Center. Dr. Waxman currently serves as the Director of Oklahoma’s Experimental Program to Stimulate Competitive Research (EPSCoR) under the auspices of the State Regents for Higher Education and as the Principal Investigator of Oklahoma’s $18 million dollar IDeA Network for Biomedical Research Excellence (INBRE) grant and $9 million NSF EPSCoR grant. He was inducted into the Oklahoma Higher Education Hall of Fame in October 2008.
## Sponsors

Thank You to the Following Sponsors

**Oklahoma State Regents for Higher Education (OSRHE)**

**Oklahoma Experimental Program to Stimulate Competitive Research (EPSCoR) — National Science Foundation**

**Oklahoma Center for Advancement of Science and Technology (OCAST)**

**National Institutes of Health (NIH) Oklahoma IDeA Network of Biomedical Research Excellence (INBRE).**

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01 : ART & DESIGN

01.01.01
FROM SYMBOLS TO BRANDING: MAPPING THE VISUAL IDENTITY OF CHURCHES

UNIVERSITY OF CENTRAL OKLAHOMA

Mr. Corey Lee Fuller - EDMOND, OK, DESIGN

Branding implies the positioning of corporate entities firmly within the consumer psyche. In a competitive market, companies must differentiate themselves from the competition by sending a unique and resonating message. But now an entirely different type of entity is considering branding: the church.

Branding, which generally connotes ideas of products, consumers, and competition, takes on new forms in an environment that seeks not to make money, but does intend to increase its “customer base.” Even very early Christians utilized symbols, employing these marks as identifiers or as media to communicate a theological message, but churches are now using design in ways never before conceived.

This study, titled From Symbols to Branding: Mapping the Changing Visual Identity of churches, follows the evolution from simple symbols to complex visual identity systems. This research will explore when the shifts occurred and discuss the contributing factors such as capitalism and consumerism, and the results of placing the church inside the context of branding, a realm typically reserved for businesses.

01.01.02
PUBLIC ART FOR TULSA: EXPLORING OUR FUTURE

UNIVERSITY OF OKLAHOMA

Anna Kate Grider - TULSA, OK, COLLEGE OF ARCHITECTURE

This project focuses on the practice of public art planning in order to determine the components necessary to creating an effective Public Art Master Plan for Tulsa. The results of this study will be used to gain an understanding of what impact public art can have on Tulsa, so that we can create better public spaces.

The project has three main components:

1. A comprehensive review of best practice in public art planning
2. Production of a Request for Proposal for a Master Plan for Public Art in Tulsa
3. Selection of an area of the city for design to show visually what impact the implementation of best practices in public art planning can have on Tulsa.

The project begins with a discussion of definitions of art and public art and the impact public art can have on a city or space. The context of art and public art in the City of Tulsa is then set. Case studies are used to review best practices in public art planning. The results of the case studies were analyzed for their application to Tulsa, in order to produce the Request for Proposal.

The final stage of the project is the design stage. The criterion to choose the design site was based on those areas of the city which currently have little or no public art. A database of public art in Tulsa was used to map the location of public art with GIS software. The area chosen for design will become a visual example of the impact of best practice in public art planning from the beginning of an areas contact with public art.

01.01.03
WARNING SIGNS: AVOIDING CONSUMER DEBT

UNIVERSITY OF CENTRAL OKLAHOMA

Dan Paulus - EDMOND, OK, DESIGN

Warning signs can be found everywhere from “Don’t feed the Bears” in Yellowstone National Park, “Bump Ahead” on local roads, to “fire Danger” under the washer door. Warning systems have been established to prevent injury or harm due to uncertainty. The implications that warning signs provide, signify the protection from imminent harm. The impact these warning systems have on mankind is the preservation of life or at least a decline in harm due to heeded warnings. If a typical warning system can prevent harm, enacting a warning system for debt awareness has the potential to improve peoples lives.

This study will examine how visual warning signs/systems are used and what attributes make them effective tools in reducing injury or harm. Drawing from current successful warning systems, an attempt will be made to design a visual system of warning signs for consumer awareness of debt.

The implication of a warning system within the consumer-spending arena has the potential to help consumers curb both necessary and unnecessary spending. With the current mortgage debacle and America’s growing consumer debt, this study will provide positive end results for the consumer and possibly help reduce the problem of growing consumer debt.
01.01.04
THE PROS AND CONS OF USING FACEBOOK IN THE STUDIO CLASSROOM

UNIVERSITY OF CENTRAL OKLAHOMA
Mr. keith r webb - EDMOND, OK, DESIGN

This study discusses how Facebook has been used as a tool in a design studio/classroom for the distribution of course content, the application of studio objectives, time management and development of design/illustration student work. Included in the presentation will be a qualitative review of how group forums, dealing with illustration curriculum, may have benefited the members who participated with common educational goals. Additionally, important issues of administrative control, content management, expandability and how privacy in such a globally accessible venue can be achieved. It is intended that this presentation might help those who are considering using Facebook as an instructional tool and whether the pros out weigh the cons.

01.01.05
RESENSITIZING THE DESIGN STUDENT

UNIVERSITY OF CENTRAL OKLAHOMA
Amy Johnson - EDMOND, OK, DESIGN
Rukmini Ravikumar - EDMOND, OK, DESIGN

This paper asks the question, can you coerce students to look and therefore learn? Blame is often placed on technology and mass media for today’s disassociated student, the former for serving as a convenient crutch and the latter for de-sensitizing students from their environments. The authors discuss the development and results of implementing forced observational tasks within class-exercises, project requirements and critique processes to heighten critical thinking in design classrooms.

01.01.06
ASSESSING TORNADO SAFETY BUILDING CODES IN OKLAHOMA

UNIVERSITY OF CENTRAL OKLAHOMA
Mr. Kevin C. Steiner - EDMOND, OK, DESIGN

Tornadoes are a weather phenomenon that can happen in many parts of the United States. However, Windows to the Universe (2000) states most tornadoes form in an area defined as Tornado Alley, which includes a large portion of Oklahoma. From 1950 to 2004 The National Weather Service Forecast Office (n.d.) states that Oklahoma has seen 3,028 tornadoes, and Oklahoma County, reporting 91 tornadoes, ranks second of the 77 counties in reporting tornadoes. This study examines building codes of six cities included in the Oklahoma City metropolitan area to see if any tornado specific building codes exist. Literature on tornadic activity and tornado intensity for each of the six cities was reviewed and reported within this study. The results of this study will benefit architects, designers, home builders, and residents of Oklahoma City metropolitan area because this study wants to determine if structures are constructed with tornado specific building codes.

01.01.07
THE ARTIST AS STORYTELLER: A NATIVE AMERICAN PERSPECTIVE

UNIVERSITY OF CENTRAL OKLAHOMA
Isolete De Almeida - EDMOND, OK, ART

“The Artist as Storyteller: A Native American Perspective”

In the early 1900s a group of Native American artists attended the University Of Oklahoma and under the guidance of the head of the art department Oscar Jacobson became known as the “Kiowa Five”. They were all from the Anadarko area and their names are James Auchiah, Spencer Asah, Jack Hokeah, Stephen Mopope, Monroe Tsatoke, and for a brief time Lois Smoky, a female artist with much talent. These artists became international celebrities and a strong influence on other Native American artists. They painted the life, experiences, and values of their people.

This presentation is as much about them as it is about the principles for appreciating Native American art outlined by a group of art historians, critics, writers, anthropologists, and native and non-native artists gathered at the National Museum of the American Indian.

01.01.08
DIGITAL STORYTELLING IN A POSTMODERN WORLD

CAMERON UNIVERSITY
Dr. Linda Wright Smith - LAWTON, OK, MULTIMEDIA DESIGN

What is “Digital Storytelling” and what significance does it have for multimedia design students? Using computer software for digitalizing video, photography, audio, and graphics, we can create engaging, interactive and even animated digital stories. These stories can take on the form of narratives, documentaries, organization promotional histories, experimental dialogues, and/or postmodernistic time warps. We use stories to define ourselves in relation to others, our neighborhoods, country and history. It provides insight into our world-view. Storytelling is even used to sell products, create brand identification, reference political parties, promote ideologies, and
as a teaching tool. So how does one define digital storytelling? We investigated that broad scope of forms and approaches used by people around the world to tell their stories. Additionally, we asked what that phenomenon has to do with people in the field of multimedia.

01.01.09
MATH IN DRAWING CLASS
SOUTHWESTERN OKLAHOMA STATE UNIVERSITY
E.K. Jeong . WEATHERFORD, OK, ART
What is the relationship between Math and Drawing? At a glance, they do not seem to go together. A person may think artists can draw beautiful and proportionate objects just with their talents. However, the talent is only a small portion of the ingredients for a successful drawing. It takes training, continuous practice, some inspiration, and many steps of calculation. A representational drawing takes logic and practice due to the importance of accuracy within its proportion. Its use of math starts with a rough measuring process of ratios and angles. Then, math is also involved in the transfer process using a grid system from a small idea sketch to an actual size work, often larger than the sketch. In addition, a contemporary college drawing class uses technology to print a quality reference image of a subject, to modify and/or print collage material, and to create a digital portfolio with appropriate format and file size, which requires mathematical calculation. Consequently, drawing uses math of the traditional as well as the digital age.

02 : MUSIC
01.02.01
CONGREGATIONAL SINGING OF THE OFFERTORY
NORTHEASTERN STATE UNIVERSITY
Dr. Mark Bighley . TAHLEQUAH, OK, PERFORMING ARTS
This article, published in CrossAccent, the Journal of the Association of Lutheran Church Musicians (vol. 16, no. 2, 2008), lists the hymn options in Evangelical Lutheran Worship, Lutheran Book of Worship, Lutheran Service Book and the hymnal supplement With One Voice that correspond to the appointed offertory text for each Sunday in the Lutheran Church year.

01.02.02
PERFORMANCE OF SELECTED LITERATURE FOR THE PIANO
NORTHEASTERN STATE UNIVERSITY
Tatsuo Kohjima . TAHLEQUAH, OK, PERFORMING ARTS
This junior recital included the following literature: Partita in B-flat major, BWV 825 (Praeludium, Allemande, Sarabande) by Johann Sebastian Bach; the Allegro moderato and Presto from the Sonata in B Minor, Hob. 16:32 by Joseph Haydn; the Rhapsody in G Minor, Op. 79, No. 2 by Johannes Brahms; La vallée des cloches by Maurice Ravel; and the Fantasia by Benjamin Lees.

01.02.03
PERFORMANCE OF SELECTED JAZZ LITERATURE
NORTHEASTERN STATE UNIVERSITY
Cory Martin . TAHLEQUAH, OK, PERFORMING ARTS
On this Senior Recital, held on April 14, 2008, the following works were performed: La Rosita by Allan Stuart/Paul Dupont, arr. Cory Martin; Jinriksha by Joe Henderson; Body and Soul by Heyman/Green as performed by Coleman Hawkins; Bird Food by Ornette Coleman; Imperial Strut by Russell Ferrante; Always and Forever by Pat Metheny, arr. Bob Curnow; and The Roach by Cory T. Martin.

01.02.04
THE PERFORMANCE OF SELECTED LITERATURE FOR VOICE
NORTHEASTERN STATE UNIVERSITY
Charlotte Blakely . TAHLEQUAH, OK, PERFORMING ARTS
This recital was present on November 1, 2007 on the NSU Campus in Tahlequah: Parto, parto from La clemenza di Tito by Wolfgang Amadeus Mozart; Le Spectre de la rose and Sur les lagunes from Les Nuits d’été by Hector Berlioz; Meine Lieder,Die Mainacht and Von ewiger Liebe by Johannes Brahms; Songs to the Moon by Jake Heggie.

01.02.05
PERFORMANCE OF SELECTED LITERATURE FOR PERCUSSION
NORTHEASTERN STATE UNIVERSITY
Jonathan N Johnson . TAHLEQUAH, OK, PERFORMING ARTS
This recital was presented on February 25, 2008, on the NSU campus in Tahlequah. Pieces performed were: Toccata in d minor by Johann Sebastian Bach, arr. James Moore; Movement I from American Suite for Unaccompanied Snare Drum by Guy G. Gauthreaux II; 3 Movements by Ron Delp; Movements II,III and IV from American Suite for Unaccompanied Snare Drum by Guy G. Gauthreaux; Frogs by Keiko Abe; and Classic African by Joseph Aiello.
01.02.06
THE PERFORMANCE OF SELECTED LITERATURE FOR VOICE
NORTHEASTERN STATE UNIVERSITY
Colby Walker - TAHLEQUAH, OK, PERFORMING ARTS
This junior recital was presented on March 24, 2008 on the NSU campus in Tahlequah. Auf dem Wasser zu singen, Im Abendrot, and An die Laute by Franz Schubert; The Jewel Song (Faust) by Charles Gounod; Stornello, Perduta ho la pace and La zingara by Giuseppe Verdi; Octaves and Sweet Sounds, Strings in the Earth and Air, Seashore Girls, Straightway Beauty on Me Waits, and Well Welcome by Richard Hundley; and Flower Duet (Lakmé) by Léo Delibes, assisted by Sarah Clemens and Holly Stocks, piano.

01.02.07
THE PERFORMANCE OF SELECTED LITERATURE FOR VOICE
NORTHEASTERN STATE UNIVERSITY
Phyllis White - TAHLEQUAH, OK, PERFORMING ARTS
This half recital was presented on October 28, 2007 on the NSU campus in Tahlequah. Die Forelle, Auf dem Wasser zu singen and Frühlingsglaube by Franz Schubert; Dans les ruines d’une abbaye, Toujours, Les Berceaux and Adieu by Gabriel Fauré; Barb’ry Allen, He’s Gone Away and Dixie by Jake Heggie.

01.02.08
PERFORMANCE OF SELECTED LITERATURE FOR FLUTE AND CLARINET
NORTHEASTERN STATE UNIVERSITY
Dr Amanda McCandless - TAHLEQUAH, OK, PERFORMING ARTS
This faculty recital was presented on November 30, 2007 on the NSU campus in Tahlequah: Chôros No. 2 (1924) by Heitor Villa-Lobos; Duos for Flute and Clarinet, Opus 24 (1984) by Robert Muczynski; Parable XII for solo piccolo (1973) by Vincent Persichetti; In Freundschaft (1977) by Karlheinz Stockhausen; Partita in A minor for solo flute, BWV 1013, by Johann Sebastian Bach; Sonata in E-flat Major, Opus 120, No. 2 (1894) by Johannes Brahms. Ronald Chioldi assisted as accompanist.

01.02.09
THE PERFORMANCE OF SELECTED LITERATURE FOR CLARINET
NORTHEESTERN STATE UNIVERSITY
Dr Amanda McCandless - TAHLEQUAH, OK, PERFORMING ARTS
This faculty recital was presented on March 29, 2008 on the NSU campus in Tahlequah. Fantasystykke (1881) by Carl Nielsen; B,A,B,B,IT,T (1966) by Donald Martino; Five Fragments for Double Clarinet (1977) by William O. Smith; Excursions (1974) by Ronald Caravan; and Tema con Variazioni (1974) by Jean Francaix.

01.02.10
WHAT IS A CANTATA ANYWAY?
NORTHEASTERN STATE UNIVERSITY
Dr Mark Bighley - TAHLEQUAH, OK, PERFORMING ARTS
This workshop, presented at the Bach Sommerfest 2008 in July at Holy Trinity Lutheran Church on Central Park West in New York City, explored the use of the term and the development of the Lutheran Church cantata from Italian monody and polyphonic psalm settings, to the culmination of the genre in the church cantatas of JS Bach.

01.02.11
PLANNING A BACH VESPERS
NORTHEASTERN STATE UNIVERSITY
Dr Mark Bighley - TAHLEQUAH, OK, PERFORMING ARTS
This workshop, presented at the Bach Sommerfest 2008 at Holy Trinity Lutheran Church on Central Park West in New York City, focused on the planning necessary to present a Vespers using the works of JS Bach. Of particular interest is the reordering of the cantats from the one-year lectionary used at Bach’s time in Leipzig to the three-year Revised Common Lectionary now in use by Lutheran churches in the United States.

01.02.12
THE INFLUENCE OF JAZZ ON THE SOLO TRUMPET COMPOSITIONS OF EUGÈNE BOZZA
NORTHEASTERN STATE UNIVERSITY
Dr. Jason Dovel - TAHLEQUAH, OK, PERFORMING ARTS (MUSIC)
This paper investigates the influence of jazz on the nine solo trumpet compositions of the French composer Eugène Bozza (1905-1991). Bozza, like many other French composers in the first half of the 20th century, combines traditional elements of western European art music with innovations of American popular music. While Bozza holds a prominent role as a composer of solo trumpet music.
literature in the mid-20th century, little has been written about the influence of jazz in his works. This paper traces the influences of American jazz upon French composers and analyzes the elements of jazz within Bozza’s compositions for solo trumpet by comparing them to conventions employed by jazz composers.

01.02.13
PERFORMANCE OF SELECTED LITERATURE FOR TRUMPET

NORTHEASTERN STATE UNIVERSITY

Dr. Jason Dovel. TAHLEQUAH, OK, PERFORMING ARTS (MUSIC)

Northwestern State University, Tahlequah Campus
March 13, 2008
Faculty Trumpet Recital
NSU Jazz Lab

Sonata per Clarino C-Dur Carl Heinrich Biber
I. Allegro assai
II. Aria (Piu andante)
III. Presto
(1681-1749)
Jason Dovel, trumpet
Ronald Chioldi, piano

Sonata No. 2 for Trumpet and Piano Allen Vizzutti
I. Moderato
II. Andante
III. Allegro
(b. 1952)
Jason Dovel, trumpet
Ronald Chioldi, piano

Lied Eugene Bozza
(1905-1991)
Jason Dovel, trumpet
Ronald Chioldi, piano

Intermission

Suite for Trumpet William P. Latham
I. Prelude
II. Air
III. Dance
(1917-2004)
Jason Dovel, trumpet
Ronald Chioldi, piano

Concerto in C Minor Benedetto Marcello
I. Allegro
II. Adagio
III. Allegro
(1686-1739)
Arr. Ronald Dishinger
Jason Dovel, trumpet
Ronald Chioldi, piano

01.02.14
GUEST TRUMPET ARTIST: LECTURE AND PERFORMANCE (BOWLING GREEN, OHIO)

NORTHEASTERN STATE UNIVERSITY

Dr. Jason Dovel. TAHLEQUAH, OK, PERFORMING ARTS (MUSIC)
April 23, 2008
Bowling Green State University
Bowling Green, Ohio

Sonata per Clarino C-Dur Carl Heinrich Biber
I. Allegro assai
II. Aria (Piu andante)
III. Presto
(1681-1749)
Jason Dovel, trumpet
Pamela Ashmore, piano

Sonata No. 2 for Trumpet and Piano Allen Vizzutti
I. Moderato
II. Andante
III. Allegro
(b. 1952)
Jason Dovel, trumpet
Pamela Ashmore, piano

Concerto in C Minor Benedetto Marcello
I. Allegro
II. Adagio
III. Allegro
(1686-1739)
Arr. Ronald Dishinger
Jason Dovel, trumpet
Pamela Ashmore, piano

Recital followed by lecture and coaching of several BGSU trumpet students

01.02.15
PERFORMANCE OF SELECTED MUSIC FOR CHORUS AND ORCHESTRA

NORTHEASTERN STATE UNIVERSITY

Dr. Donald Studebaker. TAHLEQUAH, OK, PERFORMING ARTS

This performance, presented by the Tulsa Oratorio Chorus, on November 11, 2007 at the Tulsa Performing Arts Center, included the Requiem by Marcel Durufle, Op. 9 and Die erste Walpurgisnacht, Op. 60, by Felix Mendelssohn.
01.02.16
PERFORMANCE OF SELECTED LITERATURE FOR CHORUS AND ORCHESTRA

NORTHEASTERN STATE UNIVERSITY

Dr Donald Studebaker · TAHLEQUAH, OK, PERFORMING ARTS
This concert by the Tulsa Oratorio Chorus presented on February 16, 2008 at Holy Family Cathedral in Tulsa, included The Lord Nelson Mass and Cassation in G by Franz Joseph Haydn, and the Te Deum by Johann Adolf Haase.

01.02.17
A PERFORMANCE OF HANDEL’S MESSIAH

NORTHEASTERN STATE UNIVERSITY

Dr Donald Studebaker · TAHLEQUAH, OK, PERFORMING ARTS
This program, presented by Tulsa Oratorio Chorus, was a sing-a-long performance presented at the Union High School Performing Arts Center in Tulsa.

01.02.18
PERFORMANCE OF SELECTED LITERATURE OF CHORUS AND ORCHESTRA

NORTHEASTERN STATE UNIVERSITY

Dr Donald Studebaker · TAHLEQUAH, OK, PERFORMING ARTS
This concert presented by the Tulsa Oratorio Chorus on April 12, 2008 at the Tulsa Performing Arts Center in Tulsa included the Chichester Psalms by Leonard Bernstein and King David by Arthur Honegger.

01.02.19
SPEAKING THE SOUND: THE DIPHTHONG VERSUS THE PURE VOWEL IN TRUMPET PERFORMANCE

NORTHEASTERN STATE UNIVERSITY

Dr. Jason Dovel · TAHLEQUAH, OK, PERFORMING ARTS (MUSIC)
Article accepted for publication in the January 2009 issue of the International Trumpet Guild Journal

Nearly all trumpet teachers relate some aspects of trumpet performance to speech. Whether using the syllable “tu” to describe proper articulation, “oh” to describe the sound of an inhalation, or “tu-ku” to describe the process of double-tonguing, relating various aspects of trumpet performance to speech is often an effective means of instruction. While the use of syllables is widespread, many teachers are not aware of the many physical characteristics these syllables represent and consequently fail to realize their possible effects on both concept and product. This article discusses the effects of diphthongs and pure vowels on trumpet performance and pedagogy.

01.02.20
PERFORMANCE OF SELECTED MUSIC FOR SOLO PIANO (RONALD CHIOLDI)

NORTHEASTERN STATE UNIVERSITY

Dr. Ronald Chioldi · TAHLEQUAH, OK, PERFORMING ARTS
This program was performed by Dr. Ronald Chioldi.

This program took place on February 7th, 2008 at Northeastern State University. The program consisted of the following:

- Mélodie Orfeo ed Euridice
  Christoph Willibald Gluck (1714-1787)
  arr. Giovanni Sgambati (1841-1914)

- Sonata in F Minor, Op. 57 Appassionata
  Ludwig van Beethoven
  Allegro assai (1770-1827)
  Andante con moto
  Allegro ma non troppo

- Jeux d’eau
  Maurice Ravel (1875-1937)

- Spanish Dances
  Enrique Granados (1867-1916)

- Asturiana
  Oriental
  Jota
  Mazurka

- Ballade in F Minor, Op. 52
  Frédéric Chopin (1810-1849)

01.02.21
ROSEBUDS: SEMINARY HALL 1908

Francie Fite · TAHLEQUAH, OK
Barbara McAlister · NEW YORK, NY
Max McCullough · TAHLEQUAH, OK

NORTHEASTERN STATE UNIVERSITY

In conjunction with the NSU Centennial celebration, this concert was researched and modeled after musical
programs that were presented at the Cherokee National Female Seminary, the building that is now Seminary Hall on the NSU campus. The program included Habanera, Bizet; Wieche, Wotan, Wagner, Condotta ell’era in ceppi, Verdi; El Vito, Obradors; Barcarolle, Op. 60, Chopin; Ah! Je veux vivre, Gounod; Ständchen, Schubert; Les Papillons, Chausson; Von ewiger Liebe, Brahms; Non ti scordar di me, de Curtis; Three Songs, Foster, The Last Rose of Summer; No Sound Is Heard from the City; Gypsy Song, Lorena; and a Medley sung by cast and audience. Performers included Barbara McAlister, Amanda Mansheim, Robert Daniel, Ronald Chioldi, Mark Bighley, Max McCullough, Francie Fite, Wes Combs, Betty Jo Fite Hays, and the University Singers directed by Donald Studebaker. The script was prepared by Max McCullough and Francie Fite with assistance from Julie Pearson Little Thunder. Andrew Sikora prepared a slide show. The NSU College of Liberal Arts and the NSU Foundation provided the support necessary to make the concert possible.

01.02.22

JAZZ ATTRIBUTES IN TWENTIETH-CENTURY WESTERN ART MUSIC

NORTHEASTERN STATE UNIVERSITY
Dr. Norman A. Wika. TAHELQUAH, OK. MUSIC
Over the course of the twentieth century, jazz grew up from barroom dance music to a powerful artistic medium, gaining notice from Western art music composers. This study investigates the elements of jazz that can be found in compositions from four composers spanning the twentieth century: La Création du monde, Darius Milhaud (1923); Music for the Theatre, Aaron Copland (1925); Concertino for Jazz Quartet and Orchestra, Gunther Schuller (1959); and Red Cape Tango, Michael Daugherty (1993). The four composers came to know jazz in a different time and place in their musical development, leading to differing views on the artistic relevance of jazz. Consequently, each composer chose to incorporate various elements depending on their personal views as well as musical goals for the compositions. The composers’ development and views on jazz are included in brief biographical sketches. Using a list of criteria that includes instrumentation, improvisation, rhythm, harmony, use of percussion, and stylistic elements, each piece is analyzed, showing which elements are present in the work. This information is then assimilated into a performance analysis with conducting suggestions. In a final conclusion, each composition is set into the perspective of the development of jazz in order to ascertain if the way in which composers used elements of jazz has changed over the course of the twentieth century.

01.02.23

SELECTED WORKS BY FEMALE COMPOSERS WRITTEN FOR CLARINET DURING THE 1800S

NORTHEASTERN STATE UNIVERSITY
Dr. Anne A. Watson. TAHELQUAH, OK. PERFORMING ARTS
This document highlights clarinet works by female composers from the nineteenth century who, until now, have largely been ignored. The women discussed are Caroline Schleicher Krähmer (ca. 1794-1850), Marie Grandval (ca. 1828-1907), Alice Mary Smith (1839-1884), Augusta Holmes (1841-1903), and Ella Adaelewsky (1846-1926). Even though they were all respected composers in the nineteenth century, there is no clarinet reference material that includes works by all five of the women. This project includes a discussion and recording of each work. An initial list was compiled of female composers living during the nineteenth century and was then narrowed to include only published works for clarinet and piano. Through research, the author concludes the following are possible factors; 1) Women were not allowed to pursue an education in music until the late the nineteenth century and therefore were not allowed the same courses as their male colleagues; 2) Initial training for women in music performance and composition was through convents and ospedali in Venice, thus limiting women in their musical training; and 3) The clarinet was improper for a woman to play because it compromised her femininity. The women and works included in this research add repertoire to a sparse musical period in solo wind literature and the repertoire of the clarinet, allowing these women their well-deserved place in the history of the clarinet.

01.02.24

PERFORMANCE OF SELECTED LITERATURE FOR VOICE

NORTHEASTERN STATE UNIVERSITY
Robert Daniel. TAHELQUAH, OK. PERFORMING ARTS-MUSIC
Robert Daniel, tenor
Judy Young, piano
Recitative/Aria: Ombra mai fu from Serse
George Frideric Handel (1685-1759)

Serenade Florentine
Henri Duparc

L’heure exquise
Reynaldo Hahn

Soupir
Henri Duparc

Psyche
Emile Paladilhe

Aurore
Gabriel Faure
01.02.25
GLOBAL CITIZEN: THE MUSIC OF ROBIN EU-BANKS

NORTHEASTERN STATE UNIVERSITY
Dr. Arthur White - TAHOEQUAH, OK, MUSIC
The purpose of this research project was twofold: to write new, original arrangements of compositions by Robin Eu-banks, Grammy© award-winning jazz trombonist, and to record the Northeastern State University Jazz Ensemble performing the arrangements with Eubanks for a commercially released CD.

Eubanks is widely recognized by critics, educators, and peers as one of the finest jazz musicians in the world. The genesis of this project was born out of a mutual respect developed from a residency Eubanks conducted at NSU in 2007. Through this residency, Eubanks revealed his interest in recording a CD of his music arranged for large jazz ensemble, despite the availability of arrangements.

The author of this project selected seven compositions from Eubanks’s extensive catalogue of original compositions. The compositions are stylistically different, varying with regards to jazz style, tempo, and meter. The new arrangements were composed by the author over several months beginning in early 2008. As composition is a creative research process, the arrangements were subjected to numerous updates and corrections before finalizing the arrangements for recording.

The new arrangements were recorded by the NSU Jazz Ensemble and Eubanks in May 2008, and released commercially in September 2008.

01.02.26
JOE HENDERSON: AN ANALYSIS OF HARMONY IN SELECTED IMPROVISATIONS

NORTHEASTERN STATE UNIVERSITY
Dr. Arthur White - TAHOEQUAH, OK, MUSIC
The main goal of this research was to demonstrate Joe Henderson as a seminal figure in jazz history; a position that, despite his importance among jazz musicians, typically is lost when compared with many of his contemporaries. Three compositions and subsequent improvisations were selected for analysis. These pieces are among Henderson’s most well-known compositions, and were selected because they represent the compositions most likely to be studied when one is first exposed to Joe Henderson. New transcriptions of the improvisations from each piece were created. A biographical sketch was also created.

The second goal of this research was to elucidate the harmonic style of Joe Henderson’s improvisations. The analysis supported the contention that Henderson was an improviser strongly influenced by bebop jazz while also equally displaying harmonic techniques considered as avant-garde for the period. Each improvised solo demonstrated characteristics of bebop as well as freer forms of jazz performance, equally displaying tonally strong bebop motives with techniques that were in contrast to the prescribed harmonic function of the compositions. The results of each solo portrays Joe Henderson as a jazz artist firmly imbedded between two contrasting styles of jazz performance practices, making him both a significant contributor to the movement of the jazz field as well as an artist worthy of significant study and clarification.

01.02.27
MUSIC AND CULTURE: ITS EFFECT ON THE PERCEPTION OF MUSIC

SOUTHWESTERN OKLAHOMA STATE UNIVERSITY
Jeremy Titworth - WEATHERFORD, OK, MUSIC
This paper is an exploration of perception and music. We are investigating the correlation between musical perception and background. The specific ideas that we will investigate will be to see if the perception of a singular piece of music is effected by a persons cultural back ground and to see if the perception of a singular piece of music is universal. We will do this through a series of surveys and through an experimental investigation involving participants from Southwestern Oklahoma State University.
TEACHING PIANO THROUGH SOLFEGE TO MUSIC MAJORS AND CHILDREN

OKLAHOMA CHRISTIAN UNIVERSITY
Ms. Jacquelyn Karash MM, NCTM, OKLAHOMA CITY, OK, MUSIC DEPARTMENT

UNIVERSITY OF CENTRAL OKLAHOMA
Dr. David Forbat, EDMOND, OK, SCHOOL OF MUSIC
During academic year 2005-06, music majors at the University of Central Oklahoma (Edmond) were introduced to an unusual class piano curriculum that featured a systematic application and integration of solfege syllables. For centuries, solfege syllables (DO, RE, MI, etc.) have been used throughout the world primarily as an aid in teaching sight-singing. At UCO however, students have been systematically introduced to applications of solfege in their piano studies. In the absence of existing published material which supports such applications, course packs were generated by David Forbat. With minds and fingers rooted in solfege, students were given tools to read, transpose, harmonize, and improvise with a firm understanding of tonality.

Since the summer of 2007, David Forbat and Jacquelyn Karash have worked to modify the college curriculum for use with children in individual or group piano lessons. Forbat and Karash entitled the children’s curriculum “Lessons from the Music Planet.” During academic year 2007-08, a group class using “Lessons from Music Planet,” was offered through the Central Community Music School. Forbat and Karash taught a total of 9 students and these participated in a recital held on May 12, 2008.

On Oklahoma Research Day, Forbat and Karash will make comparisons between and demonstrate the use of the current college-level class piano course pack and the children’s “Lessons from the Music Planet.”
02.01.01
STUDENT ATTITUDES TOWARD COMMUNITY INVOLVEMENT

UNIVERSITY OF CENTRAL OKLAHOMA
Dr. Mary Sheets · EDMOND, OK, ACCOUNTING
Albana Gjata · EDMOND, OK, ACCOUNTING
Matthew Renes · EDMOND, OK, ACCOUNTING

The purpose of this project is to determine the attitudes of college students toward volunteering as well as actively participating in organizations or clubs and if the involvement might continue in the future. The survey population was Income Tax I students and Tax Practicum students from The University of Central Oklahoma. Our survey found that 89% of the Income Tax I students reported that they enjoyed helping the community, but only about 50% were involved in any campus activities. Practicum students were somewhat more interested in participating in campus organizations than were Tax I students. Both groups agreed that they expect to volunteer in community projects after they graduate (68% for Income Tax I students, 82% for Practicum students). One aim of our study is to be able to find a way to encourage students to give back to the community.

02.01.02
EARNED INCOME TAX CREDIT AND PUBLIC POLICY

UNIVERSITY OF CENTRAL OKLAHOMA
Mary Sheets · EDMOND, OK, ACCOUNTING
Anne Scudder · EDMOND, OK, ACCOUNTING
Luke Waterman · EDMOND, OK, ACCOUNTING

The Earned Income Tax Credit (EITC) was created with the intention of helping lower income families. This credit is a refundable credit that allows a taxpayer to have the full benefit it provides. The EITC has several different requirements for an individual to be eligible. Those with qualifying children and those who earn more than minimal amounts receive the greatest benefit. Those who choose to be dishonest are stripped from the ability to claim the credit. However, there is some forgiveness to those who simply make a mistake in trying to receive the EITC. Taxpayers can also receive an advanced payment each year by completing certain paperwork with employers. This analysis of the EITC also looks at how it has helped in terms of public policy. The last area of discussion involves EITC’s participation rates among eligible taxpayers.

02.01.03
INCOME TAX CREDITS: WHAT ARE THEY, AND HOW CAN THEY HELP ME?

UNIVERSITY OF CENTRAL OKLAHOMA
Mary Sheets · EDMOND, OK, ACCOUNTING
Phillip Chaimontri · EDMOND, OK, ACCOUNTING
Sandra Sharp · EDMOND, OK, ACCOUNTING

Tax credits reduce the amounts of taxes due. They can be categorized into refundable credits and non-refundable credits. They differ from a deduction which is a reduction in income subject to tax. Therefore, the value of a credit is greater than that of a deduction of the same amount. Nonrefundable credits can only be applied to offset that year’s liability. Examples of nonrefundable credits include the education credits, the child care credit, the credit for the elderly and disabled, the child tax credit, and the residential energy credit. These credits involve personal expenses and are used to reduce a taxpayer’s liability. Since these credits are for situations in which there have been no payments to the government, they can only reduce the liability to zero and do not provide for a refund as the refundable credits do. This poster reviews the eligibility requirements for the nonrefundable tax credits, and examines some of the public policy implications.

02.01.04
GOODWILL IMPAIRMENT: A COMPARATIVE COUNTRY ANALYSIS

UNIVERSITY OF CENTRAL OKLAHOMA
Zane Swanson · EDMOND, OK, ACCOUNTING

In response to de jure versus de facto issues about the convergence of accounting standards, we investigate whether non-U.S. firms (which list their shares on U.S. secondary markets and report under U.S. standards) are more likely to interpret and apply the accounting rules in a different manner than their U.S. counterparts. Specifically, this paper evaluates a mediation effect: i.e., that non-U.S. firms will take greater goodwill impairment charges under SFAS 142 than U.S. firms. Extending earlier international accounting research [e.g., d’Arcy 2006], the study illustrates the difference between de jure harmonization (harmonized rules) and de facto harmonization (harmonized practices) and examines the impact of legal, accounting, and cultural values upon the accounting for goodwill. The findings indicate that both firm-level and country-level characteristics affect the goodwill impairment decision and impact the comparability of accounting information.
02.01.05
REALITY CHECK: STUDENTS’ EXPECTATIONS OF AVERAGE SALARIES IN THEIR FIELDS

UNIVERSITY OF CENTRAL OKLAHOMA
Prof. Jane Calvert · EDMOND, OK, ACCOUNTING
Dr. Maryellen Epplin · EDMOND, OK, FINANCE

We hypothesize that students at the University of Central Oklahoma do not have realistic expectations of what their starting salaries will be upon graduation. For our study, we plan to collect several demographic characteristics including gender, age, parents’ educational backgrounds, plans to pursue a graduate degree, and educational classification. We will measure salary expectations relative to actual levels of starting salaries. The study will be specific to this geographic region. The results of the study may be helpful in promoting realistic expectations among future UCO Business majors.

02.01.06
BRINGING RELEVANCE TO THE ACCOUNTING INFORMATION SYSTEMS COURSE

UNIVERSITY OF CENTRAL OKLAHOMA
Edward Walker · EDMOND, OK, ACCOUNTING
Mary Sheets · EDMOND, OK, ACCOUNTING

The curriculum content for an introductory course in Accounting Information Systems (AIS) has been a subject of debate for some time. Academics are more concerned with teaching theoretical issues, such as systems design and data modeling. On the other hand, practitioners are more interested in hiring graduates who have been well trained in software applications such as accounting software and spreadsheets. Ideally, an AIS course should be designed to meet both objectives.

Students often enter an AIS class with little understanding of the internal and external environmental factors that affect the accounting system; therefore they do not realize that all these factors influence the system’s structure and operation. Further, they do not understand the manner in which data is stored and transformed into useful accounting information. This study proposes a case-based approach that requires students to consider both external environmental factors such as business regulation and internal factors such as products and services provided and management controls when setting up and operating an automated accounting information system in QuickBooks®. Such an approach will also help students to understand the relationship between accounting software and database management software, such as MS-Access®, by requiring them to set up a system for tracking sales to customers and purchases of inventory from vendors.

02.01.07
VALUING ARTWORK IN ESTATES

UNIVERSITY OF CENTRAL OKLAHOMA
Chris Greenfield · EDMOND, OK
Lacey Luther · EDMOND, OK

The issue of estate valuation is becoming increasingly complex as estates must account for unique items such as artwork. Some controversial issues associated with inheriting or purchasing antique artwork are method of valuation, differences in value between the opinions of the estate and the Internal Revenue Service, and taxation of artwork. Upon inheriting artwork, one must be cautious in choosing an appraiser or auction house to ensure that they have the necessary experience and knowledge in those particular pieces. Another issue that may arise is when a difference of valuation exists between the estate and the IRS Art Advisory Panel. For instance, if the estate significantly undervalues the artwork to decrease their tax liabilities, the IRS will recognize this and will take legal action.

02.01.08
TAXATION FOR INDIVIDUAL AND CORPORATION

UNIVERSITY OF CENTRAL OKLAHOMA
Tatsuya Minami · EDMOND, OK, ACCOUNTING

There are BIG four Accounting firms which are Deloitte Touche Tohmatsu, Pricewaterhouse Coopers, Ernst &Young, and KPMG in the United States. Each firm provides mainly the same services; audit, tax and advisory. Tax can be divided into two categories; individual and corporation income tax. According to Internal Revenue Code, all individuals have to file income tax from February 15 to April 15.

On the other hand, entity has three major types; sole proprietorships, partnerships, and corporations. Each entity has some advantages and disadvantages.

02.01.09
A NEW DEVELOPMENT OF GLOBAL NET CORPORATION

UNIVERSITY OF CENTRAL OKLAHOMA
Yoko Shimokawa · EDMOND, OK, ACCOUNTING DEPARTMENT

Global Net Corporation is one of the successful internet-oriented companies in Oklahoma City. I explain this company’s successful businesses and introduces its new challenge for a great development and building its new office management system including a new accounting system.
02.01.10
RELATIONSHIP BETWEEN RECENT TECHNOLOGY AND TAX ACCOUNTING

UNIVERSITY OF CENTRAL OKLAHOMA
Akie Iga • EDMOND, OK, ACCOUNTING
This poster presents the experiences of my summer internship at an accounting firm. The poster includes description of work-related software, online learning tools, and information security issues. The poster indicates how the firm relies heavily on information technology in order to improve the efficiency and effectiveness of its daily operation.

02.01.11
401(K) AUDITS

UNIVERSITY OF CENTRAL OKLAHOMA
Charity A. Thompson • EDMOND, OK, ACCOUNTING
This poster presents a brief outline of a 401(k) and the reasons for auditing them. When auditing a 401(k) an auditor must have a vast understanding of the rules that apply to 401(k) plans. Most of these rules come from the Employee Retirement Security Income Act of 1974 (ERISA), the Department of Labor, or the IRS’s Internal Revenue Code. In addition, the auditor must know a great deal about what a 401(k) is and how they work in order to efficiently and effectively perform the audit. Audits of these plans are generally simple and often consist of the same procedures regardless of which client is being audited. These procedures include: the client being accepted by the firm; the terms of the audit being established with the client; the auditor performing engagement planning; the internal controls being examined for efficiency; analytical procedures and test work being performed; finally the auditor issuing their audit opinion. These steps are rather complex and very methodical but need to be done in the correct order so that they are as useful in detecting fraud and helping the auditor formulate their opinion. One test performed is Payroll testing, which tests to see if the correct amount was withheld from the employee’s paycheck and was then correctly deposited in their 401(k) account. Another common test is Distribution testing where each transaction is examined to see if the money was deposited in the individual accounts in a “reasonable time period”.

02.01.12
CORPORATE SHARE REPURCHASES AND THE VALUE OF THE FIRM

UNIVERSITY OF CENTRAL OKLAHOMA
Richard L. Altizer Ph.D., CPA • EDMOND, OK, ACCOUNTING
Barbara Parrish Ph.D., CPA • EDMOND, OK, ACCOUNTING
Stoyan Stoitzev • EDMOND, OK, ACCOUNTING
Katherene P. Terrell Ed.D., CPA • EDMOND, OK, ACCOUNTING
Robert L. Terrell Ed.D. • EDMOND, OK, ACCOUNTING
Ralph W. Parrish Ph.D. • EDMOND, OK, MANAGEMENT
While stock repurchases have long been considered an effective business and tax strategy for relatively small closely held corporations, larger publicly traded corporations historically used the technique less often. During the decade of the 1990s, however, large publicly traded corporations began repurchasing outstanding common stock at record and increasing rates. At the same time, employee stock options reached record highs. Prior research has examined this issue and partially explains the increase in redemptions as a corporation’s means of controlling the dilutive effect on earnings per share (EPS) as the result of the options either outstanding or exercised. This study examines the correlation of stock repurchase activity to changes in firm market value utilizing a subset of Fortune 500 companies. In general, we find, among a subset of the Fortune 500 during the 1990s, stock repurchases are aligned with lower market value growth during that period.

02.01.13
CONTROLS: IN BUSINESS AND GOVERNMENT

UNIVERSITY OF CENTRAL OKLAHOMA
Ms. Janet Elsener • EDMOND, OK, ACCOUNTING
Katherene P. Terrell Ed.D., CPA • EDMOND, OK, ACCOUNTING
The Sarbanes-Oxley Act of 2002, Section 404 requirements and regulations, defined new rules for management’s assessment of internal controls including management’s responsibility to maintain adequate internal controls and to assess the effectiveness of those controls each reporting period. The Control Objectives for Information and related Technology (COBIT) set rules for the evaluation of technology systems to safeguard assets and data. This study examines the relationship between SOX, COBIT, the Securities and Exchange Commission (SEC), and the Public Company Accounting Oversight Board (PCAOB) and describes the costs associated with these new rules in government contract auditing.
VENTURE CAPITAL

UNIVERSITY OF CENTRAL OKLAHOMA

Ms. Marie Vazquez. EDMOND, OK. ACCOUNTING

Katherene P. Terrell Ed.D., CPA, EDMOND, OK. ACCOUNTING

Venture capitalism is a financial alternative for businesses that possess a higher marketable risk than traditional banks can accept. Entrepreneurs communicate their ideas to future investors via a well-developed business plan and the presentation of financial statements. Investors analyze the business plan and compute several financial ratios to evaluate the level of risk associated with the proposed investment. Using the ratios, investors arrive at conclusions regarding the desirability of the business deal. Optimizing the transaction timing affects the business’s opportunity to influence the market—either to expand or to gain access to it. Large companies like Google, Yahoo!, and Motorola use this market vehicle for business development. Although the investments may be risky, the opportunities are very attractive for firms to expand their portfolios with new technologies through venture capitalism. This study analyzes the components of the venture capital analysis model.

CONTRIBUTING FACTORS TO THE HIGH GASOLINE PRICES

UNIVERSITY OF CENTRAL OKLAHOMA

Ms. Whitney Ray. EDMOND, OK. ACCOUNTING

Katherene P. Terrell Ed.D., CPA, EDMOND, OK. ACCOUNTING

High gasoline prices create concern around the world. The single most influential factor forcing prices to increase is the growing price of crude oil. Oil and gas companies are not to blame for this price fluctuation. Instead, the speculators in the oil markets and the oil cartels throughout the world drive the cost of crude upward. Consumers believe that the oil companies are stimulated by greed, but there are many determinants of gasoline prices. The cost of refining crude into its many products, distribution costs, marketing, and multiple layers of taxes all add to the cost of gasoline. Independent oil and gas companies participate solely in exploration and production. Integrated companies such as ExxonMobil and ConocoPhillips participate from exploration to delivery at the gas pump. This study explores the components of the cost of gasoline, and the economic forces of supply and demand, and monetary forces on the value of the U.S. dollar that factor into the worldwide price of gasoline.

STUDENTS ENGAGED WITH THE COMMUNITY

NORTHEASTERN STATE UNIVERSITY

Mrs. Pj Gorden. BROKEN ARROW, OK. ACCOUNTING AND FINANCE

Business students and accounting faculty join together with the Community Action Program and the Internal Revenue Service to provide free income tax preparation for low-income and elderly taxpayers at Northeastern State University. The Volunteer Income Tax Assistance (VITA) program provided is free to the public and has become a valuable service to families in the communities served. Business students are trained, tested and supervised by Accounting Faculty to provide free income tax assistance to those people who need help in preparing and filing the tax returns. The students are very enthusiastic about helping others by providing a valuable service in the Broken Arrow, Coweta, and Wagoner areas. Students are required to conduct research throughout the semester on areas relevant to the client and to current tax issues. Their experience in the VITA program is documented in a formal paper describing the areas studied, tax challenges, and how the community work had an impact on their academic and personal journey.

TRUST TAXATION

UNIVERSITY OF CENTRAL OKLAHOMA

Greg Edwards. EDMOND, OK. ACCOUNTING

This poster shows a brief outline of how trusts are taxed. A trust is defined as separate taxable entity that is usually created to give financial assistance to a person without giving them full control of the assets. A trust may be classified as a simple or complex trust. There are several requirements the trust must meet in order to be classified as a simple trust, if they do not meet those requirements, it is then considered a complex trust. Different people who are involved with the trust such as a fiduciary or beneficiary may or may not have to file a tax return. Trusts are allowed many of the same deductions that individuals are, as well as some deductions that only trusts may benefit from. The final main point is the seven modifications to distributable net income that a trust must follow.
02.01.18
COST RECOVERY IN THE OIL & GAS INDUSTRY

UNIVERSITY OF CENTRAL OKLAHOMA
Mr. Tyson Rutledge - EDMOND, OK, ACCOUNTING

The oil and gas industry in particular is a capital intensive industry that requires a great deal of investment in order to effectively pursue operations. These assets are generally categorized as period costs; rather the cost is capitalized and allocated over the life of the asset through the multiple methods of cost recovery available. There are multiple methods of cost recovery available to the oil and gas industry, and they can be broken down into three broad categories, depreciation, amortization, and depletion. Depreciation is used to expense ordinary, tangible assets that are used in the day to day operations. Amortization is used to allocate the cost of intangible assets such as goodwill.

Depletion is the form of recovery used to allocate the loss of the natural resources over time and through production under two methods, percentage depletion and cost method. The percentage depletion method in particular provides oil and gas entities a tax preference item which could be of great benefit. Special consideration should be taken by oil and gas entities when pursuing oil and gas endeavors, such as the location of the business operations and what area of the industry they best fit into.

02.01.19
401(K) AUDITS

UNIVERSITY OF CENTRAL OKLAHOMA
Ms. Charity Thompson - EDMOND, OK, ACCOUNTING

Robert L. Terrell Ed.D., CPA, CIA, CFE - EDMOND, OK, ACCOUNTING

When auditing a 401(k), an auditor must have a complete understanding of the rules that apply to 401(k) plans. Most of these rules come from the Employee Retirement Income Security Act of 1974 (ERISA), the Department of Labor, or the IRS’s Internal Revenue Code. In addition, the auditor must comprehend what a 401(k) is and how it works to efficiently and effectively perform the audit. Audits of these plans are generally simple and often consist of the same procedures regardless of the client’s identity. These procedures include: the client being accepted by the firm; the terms of the audit being established with the client; the auditor performing engagement planning; the internal controls being examined for efficiency; analytical procedures and test work being performed; and finally the auditor issuing their audit opinion. These steps are rather complex and very methodical but need to be done in the correct order so that they are as useful in detecting fraud and helping the auditor formulate their opinion. This study presents a brief outline of a 401(k), the reasons for auditing them.

02.01.20
TRUST TAXATION

UNIVERSITY OF CENTRAL OKLAHOMA
Greg Edwards - EDMOND, OK, ACCOUNTING

Robert L. Terrell Ed.D., CPA, CIA, CFE - EDMOND, OK, ACCOUNTING

A trust is a separate taxable entity that is usually created to give financial assistance to a person without giving them full control of the assets. A trust may be classified as a simple or complex trust. The trust must meet several requirements to be classified as a simple trust, and if it does not meet those requirements, it is considered a complex trust. Different people who are involved with the trust such as a fiduciary or beneficiary may or may not have to file a tax return. Trusts are allowed many of the same deductions as individuals, and some deductions from which only trusts may benefit. A trust must also follow seven modifications to distributable net income to its beneficiaries. This study presents the rules for trusts in filing requirements, type of trust, deductions, and modifications to distributable net income.

02.01.21
A COMPREHENSIVE STUDY ON INVESTMENT ALTERNATIVES TO SOCIAL SECURITY

NORTHEASTERN STATE UNIVERSITY
David McCaslin - TAHLEQUAH, OK, ACCOUNTING (BUSINESS & TECHNOLOGY)

The solution to the problems facing Social Security today could be relatively simple. Currently, funding for the program is invested mainly in long-term treasury bills, which yield about 3.5% annually, with a small portion of the funds invested in very low-risk stocks. When one examines the average returns on the stock market over the last few decades, they rest comfortably around 10%, if not higher. With an easy time value of money calculation, $1,000 in only treasury bills will grow to $2,807. That same $1,000, when invested long-term in the stock market will grow to $17,450. Obviously, by investing 100% of the nation’s Social Security funding, we would be setting ourselves up for a disaster of epic proportions. But why not implement an asset allocation plan to generate Social Security funds? In general, asset allocation is a plan that incorporates investments in various asset classes to preserve capital by protecting against negative developments while taking advantage of positive ones. By spreading the worker’s funds across three asset classes, he would have a sort of built-in buffer against losses to his retirement funding. If the stock market is down one year, bonds and possibly foreign securities would be up, and vice versa. An asset allocation plan would need to be monitored and asset weights redistributed as needed, but there would be relatively low administration costs compared to the current system.
02.01.22
ATTITUDES OF STUDENT TAX PREPARERS IN A VITA PROGRAM

UNIVERSITY OF CENTRAL OKLAHOMA
K. Rory Ferguson. EDMOND, OK, ACCOUNTING
Mary Sheets. EDMOND, OK, ACCOUNTING
Amanda Twidwell. EDMOND, OK, ACCOUNTING
The Volunteer Income Tax Assistance program (VITA) is an IRS-supported program designed to serve taxpayers below a certain income level who cannot afford to have their tax returns professionally prepared. These taxpayers also may be elderly or disabled, have trouble speaking English, or have other special needs. Volunteers at VITA sites aid taxpayers by answering tax-related questions and preparing or reviewing tax forms and returns at the federal and state levels. The taxpayers sign their own returns, so volunteers hold no legal liability for work done at the VITA site (Hulsart, 2007). However, volunteers are expected to be competent and diligent, and undergo training and proficiency testing prior to tax season.

Forty-eight Income Tax I students participated in the VITA program at the University of Central Oklahoma as income tax preparers in 2008. The purpose of our study was to assess the attitudes of these student tax preparers. Students reported mastery of skills related to the returns they prepared, including learning to prepare returns properly, to identify the correct taxpayer filing status, and to choose the correct form. Students also reported increases in self-confidence when they volunteered two or more times. Students believed that they were better prepared for the income tax course requirements than were students who did not participate as preparers.

02.01.23
MARKETING VITA TO COLLEGE STUDENTS

UNIVERSITY OF CENTRAL OKLAHOMA
Lanese Edmond. EDMOND, OK, ACCOUNTING
Jessy Johnson. EDMOND, OK, ACCOUNTING
Mary Sheets. EDMOND, OK, ACCOUNTING
The research presented in this project focuses on the best way to market a free income tax preparation service to college students. The Volunteer Income Tax Assistance program (VITA) at the University of Central Oklahoma (UCO) prepared over 450 tax returns for individuals in 2008. The UCO VITA site prepares returns for U.S. residents as well as nonresidents. According to the comment cards completed by clients who visited the VITA site, about 32% heard about the VITA program through word of mouth. Another 17% learned about VITA through flyers or posters and 18% found out through newspapers. The largest group, 38%, found out through college websites and email. However, when we surveyed 100 students on campus, about eighty of them had never heard of VITA and only two had had their taxes prepared by the UCO VITA site. The purpose of this study is to suggest ways to improve college students’ awareness of the VITA program.

02.01.24
A REVIEW OF TAXPAYER AND TAX PREPARATOR PENALTIES

UNIVERSITY OF CENTRAL OKLAHOMA
Benedicta Reis. EDMOND, OK, ACCOUNTING
Mary Sheets. EDMOND, OK, ACCOUNTING
Leila Velasco. EDMOND, OK, ACCOUNTING
In the media today, numerous news articles and issues relate to taxpayer penalties for committing fraud. We present the facts pertaining to the reasons so many people engage in illegal tax reporting. From famous celebrities who make millions of dollars to average everyday people, tax fraud is committed by all spectrums of individuals. As accounting students, throughout our study we have learned about the importance of filing accurate and valid returns. An incentive to both taxpayers and tax preparers is the penalty that can be avoided by filing an accurate return. The U.S. government has created harsh laws that are intended to punish and deter wrongdoing by those filing their taxes with the Internal Revenue Service. These penalties usually consist of fines and interest payments as well as imprisonment. Regardless of these consequences, taxpayers and preparers continue to perpetrate dishonesty. This research will present the various situations that lure taxpayers into participating in scams and the types of problems that are related to tax fraud. We will also describe the role of the tax preparer in tax fraud, and will explain how some errors are intentional while others may be honest mistakes.

02.01.25
EXPERIENTIAL LEARNING: PRACTICES AND ATTITUDES OF AIS FACULTY

MARIETTA COLLEGE
Grace Johnson. MARIETTA, OH, ACCOUNTING

UNIVERSITY OF CENTRAL OKLAHOMA
Mary Sheets. EDMOND, OK, ACCOUNTING
For the past twenty years, college students in accounting and those who educate them have faced a world characterized by rapid changes in technology and business. The challenge to educators is how to best prepare students for careers in such an environment. Our purpose in this project is to provide results of a preliminary study of Accounting Information Systems (AIS) professors’ use of and attitudes toward experiential learning techniques. We first define experiential learning, explain why this pedagogy is important to AIS courses, and provide some examples of how teachers are using experiential learning techniques.
We also will interpret some of the research findings using student involvement theory (Astin, 1984). We think that student involvement theory can provide a means to help faculty design more relevant courses and to help researchers explore the impacts of different classroom activities. We also present results of a pilot study that investigated the use of experiential learning methods in a small sample of AIS faculty.

02.01.26
WHAT DOES THE FUTURE HOLD FOR INDEPENDENT OIL AND GAS PRODUCERS?

UNIVERSITY OF CENTRAL OKLAHOMA
Mary Sheets . EDMOND, OK, ACCOUNTING
Cole Williams . EDMOND, OK, ACCOUNTING
The coming years promise both excitement and uncertainty for independent oil and gas producers. The Gulf of Mexico has been yielding oil and gas for 50 years, yet it remains a key region for successful exploration and production. Onshore, companies are devising more ways to get oil out of places that previously were considered unproductive. One method is carbon dioxide tertiary oil recovery. This practice injects carbon dioxide into a well and acts as a solvent for the oil, removing hydrocarbon from the oil-bearing rock formation as it sweeps through the reservoir. Producers are using high-tech fracturing methods to literally crack open shale to release valuable natural gas. The oil and gas industry also faces some considerable threats, ranging from windfall profits taxes to sky-high lease costs to employee shortages. Our project explores the opportunities and threats for the oil and gas industry.

02.01.27
RISK ASSESSMENT STANDARDS: A REVIEW OF THE NEW STANDARDS

UNIVERSITY OF CENTRAL OKLAHOMA
Ms. Megan Tebow . EDMOND, OK, ACCOUNTING
Katherine P. Terrell Ed.D., CPA . EDMOND, OK, ACCOUNTING
Over the past years, the Auditing Standards Board (ASB) has created numerous Statements of Auditing Standards (SAS). In March 2006, the American Institute of Certified Public Accountants’ (AICPA) ASB issued eight SAS pronouncements including five new standards and three amendments to previous standards. The new statements will require auditors to obtain a deeper understanding of their client, to perform hands-on practices to assure their processes are being used by the clients they audit, to increase documentation, and to be more selective in their choice of procedures used to test account balances (Atlantic Business Chronicle, August 2007). This study addresses the new requirements included in SAS No. 106 through SAS No. 110.

02.01.28
HISTORY OF TAXATION IN AMERICA

UNIVERSITY OF CENTRAL OKLAHOMA
Brett Hawkins . EDMOND, OK, ACCOUNTING
Barbara Parrish . EDMOND, OK, ACCOUNTING
An internship in tax lead to an interest in the development of tax rules in the United States. The rebellion against taxes levied by England was short-lived in a country which found itself needing to fund government and wars.

Having levied taxes on a number of staples, England was perceived by the colonies as “overtaxing” Americans. Thus, the well-known resulting American Revolution freed the colonies to govern themselves. The Articles of Confederation forbade nationwide taxes. The Constitution, however, authorized the government to raise tax money. During the Revolutionary War, and afterwards, the government did, in fact, follow the path previously set by England.

The conclusion of the Civil War saw elimination of many taxes, but with a continuation of taxes on tobacco and liquor (the “sin” taxes). The 16th amendment to the Constitution empowered the Congress to collect taxes on incomes. This trend continued with increasing rates to present days. Like England, the United States needed funds for wars and boosts to the economy.

02.01.29
TAX AND A TIME BOMB: THE UNSUSPECTING “EGGSHELL” VICTIMS OF EGTRRA 2001

CAMERON UNIVERSITY
Dr. Sylvia M. Burgess . LAWTON, OK, BUSINESS
Dr. Aubree L. Helvey . LAWTON, OK, BUSINESS
The Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA) phases out, and ultimately eliminates, the United States Federal Estate Tax - for one year. That issue, and the potential impact upon taxpayers, has been much discussed since EGTRRA was passed in 2001. Little mention has been made, however, of the adverse impact of a little-known-and-even-less-understood EGTRRA provision upon low and middle income taxpayers: the repeal of an automatic step-up in basis for inherited assets. EGTRRA replaces the stepped up basis with a theoretically palatable modified carryover basis. Although the new rule purports to preserve to non-wealthy taxpayers the same benefits enjoyed prior to the January 1, 2010 effective date of the basis modifications, the real impact will suck
dollars from taxpayers who are in the lowest of tax brackets. This presentation will examine the EGTRRA impact on taxpayers in the lowest brackets. Statistically, taxpayers in brackets that file very simple tax returns, if they file at all, are highly unlikely to understand the complexities of formal court proceedings and the need for an educated fiduciary. The failure to complete proper election forms, and to arrange for property appraisals, will result in actual impact of thousands of dollars upon any taxpayer, from the poorest to the wealthiest - a complete and incomprehensible change from current tax policy. One more economic disaster is looming, and the effective date is only a year away.

02.01.30 USING GROUPS TO TEACH INTRODUCTORY ACCOUNTING
UNIVERSITY OF CENTRAL OKLAHOMA
Dr. Bambi Hora - EDMOND, OK, ACCOUNTING
The steps and processes to utilize groups in helping students learn in the first accounting course. The poster shows information about group activities, group selection techniques, group testing, group projects, and group evaluations.

02.01.31 ESTATE TAXES: TIME TO REPEAL?
UNIVERSITY OF CENTRAL OKLAHOMA
Melissa Harper - EDMOND, OK, ACCOUNTING
Dr. Bambi Hora - EDMOND, OK, ACCOUNTING
The Estate Tax was instituted with a very clear purpose. Despite the fact that a very small percentage of estates are actually subject to any tax, it is one of the most discussed taxes levied on the American public. There are many misconceptions about the estate tax that affect public opinion of it.

02.01.32 ESTATE TAXATION
UNIVERSITY OF CENTRAL OKLAHOMA
Derrick Moxley - EDMOND, OK, ACCOUNTING
Dr. Bambi Hora - EDMOND, OK, ACCOUNTING
During an election period, everyone has an opinion about the estate tax. Some politicians promise to keep it while others promise to repeal it. Even though everyone seems to be concerned with the tax, no one bothers to explain what it really is. The fact that only a small percentage of the population actually pay the tax, generally is not mentioned.

02.01.33 ESTATE TAX DEDUCTIONS UNDER INTERNAL REVENUE CODE SECTION 2053
UNIVERSITY OF CENTRAL OKLAHOMA
Brooklyn Kennedy - EDMOND, OK, ACCOUNTING
John M Perry - EDMOND, OK, ACCOUNTING
Dr. Bambi Hora - EDMOND, OK, ACCOUNTING
Estate tax deductions are subtracted from the gross estate to arrive at the taxable estate. A number of sections of the Internal Revenue Code provide for deductions from the gross estate. Section 2053(a) of the Internal Revenue Code specifies various deductions that we term ordinary allowable deductions, and section 2053(b) allows deductions relating to non-probate assets. That section also provides a deduction for certain foreign death taxes. Section 2054 permits casualty and theft deductions. Charitable deductions are handled in section 2055. The marital deduction is covered in section 2056. Special treatment for family-owned business interests are set out in section 2057. Section 2058 grants a deduction for estate taxes paid to any state or the District of Columbia. This poster discusses estate tax deductions under section 2053.

02.01.34 PASSING ON THE FAMILY BUSINESS
UNIVERSITY OF CENTRAL OKLAHOMA
Mark M Eaton - EDMOND, OK, ACCOUNTING
Dr. Bambi Hora - EDMOND, OK, ACCOUNTING
Issues encountered in passing on family businesses:
Failure due to lack of planning;
Correct form of legal organization is crucial first step
Family conflicts resolved by “tax free” division
Careful valuation of business is essential
Buy-sell agreements provide for orderly succession

02.01.35 ESTATE TAX PLANNING
UNIVERSITY OF CENTRAL OKLAHOMA
Sabrina Wedgeworth - EDMOND, OK, ACCOUNTING
Dr. Bambi Hora - EDMOND, OK, ACCOUNTING
Estate tax planning is a topic many people look over. Several just assume that it will never concern them, whether it be because they don’t believe their estate is valuable or they are unaware of the value, it is a matter left untouched. Fortunately, there is still hope for some
individuals. There are options in preparing the estate for death; a will or a trust. More than one type of trust exists. Testamentary and inter vivos are the basic categories; revocable and irrevocable fall within inter vivos. Under some circumstances, a death in the family may leave a child having to take care of probating an estate about which he or she knows little. Don’t fall victim, learn what you can do.

02.01.36
ABUSIVE TRUSTS

UNIVERSITY OF CENTRAL OKLAHOMA
Candice Wagner  ·  EDMOND, OK, ACCOUNTING
Dr. Bambi Hora  ·  EDMOND, OK, ACCOUNTING
Trusts are commonly used in such matters as estate planning, charitable giving, and holding assets for minors and those unable to handle their own financial affairs. The abusive trust arrangements of concern were those trusts that tried to hide the true ownership of assets and income or to disguise transactions. An abusive trust arrangement generally involves a promoter who claims that owners are allowed to both retain full benefit of business or personal assets and reduce or eliminate taxes. Although these schemes give the appearance of separating responsibility and control from the benefits of ownership, which is the case with a legitimate trust, the taxpayer in fact still controls them. Legitimate trusts do not transform a taxpayer’s personal, living, or educational expenses into deductible items and do not seek to avoid tax liability by ignoring either the true ownership of income and assets. Earned income is always taxed to the person that earns the income. Abusive trust schemes are usually offered in a series of trusts that are layered upon one another. Any attempt to assign the income tax on income one has earned to a trust is not a legal shift of income. One can make a gift of property either outright or in trust. After the gift is made, income earned by the property will be taxed to the new owner. But the property owner must really give away the right to enjoy and control the property in order to shift the tax liability on its income to some other party.

02.01.37
FARMLAND ESTATE PLANNING OPTIONS

UNIVERSITY OF CENTRAL OKLAHOMA
Dr. Bambi Hora  ·  EDMOND, OK, ACCOUNTING
Farms present a special issue when dealing with estate planning. This project looks at a few of the options that are available for passing the family farm onto those who may wish to continue farming, without being forced to sell in order to pay estate taxes. Areas considered are Section 6166 elections, Conservation Easement options and Alternative Valuation methods.

02.01.38
ESTATE AND GIFT TAX PLANNING ISSUES

UNIVERSITY OF CENTRAL OKLAHOMA
Stephanie Davis  ·  EDMOND, OK, ACCOUNTING
Melissa Mellinger  ·  EDMOND, OK, ACCOUNTING
Dr. Bambi Hora  ·  EDMOND, OK, ACCOUNTING
How can planning help to reduce taxes? This poster reviews a few ways that estate and gift taxes may be reduced with advanced planning on behalf of the taxpayer. It also looks at other ways the estate can be reduced using marital status as an advantage.

02.01.39
THE EFFECTS OF FARMLAND ON THE ESTATE

UNIVERSITY OF CENTRAL OKLAHOMA
Dr. Bambi Hora  ·  EDMOND, OK, ACCOUNTING
Individuals who own personal or real property need to invest time into estate planning. Farmers are especially vulnerable to the estate tax. Many farming families today have to sell off bits and pieces and sometimes the whole farm in order to pay estate tax. The Taxpayer Relief Act of 1997, Unified Credit, conservation easements, and the Special Use Valuation are some of the ways that can save farmers on estate tax.

02.01.40
IMPROPER ESTATE PLANNING

UNIVERSITY OF CENTRAL OKLAHOMA
Richard E Read  ·  EDMOND, OK, ACCOUNTING
Dr. Bambi Hora  ·  EDMOND, OK, ACCOUNTING
Improper estate planning has become a larger and larger issue, especially for the young and wealthy. There are a few critical errors that many estates make; whether they be young, wealthy, or not. These include such items as misinterpretation of one’s “Gross Estate.” The improper thinking that one should designate only their spouse as their beneficiary on all accounts. This includes 401K, IRA, and Roth IRA plans. Failure to address how joint accounts will affect gross estate and distribution of income. By addressing these issues with clients tax professionals provide both the additional tax advantages of sound planning and the added benefit to the firm of additional revenue options. Tax professionals should be very cautious when addressing such issues, as the thought of one’s demise is a very emotional issue for many. By addressing the issue from the client’s perspective, the tax professional can accomplish these two goals. The client must feel that not only will there be a financial benefit, but also that their family will not suffer any additional emotional distress due to the actions they have taken. The paper addresses these problems with varying types
of analysis including tax comparison calculations and direct reference to US Tax Code. There are also detailed descriptions and interpretations of the code, allowing for better analysis and ease with future research on this difficult topic.

02.01.41
FAMILY TRUST

UNIVERSITY OF CENTRAL OKLAHOMA
Steve Dowers - EDMOND, OK, ACCOUNTING
Shelia Spangler - EDMOND, OK, ACCOUNTING
Dr. Bambi Hora - EDMOND, OK, ACCOUNTING

Overview of Family Trust
Definition of a family trust.
When to and who should create a family trust.
The average cost of for preparing a trust with the use of a Certified Public Accountant.
Potential consequences of improper filing of trusts.

02 : GENERAL BUSINESS

02.02.01
A GLOBAL SURVEY OF ETHICAL VIEWS OF NEW CAPITALISTS: CHINA AND RUSSIA

UNIVERSITY OF CENTRAL OKLAHOMA
Marvin Ludlum - EDMOND, OK, FINANCE

This research details an exploratory three year survey of the ethical attitudes of business students from around the world. Our findings show that non-American students know few details about the Enron controversy. Further, their knowledge has shown little affect in the attitudes of students. We also summarize many of the difficulties of survey research in China, such as language barriers, cultural barriers, systemic barriers, and extreme test anxiety. We conclude by discussing the implications for further research in this area.

02.02.02
LONELINESS AMONG INTERNATIONAL COLLEGE STUDENTS

EAST CENTRAL UNIVERSITY
Jenna Allen - ADA, OK, BUSINESS

This poster analyzes the issue of loneliness among international students at East Central University in Ada, Oklahoma. Many students may feel homesick when they first arrive in the country. This poster analyzes in depth the following issues: Some students may feel lonelier because they are shy and reserved, while outgoing students find more friends and feel more at home. Additionally, gender may play a big part. There may be a trend in which one gender may tend to feel more lonely or homesick than the other. Also, if some students are involved in student organizations, they may tend to feel less lonely because they are making many friends. Not to be overlooked, international college students likely miss their families, which are probably thousand of miles away. This may no doubt contribute to extreme loneliness. For this poster, many international students were surveyed at East Central University. They were asked several questions regarding their personality and friendships to determine if there is a correlation between these factors and loneliness. Articles were also consulted such as one by James J. Ponzetti Jr. entitled Loneliness Among College Students. Students will benefit from this project by understanding what factors might cause their feelings of loneliness. This will in turn help them to feel more comfortable in a new country and make it easier to cope with loneliness. Additionally, a paper will written over this subject.

03 : BUSINESS COMMUNICATIONS

02.03.01
THE INFLUENCE OF EXPECTATIONS ABOUT COMMUNICATING DIVERSITY INITIATIVES

UNIVERSITY OF CENTRAL OKLAHOMA
Ms. Jeanetta D. Sims - EDMOND, OK, MARKETING
Ms. Lisa A. Sedlacek - EDMOND, OK, MARKETING

This study extends both the theoretical and contextual influence of expectancy violations theory (Burgoon, 1978; Floyd, Ramirez, & Burgoon, 1999) by applying it in the context of organizational diversity - an area which has repeatedly been touted as a top 6 challenge facing America’s managers (Nelson & Quick, 2006), a foremost issue facing corporate America (Clarkin & Mullany, 2004), and an integral element for attracting multi-ethnic markets (Kern-Foxworth, 1989, 1991). Additionally, this investigation explores the impact of campaign communication expectancy discrepancies upon organizational perceptions, employment attitudes, future mentoring participation, and job interview schemas. Understanding these expectancy discrepancies can enable organizations to more effectively communicate their value-in-diversity corporate initiatives and to develop more effective programming that attracts prospective employees capable of working in a more diverse workforce.

Given the value placed on expectations and the impact of expectancy violations, this research suggests communication expectancy discrepancies about a corporation’s diversity initiatives which positively violate prospective employee expectations result in more positive ratings of
organizational perceptions (e.g., image, credibility, and reputation), more positive employee attitudes, increased likelihood of participating in a corporate diversity mentoring program, and more positive job interview schema representations.

02.03.02
QUESTIONING THE CONCEPTUALIZATION OF CREDIBILITY

UNIVERSITY OF CENTRAL OKLAHOMA
Ms. Jeanetta Sims  EDMOND, OK, MARKETING
Ms. Taylor Tidwell  EDMOND, OK, MARKETING

Pfau and Dillard (2002) “maintain that the process of influence is the heart and soul of the study of persuasion” (p. 790). While credibility and its impact across a variety of contextual areas have been investigated in communication research, little work has focused on explicating the process by which credibility confers influence and impact. Communication research has met the stipulation of confirming that the construct has influence, but how the influence renders itself more or less pronounced based on the relational facets in existence between a source and a receiver have gone virtually unexamined. This investigation questions the monadic conceptualization of credibility which has been heavily relied upon by researchers and shifts the focus to a dyadic approach originally advanced by Mertz (1966) and re-introduced by Miller (1972, 1987). Central tenants of the dyadic approach are that (1) the credibility construct is never strictly a receiver’s measure of the source, but a receiver’s measure of the source and a receiver’s evaluation of themselves, (2) the credibility construct is more powerful when receivers evaluate themselves lower than they evaluate the source, and (3) the credibility construct is least powerful when receivers evaluate themselves higher than the source. The dyadic conceptualization has the potential to advance the credibility construct more than what has been done in 40 years of scholarly dialogue.

02.03.03
EXPLORING THE DISCREPANT SELF

UNIVERSITY OF CENTRAL OKLAHOMA
Ms. Jeanetta Sims  EDMOND, OK, MARKETING
Ms. JeAnna Redd  EDMOND, OK, MARKETING

Given the shifting demographics in the U.S. population and the fact that by 2050 more than half of the U.S. population is estimated to be people of color (Nelson & Quick, 2006), racioethnic diversity has become an increasingly relevant topic in organizational literature (Allen, 1995, 2005; Nkomo & Cox, 1996) and in higher education (Hale, 2004). A number of different theoretical frameworks have been used to explore diversity. However, no frameworks have used Higgins’ (1987, 1989a, 1989b; Higgins, Bond, Klein, & Strauman, 1986) self-discrepancy theory to explore the impact of diversity initiatives, and no research has investigated the potential for racial and ethnic organizational members to have discrepant conceptions of self in response to an organization’s diversity efforts. This investigation seeks to understand the nature of self-discrepancies between two types of racioethnic members within an organization - black American organizational members and black international organizational members. This focus is important, because as Allen (1995) contends racioethnicity is salient because it “usually is physically observable, its roots lie in affirmative action/equal employment opportunity programs, and it references the fastest rising groups” (p. 144) likely to impact an organization.

04 : ECONOMICS

02.04.01
TO HEDGE OR NOT TO HEDGE? THIS IS A QUESTION.

UNIVERSITY OF CENTRAL OKLAHOMA
Dasha Titkina  EDMOND, OK, ECONOMICS
Zhen Zhu  EDMOND, OK, ECONOMICS

Natural gas prices are notoriously volatile, as witnessed by recent price fluctuations at the time of Hurricane Gustav. Consumers (typically local distribution companies, commercial users and industrial users) and producers often implement hedging programs to avoid price risks and smooth income streams. However, not every business implements such a program. The argument is that hedging losses can be sizable, which can be supported by anecdotal evidences.

In our study, we investigate the cost and benefit of a hedging program by focusing on average cost (or price from the perspective of producers) of gas in a relatively long time period - ten years. We first compare the average cost of hedging continuously on the monthly basis versus no hedging at all. The hedging horizon ranges from one-month ahead to one-year ahead. Then empirical and statistical tests will be carried out to explain the results in the first step. Our empirical tests amount to the test of existence of risk premium in the prices, as suggested by theories of commodity pricing. Our final step is to test the effectiveness of various hedging strategies in achieving lower costs of gas (for consumers) or higher prices (for producers).

Our study focuses on average hedging gain or loss, ignoring other issues such as convenience yield. We believe that our study will shed light on companies’ strategies in hedging activities, therefore, leading to more efficient resource allocations.
02.04.02
ORGANIZING DIVERSITY: AN EXAMINATION OF U.S. METROPOLITAN AREAS
UNIVERSITY OF CENTRAL OKLAHOMA
Mihai Nica · EDMOND, OK. ECONOMICS AND INTERNATIONAL BUSINESS

The changes occurring within cities are increasingly linked to developments taking place in the adjacent areas, therefore many urban problems such as unemployment, poverty, racial segregation, crime, and quality of life became metropolitan problems. Furthermore, with only about sixteen percent of the total U.S. land area, metropolitan areas contain the majority of the nation’s population and jobs. Due to their importance for the overall economy, metropolitan areas attract the interest of researchers from many fields. Even so, the ever-changing economic and business environment requires continuous analysis at this level. Focusing on the U.S. metropolitan areas, this study looks at several factors assumed to also be policy variables, which characterize today’s metropolitan economies. Using statistical techniques such as descriptive analysis and cluster analysis to identify areas with common characteristics, the study classifies and describes metropolitan areas helping the reader understand the relationships between some of the policy variables, as well as how they affect local economies.

02.04.03
SMALL BUSINESS CLUSTERS FORMATION: MAR OR JACOBS EFFECTS?
UNIVERSITY OF CENTRAL OKLAHOMA
Mihai Nica · EDMOND, OK. ECONOMICS AND INTERNATIONAL BUSINESS

Understanding the factors that lead to small business creation is important for policymaking, since SMEs are the engine of growth of any economy. This study uses spatial statistics methodologies and tools to analyze the dynamics of small business clusters and the degree to which it is influenced by MAR or Jacobs effects, contributing to a better understanding of the influence that industrial diversity and specialization has on the growth of the number of small businesses and on small businesses cluster formation. Looking at the counties within Oklahoma for the 1998 - 2005 interval, the analysis reveals several important conclusions. One such finding is that the most important static effect that characterized the economy at the beginning of the period are of MAR type, and that they remain observable today. Indeed, the growth of the number of small businesses is correlated with past MAR effects, while the present high correlation between industrial concentration and the number of small businesses is still high, suggesting a fragmentation within the original industrial sector, and almost no Jacobs effects. Equally important, a significant portion of the employment growth is explained by the growth in the number of small businesses, validating the importance of small business creation for economic growth.

02.04.04
ECONOMIC IMPACT IN THE UNITED STATES FROM BANNING HAZARDOUS ELECTRONIC WA
CAMERON UNIVERSITY
DR. Hassan Ahmed · LAWTON, OK. BUSINESS

The purpose of this article is to examine the effect on U.S. economic welfare of ratifying the Basel Ban on exports of electronic waste. The article structured the problem as a model of the market for waste disposal services, where the United States is viewed as an importer of waste disposal services. The model implies that the United States would suffer net social costs as a result of the Basel Ban. The net social loss from adopting the Basel BAN was determined by estimating and comparing the costs of three scenarios for managing electronic waste that would not be exported and the costs of importing waste disposal services. These scenarios represent the probable range of options and costs. In Scenario 1 the United States would save more in costs of exporting than the costs of managing the waste domestically; that is, adoption of the Basel Ban would improve domestic economic welfare. In the more probable Scenario2, and in Scenario 3, both the net social cost and the net social cost per job created are positive. The latter, however, appears to be modest in comparison with other instances of restraints on trade.

02.04.05
COMPETITION IN ACADEMICS
UNIVERSITY OF CENTRAL OKLAHOMA
Susanne Rassouli-Currier · EDMOND, OK. ECONOMICS

The economic downturn in the recent years, stemming primarily from rising crude oil prices, has affected most markets negatively. Consumers experience the existing economic hardship in both capital intensive markets such as real estate as well as less capital intensive consumer goods markets that can be categorized as “basic needs” goods e.g., gasoline etc. The slow economy (or the perception of it!) eventually has trickled down and is affecting enrollment in colleges and universities. Tuition is rising every year. At the beginning of every fiscal year faculty and staff expect more bad news about the “budget” i.e., no raises etc. One of the solutions to this problem suggests more efforts to increase student enrollment. This strategy brings up several interesting questions. Primarily: a) Is education a public good?
b) If so, what are the possible ways of dealing with the inherent “market failure” of this public good?
c) If knowledge should be viewed as a commodity to be capitalized on, should the “profit maximization” approach replace the widely accepted “goal” in academic institutions i.e., output maximization/cost minimization models?

The purpose of this study is to attempt to address these, and other, questions.

02.04.06
ENERGY AND OKLAHOMA ECONOMY

UNIVERSITY OF CENTRAL OKLAHOMA

Susanne Rassouli-Currier Dr.  EDMOND, OK, ECONOMICS
Zhen Zhu  EDMOND, OK, ECONOMICS
Oleg Petrenko  EDMOND, OK, MBA

It is well-known that the energy industry is a cornerstone industry in Oklahoma. However, Oklahoma economy has grown to be more diverse and the energy industry may be more diverse as before. In this study, we propose to analyze the connection between energy and aggregate Oklahoma economy to answer the following questions:

1) To what degree energy section contributed to the growth in Oklahoma economy in the last several decades?
2) How has the relationship changed over time?
3) If there are changes in the relationship, what factors have contributed to the changes?

In answering these questions, we are hoping to provide some insights into the working mechanisms of the Oklahoma economy and its connection to the gas and oil industries. The analyses will also be conducted with comparison to the whole U.S. economy as well as several other states.

02.04.07
AN INTERACTIVE PROGRAM TO SIMULATE ECONOMIC GROWTH MODELS FOR COLLEGE

UNIVERSITY OF CENTRAL OKLAHOMA

Dr. Mohamad B Shaaf  EDMOND, OK, ECONOMICS AND INTERNATIONAL BUSINESS

Economic Growth models are complex and contain multiple variables. An interactive program was developed that allows students to simulate the economy and directly experience the effect of changes to the parameters on the model. Contemporary growth model was designed by the pioneering work of Robert Solow (1957, 1960) as the foundation of further development and advances in growth models.

The purpose of this research is to develop numerical and graphical simulations of the Solow model that can be extended to endogenous growth models. The simulation is based on equations, and the interaction of exogenous and endogenous variables with their correspondent parameters. Furthermore, the models tend to approach the steady state. That can be explained by the phase diagram that shows the impact of changes of K on the growth rate of K.

An excel spreadsheet is utilized to develop the equations and calculate their interrelationship based on the structure and the properties of the model. It is simulated by changes of each exogenous-variable and each parameter in the system of equations in the model, and computing and showing the endogenous variables in their boxes and simultaneously in the graphs.

The changes in magnitude are shown in graphs of the production function, saving function, investment function, and phase diagram of the corresponding models. This simulation exercise can be used for undergraduate courses in Economic Growth, and Macroeconomics.

02.04.08
NEOLIBERAL POLICY, CONCENTRATION, STAGNATION, AND LIMITS OF POLICY

UNIVERSITY OF CENTRAL OKLAHOMA

Dr. Mohamad B Shaaf  EDMOND, OK, ECONOMICS AND INTERNATIONAL BUSINESS

The economy is deteriorating fast, with only bad news. The logic, theory, and history of multinationals and capitalism is to grow in size, market, and market share to win the competition that accompanies the concentration of income, wealth, and social power, which leads to speculation, bubbles, and financial and economic crises. Similar conditions clogged the flow of money, and ended in the Great Depression of the 1930s. The New Deal was a remedy to loosen the clogs through a variety of reforms, regulations, redistribution, and stabilization policies. It was also designed to undermine and slow down the process of speculation, bubble, and crash, including the creation of SEC, FDIC, the creation of Social Security system, and a progressive marginal income tax rate of 92%.

Reversing the New Deal toward “free market” dogma got a heavy hand from Chicago economists headed by Milton Friedman who received huge financial support from corporate elite, and through “Shock Treatment” that was imposed on public, politicians, and more brutally on the third world, some through coups and “destroying democracy” to secure economic interests of multinationals.

It requires taking profit out of finance, defense industry, health care, education, prison, and closing 700 military bases abroad to reduce waste, and at least one true free media that is not owned, nor contributed to by corporations, and measures to reduce inequality.
02.04.09
RANKING OKLAHOMA’S PUBLIC SCHOOL DISTRICTS

UNIVERSITY OF CENTRAL OKLAHOMA

Mickey Hepner - EDMOND, OK, ECONOMICS

In order to evaluate the performance of school districts the Oklahoma State Department of Education computes an Academic Performance Index (API) score for every Oklahoma school district. This report finds that socio-economic variables and enrollment levels—variables largely beyond the control of local officials—heavily influence those API scores. Consequently, the official API scores provide an inaccurate measure of the educational quality within a district. Some districts have high API scores not because of their own efforts, but because of the characteristics of the students and residents of the district. Conversely, some districts have low actual API scores for the same reasons, but do an exceptional job of improving student performance.

To correct for this problem, this paper computes an Adjusted API score for each district that removes the effects of variables beyond the control of local officials. Specifically, these Adjusted API scores reflect the educational performance of a district after adjusting for differences in ethnic makeup, educational level in the community, student poverty, student mobility, and the size of the district (in terms of enrollment). The resulting API score therefore, provides a truer reflection of the educational quality within a district, thereby making it easier to compare quality across districts.

02.04.10
COLLEGE TOWNS WITH MALLS VERSUS COLLEGE TOWNS WITHOUT MALLS

NORTHEASTERN STATE UNIVERSITY

Liz Pelt - TAHALEQUAH, OK, COLLEGE OF BUSINESS AND TECHNOLOGY

Adam Hibdon - TAHALEQUAH, OK, COLLEGE OF BUSINESS AND TECHNOLOGY

Rachel Strate - TAHALEQUAH, OK, COLLEGE OF BUSINESS AND TECHNOLOGY

Malls contribute to our consumer driven lives. Consumers go to malls to satisfy their need and wants. Many people consider the mall as a favorite hangout spot, hobby, or source of entertainment. Malls can represent the economic viability of a town. The purpose of this study is to research and identify characteristics of specific college towns in Oklahoma, Texas, and Kansas with and without malls. We will use secondary sources in order to conduct extensive research that will allow us to compare the population (excluding students) and average yearly income for the town, student population of the town, college tuition, area attractions, restaurants, and distance from the college to the nearest mall. We have selected to compare the following five college towns with malls: Oklahoma Wesleyan University (Bartlesville, Oklahoma), Pittsburg State (Pittsburg, Kansas), University of Oklahoma (Norman, Oklahoma), University of Texas (Austin, Texas), University of Tulsa (Tulsa, Oklahoma). We selected the following five college towns without malls: Northeastern Oklahoma A&M College (Miami, Oklahoma), Northeastern State University (Tahlequah, Oklahoma), Rogers State University (Claremore, Oklahoma), University of Central Oklahoma (Edmond, Oklahoma), and Oklahoma State University (Stillwater, Oklahoma). This research can provide Kansas, Oklahoma, and Texas economic and development agencies useful information to construct future malls in college towns.

05 : FINANCE

02.05.01
FINANCIAL PLANNING FOR LUTHERAN CHURCH WORKERS

NORTHEASTERN STATE UNIVERSITY

Dr Roger Collier - BROKEN ARROW, OK, ACCOUNTING AND FINANCE

Financial planning is one of the most important things you can do for yourself and for those you love. If you plan carefully, you can take much of the uncertainty out of your financial future. If you fail to plan, then you leave yourself unnecessarily exposed to financial risk and uncertainty. Since neither you nor anyone else can know for certain what the future will hold, the financial planning and forecasting process will require that many assumptions be made. Of course, the more closely actual events follow these assumptions, the truer the forecast. And the truer the forecast, the more successful the financial plan is likely to be. In putting together a financial plan, you must look into the future and try to formulate answers to the following types of questions:

How long will I work before retirement?
What pay increases or decreases can I expect between now and then?
What other persons must I plan to provide for?
How well will my health hold up?
What kind of lifestyle would I like after retirement?

Overall, the financial planning process can be broken into five general areas: goal setting, investment planning, estate planning, insurance planning, and reviewing and updating.
For Lutheran Church workers, both in the ELCA and the LCMS, there exist excellent resources provided by the ELCA Board of Pensions, the Lutheran Church Extension Fund (LCMS), Thrivent Financial for Lutherans, and the Certified Financial Planner Board of Standards.

02.05.02
DEPRESSION ERA RECORDS OF FEDERAL EXPENDITURES ON EDUCATION IN OKLAHOMA

UNIVERSITY OF CENTRAL OKLAHOMA
Dr. Randal Ice  EDMOND, OK. FINANCE DEPARTMENT
Mr. Mirel Deda  EDMOND, OK. FINANCE DEPARTMENT
On March 4, 1933, Franklin D. Roosevelt took office as President of the United States. He found one quarter of the United States’ work force unemployed. This unemployment produced a desperate situation among those affected. Roosevelt sent a message to Congress asking that an office of federal relief be established to aid the states in relief efforts. After passage by the House in early April, this bill became the basis for the new federal agency, the Federal Emergency Relief Administration (FERA). After passage of this key bill, Roosevelt immediately named Harry Hopkins to head this new agency. He believed that direct financial relief was bad. His concept was to provide work for the unemployed in jobs created in public works, education and general community improvement.

One of the first programs that Hopkins established under the FERA was the Emergency Education Program (EEP). In an attempt to provide some immediate relief, the program was initially designed to provide employment for 80,000 to 100,000 unemployed teachers. The purpose of this study is to chronicle and analyze the education programs established in Oklahoma under the Federal Emergency Relief Administration (FERA) and the Works Progress Administration (WPA) from 1933 to 1942. The study also proposes to provide policy makers and educators with a historical case study that could provide useful information for future program development.

02.05.03
THE IMPACT OF A PERSONAL FINANCE CLASS ON STUDENT GRADUATION AND RETENTION

UNIVERSITY OF CENTRAL OKLAHOMA
Dr. Maryellen Epplin  EDMOND, OK. FINANCE DEPARTMENT
Dr. Randal Ice  EDMOND, OK. FINANCE DEPARTMENT
Institutions of higher education are under increasing pressure to retain and graduate students. Many measures of student success are used, but one of the most common is the graduation rate over some specific time period, most often six years.

With the rise of tuition, debt and other financial stresses in the lives of students, it appears that a course in Personal Finance might also be effective in student retention and graduation. In fact, a recent article in Business Week indicated that personal financial issues are among the most important factors in student success. Personal Finance is among the fastest growing Finance classes in the nation, and is becoming accepted into the general education core of many universities.

This study looks at these issues and attempts to answer the question:
Is completing a Personal Finance class with a passing grade correlated with the achievement of graduation?

The data used are the records of over 11,000 students in a large Midwestern state university. Transcript information, grades, and matriculation rates are analyzed to answer the research question.

02.05.04
WEALTH TRANSFERS THROUGH IRAS

UNIVERSITY OF CENTRAL OKLAHOMA
Dr. V. Sivarama Krishnan  EDMOND, OK. FINANCE
IRAs and other tax-advantaged retirement plans represent a very large part of household wealth. It is very likely that a significant part of the accumulations in these plans will pass on to heirs of the original plan participant. The distribution and transfer rules relating to these plans are complex and not easily understood by the lay investor. The individual investor with sizeable accumulations would do well to be familiar with these rules and the basic framework for distribution decisions relating to these tax-sheltered plans. Key decisions have to be made long before the actual transfer (i.e. death) takes place. This paper describes the distribution and transfer rules for IRA accumulations and analyzes the main implications of different decisions with respect to important choices made by the investor. Different approaches to structuring IRAs in order to achieve desired goals with respect to providing for one’s spouse as well as passing on wealth to other heirs is discussed.
02.05.05
DO PERSONAL FINANCE COURSES IMPACT STUDENTS’ FINANCIAL DECISIONS?

UNIVERSITY OF CENTRAL OKLAHOMA

Dr. Steve Black · EDMOND, OK, FINANCE
Allen Arnold · EDMOND, OK, FINANCE
Julie Cumbie · EDMOND, OK, FINANCE

The purpose of a Personal Finance course is to provide students a framework for making financial decisions. The goal of the course is not only financial knowledge and comprehension, but the ability of students to begin the application and analysis of personal financial tools to make informed decisions. The purpose of this study is to develop a tool for Personal Finance that can be used to assess financial analysis skills, evaluate the financial analysis skills gained in a Personal Finance course, and evaluate the impact of student demographics on learning personal finance.

Students taking the Personal Finance course are given a pre and post survey. The survey is confidential and has no bearing on their course grade. There are currently more than 350 students enrolled in this course each semester. The multiple choice survey has 15 questions covering five areas of financial decisions: retirement saving, taxes, debt, insurance and investing. Included in the survey are demographic questions. The demographic questions include age, gender, student credit hours completed, ethnicity, and parental income.

A t-test will be used to test for significant changes in responses between pre and post surveys. The demographic identifiers will be used to see if learning behavior and changes in financial decisions can be attributed to the type of student taking the course. Regression analysis will be used to identify significant differences in learning by student groups.

02.05.06
NON-TRADITIONAL FINANCING AND ARTIFICIAL APPRECIATION OF HOUSING VALUES

MIDWESTERN STATE UNIVERSITY

Kristopher R. Tilker · WICHITA FALLS, TX, ECONOMICS, FINANCE, AND LEGAL STUDIES

UNIVERSITY OF CENTRAL OKLAHOMA

David Chapman · EDMOND, OK, FINANCE
Stuart MacDonald · EDMOND, OK, FINANCE

Traditionally offers for owner occupied housing were an agreed upon offer that was somewhat less than the price requested by the buyer with closing costs and any allowances for improvements being taken care of by discounting the sale price of the home. However as home financing has become more complex and more exotic methods of financing are used for the purchase of owner occupied dwellings, the reported sales price of homes has become less representative of the actual selling price of the home. For example realtors report that offers that exceed the actual price for which the home has been offered are actually common. However, this offer often includes a sum of money that that appears to be part of the purchase price is often cash that is actually returned to the buyer from the seller as an allowance for improvements and for closing costs. However, these sums that are returned to the buyer are not reported as cash back to the buyer and are thus not deducted from the reported sales price of the home. This practice results in an inflated sales price being reported and an artificial ratcheting up of the value of residential real estate. In this paper we describe the various different methods by which cash is transferred from the seller to the buyer that is not deducted from the sales price. Then using sample data from closings in Oklahoma we attempt to roughly estimate the impact of this practice on the reported increase in property values in suburban Oklahoma City.

02.05.07
GRAPHICAL REPRESENTATION OF THE FINANCIAL HISTORY OF A COMPANY

UNIVERSITY OF CENTRAL OKLAHOMA

Amadou Roufaye Ousmane Mahamane · EDMOND, OK, FINANCE

The purpose of the study is to attempt to graphically represent the financial history of a company. Indeed, last year, we found two functions: the Predictability and Prosperity functions. Our conclusion was that “the predictability a company’s earnings is, in fact, a derivative of its prosperity”. Theoretically, the area under the Prosperity function curve represents the overall earnings a company made since its creation, while the slope of that same Prosperity function is the predictability of its earnings. Throughout the research, we analyzed the behavior of the two functions with respect to the company’s overall earnings. For example, when the predictability of earnings decreases, the prosperity decreases as well; both behaviors are triggered by a negative trend in the company’s overall earnings history. On the other hand, an increase in the predictability of earnings is the direct consequence of a greater prosperity while we see a positive trend in overall earnings history. Finally, we concluded this research by stating that we can graphically represent the financial history of a company: from the overall earnings it made since its creation (area under the Prosperity curve), to its prosperity (the curve) and the predictability of its earnings (the slope of the curve).
under development. Conceptual data modeling is an error prone process, especially for novices. It is believed that there are two cognitive characteristics that account for the difference of cognitive performance between novices and experts in conceptual data modeling: (1) knowledge organizations and, (2) reasoning processes. In addition, the learning process is slow for novices to reach the expert level of reasoning processes and knowledge organizations. Therefore, the research question is how to help novices achieve better performance in conceptual data modeling with relatively inadequate reasoning processes and knowledge organizations.

By exploring the cognitive characteristics of opportunistic thinking and reflective thinking in conceptual modeling, a cognitive model of opportunistic reflection is proposed in this research to account for the difference of cognitive performance between novices and experts in conceptual data modeling. By incorporating an effective opportunistic reflection mechanism into novices' conceptual data modeling behavior, this research conjectures that novices can learn a conceptual data modeling behavior similar to that of experts and consequently can have better performance in conceptual data modeling.

02.06.03
CLASS MANAGEMENT FOR A TENNIS CLUB

LANGSTON UNIVERSITY
I-Lin Huang · LANGSTON, OK, MIS
Mr Chukwunonso S Nweke · LANGSTON, OK, BUSINESS DEPARTMENT
Lenard Johnson · LANGSTON, OK, MIS
Tyler Mcneely · LANGSTON, OK, MIS
Jesse Buckley · LANGSTON, OK, ORGANIZATIONAL MANAGEMENT
Eze Nwankoala · LANGSTON, OK, ORGANIZATIONAL MANAGEMENT

The class management system is designed to help a tennis club manage its tennis classes and tennis tournaments. The tennis club offers many group classes and private classes to its students. The club also offers a tournament each week to its students. The major concerns of the tennis club are the speed and accuracy of the processes of enrolling students into various classes and tournaments. In addition, the tennis club wishes that a database can be created in order to analyze students’ enrollment patterns that can be useful for marketing and promoting.

With this class management system, a potential student can easily find classes he or she likes to attend, enroll to the intended classes, and get a personal class schedule immediately after finishing enrollment. Instructors can use this system to find and print their class schedules. In addition, they can have student lists for their classes very soon. The most important feature of this system is
to provide information for students and instructors fast and accurately. The system also provides queries that can analyze the students’ enrollment patterns according to the club wishes. Finally, this system is built using Microsoft Access 2007.

02.06.04
WHAT I DID ON MY SUMMER VACATION, THE ON-THE-JOB INTERNSHIP EXPERIENCE

CAMERON UNIVERSITY
Carrie Espinoza - LAWTON, OK, COMPUTING AND TECHNOLOGY
Aaron Gutierrez - LAWTON, OK, COMPUTING AND TECHNOLOGY
Weston Modeste - LAWTON, OK, COMPUTING AND TECHNOLOGY
Gilroy Polius - LAWTON, OK, COMPUTING AND TECHNOLOGY
Tom Russell - LAWTON, OK, COMPUTING AND TECHNOLOGY
Nathan Shotts - LAWTON, OK, COMPUTING AND TECHNOLOGY

As part of the B.S. degree in Computer Information Systems students may enroll in TECH 4003, On-The Job Internship. Each student seeks their own internship location with local, regional, or national businesses or government. During the summer of 2008, five students participated in four projects.

PROJECT 1: Aaron Gutierrez
Description: I was assigned to assist and provide draft overview of documentation to include Baseline testing, usability testing and performance metrics.

PROJECT 2: Nathan Shotts
Company: Wal-Mart Headquarters, Bentonville, AR
Description: The goal of this project is to develop and implement a system that will search out and purge PO data which Wal-Mart is no longer legally bound to keep.

PROJECT 3: Carrie Espinoza
Company: Department of Environmental Quality (DEQ), Oklahoma City, OK
Description: The project is to design Electronic forms for the Air Quality division of the Department of Environmental Quality. The assignment consists of four forms that the inspectors use to assess the levels of air emissions given off by concrete, asphalt, and rock crushing plants.

PROJECT 4: Gilroy Polius and Weston Modeste
Company: Lawton Public Schools, Lawton, OK
Description: Lawton High School has requested development of an Access database to support the Help Our Pupils Excel program. Our project was to take the logical model and develop a database for implementation.

02.06.05
DEVELOPMENT OF A NON-PROFIT ORGANIZATION WEBSITE

NORTHEASTERN STATE UNIVERSITY
Mr. Christopher Johnson - TAHELQUAH, OK, IS AND TECHNOLOGY
Dr. Ernst Bekkering - TAHELQUAH, OK, IS AND TECHNOLOGY

We demonstrate how to add functionality to a website for a non-profit organization. The functions beyond simple web pages include registration of organization members in an online database, member maintenance, registration for events and organizational newsletters, and payment for all services.

02.06.06
DATABASE MANAGEMENT CLASS GIVES HOPE TO LOCAL PUBLIC HIGH

CAMERON UNIVERSITY
K. David Smith - LAWTON, OK, MIS

UNIVERSITY OF CENTRAL OKLAHOMA
Dr. M. Suzanne Clinton - EDMOND, OK, MANAGEMENT
Katerina Gabrovska - EDMOND, OK, MANAGEMENT

Local Public High has approximately 1700 students, of which over 300 are special education students with a spectrum of disabilities and educational needs. Seventeen special education teachers serve these special education students. HOPE (Help Our Pupils Excel), an alternative service placement program, was created.

The HOPE teacher and the Chair of the Special Education Department at LPHS contacted the Regional University Database Management Instructor to select theirs as the Fall 2008 class project. Since experiential learning is vital to student development, and this project provided students with a real world problem and a real world customer, it was selected.

The database students developed a database management application using System Architect® and Microsoft Access. Database students worked through the various designs to implementation using System Architect®, all the while, interfacing with the actual customers. This helped them to experience various pressures and difficulties not normally felt in artificial exercises. It also provided a sense of accomplishment in seeing the implementation of their class work.
USING PERSONALITY TYPE TO GUIDE DEVELOPMENT OF SUCCESSFUL IS POLICY

ROGERS STATE UNIVERSITY

Dr. Susan Chinburg  
CLAREMORE, OK, APPLIED TECHNOLOGY

Dr. MaryRose Hart  
CLAREMORE, OK, BUSINESS

Information security and technology experts have long known that one of the bigger threat areas is that of employees or those trusted to use the IS/IT systems. This involves not only insider intentional misconduct but also unintentional misconduct due to difficulty following or using security policies and support. The disconnect between technology use and technology policy lays somewhat in the difficulties that IS/IT personnel have in understanding the needs of their users and communicating IS/IT-developed security policies to their users. The authors of this paper contend that at least some of the difficulties lay in the approach that IS/IT personnel use in defining and implementing IS/IT security policy. Most successful support functions are approached with a service focus while most IS/IT personnel are not focused in this manner. Using the Myers-Briggs Type Indicator personality profiles as the base reference this study will explore the differences in personality types typically involved in IS/IT security support and policy development as compared to the personality types that are typically successful in support or service, those with the “how may I help you” focus. The end goal of this study will be to recommend approaches for IS/IT personnel for more effective communication and better development of security policies that users will actually follow.

GROUP POTENCY IN GRADUATE LEARNING COMMUNITIES

UNIVERSITY OF CENTRAL OKLAHOMA

Paul Michael Shelton Ph.D.  
EDMOND, OK, COLLEGE OF BUSINESS ADMINISTRATION, DEPT. OF MGT.

This study analyzed group potency in graduate learning communities. Group potency is the collective belief that a group can succeed, achieve, and be effective in its endeavor. The study addressed these relationships -- group potency and (a) participants’ perception of organizational support, (b) length of time participants have been together, and (c) size of the learning community, and size of the learning community and the perception of organizational support. There were 192 participants from four universities’ graduate school cohorts. The findings were analyzed using Pearson’s r and ANOVAs to identify relationships between the variables or differences among groups. Respondents were between the ages of 31 and 50 years (60.2%). Females accounted for 69.3% of the sample. All respondents were completing or had completed either a master’s degree or doctoral degree in business, education, human resources, or organizational development as identified by the participants, not the programs’ designation. The findings suggest that there is a significant relationship between group potency and perceived organizational support. However, there were no significant relationships between length of time of membership and group potency, group size and group potency levels, and group size and levels of perceived organizational support. This is important to practitioners because increased group potency has been demonstrated to decrease attrition rates and increase group performance outputs.

IS STRATEGIC MANAGEMENT (STILL) RESPONSIBLE FOR THE DEMISE OF SOCIETY?

UNIVERSITY OF ARKANSAS -- LITTLE ROCK

Dr. Nancy Landrum  
LITTLE ROCK, AR, MANAGEMENT

NORTHEASTERN STATE UNIVERSITY

Dr. Sandy Edwards  
MUSKOGEE, OK, MBA PROGRAM

Ten years ago, it was stated that modern strategic management is leading to the demise of society with its profit-maximization focus (Richardson, 1996). Corporate surveys show increased use of the tools criticized as part of this problem (Rigby & Bilodeau, 2005, 2007). Furthermore, there is criticism that strategic management research is lacking relevance for practitioners (Bettis, 1991; Gopinath & Hoffman, 1995). Yet there is an increase in awareness of sustainability in society and an increase in sustainability-related activities by corporations (Global Reporting Initiative, 2007; Nielsen, 2007a, b; SIRAN-KLD, 2007). This study examined trends in strategic management and practitioner publications over the past ten years to see if articles are reflecting this new sustainability movement.

EXPERIENTIAL LEARNING AND PRACTICE IN THE UNITED STATES AND CHINA: A COMPAR

UNIVERSITY OF CENTRAL OKLAHOMA

Miss Becky Feng  
EDMOND, OK, MANAGEMENT

Dr. Kelly Moyers  
EDMOND, OK, MANAGEMENT

In many ways, China and the United States represent the “best of the best” in international education. While
China's educational practices take a top-down approach with an emphasis on structured, disciplined learning, the United States implements a decentralized system with an emphasis on student-centered learning. To that end, a similarity exists between these two systems in the area of experiential learning, a learning by doing approach to education. With centuries of differences between the two, the Chinese and American educational systems have been slowly migrating toward one another in order to learn more about what the other is doing in the classroom. Both the United States and China see the importance of experiential learning and are eager to use it and to use it effectively.

02.07.04
TRANSFORMATIVE LEARNING IN CHINA'S CLASSROOMS: IS THERE A REAL VALUE TO SOC

UNIVERSITY OF CENTRAL OKLAHOMA

Miss Becky Feng · EDMOND, OK, MANAGEMENT
Dr. Kelly Moyers · EDMOND, OK, MANAGEMENT

To most, transformative learning can be described as a structural shift in how a person thinks, feels and acts. To others, it may be described as a shift of consciousness that alters our way of being a part of society. Within transformative learning, the understanding of interlocking structures such as age, social standing, race and gender, environmental awareness, varying lifestyles, as well as our own views of social justice, joy and peace can be transformed and developed. To that end, transformative learning includes both individualistic and collectivist components, thus, the need exists to understand the real value that is being added to society by implementing transformative learning.

02.07.05
SHOULD COMPANIES ACCOMMODATE SMOKERS AT THE WORKPLACE

UNIVERSITY OF CENTRAL OKLAHOMA

Porsha D. Webb · EDMOND, OK, DEPARTMENT OF FINANCE
Darrell Ford · EDMOND, OK, DEPARTMENT OF FINANCE

This paper examines the issues of whether and to what extent employers should accommodate employees who smoke at the workplace. We examine the positive and negative aspects of providing smoking areas and other forms of accommodation. We also compare the costs of accommodating employees with the costs associated with a no-smoking policy.

02.07.06
UNDERSTANDING MOTIVATIONAL INFLUENCES IN MBA PROGRAM

UNIVERSITY OF CENTRAL OKLAHOMA

Katerina Gabrovska · EDMOND, OK, MANAGEMENT

Students desiring an MBA is at an all time high (Damast, 2007). Competition is growing as schools of business attempt to offer what students want (Krell, 2007). In the development of MBA degree programs, there are academic biases as well as market forces that together determine the scope and depth of the program offered. Now, market forces are winning as universities try to respond to almost every change in students’ expectations. They want to know the factors that motivate potential students to pursue an MBA degree, and the most important criteria when they evaluate MBA programs?

Extrinsic motivation is high for both new and matriculated MBA students (Petrenko & Epstein, 2007). While initially important when starting, extrinsic motivation remains important for continued program involvement as well. This study examines the extrinsic motivations that propel students to pursue an MBA degree and pick particular universities based on prestige, image and reputation of its MBA program. What components make up prestige?

How much does prestige matter when we determine the choices made by MBA candidates? What sources of information are more credible in determining prestige? How the importance of prestige of a program changes between first-semester MBA students and graduating MBA students? Several surveys of MBA students are analyzed regarding student perceptions and evaluations of prestige, image and reputation of the MBA program of several universities in one metropolitan area.

02.07.07
EXPERIENCING INTERVIEWING AND SELECTION

UNIVERSITY OF CENTRAL OKLAHOMA

Dr. M. Suzanne Clinton · EDMOND, OK, MANAGEMENT

The purpose of the poster is to clearly identify the steps involved in using an interview simulation in the business classroom. The poster elucidates the steps involved in an interview simulation, the pedagogy/andragogy involved in the simulation and describes student responses to the exercise.

Ultimately, this experiential learning exercise is intended to improve the student’s resume writing skills, interviewing skills, decision-making skills, provide an opportunity to experience serving on a hiring committee. By using the simulation in a business classroom, it is expected the student can transfer the learning into a “real” world application more readily than a traditional lecture method of teaching.
02.07.08
EXPERIENCING HUMAN RESOURCE MANAGEMENT THROUGH FILM

UNIVERSITY OF CENTRAL OKLAHOMA
Katerina Gabrovska  EDMOND, OK, MANAGEMENT

The study of experiential learning was popularized in the mid-1970’s. Kolb’ and Frye’s (1975) Experiential Learning Model consisted of four elements: concrete experience, observation and reflection, the formation of abstract concepts and testing in new situations. Unlike didactic education, in which the professor’s role is to provide or give students information or knowledge and to dictate exercises that transmit the same, the goal of experiential education is to provide students experience with a topic, the ultimate intent being to provide meaningful, lasting learning. Gunn (1983, p.23) states that “students must experience a situation to truly learn. Merely being told how to do something through a lecture is no substitute for actually doing it.” The author proposes that classic and contemporary popular films can be utilized to successfully teach students Human Resource Management. Support for the use of this technique is found in the literature (Champoux, 2007; Schein, 2004; Champoux, 2001; Champoux, 1999a; Champoux, 1999b; Pondy, 1967).

02.07.09
ONLINE EDUCATION: NAVIGATING MAZES AND HURDLES TO CAPITALIZE ON THE OPPORTUNITY

UNIVERSITY OF CENTRAL OKLAHOMA
Katerina Gabrovska  EDMOND, OK, MANAGEMENT

Online Education: Navigating Mazes and Hurdles to Capitalize on the Opportunities of Anytime-Anywhere Learning

One of the fastest growing and most constructive avenues in the virtually limitless milieu of cyberspace is distance education. Opportunities for anytime-anywhere learning are readily available through thousands of schools, colleges, and programs, literally at the click of a mouse. With every opportunity comes challenge, and online distance education presents a unique set of hurdles. Consistent quality, academic integrity, outcomes assessment, and accreditation are essential but intricate navigation puzzles that must be mapped in the information autobahn of cyberspace. Unwieldy legal issues, increasingly difficult to apply to online education in the United States alone, include accessibility, intellectual property, and ownership/use/compensation rights regarding developed courses and materials. An existing maze of laws, rapidly growing and being adapted to electronic communications, is meeting resistance and resentment in much of academe. This poster will consider opportunities, challenges, and implications of cyberspace in education. It will analyze the benefits of distance education, and frame the challenges providers face in meeting multi-faceted administrative obligations while maintaining quality educational experiences. It will address specific aspects of existing laws and conventions, and explore the impact of new legal developments in online education.

02.07.10
DOES THE ADEA APPLY TO AMERICAN INDIAN TRIBES?

UNIVERSITY OF CENTRAL OKLAHOMA
Dr. Jennifer Barger Johnson  EDMOND, OK, FINANCE AND LEGAL STUDIES

After a reduction in funding, the Health and Human Services Director of the Cherokee Nation of Oklahoma conducted a reduction in force of all Community Health Representatives currently employed. To avoid any implication of age discrimination, all employees over the age of 40 were given a multiplication factor of two. A 61 year old employee was one of four employees discharged as a result of the RIF. The employee alleged that she was discharged due to her age and filed the appropriate claim with the EEOC. The EEOC supported the employee’s claim. The tribe informed the EEOC that it would not comply with discovery requests and the EEOC sought enforcement through the United States District Court for the Eastern District of Oklahoma. The tribe appealed the District Court’s initial support for the EEOC’s case to the Tenth Circuit Court of Appeals. The issue was whether or not the EEOC had jurisdictional authority over the tribe pursuant to the ADEA. In reversing the decision, the Tenth Circuit determined that application of the ADEA to the tribe would interfere with the specific treaty right of self-government.

A historical perspective of this case will examine the limitations of Native American sovereignty and treaty rights to assist in interpreting the current law. A brief examination of the two established opinions on this issue and a summary of decisions in each line of cases will illustrate where the federal courts are moving in this area of Native American law.

02.07.11
AN EXAMINATION OF CUSTOMER SERVICE EXPERIENCES IN THE UNITED STATES

UNIVERSITY OF CENTRAL OKLAHOMA
Dr. F. Robert Buchanan  EDMOND, OK, MANAGEMENT
Dr. M. Suzanne Clinton  EDMOND, OK, MANAGEMENT
Katerina Gabrovska  EDMOND, OK, MANAGEMENT

The United States has been characterized for a number of years as having shifted from a manufacturing economy to one based on service and information. This shift has involved many challenges, particularly in the area of customer service. This poster will explore the experiences of customers and employees in the United States, focusing on the challenges and opportunities presented by this transformation.
to a service economy. And yet, customer service is weak. This has been happening so gradually that people seldom stop to consider how common it is to be handled by company representatives that are rude, careless, or poorly trained. Making matters worse are the systems that large companies have put into place to minimize the contact that they have to have with customers in the course of their transactions. While these problems are prevalent in a broad array of industries, this case uses airlines as a showcase for poor customer service.

The case provides actual customer stories of interaction with airline industry personnel, along with missions, company profiles and performance comparisons of a sample of leading airlines. Southwest Airlines is a clear winner in both profitability and customer service. Questions can be raised as to why this is happening and whether there are any actions that could be recommended. This leads to broader implications of how a prosperous and highly developed country can become so inept at doing business, and the impact this can have in a globally competitive environment.

02.07.12
SEMICONDUCTOR FABRICATION AND PROCESSING DEVELOPMENT

UNIVERSITY OF CENTRAL OKLAHOMA
Rob Kuester - EDMOND, OK,
Background: ARI intends to manufacture large area wafers of Mercury-Cadmium-Telluride (HgCdTe), the critical sub-component in manufacturing high-end infrared (IR) focal plane arrays and avalanche photo diodes. This project provides the intern real-world experience in identifying and meeting two major milestones involved in transforming R&D efforts into revenue generating consumer product.

Specific Aim 1: Supply Chain Development
The intern for this project, with assistance from ARI scientists, sourced raw materials used in production, primary and ancillary production equipment, and production support services. Direct liaison with ARI’s prospective customers, five leading manufacturers of IR devices for Department of Defense applications, determined specific supplier requirements. The intern attended a two day course in ISO and initiated ARI’s ISO program with a goal of certification by first product delivery.

Specific Aim 2: Business Unit Development
This phase of the internship is still underway. Production area designs and process flow charts are completed for each of the structural options that are still on the table for consideration. Process flow changes little between the structural options, though each pose unique ancil-

02.07.13
INFLUENCES OF NEW EMPLOYEE DEVELOPMENT PRACTICES ON TEMPS

NORTHEASTERN STATE UNIVERSITY
Dr. Jeffrey P. Slattery - BROKEN ARROW, OK, MANAGEMENT

UNIV. OF HOUSTON VICTORIA
Dr. TT (Rajan) Selvarajan - SUGAR LAND, TX,

UTAH VALLEY UNIVERSITY
Dr. John E. Anderson - OREM, UT, INFORMATION SYSTEMS

Understanding what influences temporary employee attitudes toward work is becoming an increasingly significant managerial concern in organizations employing temporary workers. In this empirical study, we examine the relationship between new employee development (NED) practices, role stressors, and employee work-related attitudes. It was hypothesized that NED practices will be negatively related to the role stressor variables. Additionally, the role stressor variables will be related to and act as mediators toward various work-related attitudes. Since temporary employees receive new employment practices at both the client organization and the temporary agency, the relationships were hypothesized to exist for both the client organization and temporary agency. Data was collected from temporary employees (N= 1,261) across the United States. Results indicate that NED practices at the temporary agency and client organization were both negatively related to role ambiguity and role conflict. Role stressors were positively related to intention to quit and negatively related to job satisfaction and organizational commitment for both the client organization and temporary agency. Data was collected from temporary employees (N= 1,261) across the United States. Results indicate that NED practices at the temporary agency and client organization were both negatively related to role ambiguity and role conflict. Role stressors were positively related to intention to quit and negatively related to job satisfaction and organizational commitment for both the client organization and temporary agency. Role ambiguity and role conflict partially mediated the relationship between NED practices and temporary employee work-related attitudes for both the client organization and temporary agency. Theoretical and practical implications for managing temporary employees are discussed.
08 : MARKETING

02.08.01 IDENTIFYING THE NEED FOR A CHILD CARE FACILITY AT NORTHEASTERN STATE UNIVERSITY

NORTHEASTERN STATE UNIVERSITY
Mr David Hildebrand . TAHLEQUAH, OK, MARKETING
Ms Leslie Bell . TAHLEQUAH, OK, MARKETING
Mr Brandon Cardwell . TAHLEQUAH, OK, MARKETING
Mrs Laura Paul . TAHLEQUAH, OK, MARKETING

The nontraditional students of Northeastern State University that have children need a reliable child care facility. This is a rising need across Oklahoma as more nontraditional students return to college. We have found that six universities have a child care facility in Oklahoma and we compared those programs. We did this to help demonstrate the need for a child care facility at Northeastern State University. Detailed results and their implications are further discussed in this study.

02.08.02 TROUBLED SKIES FOR THE US AIRLINES

UNIVERSITY OF CENTRAL OKLAHOMA
Stefan E. Genchev . EDMOND, OK, MARKETING
Dasha Titkina . EDMOND, OK, MARKETING

According to the most recent forecast by The International Air Transportation Association (IATA), the airline industry will lose a staggering $2.3 billion in 2008. Based on an interview with the general director and chief executive of IATA, Giovanni Bisignani. The price of fuel is, undoubtedly, the big trouble spot for the US airlines. In such turbulent times, the management teams at the big US carriers are facing numerous challenges. There is a rush toward consolidation and several airlines are engaged in talks about potential mergers and/or acquisitions.

The current research will suggest that a sound alternative to consolidation might be the drive toward revamping the major carriers’ own supply chain operations. Based on an extensive case study research, which will be undertaken at the American Airlines hub in Tulsa, OK, an example of best supply chain practices in the industry will be offered. Particular attention will be given to the procurement operations; the study will focus on supplier selection and performance evaluation. Considerations regarding outsourcing alternatives will be discussed as well. Although specific to this company, the findings will be generalizable not only to airlines but other businesses operating in highly volatile environments.

02.08.03 MEASURING PATIENT SCHEDULING RATES FOLLOWING THE USE OF A TELEPHONE SCRIPT

NORTHEASTERN STATE UNIVERSITY
Dr. Alan McKee OD . TAHLEQUAH, OK, OPTOMETRY
Kyle Bennett BS . TAHLEQUAH, OK, OPTOMETRY
Dakota Waldroop BS . TAHLEQUAH, OK, OPTOMETRY

Purpose: To evaluate the effect that a new telephone script has on the percentage of patients scheduled from the total number of call-ins at a specific optometry practice during the time of the study.

Setting: Selected optometry practice, Owasso, OK USA

Methods: The office receptionists will use the agreed-upon phone script when guiding new patients to schedule an appointment over the phone. Before and after the script has been put into use at the office, the number of new patients calling in for a new appointment will be recorded. This new data will be compared to the previous data taken before the installation of the phone script to determine if there is a statistically significant difference between the two sets of data.

Results: Receptionist #1 showed the largest increase in average number of callers scheduled per day. Receptionist #3 showed the largest increase in percentage of callers scheduled per day, approaching statistical significance using a 95% confidence interval.

Conclusion: The calculated p values show that although the majority of percentages were raised, the amount of phone shoppers scheduling appointments was not elevated by a statistically significant amount after implementing the script. Based on post-study interviews the script increased the confidence level of the staff when answering calls which we believe has a positive effect on the impression the caller has of the office.

02.08.04 PERCEIVED INFLUENCING FACTORS ON MAJOR FIELD OF STUDY CHOICE FOR ROGERS STA

ROGERS STATE UNIVERSITY
Nathan Decker . CLAREMORE, OK, BUSINESS ADMINISTRATION
Brant Hall . CLAREMORE, OK, BUSINESS ADMINISTRATION
Whitney Robison . CLAREMORE, OK, BUSINESS ADMINISTRATION
Background:
Rogers State University strives for continual improvement to better meet the needs of current and future students. Faculty advisers can better help students who already have a field of concentration selected. Knowing what kind of information and what method of retrieval is preferred by RSU students when it comes to making their decision of what field to pursue is important.

Significance of the Topic:
In the past several years Rogers State University has grown in attendance by leaps and bounds. Marketing activities can be more productive by understanding why students choose their major field of study.

Research Questions:
When do Rogers State University students choose a major? What are the perceived influencing factors for how Rogers State University students choose their majors? Do Rogers State University students change majors? What are the perceived influencing factors that caused students to change majors?

Methods:
A survey pilot study will be performed using a sample of 200-300 students from Rogers State University. The sample will contain students from four of Rogers State University’s majors. Three upper-division classes will be chosen from each of the four majors. The anonymity of the participants will be insured by no identifying links between the student and the survey.

02.08.05
WHATS FOR BREAKFAST?

NORTHEASTERN STATE UNIVERSITY
Connell Fair. TAHLEQUAH, OK, COLLEGE OF BUSINESS
Chris Kizer. TAHLEQUAH, OK, COLLEGE OF BUSINESS
Jimmy Kue. TAHLEQUAH, OK, COLLEGE OF BUSINESS
Brittany Nolan. TAHLEQUAH, OK, COLLEGE OF BUSINESS

In today’s economy, very few businesses are expanding. Many are taking a more conservative approach to spending and investing. Tahlequah, Oklahoma is the home of Northeastern State University and has shown consistent growth over the last several years, however, there are not many national chain restaurants that are open 24/7. There are currently two 24-hour diners located in Tahlequah, but neither diner is part of a national chain. The purpose of this study is to determine if an International House of Pancakes (IHOP) restaurant would be feasible in Tahlequah. The study will be conducted through secondary research. We will begin by analyzing key demographics of Tahlequah, such as the population, average income, and average age. We will then compare them to the demographics of other, similar areas that currently support one IHOP restaurant. We believe that our study will show that an IHOP would be a much desired addition to the scarce restaurant landscape of Tahlequah, and that the competition will be no match for the brand equity that IHOP brings to the table.

02.08.06
INVESTIGATION OF GENDER ATTITUDES TOWARDS SEXUALLY THEMED ADVERTISING

EAST CENTRAL UNIVERSITY
Talish Strange. ADA, OK, BUSINESS ADMINISTRATION
We identified sex in advertising as our research problem and topic. The hypothesis was that men are more accepting of the sexual themes than women. The target population was adult men and women between the ages of 21-30, although we had some respondents under 21 and over 30. The marketing scales used in this project were attitudes towards sex in advertising, and the influence of sex in advertising, from the Handbook of Marketing Scales. We tested our hypothesis using t-test and cross tabulations. After careful analysis, we found that women’s overall attitudes towards sexually themed advertising were more negative than those of men, and the influence of sexually themed ads was lower on women than men.

02.08.07
STUDENT AFFINITY TO A REGIONAL UNIVERSITY - AN EXPLORATORY INVESTIGATION

EAST CENTRAL UNIVERSITY
Jon Tait Langston. ADA, OK, BUSINESS ADMINISTRATION
Barbara Miller. ADA, OK, BUSINESS ADMINISTRATION
Stephanie Young. ADA, OK, BUSINESS ADMINISTRATION

Student affinity has the potential to make or break universities. As students, we feel that universities must be aware of their students’ loyalty. Through quality research, universities can discover the extent of student loyalty and the factors that are driving that loyalty. Thus, with this information the university can then take steps to improve student loyalty.

To measure student loyalty at ECU, we composed a survey with our target sample group being East Central University students. We used quota sampling to make sure that we reached each student group in the target sample. One of the marketing scales in our survey was focused on current loyalty and the other was focused on future loyalty. We used the Loyalty Proneness scale developed by Lichtenstein, Netemeyer, and Burton (1990). We developed a hypothesis that students who participate in athletics, Greek life, and/or two or more student organizations would have a greater loyalty to the university than those who do not.

In summary we found that almost all students surveyed...
at East Central University considered themselves to be loyal to the university. The students surveyed also felt that they would remain loyal to the university in the future. In regard to our hypothesis, we did find that those students who participate in athletics, Greek Life, and/or two or more student organizations were slightly more loyal than students who do not participate in the previously mentioned activities.

02.08.08
ADDING SPORTS AT RSU

ROGERS STATE UNIVERSITY
Michael Bagby - CLAREMORE, OK, BUSINESS
Steven Michael Dowty - CLAREMORE, OK, BUSINESS
Vitor L. Mantovani - CLAREMORE, OK, BUSINESS
Michael Bagby
Steven Dowty
Vitor Lopes Mantovani
Marketing Research MKTG 4333
Dr. Susan Chinburg
10-8-08

Group Research Proposal

Description of Topic: Our aspiration is to aid RSU athletic department in deciding what new sport should be implemented, if any. One of the results of this growth is the relatively recent addition of the athletic department to the college activities. The 2006/07 season was the inaugural one for baseball, cheerleading and softball, followed by soccer and basketball in the next season.

Significance: Scheming valuable a sport implementation policy for a miniature scholastic institution of higher education is a more diverse development than that for a deep-rooted university. Understanding what new sport that students want to see implemented is essential for this particular study.

Research Questions: What is the most popular sport on the Claremore campus among traditional students (except football)? What are the various costs affiliated with each prospective sport (tennis, swimming, track & field, rugby, hockey, etc.)? How many other regional NAIA schools have these specific sports?

Methods: A pilot-study survey will be conducted using a convenience sample of about 300 traditional Claremore students at Rogers State University. Data from this survey will be compared to other published studies from different institutes.

02.08.09
“CAUSES AND RECONSTRUCTION OF LOW ATTENDANCE AT BASKETBALL GAMES”

ROGERS STATE UNIVERSITY
camaron dearinger - CLAREMORE, OK, BUSINESS
Cameron Dearinger

After six years of planning and organizing the RSU athletic department announced its participation in college athletics. The university decided that they were going to start with participation in six different sports, first games beginning in 2006. After competing for two years, the athletic department is disappointed with attendance at sporting events. RSU basketball brings in the most fans and the most revenue. Because of this, RSU looks to the basketball programs as the face for the university athletics. When conducting this research of “why attendance is low?” The basketball teams will be the main focus of the study. Designing an effective marketing plan for attacking the student and community support for college athletics is a must in the survival of small college athletics. By identifying the problems with the marketing plan for RSU athletics, proper steps can then be taken that should the program excel and progress in community and student participation. What will increase community and student body attendance dramatically at the RSU basketball games? A few different methods will be used when doing my exploratory and secondary research. A pilot study survey will be taken of around 100 different adults. The survey will include questions about athletics or their impressions of RSU athletics. Data from this survey will be compared to other studies and analyzed for results.

02.08.10
FOR LADIES ONLY PARTY

ROGERS STATE UNIVERSITY
Elisabeth Sanchez - CLAREMORE, OK, MARKET
Travis Harold - CLAREMORE, OK, MARKETING
Heather Mines - CLAREMORE, OK, MARKETING
Whitney Peavler - CLAREMORE, OK, MARKETING

For Ladies Only is a Tulsa-based company that does in-home lingerie parties. They strive to provide adult products in an educated, professional manner and to provide a service for women who want to purchase such products without going to a retail store. The company would like to develop into the Oklahoma City area. Designing a marketing strategy for an in-home party business is a different process than for a traditional business. Also, the nature of the products sold by the company creates a unique situation in choosing the target market and medium to promote the company. Knowing more about the current customers in Oklahoma City will affect the
way For Ladies Only will obtain new customers. What is the awareness of For Ladies Only and its competition in Oklahoma City? What mediums are available to promote For Ladies Only in Oklahoma City? What are the current Oklahoma City customers’ perceptions of For Ladies Only? A pilot-study survey will be conducted using a convenience sample of about 100 customers in the target area. The self-report survey will include questions about the perceived value of the company’s offerings, how the customer heard about For Ladies Only, and demographic data.

02.08.11
INFLUENCING FACTORS DOWNTOWN TULSA DINING AT THE DAILY GRILL

ROGERS STATE UNIVERSITY
Jennifer Ailshie - CLAREMORE, OK, BUSINESS MARKETING
Krista Schlumpberger - CLAREMORE, OK, BUSINESS MARKETING

The Daily Grill is a downtown Tulsa restaurant that offers a casual fine-dining experience. They want to get their name out to the community without public, paid advertisements. The Daily Grill, a new restaurant from California, is in the recently remodeled Crowne Plaza Hotel, next to the Performing Arts Center and two blocks up from the new BOK center. Designing a successful marketing strategy will be a challenge because of the location of the restaurant. They are located in an area where local businesses and local entertainment schedules would have an important effect on the clientele attracted to the restaurant. This research will focus on the following questions: How likely are you to eat at a “casual fine dining” restaurant in the Tulsa Metro area? What price range do you feel one person will spend on a meal at a “casual fine dining” restaurant? How influential is the connection to additional entertainment on your choice of dining experience? How influential is parking when choosing a place to dine? How important is security when considering a place to dine? A public opinion poll would be best to receive opinions of the community that has eaten or plans to eat at the restaurant. With those results we plan to aid the restaurant in consumer awareness and provide information for developing enthusiastically satisfied customers.
03.01.01
PHONICS IN A TECHNOLOGICAL WORLD

UNIVERSITY OF CENTRAL OKLAHOMA

Mrs. Darlinda Cassel · EDMOND, OK, CURRICULUM AND INSTRUCTION
Ms. Brandi Gay · EDMOND, OK, ELEMENTARY EDUCATION

The purpose of this comparative study is to compare and evaluate children's phonics website activities and the responses of primary grade students, first through third, and UCO Primary Reading students to those website activities. Five websites will be chosen based on the websites’ correlation to the Oklahoma Priority Academic Student Skills. Ten children from each grade level and thirty UCO students enrolled in ELED 4063 will be surveyed to find out from the child’s point of view which sites were fun, interactive, user friendly, and conducive to their classroom studies.

The data for this study will be collected from surveys. After each activity, the children and UCO students will fill out a survey about the activity. The project will analyze the surveys, which contain a likert scale and two open-ended questions, in order to rank the activities. The data from the children’s surveys will be beneficial to three parties: current UCO students, teachers, and parents. The UCO students will “learn” how children think, know what type of activities keep children engaged, and which activities correlate to our state standards, PASS. For teachers, it’s important to be aware of website activities children find engaging so they may integrate these activities into their lessons. The information will also be useful for parents because with it they will be willing to let their children use these activities knowing they are meaningful and possibly beneficial to their child’s education.

03.01.02
OPTOMETRY COURSE PODCASTS

NORTHEASTERN STATE UNIVERSITY

Mr. Chad Morgan · TAHLEQUAH, OK, OPTOMETRY
Ms. Elizabeth Schulz · TAHLEQUAH, OK, OPTOMETRY
Dr. Kippi Wyatt · TAHLEQUAH, OK, OPTOMETRY

Purpose: To evaluate a correlation between podcast use and audio and visual learning styles and investigate the perceived benefits of podcast use.

Methods: The investigators created six podcasts to accompany neuroscience coursework at Northeastern State University Oklahoma College of Optometry. Twenty-five first year optometry students were the subjects for this research. At the conclusion of the semester a survey was given to evaluate podcast usage and the subjects’ perceived benefits of using the podcast.

Results: There was no significant correlation between audio versus visual learning style and podcast use (rho = 0.085). Many (76.5 percent) podcast users reported that they felt that their overall learning was enhanced by using the podcasts and most (70.6 percent) of subjects who used podcasts reported that they would use podcasts if they were available for other courses. The most frequently cited activity done while listening to the podcast was driving.

Discussion: Most subjects who used the podcasts felt that their learning was enhanced by using the recording. It is our impression that podcasts may be an excellent way for students to review course material. Most students used the podcasts as review as opposed to learning material for the first time. The portability of these types of files can provide a review for students while they are performing other tasks.

03.01.03
SELECTING VARIABLES TO PREDICT API SCORES IN OKLAHOMA PUBLIC SCHOOLS

NORTHEASTERN STATE UNIVERSITY

Dr. Mark Giese · TAHLEQUAH, OK, HEALTH AND KINESIOLOGY

In many states, student achievement is determined by grade level examinations. In some states, these examinations are reflected in an Academic Performance Index that is public record and in some cases, tied to state funding. It was our intent to predict the Academic Performance Index of area school districts with selected variables that were obtained from State Department of Education public records. In this study, the average Academic Performance Index of area schools served as the dependent variable and three predictor variables were entered into a non parametric multiple regression model and served as the independent variables. The predictor variables were: reported poverty level of the school, student to teacher ratio and total school district salary. Spearman’s rank order analysis revealed a multiple R of .34 and a standard error of the estimate of 173.47. An ANOVA produced an F value of 3.4, p = .023, indicating a significant contribution or one of a set of predictor variables. Are these factors accurately predicting student achievement in a practical sense or are these data meaningless in real world school settings? The predictor variables in this study were parameters over which the school had little control. Just because predictor variables are easy to recover from archival data and show significance, are there other inherent variables in schools that may produce high student achievement?
03.01.04
SCHOOL ADMINISTRATION CANDIDATES’ PERCEPTION OF PROGRAM EFFECTIVENESS.

NORTHEASTERN STATE UNIVERSITY

Mrs. Ashley C McKenzie, Tahlequah, OK, Honors

The purpose of the study was to determine how candidates in a school administration program at a Midwestern regional university perceive the effectiveness of the Master in Education School Administration program. The data utilized for the purposes of the study was archival in nature, and has been compiled by a professor in the program over the past three years. Candidates were asked to develop a list of the top ten ideas they learned while in the program that would be most applicable upon their entrance into public school administration. These themes were then cross-referenced with the university’s standards in order to determine areas of strength and weakness.

Five themes emerged during the course of this study. The first, with 38 responses (56.7%) was a problem-solving technique known as P.O.P.I.E. or Problem, Options, Plan, Implement, Evaluate. This model emphasizes dissection of a troubling situation and utilizes a flow-chart visual organizer. The second was differences in learning (i.e. Dunn & Dunn learning styles/Gardner’s multiple intelligences) with 38 responses (56.7%) Next was the issue of public relations. With 27 responses (40.3%), this theme addresses how the surrounding community views a school. The fourth theme, “We Are Smarter Together than I Am Alone,” addresses the need for networking among administrators. It received 26 references (38.8%) The final theme that emerged was test awareness with 20 responses (29.9%) objectives of the quiz/requiz method were to increase attendance, to provide feedback on the students work before exam time, to improve grades, to improve statistical/scientific writing skills, and to reduce the amount of grading. The student’s final course grades and an attitude survey were used to measure the success of the quiz/requiz method.

03.01.06
IN Involving CHILDREN AND THEIR FAMILIES IN PORTFOLIO CONSTRUCTION

UNIVERSITY OF CENTRAL OKLAHOMA

Robin Bradshaw, Edmond, OK, Curriculum & Instruction
Julianne Oesterle, Edmond, OK, Curriculum & Instruction
Julianne Oesterle, Edmond, OK, Curriculum & Instruction
Dr. Janette C. Wetsel, Edmond, OK, Curriculum & Instruction

Portfolios are used extensively as a way to authentically assess children in the elementary grades. There are numerous ways that teachers collect children’s work to place in portfolios. We investigated the importance of involving children and their families in the gathering of portfolio artifacts as a means of authentic assessment. We compared various portfolios in order to show how they are specific to the child to which they belong. In addition, we interviewed a first grade teacher to research the use of portfolios from a teacher’s perspective, using case study methodology. We also interviewed children and their parents to gain insight into their perception of involving children in assessment.

03.01.07
MYTHOLOGY: EFFECTIVELY TEACHING CLASSIC STORIES IN JUNIOR HIGH CLASSROOMS

EAST CENTRAL UNIVERSITY

Tina Casey, Ada, OK, English

This poster highlights research based on effective methods of teaching mythology in the junior high classroom. Through creative teaching techniques and the inclusion of modern day works, educators can help students gain better comprehension while incorporating humanities and other creative activities into lesson plans.
03.01.08
QUALITY PLAYGROUNDS FOR YOUNG CHILDREN

UNIVERSITY OF CENTRAL OKLAHOMA
Melody English  EDMOND, OK, CURRICULUM & INSTRUCTION
Dr. Janette C. Wetsel  EDMOND, OK, CURRICULUM & INSTRUCTION
This research was conducted to determine how early childhood pre-k teachers perceive the quality of their playgrounds. Using a survey, teachers were asked about equipment choices available to children, space and area provided for each child, and what teachers see as the benefits of well-constructed playgrounds with ample time allotted to outdoor play. Data indicate that refurbishing of public school playgrounds needs to become a priority for a large number of schools in order to meet the health and safety needs of young children.

03.01.09
FACE TO FACE (F2F) VS ONLINE INSTRUCTION

NORTHEASTERN STATE UNIVERSITY
Mrs Elizabeth Reeve  TAHLEQUAH, OK, EDUCATIONAL FOUNDATIONS AND LEADERSHIP
Dr Ernest Bekkering  TAHLEQUAH, OK, BUSINESS AND TECHNOLOGY
Dr Bill Rosener  TAHLEQUAH, OK, COLLEGE OF BUSINESS & TECHNOLOGY
Dr Renee Cambiano  TAHLEQUAH, OK, EDUCATIONAL FOUNDATIONS AND LEADERSHIP
From the time a child is born until the death of the adult, all individuals are in the process of life long learning. All individuals perceive the world through different perspectives, and often learn several different methods. Each individual is capable of learning in the different ways; however, not all styles are as productive as others when it comes to learning the information. Thus, it helps to know what style of learning actually makes learning easier for each individual in life.
This study will examine how students’ learning style will influence preferred delivery of instruction. Participants will be students enrolled in a Midwestern Regional University in the Fall 2008 and Spring 2009 semesters. Students will be given the Productivity Environmental Preference Survey (PEPS) prior to any instruction. Students then will be randomly divided into two groups, group one will receive instruction via lecture using visual representations on developing a simple grade book in excel in front of a computer. Group two, will receive instruction on developing a simple grade book in excel via online using an instructional video. Students will be assessed based upon final product developed. Students will be given a survey developed by the researcher to determine attitudes of instruction. Data from survey and PEPS will be compared to determine the relationship of delivery method and learning style. After compilation of data, focus groups will be developed.

03.01.10
MONKEY TRIAL

EAST CENTRAL UNIVERSITY
Aerlyne Collison  ADA, OK, LEGAL STUDIES
Kyle Foster  ADA, OK, LEGAL STUDIES
Rebecca Lela Matthews  ADA, OK, LEGAL STUDIES
The Scopes Monkey Trial (Scopes v. State) was an important and pivotal case in American History. The Scopes trial broke wide open the controversy surrounding evolution. The Scopes trial tested the Butler Act, which made it unlawful in Tennessee to teach any theory which denied divine creation and promoted evolution.
The popular sentiment in Tennessee was against teaching of evolution. Prosecutor William Jennings Bryan had the support of the people opposite defense attorney and religious skeptic Clarence Darrow.
The trial was held in the tiny town of Dayton, Tennessee (population 2,000) on July 10, 1925. The trial was held in an old Southern plantation house. This courtroom remained as its capacity of 700 people throughout the trial.
The defendant, John Scopes, was a high school science teacher. He was pressured by several local businessmen to teach evolution, contrary to the Butler Act. This trial, they believed, would bring attention and, therefore, money into their town of Dayton. Ultimately, the jury found Scopes guilty, per Darrow’s request. Darrow did this so that the case could be appealed and ultimately go on to the Supreme Court. The $100 fine that Scopes paid hardly seems like a large sum when considering the effect that this case has had on American legal history. The law that prohibited teaching evolution in Tennessee, however, was not repealed until 1967.

03 : HUMAN ENVIRONMENTAL SCIENCES

03.03.01
CHANGING PERCEPTIONS ABOUT PALM OIL AND ITS HEALTH BENEFITS

UNIVERSITY OF CENTRAL OKLAHOMA
Miss Ahondju Umadjela  EDMOND, OK, HUMAN ENVIRONMENTAL SCIENCE
Dr. Tawni Holmes  EDMOND, OK, HUMAN ENVIRONMENTAL SCIENCE
Palm oil tree is thought to originate from the tropical rainforest regions of West Africa and the equatorial region of Angola and the Congo (FAO, 2002) (1). Both palm oil and palm kernel oils are produced from the same fruit derived from palm oil tree. The American Palm Oil Council (2004) describes palm oil fruit as the only fruit that can give two types of oil.

Despite its use in the food industry, palm oil has been portrayed as being dangerous to health. The reason being that palm oil is mistakenly associated with palm kernel oil, as being detrimental to health. Palm oil is extracted from the mesocarp (flesh of the fruit) and palm kernel oil from the fruit’s core (2). Although they both come from the same fruit, palm oil and palm kernel oil are different in their fatty acid content. The difference being that palm kernel oil is unhealthy and palm oil is not, as part of food consumption. Palm oil contains a balanced proportion of unsaturated and saturated fatty acids of about 50% each. As a result, palm oil cannot be perceived as saturated or unsaturated (3). This basic difference is usually misunderstood by many people, creating confusion about the oil.

The following study was conducted in order to assess perception about palm oil and provide information about its health benefits

03.03.02
UROGEN: FROM PATIENT TO PETRI DISH IN SIX WEEKS

UNIVERSITY OF CENTRAL OKLAHOMA
Miss Becky Feng  EDMOND, OK, MANAGEMENT
Dr. Kelly Moyers  EDMOND, OK, MANAGEMENT

Initiated by the work and passion of Dr. Bradley P. Kropp, M.D., F.A.A.P., UROGEN is a unique and innovative pioneer in the field of bladder tissue engineering. As a pediatric urologist, Dr. Kropp is faced daily with patients whose problematic bladder conditions need and depend on this type of scientific research. Within the last few decades, scientific discoveries have propelled the field of tissue engineering, enabling profound advancements in medicine.

As federal restrictions ease, prominent clinical trials are demonstrating that cures for difficult cases may be possible in the near future. With incredible determination and expert knowledge, Dr. Kropp, Dr. Anthony Atala, and their associates have discovered the novel capability of porcine small intestinal submucosa (SIS) to aid in the formation of bladder lining, which is necessary for a functional bladder. Together, their work with bladders has crossed milestones that have previously restricted bladder treatment to only short-term solutions.

While scientific theories may seem far-fetched to some, the promise for medical treatments and cures for these bladder problems are nearing reality. Dr. Kropp and UROGEN are equipped with the understanding and promise to help people suffering with bladder dysfunction, which could potentially influence millions. This technology embraces techniques that can be parlayed into providing cures for an array of diseases without the use of controversial stem cells.

03.03.03
BEVERAGE CONSUMPTION OF COLLEGE STUDENTS

NORTHEASTERN STATE UNIVERSITY
Ms Tera Windham MS, RD/LD  TAHLEQUAH, OK, HEALTH PROFESSIONS
Dr. Alexandria Miller PhD, RD/LD  TAHLEQUAH, OK, HEALTH PROFESSIONS

Overweight and obesity in the United States have risen at an epidemic rate in the last 20 years with recent data from CDC indicating that over 66% of adults in the US are classified as either overweight or obese. Overweight and obesity are associated with numerous health conditions including hypertension, diabetes, cardiac problems, high cholesterol, asthma, and arthritis. Eating foods or drinking beverages that provide more calories than a person needs contributes to added weight. Many beverages consumed by the public provide little beyond additional calories. A recent study showed that energy intake from soft drinks in the United States increased 135 percent between about 1977 and 2001. According to the Beverage Marketing Association, 28.3% of the beverages currently consumed in the United States are soft drinks, 10.7% of beverages consumed are bottled water, 10.9% are milk, and 11.7% are beer. Americans consumed a little over 54 gallons of soft drinks per capita in 2005. Beverage preference and consumption were assessed at Northeastern State University (NSU) to determine if NSU students follow this trend. A survey was administered to students enrolled in Basic Nutrition at NSU during the Fall 2008 semester. Data will be available at Research Day.

03.03.04
TOTAL COLIFORMS AND E COLI IN WELL WATER

EAST CENTRAL UNIVERSITY
Paul Eaton  ADA, OK, ENVIRONMENTAL HEALTH SCIENCE

Between the months of June and July 2008, an independent study was conducted concentrating on evaluating rural well water for the presence and concentration levels of total coliforms and e coli. The results were compared against Oklahoma’s safe drinking water standards. Nine-
teen well were tested with results ranging widely from well to well. A treatment method was identified and all well owners were informed of the results and educated on the subject matter.

03.03.05
ALTERNATIVE SWEETENERS: THEIR EFFECT ON FOOD APPEAL

NORTHEASTERN STATE UNIVERSITY
Emily McPeters - TAHLEQUAH, OK, HEALTH PROFESSIONS
Brian Musgrove - TAHLEQUAH, OK, HEALTH PROFESSIONS
Kendra Taylor - TAHLEQUAH, OK, HEALTH PROFESSIONS

Today, the use of artificial sweeteners is on the rise, many people are seeking alternative ways to sweeten their foods without losing the appeal of real sugar. With the objective of evaluating the effects of various sweeteners on the texture, flavor, and viscosity of applesauce, we chose to compare white granulated sugar, xylitol (Xylo-Sweet) and sucralose (Splenda).

The experiment consisted of 2 trials. During each trial, 3 batches of applesauce were made from a standard recipe -- one batch prepared with white granulated sugar, and the other 2 batches prepared with either sucralose or xylitol. Of the many contributing variables, the following were particularly vital to control: correct & consistent preparation and measuring techniques, selection of apples (same apple variety, quality, and purchase location), and the utilization of duplicate cooking apparatus and utensils.

Upon completion, the applesauce variety was used to perform objective testing and then divided into individual randomly numbered samples. These samples ranked by a taste panel using a scorecard and then the results were evaluated. The results revealed that none of the sweeteners had differing effects on the viscosity, texture, or appearance of the applesauce; yet, the flavors were distinctly unique. Overall, flavor anchored preference. Xylitol was generally preferred over sucralose or xylitol. Of the many contributing variables, the following were particularly vital to control: correct & consistent preparation and measuring techniques, selection of apples (same apple variety, quality, and purchase location), and the utilization of duplicate cooking apparatus and utensils.

The results in round one of scoring were, in order of preference, butter, avocado then shortening. In round two the order of preference was shortening, avocado then butter. The judges commented that the cookies made with the avocado were “smooth and chewy” and possessed the richest flavor. I was not surprised that people were generally hesitant about the green-tinted cookies and I was happy to discover that they were the preference for some and scored second in both rounds of judging.

03.03.07
THE EFFECTS OF DIFFERENT TYPES OF MILK ON CHOCOLATE PUDDING.

NORTHEASTERN STATE UNIVERSITY
stacey lynn jones - TAHLEQUAH, OK, HUMAN AND FAMILY SCIENCES
Chelsha Moore - TAHLEQUAH, OK, HUMAN AND FAMILY SCIENCES
Krista Vails - TAHLEQUAH, OK, HUMAN AND FAMILY SCIENCES

In our experiment, we studied the differences in cooked chocolate pudding that occurred as a result of exchanging Lactaid 2% and vanilla soy milk for the original ingredient of whole milk. We did this to determine how the recipe might be adapted for lactose intolerant individuals. When creating the pudding, we noticed a difference using the whole milk. The whole milk had certain identifiable characteristics. Although the soy left an aftertaste, it could easily be substituted into the recipes and still be very enjoyable. The Lactaid 2% milk had more intense characteristics with a sweet taste. Overall, our taste panel agreed that the whole milk sample had a superior texture and mouth feel. However, our taste panel had results that were relatively close on all scores. We have concluded that the use of milk in different cooked recipes must therefore rely solely on the tastes of the individuals.

03.03.06
ALTERNATIVE FATS USED TO MAKE CHOCOLATE CHIP COOKIES

NORTHEASTERN STATE UNIVERSITY
Larissa Brown - TAHLEQUAH, OK, HEALTH PROFESSIONS
Katy Winbray - TAHLEQUAH, OK, HEALTH SCIENCES

Alternative Fats used to Make Chocolate Chip Cookies
03.03.08  
**COHABITATION: PERSPECTIVES FROM A NEW MILLENNIUM**

**NORTHEASTERN STATE UNIVERSITY**  
Ms Vickie M Goodman - TAHLEQUAH, OK, HEALTH PROFESSIONS  
Ms Sheree M Whiteside - TAHLEQUAH, OK, HEALTH PROFESSIONS

The structure of conventional families has shifted from traditional marriage patterns to those of immense diversity. Statistics show that in 1970, 85% of families in the United States contained married parents. By 1976, those numbers had dropped to 68%. (Child Trends DataBank). Now families are comprised of single parent homes, grandparents raising children, and parents that are co-habiting. Research shows that children living in many of these differing structures are at risk for medical as well as emotional difficulties. 

The purpose of this project is to evaluate college undergraduate students' perspectives on cohabitation. It is important to know how views on cohabitation may affect parenting, financial responsibilities, and family structures. Being aware of students' perspectives will be beneficial to instructors in providing information and preparing course content.

Data will be available on research day after students have completed surveys and instructors have compiled data.

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03.04.01  
**AN OVERGROWTH SYNDROME: IMPLICATIONS FOR SPEECH THERAPY**

**UNIVERSITY OF CENTRAL OKLAHOMA**  
Michael McKaig - EDMOND, OK, SPECIAL SERVICES

This study describes a white male with Weaver’s syndrome who received treatment for delayed speech-language development for a period of 13 months, from age 1:11 to 3:0. We believe this is the first report of disordered communication in a recognized case of Weaver’s syndrome. In 1974, Weaver described a newly discovered syndrome characterized by accelerated growth, advanced bone age, and typical facial appearance. Most children with this rare syndrome have low-pitched hoarse voices and delayed language development. Since the time of the original 1974 report, approximately 30 additional cases have been identified. We are not aware of any published descriptions of speech-language therapy with Weaver’s syndrome children.

In this study, the subject’s speech and language skills were assessed at the age of 1:11. Then, from the age of 1:11 to 3:0, the subject received speech-language therapy for 45 minutes three times per week. After 13 months of therapy, the subject’s communication skills were assessed again at the age of 3:0. Although his performance was below chronological age norms, significant gains were noted in receptive and expressive language skills. Previously reported cases suggest that some children with Weaver’s syndrome never verbalize and that many acquire only a few words. This study demonstrates that children with this disorder can benefit from speech-language intervention.

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03.04.02  
**TEACHING MATH TO DISABLED STUDENTS IN AN INCLUSION SETTING**

**UNIVERSITY OF CENTRAL OKLAHOMA**  
Dr. Charolette Myles-Nixon - EDMOND, OK, SPECIAL SERVICES  
DR Terry E. Spigner - EDMOND, OK, SPECIAL SERVICES

Abstract: The National Council of Teachers of Mathematics (NCTM, 1989) has established new curricular standards designed to service the needs of all students. The standards identify general mathematical goals for all students, including: (a) learning to reason mathematically, (b) developing confidence in one’s mathematical ability, (c) becoming mathematical problem solvers and learning to communicate mathematically. As a result of deficits in mathematical skills, instruction for students with disabilities has focused on basic math facts and computational skills rather than teaching problem solving and math processing skills. (Miller, 1993). However, recent research suggests that exposure to an instructional approach that emphasizes mathematical reasoning and computation is more effective than teaching these skills in isolation. This session is designed to provide teachers methods for teaching basic mathematics skills and adapting these skills in a...
era et al., 2003). Specifically, “older adults” (65+ years) are the largest segment of our population, the least active (CDC, 2003), and spend the most on medical care. Statement of Purpose: The purpose of this proposed study will be to examine the effects of an innovative technology, Active Video Games (Wii Sports), on senior adults’ activity and fitness levels. Proposed Methods: Upon securing IRB approval, contact will be made with community-dwelling senior adults at Bradford Village Retirement Community in Edmond, OK, via flyer, presentation at their October general business meeting, and interaction with the gaming system at their Halloween Party. Participants will be administered a voluntary, anonymous survey to secure information to develop the study to be conducted in spring, 2009. The probable study will use a pre and post- test design administering a physical activity questionnaire and senior fitness tests in conjunction with a 6 week activity program using a “Wii Sport” game (bowling, boxing, golf, tennis or baseball) 2 to 3 times a week. After collection of data, appropriate statistical analysis will be conducted and findings disseminated. Future Implications: This study can make an important contribution to the body of work exploring options for increasing activity and fitness in this population impacting health and health care costs.

03.04.04
A PATH FOR REFLECTION: OKLAHOMA LABYRINTHS

UNIVERSITY OF CENTRAL OKLAHOMA
C. Diane Rudebock Ed.D., R.N. . EDMOND, OK.
KINESIOLOGY AND HEALTH STUDIES
Melissa Powers Ph.D.. EDMOND, OK. KINESIOLOGY AND HEALTH STUDIES
Darla Fent Ed.d . EDMOND, OK. KINESIOLOGY AND HEALTH STUDIES
Albani Milton-Smith Graduate Research Assistant . EDMOND, OK. KINESIOLOGY AND HEALTH STUDIES
Lindsey Thomas Undergraduate Research Assistant . EDMOND, OK. KINESIOLOGY AND HEALTH STUDIES

The purpose of this poster presentation is to describe a labyrinth as well as the uses and locations of labyrinths in Oklahoma. Utilizing labyrinths is an emerging field of research in the health and wellness discipline. The labyrinth design is a unicursal path that is walked, and while walking, one may focus on one’s thoughts. Labyrinth designs are found in many cultures throughout the world and date back as far as 4000 BC. Today, labyrinth designs are found in various settings such as universities, hospitals, schools, parks, and churches. Faculties and students in the Department of Kinesiology and Health Studies at The University of Central Oklahoma formed the Labyrinth Research project in January 2008. The first phase of the project is to educate persons about labyrinths, their designs, locations and uses. These faculties and students have a desire to create a deeper understanding of the effects of interacting with labyrinths either by walking or using a wooden lap labyrinth design in which the path is traced with fingers. Current research is underway which will look at the effects of walking a labyrinth on mood in older adults.

03.04.05
THE EFFECT OF PLUS LENSES ON SPATIAL LOCALIZATION

NORTHEASTERN STATE UNIVERSITY
Lacy Crissup . TAHLEQUAH, OK. OPTOMETRY

Background: Prescribing of low-plus lenses for hyperopia and near tasks is a common practice in optometry. Low-plus lenses have shown positive effects in children, such as improving performance on perceptual tests and increasing muscle strength. Positive effects on spatial localization have been theorized, but not confirmed with scientific evidence. This study’s purpose was to systematically prove low-plus lenses improve accuracy in spatial localization, and to provide a unique aspect to the optometric literature. Methods: Nineteen children with good vision and ocular health were recruited as subjects. Each performed a three-dimensional localization task in both habitual distance and nearpoint lenses. Mean deviations from subjects’ perceived locations to actual target locations were calculated. Results: A paired t-test showed no statistically significant difference between results obtained in distance and nearpoint lenses, indicating neither improved accuracy in spatial localization. A second t-test showed subjects performed significantly more accurately in the first round of localization testing, regardless of lens used. Small sample size and testing subjects following a long therapy session may have contributed to differences observed and theorized results. Conclusion: Given that low-plus lenses can provide children with various benefits, research on the range of behavioral effects produced by the lenses should continue.

03.04.06
DEVELOPING CULTURALLY SENSITIVE TOBACCO CESSATION FOR UCO INTERNATIONALS

UNIVERSITY OF CENTRAL OKLAHOMA
Lauren West . EDMOND, OK. KINESIOLOGY & HEALTH STUDIES

The University of Central Oklahoma (UCO) has established the Healthy Campus Initiative, compiled of student representatives, faculty, and staff. The Initiative focuses on providing a healthy and safe campus environment. According to the National College Health Assessment (NCHA) conducted at UCO in 2007, tobacco use is higher among international students compared to their American counterparts. International students only make up 6.5% of the student population, yet 19.4% of this population
report smoking. The greatest proportion of international students at UCO are from Japan, Nepal, and Korea.

This project has as its primary goal to develop culturally sensitive tobacco cessation services, education, and curriculum for the UCO international student population. The provision of culturally appropriate materials and education is crucial for successful health promotion programs.

Upon researching literature on the values, traditions, and beliefs within Japan, Nepal, and Korea, one can better consider and respond appropriately to these differences and develop culturally sensitive tobacco cessation programs.

After Institutional Review Board (IRB) approval, focus group sessions will be conducted to attain qualitative data from UCO’s international student population. These students are expected to greatly benefit from this research. The principal goal of this project is to provide materials and curricula that are meaningful and relevant to specific populations.

03.04.07
EFFECT OF RESISTANCE TRAINING ON COGNITIVE FUNCTION IN OLDER WOMEN

UNIVERSITY OF CENTRAL OKLAHOMA
Melissa Powers - EDMOND, OK, KINESIOLOGY & HEALTH STUDIES

Although aerobic activity has been linked to improvements in cognitive function in late life, it remains unclear if resistance training has the same effect. The purpose of this study was to determine if resistance training improved cognition, specifically executive function, more than general physical activity over 12 weeks. Fifteen women (age range 77-91 years) were randomly assigned to a resistance training or active control group. For 12 weeks, the resistance training group trained at 80% of maximum two days per week using free weight resistance. The control group completed the same training protocol without external resistance. The executive function subscale of the Cognitive Linguistic Quick Test was used to assess cognitive function. A repeated measures ANOVA was used to analyze group, time, and group-by-time effects. Due to the small sample size, Cohen’s d effect sizes were calculated. No significant effects were observed. Although non-significant, executive function scores did improve in both groups. The effect was greater in the resistance training group (d = 0.51) than the active control group (d = 0.27). Although preliminary and based on a very small sample, these results may indicate that resistance training has a greater effect on executive function than general physical activity. Future study is needed to confirm this finding and to determine what impact frequency, intensity, duration, and type of training have on executive function scores.

03.04.08
THE AFFECT OF VOLUNTEER HOURS ON UCO STUDENTS’ GRADE POINT AVERAGES.

UNIVERSITY OF CENTRAL OKLAHOMA
Emily Blaess - EDMOND, OK, KINESIOLOGY
Kazuma Akehi - EDMOND, OK, KINESIOLOGY HEALTH STUDIES

The purpose of the research project will be to determine the relationship between grade point averages (GPA) of UCO students and the number of hours per week spent volunteering. Research data was collected via the American College Health Association - National College Health Assessment (ACHA-NCHA) survey conducted in April 2008. A random sample group of 400 students, gathered from volunteers within UCO’s 15,000 member population, willingly completed an on-line survey in response to a general invitation sent to all students via their college email address. The respondents were 32% male and 68% female which was similar to UCO’s 40% male and 60% female enrollment. The survey covered subjects including physical / mental health, drug use, personal habits, personal offenses encountered, community involvement, and GPA. The research will be limited in that the sample represents only those students willing to complete the survey. The research will be conducted using a Spearman’s Rank Order correlation. We expect to find that students who volunteer one hour or more per week will have higher GPAs than those students who do not volunteer. Once the research results are concluded, the information will be used to evaluate UCO’s current voluntarism promotion and what changes would be reasonable to make. UCO would then be able to connect with the local community to identify volunteer opportunities for college students’ involvement and thereby improve students’ GPAs.

03.04.09
“THE EFFECT OF SLEEP APNEA ON THE VISUAL SYSTEM”

NORTHEASTERN STATE UNIVERSITY
Nneoma Nwachukwu - TAHOEQUAH, OK, OPTOMETRY

Background: Sleep apnea is a sleep disorder that is under diagnosed which is a risk factor in some systemic and ocular system. The goal of this paper is to review some already published medical articles and find the existing link between sleep apnea and hypertension, floppy eyelid syndrome, glaucoma and non-arteritic anterior ischaemic optic neuropathy. Also this review will show how it is more prevalence in black race than other races.

Methods: Sixty medical articles were read and to make the link between sleep apnea and the conditions that are mentioned above..
Results: This literature review showed that sleep apnea is a confounding variable in all the conditions that are mentioned above. Once sleep apnea was eliminated, there was significant improvement in all the conditions they were linked to. It was also evident that the conditions occurred more in blacks.

Conclusions: Based on these findings, I recommend the awareness of sleep apnea. Sleep apnea has effect on the quality of life if one is affected with it and something as simple as change in life style will contribute to improvement of some systemic and ocular conditions.

03.04.10
MEN VS WOMEN AND WEIGHT LOSS

UNIVERSITY OF CENTRAL OKLAHOmA
Nina Johnson - EDMOND, OK, EDUCATION
Dustin Hamm - EDMOND, OK, KINESIOLOGY AND HEALTH STUDIES

The purpose of the research project will be to determine if males are more likely to want to lose weight than females. Data was collected from a survey conducted by the American College Health Association-National College Health Assessment comprised of 472 respondents for Spring 2008 using a random sample from the University of Central Oklahoma student body. Descriptive Statistics will be used to report frequency of responses by gender. In addition, a Chi squared test will be conducted to examine differences in responses by males and females. The author’s hypothesis will be that women will want to lose weight more often than men due to societal speculation and pressure for women to be thin. Future applications from the study will be to educate on the difference between men and women and their weight loss goals which will include targeted education to women.

03.04.11
PERCEIVED STRESS DIFFERENCES IN COLLEGE-AGE MALES AND FEMALES

UNIVERSITY OF CENTRAL OKLAHOmA
Amy Brooks - EDMOND, OK, KINESIOLOGY AND HEALTH STUDIES
Josh Bryce - EDMOND, OK, KINESIOLOGY AND HEALTH STUDIES
Drew Peterson - EDMOND, OK, KINESIOLOGY AND HEALTH STUDIES
Laura Rushing - EDMOND, OK, KINESIOLOGY AND HEALTH STUDIES

Stress is shown to have adverse effects on health and wellness among college-age students. The researchers set out to find whether college females had more stress than college males. The researchers hypothesized that there would be a greater perceived stress level in females than males. There were 37 college students that participated in this study, 22 males and 15 females. The researchers utilized the PSS (perceived stress scale) to test the differences between males and females stress levels. The PSS consisted of ten questions where the total score ranged from zero to 40, with zero being the absence of stress and 40 being the highest amount of stress. An independent T-Test was used to calculate the difference between genders on perceived stress. The results showed that there is no significant difference on perceived stress in college males and females. This finding contradicts the researchers’ hypothesis.

03.04.12
EFFECTS OF MUSIC ON PUSH UP PERFORMANCE

UNIVERSITY OF CENTRAL OKLAHOmA
Nikki Baxter - EDMOND, OK, DEPARTMENT OF KINESIOLOGY AND HEALTH STUDIES
Kwesi Keller - EDMOND, OK, DEPARTMENT OF KINESIOLOGY AND HEALTH STUDIES
Chanel Roland - EDMOND, OK, DEPARTMENT OF KINESIOLOGY AND HEALTH STUDIES

Effects of Music on Push up Performance
N. Baxter, C. Roland, K. Keller
Department of Kinesiology and Health Studies, University of Central Oklahoma, Edmond, OK

Abstract

The purpose of this study was to determine if listening to music would impact push-up performance. The study consisted of 12 college male students. The study was done on two separate days with 4 days in between. There was a gap between the dates in testing so that participants would not be affected by muscle soreness. The participants were asked to bring mp3 players on both days. They were then randomly selected to determine which half would be listening to music on the first test day. They were allowed to listen to the music of their choice. Participants were then told to do as many push-ups as they could complete correctly. The number of push-ups was recorded. The same procedure was followed on the second test day. There was a significant difference in push-up performance with and without music. Participants performed better when listening to the music of their choice. Results indicate that when listening to music of choice, the number of push-ups increase. Future studies on this topic should include a larger amount of subjects and perhaps listening to different types of music.
03.04.13
EFFECTS OF MUSIC ON A ONE MILE WALK/RUN

UNIVERSITY OF CENTRAL OKLAHOMA
Tara Harlow - EDMOND, OK, HEALTH STUDIES
Matt Brosh - EDMOND, OK, HEALTH STUDIES
Daniel Cooper - EDMOND, OK, HEALTH STUDIES
Cate Little - EDMOND, OK, HEALTH STUDIES
Ashley Squyres - EDMOND, OK, HEALTH STUDIES

The purpose of this study was to measure the effects of music on the performance during a one mile walk/run. This study was conducted over a two day period, and consisted of college age female participants. The participants selected their music and were randomly selected to use music on the first or second day. This experiment was conducted on a measured track (12 laps equals one mile). Performance was recorded as the time to complete one mile. There was not a significant difference between performance with music and performance without music. Based on the results of this study, there was no effect of music on the performance of a one mile walk/run test among college females.

03.04.14
EFFECTS OF INTRAMURAL PARTICIPATION ON GPA

UNIVERSITY OF CENTRAL OKLAHOMA
Chris Magbee - EDMOND, OK, KINESIOLOGY
Levi McClain - EDMOND, OK, KINESIOLOGY
Michael Morley - EDMOND, OK, KINESIOLOGY

The purpose of this study was to determine the differences in GPA between students who participate in intramurals those who do not participate. Forty students from the University of Central Oklahoma took part in this study including: five freshmen, ten juniors, and twenty-three seniors. Two of the subjects did not answer the classification question. Students were chosen at various locations around campus and asked to fill out a demographic survey including: GPA and intramural participation status. Out of the participants studied nineteen students had never participated in intramurals, while twenty of the test subjects indicated current or past participation. Results yielded an average GPA of 2.80 for intramural participating students, while non participating students were found to have an average GPA of 2.98. An Independent T-test was conducted and results yielded that there was no significant difference in GPA between participants involved in Intramurals and those who were not. Based on these results research has concluded that GPA was not different among intramural participating and non participating students.

03.04.15
WAIST CIRCUMFERENCE IN RELATION TO SAD FOR COLLEGE STUDENTS AGES 18-40

UNIVERSITY OF CENTRAL OKLAHOMA
Caleb Hollingsworth - EDMOND, OK, KINESIOLOGY
Yasushi Iwanaga - EDMOND, OK, KINESIOLOGY
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UCO Status: Under Graduate
Purpose: Class project
Format preference: Poster

The purpose of the study was to determine if there was a relationship between sagittal abdominal diameter (SAD) and waist circumference. The delimitations of this study were college students ranging from ages 18-40 years and enrolled in a research class. The hypothesis was that a positive relationship would be observed between SAD and waist circumference. The two tests were conducted in the morning of the same day. The SAD was measured at the level of the umbilicus while laying on a flat surface. Waist circumference was measured as the narrowest portion of the waist between the xiphoid process and iliac crest while standing. The results indicate a significant strong positive correlation between waist circumference and SAD. Participants with a higher SAD tended to have a higher waist circumference. This was the expected result as both SAD and waist circumference have been used as indicators of abdominal adiposity.

03.04.16
OUTBREAK INVESTIGATION OF E. COLI: AN INTERN STUDENT’S PERSPECTIVE

UNIVERSITY OF CENTRAL OKLAHOMA
Tara Harlow - EDMOND, OK, HEALTH STUDIES

This poster presentation will describe a university student’s internship experience at the Oklahoma State Department of Health in the Communicable Disease Department. The primary topic that will be described in this presentation is the process of investigating the E. coli outbreak occurring in northeastern Oklahoma during 2008.
03.04.17
RADIAGE™: SKIN REJUVENATION USING THE DUAL FREQUENCY SURGITRON BY ELL-MAN

NORTHEASTERN STATE UNIVERSITY
Dr. Tomas Salmon · TAHLEQUAH, OK
Dr. Richard Castillo · TAHLEQUAH, OK
Andrea N Newton · TAHLEQUAH, OK
Bridget L Dawson · TAHLEQUAH, OK

Purpose: The purpose of this study is to determine the amount of improvement in skin laxity following treatment with Radiage™. In addition, each subject’s comfort level and overall satisfaction with the therapy was assessed through subjective questionnaires.

Methods: Twenty-two subjects between the ages of 40 and 65 underwent Radiage™ therapy. The target areas were the forehead and temples. Each treatment lasted a total of 15 minutes. Digital photographs were taken of each subject pre-procedure, immediate and six weeks post-procedure. Twenty-five graders volunteered to judge each subject’s pre-photographs with both post-photographs and rank each according to a preset percentile ranking scale.

Results: Wilcoxon Signed Ranks Test concluded that the temples showed more improvement than the forehead. There was no significant improvement noted between the immediate photographs and six-week photographs. However, there was significant improvement when all post-procedure photographs were compared to all pre-procedure photographs.

Conclusion: Radiage™ provides statistically significant results after a single treatment. This technique proved to have good results with mild and rare side effects. However, subjects were not satisfied with the visible results. Most subjects felt that the appearance had not improved. Further studies must be conducted to determine if higher power setting, longer duration, or multiple therapy sessions will provide more satisfaction.
able that students who ate a greater amount of fruits and vegetables exercised more frequently. This information can be used to greater understand the health behaviors of college students as well as to look at the interaction of certain behaviors with one another.

03.04.20
A STUDY OF MOVEMENT IN SITTING-VOLLEYBALL

UNIVERSITY OF CENTRAL OKLAHOMA
Maggie Zerger  EDMOND, OK, KINESIOLOGY AND HEALTH STUDIES
The purpose of the study was to assess the effectiveness of lateral, forward, and posterior hand placement and open and closed body position on speed of movement of sitting-volleyball players. The United States Paralympic Women’s volleyball team volunteered for the study. The independent variables for movement at the net in the two meter trials were open and closed body position and direction. Hand placement and direction were the independent variables for the six meter movement trials. Hand position was defined as anterior, lateral and posterior. The dependent variable for both the six and two meter trials was the time it took for the player to reach the given distance. For the two meter trial conducted at the net, breaking the plane of the net was the beginning and end point. A Brower Timing System (Draper, UT) was used to measure time for two and six meter trials. Each variable was filmed using a compact digital Sony Compact Digital (Tokyo, Japan) video camera and analyzed using Dartfish 4.5.2 (Alpharetta, Georgia) software. A rear court view was used for filming at a height of one meter. Analyses of variance (2 X 2 ANOVA and 3 X 2 ANOVA) were performed. Statistically significant differences were seen between open versus closed body position when moving from the center of the court to the sideline (p = 0.05). No statistically significant differences were seen between hand positions with regard to direction.

03.04.21
PREVALENCE OF BINGE DRINKING

UNIVERSITY OF CENTRAL OKLAHOMA
Mrs. Lana Hale  EDMOND, OK, DEPARTMENT OF KINESIOLOGY AND HEALTH STUDIES
Mr. Trent Tytle  EDMOND, OK, DEPARTMENT OF KINESIOLOGY AND HEALTH STUDIES
The prevalence of heavy drinking on college campuses and the negative consequences of absenteeism, risky behavior, accidents, and even death have caught the attention of public health officials. Binge drinking is considered a major public health problem. The purpose of this research is to survey drinking habits of college males and females to identify which gender engages in binge drinking the most. Procedures will involve using an independent contractor to randomly pull 9,000 age-eligible email addresses from the 15,000 student body of the University of Central Oklahoma to achieve a sample of 472 students. Age is the only limiter as participants must be 18 years of age or older on the first day of the spring semester. The instrument will be the self-reporting National College Health Assessment (ACHA-NCHA) survey developed by the American College Health Association to collect quantitative data using a mixed category of questions. Students will receive a survey, an informed consent, and instructions by email explaining they have been randomly picked to complete the survey. The statistical measures will be based on t-scores. The hypothesis is that more male college students engage in binge drinking than do female college students. If the research hypothesis is accepted an intervention to reframe the social context of drinking alcohol among males will be developed utilizing the campus Wellness and Medical Centers as well as a campus wide media campaign.

03.04.22
THE RELATIONSHIP BETWEEN KNOWLEDGE OF OSTEOPOROSIS AND BONE MINERAL DENSITY

UNIVERSITY OF CENTRAL OKLAHOMA
Michelle Gray  EDMOND, OK, KINESIOLOGY AND HEALTH STUDIES
Jessica Smith  EDMOND, OK, KINESIOLOGY AND HEALTH STUDIES
Osteoporosis is a disease that is indicated by low bone mineral density, the number one risk factor of a fracture in older adults (Seeley et al., 1995). Osteoporosis is called the silent disease, as many individuals do not know they have low bone mass until a fracture occurs. There are over 20 million individuals that currently have osteoporosis contributing to the 1.5 million fractures in the U.S. each year. It is imperative to thoroughly understand the contributors to this disease, as there is currently no cure. It has been previously determined that one’s knowledge of a disease or health condition is related to the health behaviors toward preventing that particular illness (Rosenstock, 1974). This concept has not been adequately tested with osteoporosis. Therefore the aim of this proposed project is to determine if specific knowledge of osteoporosis and its prevention are related to bone density. One hundred female volunteers will be sought from the University of Central Oklahoma (UCO) campus and surrounding community. The women will report to the Kinesiology Laboratory at UCO and sign an approved written informed consent. Upon completion of the informed consent they will complete a total of four surveys to determine their knowledge of osteoporosis and have their
bone density measured using dual energy x-ray absorptiometry (DEXA). Once all information has been gathered, data will be analyzed using a multiple regression analysis.

03.04.23
INTERNSHIP EXPERIENCE AT OFFICE OF INFORMATION TECHNOLOGY UCO
UNIVERSITY OF CENTRAL OKLAHOMA
Mr. Hisaan Hasan Haqqani - EDMOND, OK. KINESIOLOGY & HEALTH STUDIES
During my internship at IT UCO, I have been very busy with different assignments that are handed out to me everyday by my supervisor. The primary objective of the internship is to create a risk management plan for the OIT department as there isn’t one currently in place. For the method, the internship hours are distributed in several different categories which mainly include conference, evaluation, participation, leading, lectures, supervision, orientation observation, participation and planning hours. The final two hours of the internship twice a week are reserved for working on the risk management plan. Some of the other duties included in the internship experience are setting up computers around campus, trouble shooting various computers, delivering and picking up computers from various faculty and staff members, and setting up and configuring internet connections around campus. The result of the internship will be the creation of risk management plan by the end of the semester. By the end of the internship the office of information technology should have a risk management plan that would help them minimize risks. From a personal stand point, I would have gained invaluable professional work experience that would help me in attaining a job in the IT sector. By the end of the presentation, participants will know what the objective of the internship was, what were the various duties performed at the site and what a risk management plan actually is.

03.04.24
LIFE FROM THE EYES OF AN INDIVIDUAL WITH SPECIAL NEEDS
NORTHEASTERN STATE UNIVERSITY
Mrs Elizabeth Reeve - TAHELQUAH, OK. DEPARTMENT OF EDUCATIONAL FOUNDATIONS AND LEADERSHIP
Ms Helena Kamerick - TAHELQUAH, OK. FAMILY HUMAN SERVICES
In this research, information is presented dealing with the Americans with Disabilities act, a case study of an individual with special needs (Ms Wheelchair OKlahoma), and many other facts about individuals with special needs. It seeks to educate the public about life from the eyes of an individual with special needs. One of the authors currently holds the title of Ms Wheelchair Oklahoma (America). She is outspoken, and believes in sharing her experience with others.

03.04.25
THE RELATIONSHIP BETWEEN THE EFFECT OF STRESS ON ACADEMIC PERFORMANCE AND R
UNIVERSITY OF CENTRAL OKLAHOMA
Kaytie Joiner - EDMOND, OK. WELLNESS MANAGEMENT-EXERCISE SCIENCE
Clyde Messiah III - EDMOND, OK. WELLNESS MANAGEMENT-EXERCISE SCIENCE
The purpose of this proposed study is to determine the relationship between the effect of stress on academic performance and reported smoking. Data from the results of the American College Health Association-National Health Assessment given at the University of Central Oklahoma in the spring of 2008 will be used in this study. All 472 responders to the survey were students at the University of Central Oklahoma in the spring of 2008 (undergraduate and graduate), 82.7% of which were full time and 67.7% were female while 31.6% were males. The hypothesis of this study is that the perceived effect of stress on academic performance will be positively related to smoking frequency. The results of this study will be used by the University of Central Oklahoma's wellness personnel to decide appropriate services for stress relief for the student body.

03.04.26
RELATIONSHIP BETWEEN HAMSTRING FLEXIBILITY AND THE VERTICAL JUMP
UNIVERSITY OF CENTRAL OKLAHOMA
matt rodriguez - EDMOND, OK. KINESIOLOGY
brandon stabler - EDMOND, OK. KINESIOLOGY
josh thurman - EDMOND, OK. KINESIOLOGY
The purpose of the study was to determine if there was a relationship between hamstring flexibility and the vertical jump. There were fifteen test subjects that consisted of male college students at UCO. The tests used were the sit and reach test (SNR) for hamstring flexibility and the vertical jump test that used a vertec machine. First the test subjects used the SNR box to test hamstring flexibility without prior stretching. The students were then tested on vertical jump performance using the vertec machine. after comparing the mean distances between the two we found that there was a positive correlation between hamstring flexibility and vertical jump. Although the study did not include a very large group, results of the minimum and maximum scores showed that hamstring flexibility was not directly related to vertical jump performance. Be-
cause we had a small group of participants, validity must come through further testing and analysis.

03.04.27
COLLEGE FRESHMEN WOMEN AND AWARENESS OF OVARIAN CANCER

UNIVERSITY OF CENTRAL OKLAHOMA
David Alan Jacoby - EDMOND, OK, PROFESSIONAL TEACHER EDUCATION
Dr. Malinda Hendricks Green - EDMOND, OK, PROFESSIONAL TEACHER EDUCATION

Ovarian cancer is the sixth most common cancer in women, and the fifth most common cause of cancer death in the United States. As an initial step of an effort to explore the awareness of and concern for ovarian cancer among young adult women in the US, a field study was conducted during the spring of 2007 on the University of Central Oklahoma campus with cross departmental cooperation. The responses to the 32 closed-end questions self-report instrument, developed specifically for this project, yielded internal consistency co-efficients among items which held logical similarities ranging from .42 to .73. Additionally, the participants (N=24) indicated little awareness of ovarian cancer as well as minimal concern about it. This next step extends the data collecting effort to include all students enrolled in all sections of the healthy living course during 2008-2009 academic year. The goal of the research is to develop instructional materials which address ovarian cancer targeted at the population of young adult women.

03.04.28
MOOD AND TEAM COHESION IN FASTPITCH SOFTBALL

UNIVERSITY OF CENTRAL OKLAHOMA
Teri Lake - EDMOND, OK, KINESIOLOGY AND HEALTH STUDIES

Past research has shown that athletes, prior to competition, experience low depression and anger in association with high task cohesion. The same is true for social cohesion in conjunction with low tension, depression, and fatigue. Therefore, the purpose of this project was to explore changes in mood over time in relation to team cohesion among fastpitch softball players. Participants (n = 13) completed the Group Environment Questionnaire (GEQ) and the Profile of Mood States (POMS), to measure team cohesion and mood, respectively. Each Assessment was administered at two different times during the season. Data were analyzed using dependent samples t-tests. Results showed that in addition to one subscale of team cohesion, Individual Attractions to the Group - Social (ATG-S; t = -2.769, p = .02), statistical significance was found in one mood state subscale, Tension-Anxiety (T; t = 2.733, p = .02). By observing the increase in mean scores with ATG-S from the beginning of the season (M = 34.54 ± 6.7) to the end of the season (M = 37.92 ± 5.6), and a decrease in mean scores with Tension-Anxiety from beginning (M = 9.69 ± 5.6) to end (M = 6.54 ± 4.2), the previous results are further supported. Future research should employ a larger sample size and an increase in the length of time between assessments. This project was supported by the Office of Research & Grants at The University of Central Oklahoma.

03.04.29
DIABETES INCIDENCE RATES AMONG UNIVERSITY OF CENTRAL OKLAHOMA STUDENTS

UNIVERSITY OF CENTRAL OKLAHOMA
Ms Olivia Afriyie Acheampong - EDMOND, OK, KINESIOLOGY AND HEALTH STUDIES

The American Diabetes Association reports diabetes to be the fifth deadliest disease in the US with a significant impact on individuals affected. The purpose of this study is to determine whether female college students are diagnosed with diabetes more often than male students. Results obtained could serve as an indicator of which of the two gender groups of college students is more likely to suffer from diabetes. Data from the American College Health Association-National College Health Assessment (ACHA-NCHA) for UCO for spring 2008 will be used in the study. Information from 472 respondents, randomly selected using a database of student emails, will be used to determine diabetes incidence rates among male and female students of UCO. The hypothesis being tested in this study is whether more female UCO students suffer from diabetes than their male counterparts. Results of the study would serve the purposes of assisting UCO health service providers, counselors and educators track the trend of diabetes among the student population over the years, provide and implement intervention strategies to keep diabetes in check among UCO students, where no such strategies exist. Where intervention strategies do exist the information would be useful in deciding whether to redesign intervention strategies to take into consideration the at-risk gender group during health education and health service provision to students to ensure a healthy community of college students in UCO.
03.04.30
RELATIONSHIP AMONG HAND-GRIP STRENGTH AND MODIFIED PUSH-UPS IN COLLEGE WOMEN

UNIVERSITY OF CENTRAL OKLAHOMA
Kelsey Johnson · EDMOND, OK, KINESIOLOGY
Sayuri Kuroda · EDMOND, OK, KINESIOLOGY
Greer Elizabeth Sullivan · EDMOND, OK, KINESIOLOGY

The purpose of this study was to determine if a relationship existed between hand-grip strength and performance in a modified push-up test.

The tests for these variables were given to the sample group on the same day within the college fitness center. The study consisted of ten college women between ages of 18-25 years. All participants were in healthy physical condition with no apparent physical limitations. The hand-grip strength test was performed using a hand-grip dynamometer. Each participant was allowed two trials on each hand. The highest score from each hand was added together to determine the final score. The proper form of the modified push-up test was demonstrated by instructor to the participants prior to testing. The sample group performed the test to each individual’s level of fatigue.

The results from this research showed no significant correlation among the hand-grip strength test and the modified push-up test among the college female group. Although the study had no significant meaning, more precise future studies should be conducted on a larger sample group, not only limited to college females.

03.04.31
PROS AND CONS OF A GLUTEN FREE/ CASEIN FREE DIET

UNIVERSITY OF CENTRAL OKLAHOMA
Amanda Camille Tyson · EDMOND, OK, SPECIAL EDUCATION

People who are categorized by having autism suffer from a lack of language acquisition, regression in previously mastered skills, and a generally defiant nature; to name only a few. Since the cause for autism is still unclear, and it is known that 1 out of every 150 children will be diagnosed, the best thing for parents, teachers, and health care professionals to do until a cure is found is to find what helps these children in everyday life. While there is no cure, the gluten free/ casein free diet eases some pain and allows them to be able to focus more on academics. A large part, but not all of the problem for individuals with autism is that there digestive system rejects many of the foods they eat, which causes them a great deal of pain, and therefore they are not concerned about their academic progress. Also, sometimes the physiological symptoms can be so severe that they cause a regression in previously learned skills, such as language. It is necessary to pinpoint what is causing these problems, and erase them from the diet of the child. The reason the gluten free/ casein free diet is so popular is that many of the children with autism have allergies to gluten and/or casein. Unfortunately some parents do not have their child tested for food allergies, and just try the gluten free/ casein free diet on their own. It is important to know that this diet is not for all children with autism, and will only be effective for the child if they have that particular allergy.

03.04.32
DO FEELINGS OF SADNESS CAUSE ALCOHOL CONSUMPTION IN SOCIALIZATION SETTINGS?

UNIVERSITY OF CENTRAL OKLAHOMA
Natalie House · EDMOND, OK, KINESIOLOGY AND HEALTH STUDIES
Jerod Kersey · EDMOND, OK, KINESIOLOGY AND HEALTH STUDIES

Alcohol consumption amongst college campuses across the United States is a constant concern. The purpose of this study is to determine the correlation between feelings of sadness and the consumption of alcohol in party/socialization settings. The participants of this study will be 18 years or older college students. Students’ email addresses will be sent to the American College Health Association (ACHA), where the participants will be chosen from a random generating system. The selected participants will be asked to complete the ACHA-National College Health Assessment research survey, from which the data received will be compiled into the SPSS program for review. From the review of data, the primary aim of the study will be to determine if a statistical correlation between feelings of sadness and alcohol consumption exist. It is thought that the results of this study will show that feelings of sadness are related to the total amount of alcohol consumed in a party/socialization setting. The anticipated results will be used to increase awareness in post-secondary academic institutions that there is a correlation between sad feelings and the consumption of alcohol. This in turn could be a focus area for institutions to recognize during freshmen orientations and life preparedness courses.
03.04.33

HOW MOOD IN OLDER ADULTS CHANGES WITH THE USE OF A LABYRINTH

UNIVERSITY OF CENTRAL OKLAHOMA

Darla Fent Ed.D - EDMOND, OK, KINESIOLOGY AND HEALTH STUDIES
Melissa Powers Ph.D - EDMOND, OK, KINESIOLOGY AND HEALTH STUDIES
Diane Rudebock Ed.D, R.N. - EDMOND, OK, KINESIOLOGY AND HEALTH STUDIES
Lindsey Thomas - EDMOND, OK, KINESIOLOGY AND HEALTH STUDIES

The purpose of the study is to examine the effects of interacting with a labyrinth on mood states among older adults. This study represents the first study of its kind. Very little research has been reported in the literature about the effects of labyrinth interactions. There have only been speculations about the effects. By improving mood in older adults we can also hope to see changes in other aspects of their lives such as improved quality of life, improved overall health, and improved independence with daily activities. We will also compare walking the labyrinth to using a wooden lap labyrinth. The labyrinth, dating back to 4000 years ago, is a continuous path that has a beginning, leads one to the center, and the same path is walked back out again. Labyrinth designs are used in many settings such as university campuses, hospitals, and schools.

The proposed study will include male and female adults over the age of 65 from local senior activity centers and residential communities. The instruments used will be the Visual Analog Mood Scale, the Perceived Stress Scale, the Satisfaction with Life Scale, and the Center for Epidemiological Studies Depression Inventory (CES-D). The participants will be divided into two groups, one walking group and one group using the lap labyrinth, and each participant will be pre- and post-tested and each will interact with the labyrinth for 6 weeks one day a week.

03.04.34

CORRELATION BETWEEN HANDGRIP AND TOTAL BODY STRENGTH IN SENIOR ADULTS

UNIVERSITY OF CENTRAL OKLAHOMA

Amy Brooks - EDMOND, OK, KINESIOLOGY, EXERCISE / FITNESS MANAGEMENT
Matt Tecmire - EDMOND, OK, KINESIOLOGY, EXERCISE / FITNESS MANAGEMENT

The elderly population experiences various declines in health throughout the later stages of life, and muscular deterioration is common among these individuals. The assessment of muscular strength is important in prescribing exercise and monitoring the functional status of older adults. Evidence suggests that an individual's handgrip strength is a gauge of total body strength, although it is not clear if this relationship extends into late life. The purpose of this study was to analyze handgrip strength as an efficient indicator of overall body strength in elderly adults. The participants (n=56, mean age = 82.7 ± 5.3 years) performed a chair stand test, arm curl test, and a handgrip strength test on both the right and left hands. After the data were collected, the researchers performed a Pearson’s Product Moment Correlation Coefficient test to calculate the results. The results indicated that there was not a correlation between the arm curl test and hand grip strength sum (r = .079, p = .563) nor the chair stand test and hand grip strength (r = .226, p = .094). Based on the results of the study, the researchers concluded that while hand grip strength has been shown to indicate total body strength in younger adults, this is not an accurate measure for total body strength in elderly adults.

03.04.35

ALCOHOL CONSUMPTION OF COLLEGE STUDENTS BY GENDER AND CLASSIFICATION

UNIVERSITY OF CENTRAL OKLAHOMA

Miss Ashley Dawn Lewis - EDMOND, OK, OF KINESIOLOGY AND HEALTH STUDIES

The purpose of this study is to identify the percent of male and female college freshman alcohol consumption. Alcohol consumption by college freshman would eventually lead to academic failure, unwanted sexual encounters, dropping out of college and even death. This study is important so as to provide information to college freshman by gender. This writer believes that this information would help university counselors to provide adequate intervention measures to incoming freshman and to provide insight on the changes that can made on the intake of alcohol by male and female freshman. In the spring 2008, the American College Health Association- National College Health Assessment (ACHA-NCHA) randomly selected the number of incoming freshman students at the University of Central Oklahoma both full-time and part-time through their school email accounts and submitted a questionnaire survey to each student who was over the age of 18. A descriptive statistical procedure will be conducted to analyze the data collected. The expected outcome is to determine whether the percent of males and females consumption of alcohol differs among college freshman. The information discovered can be used to find a percentage of alcohol consumption of college freshman who are males and females at the University of Central Oklahoma. This information can be used for college counselors to help provide information for incoming college freshman and identifying the risk that can occur.
03.04.36
ALCOHOL CONSUMPTION AND REPORTED DEPRESSION

Amanda Gillam · EDMOND, OK. KINESIOLOGY
William Ross McCulloh · EDMOND, OK. KINESIOLOGY

Research Proposal Abstract

The purpose of this study is to examine the difference reported in alcohol consumption between those who reported depression and those who did not report depression and their amount of alcohol consumption. This research will be used to determine if there is a statistical difference between those reporting depression and the consumption of alcohol against those that did not report depression. It is the hypothesis of this study that those who reported depression consumed more alcohol in the last thirty days than those who did not report depression. The participants in this study were the students that agreed to take the survey that the American College Health Association, National College Health Assessment (ACHA-NCHA) sent to them by random email. The ACHA-NCHA received the email addresses from the University of Central Oklahoma in order to conduct a survey in which the sample was completely random. Of the 9000 emails sent out by the ACHA-NCHA 472 UCO students responded. An independent samples t-test will be used to determine if differences exist. Once the results of this data is reported then it would be possible, if the hypothesis is correct, to target those with depression to make them aware of the effects of alcohol on their depression and let those people know that depression makes them more likely to consume more alcohol.

03.04.37
REPORT OF ABUSE ON COLLEGE CAMPUS AMONG FEMALES

UNIVERSITY OF CENTRAL OKLAHOMA

Ms. Canielle Preston · EDMOND, OK. KINS 5233

The purpose of the study is to report the number of sexual abuse, physical abuse, and substance abuse among female college students. The descriptive study method will be utilized in order to conduct the study. The American College Health Association and National College Health Assessment (ACHA-NCHA) survey data report will be used in order to identify the number of female college students who reported being abused. The survey was randomly sent through email to 9,000 students. The final sample consisted of 472 respondents with 67.6% of them females. The incidents frequency and percentages will be used for evaluation and interpretation. The expected result of the study will be that female college students report many incidents on college campus of sexual, physical and substance abuse. Reported incidences of abuse will be compared to national reports and data from other universities. Incoming health educators and currently enroll students will be able to use the information found in the study. If the study finds that a significant amount of the female students surveyed experienced some form of abuse, the school may choose to circulate flyers throughout the campus with the abuse helpline resources numbers listed on the flyer.

03.04.38
WII, LET'S MOVE WITH DANCE, DANCE REVOLUTION

NORTHEASTERN STATE UNIVERSITY

Dr. Shae Lee Foutch · TAHLEQUAH, OK. EDUCATION
Marna Casteel · TAHLEQUAH, OK. EDUCATION

A new trend across the nation is happening through virtual gaming, which has marketed an innovative “virtual learning environment” or ‘exerlearning’, (ExerLearning, 2007). Wii, Dance, Dance Revolution is a fun, innovative and exciting way to burn calories while having fun. The purpose of this study was to pilot the implementation of a ten week fitness/health education program with 30 third grade students (18 in the experimental group and 12 in the control group) while establishing differences in pre/post FitnessGram PACER and health education assessments. The experimental group played Wii, Dance, Dance Revolution each morning for 10 weeks and various health lessons were taught covering basic concepts including fitness, nutrition and stress education. The number of days per week and time playing the Wii game increased progressively as the students learned the dance steps and developed higher cardiovascular capacity. The pilot program provided a needs assessment, allowing a more extensive fitness/health program to be developed. During the second year of the program, the majority of the original third grade class moved to the fourth grade maintaining the same teacher and their experimental/control group status. Future parameters being studied include; achievement test results, more extensive health knowledge and additional fitness parameters.

03.04.39
THE EFFECT OF BALANCE TRAINING ON QUALITY OF LIFE AND MOOD IN OLDER ADULTS

UNIVERSITY OF CENTRAL OKLAHOMA

Suzanne Elizabeth Geist · EDMOND, OK. KINESIOLOGY

Balance is a necessary component for performing activities of daily living. With age, the body naturally loses muscle sensory and motor functions, which can lead to impaired balance and reduced independence. A loss of independence can cause insecurity in older adults, as well as affect the safety of the individual. Statistics show...
that 30%-40% of adults over 65 fall once every year and nearly one third of those who fall, suffer severe injuries. In addition, many elders experience reduced quality of life and depressed mood states in late life. Increased physical activity has been linked to a decreased risk of developing clinical depression, although it is not clear if balance training specifically has a similar effect.

This poster will be composed of information collected from articles in peer reviewed journals, which is focused on balance training in relation to mood and quality of life. This poster will also explain the methodology and expected results of a research study being conducted on the effect of balance training on mood and quality of life.

The results of this project can help develop future programs for balance training in older adults, as well as educate older adults on the importance of balance training.

03.04.40 EXPLORING PERCEIVED HEALTH AND FUNCTIONAL FITNESS IN OLDER WOMEN

UNIVERSITY OF CENTRAL OKLAHOMA

Emilee Bounds · EDMOND, OK, KINESIOLOGY AND HEALTH STUDIES
Darla Fent · EDMOND, OK, KINESIOLOGY AND HEALTH STUDIES
Michelle Gray · EDMOND, OK, KINESIOLOGY AND HEALTH STUDIES
Teri Lake · EDMOND, OK, KINESIOLOGY AND HEALTH STUDIES
Melissa Powers · EDMOND, OK, KINESIOLOGY AND HEALTH STUDIES

The primary purpose of this study was to examine the relationship between perceived mental and physical health and functional fitness among older women. Secondary objectives were to determine if a relationship existed between age and the aforementioned variables. Female participants (n = 67) with a mean age of 81.3 ± 6.0 years completed functional fitness assessments (Senior Fitness Test) and the SF-36v2 health survey. Pearson’s product moment correlation coefficient was used to analyze the data collected. While no relationships were found between perceived mental health and functional fitness, results indicated that relationships did exist between functional fitness and perceived physical health. More specifically, an inverse relationship was found between perceived physical health and the chair stand test (r = -.404, p = .001), meaning that with an increase in perceived physical health, 8-foot up and go results improved (lower scores). Positive relationships were found between perceived physical health and the sit-n-reach test (r = .320, p = .001), as well as the sit-n-reach test (r = .250, p = .041). A positive relationship was also discovered between age and 8-foot up-and-go, although unexpectedly no relationship was found between age and overall perceived mental and physical health. Future research is needed to further understand perceived health and functional fitness among older women, with specific focus on the affect of age on both parameters.

03.04.41 MUSIC AND EXERCISE PERFORMANCE

UNIVERSITY OF CENTRAL OKLAHOMA

Michael Morley · EDMOND, OK, KINESIOLOGY

In the last twenty years there has been an effort to show the positive effects of music on exercise performance. At this point, no comprehensive review of the effects of music has been published. The purpose of this literature review is to better understand music’s effect on exercise performance, so recommendations for performance enhancement can be made. Proper utilization of music’s positive effects on performance means improved training, lower rate of perceived exertion, lower stress, and quicker results. In an effort to better understand the effects of music on exercise, research was compiled using a number of online databases and peer reviewed and scholarly journals. Research was then analyzed and compiled to support one of three hypotheses. The first hypothesis focuses on dissociative properties of music, the second focuses on psychomotor arousal and motivation, while the third hypothesis analyzes the effect rhythmic music can have on performance and motor coordination. By analyzing these three ways music may produce a positive effect, trainers will expect to find the best ways to prescribe music for performance enhancement. This is important for exercise adherence and performance enhancement as well as training.

03.04.42 STUDENT’S PERCEPTION OF INFORMATION TECHNOLOGY IN HIGHER EDUCATION

NORTHEASTERN STATE UNIVERSITY

Dr. Vanessa Anton · TAHLEQUAH, OK, HEALTH & KINESIOLOGY

Technology is changing the way faculty teach and students learn. However, for technology to be effective in the classroom, we need to determine what students want to know, what students already know, and what their skill level is with various types of information technology. Health and Kinesiology students (f=49; m=67) volunteering for the study were given the Students Information Technology in Higher Education Survey Questionnaire (ECAR, 2004). This questionnaire consisted of 38 questions regarding their experiences with, proficiency in, and attitudes about using information technology (i.e., blackboard; internet/library web usage; graphic, audio and video software; spreadsheet software; podcasts/webcasts; presentation software; and social networking).
03.04.43
EFFECTS OF GLOBAL CORPORATE ACTIVITIES ON PUBLIC HEALTH BEHAVIOR AND POLICY

LANGSTON UNIVERSITY
karriem allah. LANGSTON, OK, HEALTH ADMINISTRATION

Abstract
The footprints of global corporate activities are quite evident upon the formation and implementation of public health policy and health related behaviors; however, researchers have not addressed this obvious link when establishing determinants of health. In this research we will look at studies of trans-fat as a food additive, global warming, and tobacco growing - to show the effect of corporate policies and activities upon health practices, as well as public health policy development and implementation. Most recently society has begun to pressure corporations to act in a more responsible manner this pressure has come from advocacy groups, politicians, and legal actions. Careful analysis of these factors is necessary for the administration of public health policy, and reducing harmful corporate activities.

03.04.44
PERSONALLY DESIGNED WORKOUT ROUTINES INCREASE SUBJECT EXERCISE SATISFACTION

EAST CENTRAL UNIVERSITY
Lindsey Dare Chronister. ADA, OK, EDUCATION-KINESIOLOGY

Weight loss has become an important issue in the United States recently. Millions of Americans today are struggling with obesity. This paper attempts to answer the hypothesis: If workout routines are personally designed then subject exercise satisfaction will increase. Three female subjects, all between the ages of 18 and 21, were asked to participate in the designed workout for one week. A pre-survey was given to gather information on current life style and preferred work out patterns. This information was compiled to create a work out that best fits each subject based on workout programs and aspects from Thompson and Floyd.(2006) The aspects included: upper body, lower body, conditioning, rest time, and day rotation. The workout will include weight lifting, cardiovascular and strengthening machines. Upon completion of the week, subjects were given a post-survey to rate satisfaction of the designed workouts. This information was compared to various literatures which contain data from across the United States about females and preference of personal trainers.

03.04.45
FREQUENCIES AND PERCENTAGES OF UCO STUDENTS REPORTING A BROKEN BONE/FRACTURE

UNIVERSITY OF CENTRAL OKLAHOMA
Jamie Rose Hume. EDMOND, OK, KINESIOLOGY AND HEALTH STUDIES

The purpose of this study is to describe the frequencies and percentages of students reporting a broken bone/fracture. Gender and student classification percentages will be compared and contrasted. The information will be limited to the University of Central Oklahoma college students who have reported information to the American College Health Association- National College Health Assessment (ACHA-NCHA) Institutional Data Report- Spring 2008. All 15,000 UCO student email addresses were sent to the program (all who were over 18.) They then randomly selected 9,000 students and 470 responded to this survey. The test to be used will be frequencies and percentages. The expected result is that freshman males will be more likely to fracture a bone. These results can be very useful for UCO. The school could possibly put up posters in the freshman male dorms letting them know of the dangers and higher frequency rate of a fracture happening to them.

03.04.46
PERCEIVED COMPETENCE IN A LEISURE EXPERIENCE WITH SENIOR ADULTS

UNIVERSITY OF CENTRAL OKLAHOMA
Heidi Cook. EDMOND, OK, KINESIOLOGY AND HEALTH STUDIES

The purpose of the study is to examine perceived competence in relation to a leisure perspective. Since leisure is defined in various methods, it is important to identify and define the factors needed to have a meaningful leisure experience. There are five factors that have been associated with meaningful leisure experiences: perceived freedom, perceived competence, intrinsic motivation, locus of control, and positive affect (Jordan; DeGraaf, 2005). The focus of this study is looking at perceived competence in relation to the leisure activity. Perceived competence is having the necessary skills and abilities to participate in said leisure activities. Furthermore, an individual must have the perception that they have a competence level equal to the challenge of the activity in which they are participating. The measuring of perceived competence will be done with a paper and pencil instrument. Our subjects will be seniors from the Edmond, Ok area that will participate in a day hike in a local outdoor recreation area. The participants will do a pre-post test to establish the effect of perceived competence on the effect of their leisure experience.
03.05.01
TOOLS FOR PROPOSAL SUCCESS

OKLAHOMA STATE REGENTS FOR HIGHER EDUCATION
Dr. Linda Mason. OKLAHOMA CITY, OK. GRANTS COORDINATOR

UNIVERSITY OF CENTRAL OKLAHOMA
Gerry Cherry. EDMOND, OK. COLLEGE OF EDUCATION AND PROFESSIONAL STUDIES

The Fall, 2007 Grant Writing Institute at UCO met for two hours each Monday for 8 weeks. Two facilitators led group sessions for the first hour, then the participants broke into smaller groups for the second hour. Twelve faculty and staff members applied, 10 completed the institute, and nine have submitted at least one proposal to date. Three have submitted more than once. With an 83% completion rate, a 90% submission rate, and a 70% funding rate, we consider this institute a roaring success.

The binder compiled by the facilitators was rated a valuable resource by participants, as was the curriculum schedule and WebCT resources. Each session was evaluated for efficacy and relevance, and the entire institute was evaluated anonymously by participants, who scored the institute a 3.55 of 5 mean score for overall effectiveness. Participants rated their increase in skill from beginner (1.5 of 5) to intermediate (2.55 of 5) after the institute.

03.05.02
LESSONS IN PARTNERSHIPS FOR PRINCIPAL PREPARATION PROGRAMS

UNIVERSITY OF CENTRAL OKLAHOMA
Dr. Cheryl Lynn Evans. EDMOND, OK. ADVANCED PROFESSIONAL SERVICES

Dr. Dana Owens-DeLong. EDMOND, OK. ADVANCED PROFESSIONAL SERVICES

Dr. Kirk Webster. EDMOND, OK. ADVANCED PROFESSIONAL SERVICES

University school leader preparation programs have traditionally been targets for criticisms of quality from multiple stakeholders throughout the years. Graduates from leadership preparation programs have had a voice as well indicating these programs to be ineffective and did not give them the knowledge to prepare for the multiple job requirements of a school leader. Most said their training programs did not touch on the more complex combinations of leadership skills used in cultural, strategic, or external developmental leadership (Portin, Schneider, DeArmond, & Gundlach, 2003).

Partners from the three cooperating organizations have expressed positive observations and opinions of the program as it nears the third semester of completion. The development of a focus group meeting was provided for beginning program assessments that included the opportunity to determine the positives and any negatives that may have appeared throughout the program thus far.

This poster presentation will provide a description of the planning, development, implementation, initial reviews of the first year, perspectives of partner participants, assessments, and plans for year two. These plans include new partnerships with two additional school districts and the successful progression with the current partners.

03.05.03
EFFECTIVE ASSESSMENTS FOR PARTNERSHIP MODELS THAT PREPARE SCHOOL LEADERS

UNIVERSITY OF CENTRAL OKLAHOMA
Dr. Cheryl Lynn Evans. EDMOND, OK. ADVANCED PROFESSIONAL SERVICES

The purpose of this presentation is to describe and explain the development, implementation, and needed assessments of a partnership that involves a four-year comprehensive state university, a metropolitan school district and a community college. Participating school districts express the need for highly qualified, and high quality applicants to replace excessive numbers of assistant principals and principals retiring within the next few years.

Levine (2005) suggested nine criteria for judging university-based leader preparation program quality. These include: (a) purpose; (b) curricular coherence; (c) curricular balance; (d) faculty composition; (e) admissions; (f) degrees; (g) research; (h) finances; and (i) assessment.

Through collaboration and preparation, a partnership was developed. Significant items of the partnership included many of Levine's (2005) criteria for judging program quality and practices recommended by SREB(2006).

Partners from the three cooperating organizations have expressed positive observations and opinions of the program as it nears the fourth semester of completion. A focus group was held to determine the positives and any negatives that may have appeared throughout the program thus far.

The next step is to analyze and create the various types of assessments necessary to provide critical data on the success of this unique partnership. Powerful deductions of this partnership program are to be shared and include various needed assessments.
03.05.04
TEACHER CANDIDATE SELF ASSESSMENT: A CASE STUDY IN TEACHING

UNIVERSITY OF CENTRAL OKLAHOMA
Mrs. Cynthia L. Riedl - EDMOND, OK. PROFESSIONAL TEACHER EDUCATION
Dr. Susan Scott Ed.D. - EDMOND, OK. PROFESSIONAL TEACHER EDUCATION

The teacher candidate will present her self assessment of learning to work creatively within the Oklahoma P.A.S.S. skills, her ability to effectively assess student work products, and her personal reflections on teaching and learning in a holistic scope.

03.05.05
INITIAL FINDINGS: GENDER BASED STUDENT PERCEPTIONS OF VALUE OF SERVICE LEARN

UNIVERSITY OF CENTRAL OKLAHOMA
Tracy Hull - EDMOND, OK. PROFESSIONAL TEACHER EDUCATION
Dr. Susan C. Scott Ed.D. - EDMOND, OK. PROFESSIONAL TEACHER EDUCATION

This study examined teacher candidates’ value of completing a service learning project based on gender. The students were enrolled in the first professional sequence course—Foundations of American Education—as part of program requirements. The university is a four year public masters-granting institution located in the Southwest. The students enrolled in the class were asked to complete one service learning project during the semester. An alternative project was available for those who could not participate. The surveys are organized in a five point Likert-scale ranging from strongly disagree to strongly agree. The students were asked to respond to six questions. The students were given a pre survey before the experience and a post survey after the experience. The question examined was “I feel community work as part of an academic course can help me to better understand the lectures and readings in the course.” At this point the data has been tallied and frequency counts have been recorded for four semesters.

03.05.06
ALTERNATIVE CERTIFIED TEACHERS: THEIR STORIES

NORTHEASTERN STATE UNIVERSITY
Mrs. Barbara Fuller - TAHELAQUAH, OK.
Dr. Dana Eversole - TAHELAQUAH, OK. DEPARTMENT OF COMMUNICATION
Dr. Renee Cambiano - TAHELAQUAH, OK. TEACHER EDUCATION

Alternatively certified teachers throughout northeast Oklahoma were interviewed using qualitative research methods concerning their classroom techniques, challenges they may face and why they went the alternative route. Themes were established.

03.05.07
IN-SERVICE TEACHERS AND EXPLICIT NATURE OF SCIENCE INSTRUCTION

NORTHEASTERN STATE UNIVERSITY
Monica Macklin - TAHELAQUAH, OK. NATURAL SCIENCES

This poster presents the results of an on-going process to incorporate explicit Nature of Science (NOS) instruction in a graduate course for science teachers. The results focus on the changes in NOS understandings of the students. The two main questions were asked: 1. How can an existing graduate biology course be modified to incorporate explicit NOS instruction? and 2. How did the graduate students’ concepts of NOS change as a result of the reformed course with explicit NOS and inquiry-based instruction? Two instruments were utilized in this study: the Student Understanding of Science and Scientific Inquiry (SUSSI) and a modified version of the Views of Nature of Science (VNOS-B). The survey results indicated the eight participating students had fairly informed views before the class began. Seven out of the eight participating students exhibited an increase in the total SUSSI score on the post-test survey. An analysis of individual student responses may indicate an increase in their confidence of their knowledge of NOS. A comparison was made between the open-ended responses for the SUSSI and the modified VNOS-B. The results indicated that for the NOS tenets that are assessed by the SUSSI, the participant responses were comparable on these instruments. Their consistent responses seem to indicate a stable understanding of NOS tenets that is not highly affected by the way in which they are asked questions concerning the NOS.
03.05.08
DEVELOPING INQUIRY-BASED SKILLS TEACHER PROFESSIONAL CONTINUUM

NORTHEASTERN STATE UNIVERSITY

Renee Cambiano - TAHELLEQUAH, OK, EDUCATIONAL FOUNDATIONS AND LEADERSHIP
April Dean Adams - TAHELLEQUAH, OK, NATURAL SCIENCES
Monica Macklin - TAHELLEQUAH, OK, NATURAL SCIENCES

The Developing Inquiry Based Instruction Skills research project is investigating the development of inquiry-based instructional skills in pre-service 1st - 8th grade teachers who teach in rural, economically disadvantaged schools with large proportions of Native American students. Over a three-year period, this study has investigated the long-term effects of a science content course designed to help pre-service teachers develop the skills, science content knowledge, and confidence needed for inquiry-based instruction in elementary classrooms. The course was developed through the NSF funded Oklahoma Teacher Education Collaborative Grant which was designed to improve teacher preparation in mathematics and science. The study compares the inquiry-based instructional skills of NSU graduates who had the benefit of the reformed course to those who took the course before it was reformed. This study has developed an observational rubric that can be used by researchers to analyze inquiry-based instruction knowledge and skills as well as a survey that measures understanding of the nature of science.

03.05.09
SIGN LANGUAGE AND THE HEARING CHILD

EAST CENTRAL UNIVERSITY

Deborah Lynn Butcher - ADA, OK, EDUCATION
Jennifer Lee Gibson - ADA, OK, EDUCATION

Researchers have found that before infants and toddlers are able to speak they often use gestures and pointing to express their wants and needs. Research has indicated that when movement is incorporated into communication learners are able to remember what they have heard. They are also able to feel the movement of language. Sign language not only benefits the auditory learners, as does oral language, but it also helps children that are bodily-kinesthetic and visual learners.

As teachers incorporate American Sign Language (ASL) into their curriculum they will be capturing the whole child-every child. It is not essential that the teacher be fluent in ASL but recommended they have a basic knowledge of the language.

03.05.10
HOW CHILDREN BENEFIT FROM LEARNING CENTERS?

EAST CENTRAL UNIVERSITY

Kyla Chebultz - ADA, OK, EDUCATION

The purpose of learning centers is to enable children to explore and investigate the environment, which would allow them to be independent learners in the coming years. It also gives them confidence and skills.

Many skills are learned through exploration of the classrooms such as making decisions, problem-solving, and expected school behavior. The whole concept of exposure is to allow them to be curious and become ready for the concepts that will be taught such as numbers, colors, alphabets and patterns.

Many different subjects can be integrated into the curriculum such as math, science, art and language. For example, including science into learning centers allows the children to practice certain behaviors such as fostering observations and problem-solving skills through examination and exploration but also, in the long run it gives children new skills of literacy and language for the early grades.

03.05.11
MATERNAL EMPLOYMENT AND ITS EFFECTS ON CHILD DEVELOPMENT

EAST CENTRAL UNIVERSITY

Mrs. Rebecca Johnson - ADA, OK, EDUCATION
Ms. Olivia Nickell - ADA, OK, EDUCATION

In this research we are looking at the effects of maternal employment on the development of children. Research has shown that there were a number of concluding factors that had both a positive and negative effect on the development of children. These factors were social class, the parent’s marital status, full or part time employment, parent’s attitudes and the child’s gender. These factors played an important role in the statistics of this research.

03.05.12
DEVELOPMENTAL EFFECTS OF PARENTAL ALCOHOLISM IN YOUNG CHILDREN

EAST CENTRAL UNIVERSITY

Jennifer Michele Lee - ADA, OK.
Marli Michelle Turney - ADA, OK, EARLY CHILDHOOD EDUCATION

Parental alcoholism has a substantial impact on the development of young children. Children of Alcoholic parents show deficiencies in their social competence that begins at a young age and escalates through middle adolescence. Alcoholic parenting proves to disrupt life patterns
and routines. It enhances risk factors for behavioral disor-
ders, increases psychological problems, and increases dif-
ficulties in the educational pursuits of the children. There
is also a direct correlation between the depression of an
alcoholic parent and higher rates of children external-
izing behavior problems. In addition, substance abusing
parents are placing their children at higher risk to become
substance abusers. The developmental effects of paren-
tal alcoholism are alarming. With 1 in 6 children living in
homes with parental alcohol abuse, parental alcoholism
has become a serious problem within our schools and
our society. Educators can make a difference in the lives
of these victimized students if they seek help for these
students at the early childhood level. Students taken out
of those situations at an early age have a greater chance
of reaching developmental normalcy than those that are
not taken out of the situations until adolescence. Students
that receive intervention in these situations have a greater
chance of developing into the normal, successful students
that they deserve to be.

03.05.13
CONNECTING SOCIAL AND EMOTIONAL DE-
VELOPMENT TO COGNITIVE LEARNING

EAST CENTRAL UNIVERSITY
Lisa McClendon - ADA, OK, EDUCATION
Mandy Smith - ADA, OK, EDUCATION
Abstract: Research shows that behavior problems in pre-
school children can be caused from a stressful event in a
child’s life. These emotional and behavioral problems also
interfere with their academic performance in school. The
most powerful influence on how a child copes with a situ-
ation comes from family interaction and the environment.
Research will show the risk factors that can effect the
development in these areas.

03.05.14
EXERCISE YOUR CHILD’S BRAIN WITH MUSIC
INSTRUCTION

EAST CENTRAL UNIVERSITY
Alisha Bergner - ADA, OK, EDUCATION
Heather Duns - ADA, OK, EDUCATION
Amy Gonzales - ADA, OK, EDUCATION
Does music instruction improve a child’s cognitive devel-
opment? In recent years, scientists and musicians have
been trying to link cognitive development and music.
Currently, there is no evidence of increased cognitive
development by simply listening to music when learning
or playing. However, researchers have found a link to in-
creased cognitive development with reading, understand-
ing, and playing musical instruments.

When a child engages in music instruction, they are
exercising and strengthening their synaptic connections,
which enhances the functional systems of the brain. These
include the sensory perceptual system, the cognitive
system, and memory. That in turn increases their skills
in other areas, such as fine and gross motor skills, audi-
tory, visual, tactile, linguistic, and reading, which leads to
improvement in all educational subject areas.

03.05.15
THE POWER OF POVERTY

EAST CENTRAL UNIVERSITY
Cassie Flora - ADA, OK, EDUCATION
Stefanie Denae Luce - ADA, OK, EDUCATION
Andrea Lee Sifers - ADA, OK, EDUCATION
How Does Poverty Effect the Development of Young
Children?

This research shows the impact of poverty and the ef-
fects of development on young children. We will explain
how poverty influences the education and home life of a
child. Today, 20% of children living in poverty face many
obstacles due to their lack of resources that are available
to those in a higher socioeconomic status. Children that
are classified in poverty homes lack emotional support,
nutritional deficit, and cognitive stimulation reflecting
their development.

03.05.16
PLAYTIME IS LEARNING TIME

EAST CENTRAL UNIVERSITY
Julia Dunagan - ADA, OK, EDUCATION
Nikki McElhannon - ADA, OK, EDUCATION
This research shows that play during the preschool years
positively enhances children and their social, emotional,
physical, and cognitive development. Play gives children
the opportunity to learn and experience things that are
vital for their development.

03.05.17
PARENTAL RELATIONSHIPS EFFECT A
CHILD’S EMOTIONAL DEVELOPMENT

EAST CENTRAL UNIVERSITY
Rebecca Christian - ADA, OK, EDUCATION
Heather Harper - ADA, OK, EDUCATION
There is a direct correlation between a child’s emotional
development and the relationship between the parents
according to the Emotional Security Hypothesis. Positive
parental relationships stimulate positive emotional devel-
opment in children while negative parental relationships
contribute to negative emotional development. Parental
relationships, whether conflicting or not effect a child’s emotional development from early childhood through adolescence. Many parents are unaware of how their conflicts effect their child’s well-being. In comparison, both positive and negative parental relationships directly influence a child’s emotional behavior at home and within school.

03.05.18
MATERNAL INCARCERATION: EFFECTS ON YOUNG CHILDREN

EAST CENTRAL UNIVERSITY

Mrs. Lori Lynn North - ADA, OK, EDUCATION

In this research, I reviewed literature concerning children of incarcerated mothers. Research shows the younger the child, the greater the risk. Young children of incarcerated mothers can experience fear, withdrawal, depression, anger, and severe emotional disturbance. There is also a higher rate of school failure, criminal activity and eventually incarceration in these children as they grow older.

03.05.19
HOW FACULTY SCHOLARSHIP AND SERVICE SUPPORTS UNIT ACCREDITATION

NORTHEASTERN STATE UNIVERSITY

Dr. Kay Lallier Grant - TAHLEQUAH, OK, COLLEGE OF EDUCATION

Accountability and accreditation are an ever present aspect of higher education. It is important for Deans to be able to help faculty see how their personal scholarship and service that are required for promotion and tenure can actually support and assist with unit accreditation. Rather than being seen as something separate it is important to see how all the pieces fit together. This model shows the connection between the Boyer Model of Scholarship and the important aspects of unit and university accreditation.

03.05.20
ONLINE-BASED AND LECTURE-BASED COURSES: COMPARISON OF COLLEGE STUDENT PROFICIENCY

UNIVERSITY OF CENTRAL OKLAHOMA

LuVonda Grummer - EDMOND, OK, PROFESSIONAL TEACHER EDUCATION

Dr. Malinda Hendricks Green - EDMOND, OK, PROFESSIONAL TEACHER EDUCATION

College students may or may not perform equivalently on assessments as a result of learning from an online-based course compared to a lecture-based course. One reason online-based courses concern many professors is the lack of control of the learning environment. For the present study, the two delivery formats, online-base and lecture-base, are for a university level biology introductory course with synonymous content. An end-of-semester assessment to cover the content stipulated in the uniform course objectives for all sections of the initial biology course will be analyzed allowing comparison of the performances of the students based on the two delivery formats. Results will be shared with the two universities, interested organizations, and individuals requesting results.

03.05.21
TEACHER/PRACTITIONERS’ RECOMMENDATIONS OF INITIAL KNOWLEDGE

UNIVERSITY OF CENTRAL OKLAHOMA

Dr. Malinda Hendricks Green - EDMOND, OK, PROFESSIONAL TEACHER EDUCATION

Dr. Jennifer J. R. Endicott - EDMOND, OK, PROFESSIONAL TEACHER EDUCATION

Dr. Susan C. Scott - EDMOND, OK, PROFESSIONAL TEACHER EDUCATION

Utilizing the Delphi method, the Phase 1 (six years) qualitative data provided insight as to the teacher/practitioners’ beliefs regarding what beginning teachers should know. Over twelve semesters from spring 2001 through fall of 2006, practitioners (N=2043) responded to an interview question, “What should beginning teachers know about teaching?” A 15% random sample (n=307) was drawn from the population of practitioners who served as mentor teachers to pre-service teacher candidates enrolled in the first of three program required field experiences with a public university. Analysis of the narratives yielded three primary themes: 1) realities of teaching; 2) classroom management; and 3) professionalism. Secondary themes included; discipline, instructional strategies, workshops, child development and field experiences. To allow the development of a valid quantitative instrument based upon the qualitative analysis, Phase 2 now begins the extension of the analysis to all responses and the field testing of the items through established Delphi processes.
03.05.22
CLASSROOM CLIMATE, SCHOOL BELONGING, AND SELF-REGULATED BEHAVIOR

UNIVERSITY OF CENTRAL OKLAHOMA
Ms. Rebekah Williams - EDMOND, OK, PROFESSIONAL TEACHER EDUCATION
Dr. Bryan Duke - EDMOND, OK, PROFESSIONAL TEACHER EDUCATION
Dr. Mike Nelson - EDMOND, OK, PROFESSIONAL TEACHER EDUCATION
Ms. Elizabeth Routman - EDMOND, OK, PROFESSIONAL TEACHER EDUCATION
Dr. Janet White - EDMOND, OK, PROFESSIONAL TEACHER EDUCATION

In this study we used a self-determination theory (SDT) framework to investigate differences among high school students’ perceptions of relatedness and self-reports of regulated behavior. In education contexts, autonomous self-regulation compared to control self-regulation is associated with higher feelings of self-perceived competence (Fortier et al., 1995), teacher-rated academic competence (Grolnick et al., 1991), with use of optimal learning strategies (Yamauchi et al., 1999), with less defensive coping styles (Ryan & Connell, 1989), and with higher school grades (Black & Deci, 2000; Vansteenkiste et al., 2004). With regards to relatedness, evidence from a number of studies suggest that students are more likely to be motivated and successful in learning environments in which there is a strong sense of togetherness and community among the members (i.e., Ryan & Patrick, 2001; Ryan & Powelson, 1991; Stipek, 1996). Participants (N = 344) attended a diverse urban high school in the mid-south. Sixty-five percent of the sample was Latino, 16% Caucasian, and 19% African American. Mean differences on the regulation and relatedness variables were compared for gender, ethnicity, primary language, and grade-level. Differences were found on teacher-student relations, disruptive classroom behavior, academic regulation and social regulation. Findings are discussed in terms of their implications for school administrators and classroom teachers.

03.05.23
CONTROL AND AUTONOMOUS REGULATION IN LATINO HIGH SCHOOL STUDENTS

UNIVERSITY OF CENTRAL OKLAHOMA
Dr. Mike Nelson - EDMOND, OK, PROFESSIONAL TEACHER EDUCATION
Dr. Bryan Duke - EDMOND, OK, PROFESSIONAL TEACHER EDUCATION
Dr. Janet White - EDMOND, OK, PROFESSIONAL TEACHER EDUCATION
Ms. Jenah White - EDMOND, OK, PROFESSIONAL TEACHER EDUCATION

This study used a Self-Determination Theory framework to investigate associations of relatedness with control and autonomous regulation. Academic and social regulations were included along with school-level and classroom-level measures of relatedness. The sample consisted of Latino 9th through 12th graders from an urban high school. Females reported higher levels of control academic regulation and control social regulation than males. Students that perceived their teachers as caring were more likely to report higher levels of autonomous academic regulation and autonomous social regulation. Feeling connected with the school as well as feeling alienated from the school was related to higher level of control social regulation. Possible connections with cultural values and beliefs are presented.

03.05.24
REACH AND TEACH BY CONVEYING ACCEPTANCE

LANGSTON UNIVERSITY
Mr. Tshaka Ali Rivers - LANGSTON, OK, EDUCATION

Behavior Management-- During most of its twenty-two year existence, the Annual Gallup Poll of the Public’s Attitudes Towards the Public Schools has identified “lack of discipline” as the most serious problem facing the nation’s educational system. Many educators and students are also concerned about disorder and danger in school environments, and with good reason. Who’s the Culprit behind this? School personnel, students, and parents call attention to the high incidence of related problems in school environments problems such as drug use, cheating, insubordination, truancy, and intimidation—which result in countless school and classroom disruptions and lead to nearly two million suspensions per year (Harvard Education Letter 1987). In addition to these school discipline issues, American classrooms are frequently overwhelmed by other, more minor kinds of misbehavior which disrupt the flow of classroom activities and interfere with learning. As the research literature makes clear, well disciplined, smooth-running school environments are not the product of chance.
03.05.25
GUIDED REFLECTION IN TEACHER EDUCATION

UNIVERSITY OF CENTRAL OKLAHOMA
Dr. Genia James - EDMOND, OK, PROFESSIONAL TEACHER EDUCATION

A critical element in teacher education is the use of reflection; however, many students and instructors struggle with the reflection process. Challenges include making reflection useful for both teaching and learning as well as assessing the content and quality of students' reflections. This presentation offers a theoretically-based framework and rubric for guided reflections that may be used for a variety of applications. A quantitative analysis revealed significant improvement in students' reflections on field experiences.

03.05.26
TIES THAT BIND: INVESTIGATING HOW AGENCY BELIEFS MEDIATE THE SOCIAL STRUCTURE

UNIVERSITY OF CENTRAL OKLAHOMA
Dr. Janet White - EDMOND, OK, PROFESSIONAL TEACHER EDUCATION
Dr. Mike Nelson - EDMOND, OK, PROFESSIONAL TEACHER EDUCATION
Ms. Jenah White - EDMOND, OK, PROFESSIONAL TEACHER EDUCATION

We argue that to understand a school's culture we must consider not only the attributes of individual actors but the dynamics among groups of players. Similarly, social network researchers (e.g., Boudeau, 2005; Frank, 2004; Lin, 2001) contend that (1) knowing how an actor (adolescent) is embedded in the structure of groups is critical to fully understanding his/her behavior and (2) knowing the psychological dimensions of actors may help in understanding their role in a social structure's configuration. In this study we use a social network approach to explore the sub-groups or sub-cultures that comprised an urban high-school. Social network analysis provides a tool to investigate the relationships among individuals and groups within a school, as well as to consider the psychological attributes of the actors. To collect this type of data, students were asked to identify who they hung out with at school and to self-report on a number of personal agency (see Bandura, 1989) related variables (e.g., social regulation, academic regulation, social and academic life skills, perceived control, and school belonging). Findings will discuss how the network structure of sub-cultures can help to understand why some agency beliefs become socialized and part of a school's culture while other agency beliefs do not.

03.06.01
SELF-ESTEEM, DEPRESSION, ATTACHMENT, AND SEXUAL ORIENTATION

UNIVERSITY OF CENTRAL OKLAHOMA
Victoria Gaetan - EDMOND, OK, PSYCHOLOGY

This study investigates the idea that individuals who self-identify as lesbian, gay, bisexual, or “other” may experience less secure attachment styles (i.e., higher levels of avoidance and anxiety), lower self-esteem, and higher levels of depression than individuals who self-identify as exclusively heterosexual. Two-hundred sixty-three undergraduate college students (174 female and 89 male) completed questionnaires including the Rosenberg Self Esteem Scale (Rosenberg, 1965), the Beck Depression Inventory (Beck, 1961), and the Experience in Close Relationships Scale (Brennan, Clark, & Shaver, 1998). Of these, 9.20% of the sample identified themselves as something other than exclusively heterosexual. Findings suggested that as predicted, participants identifying themselves as not exclusively heterosexual had significantly higher attachment anxiety scores and lower self-esteem scores than students identifying themselves as exclusively heterosexual. However, there were no differences in depression or in attachment avoidance scores. Discussion includes implications of these findings and ideas for future investigation.

03.06.02
TESTING THE GENERALIZABILITY OF THE IES AND MANIB SCALES

UNIVERSITY OF CENTRAL OKLAHOMA
Jamie L. Gill - EDMOND, OK, PSYCHOLOGY
Amy E. Jobe - EDMOND, OK, PSYCHOLOGY
Dr. Robert D. Mather - EDMOND, OK, PSYCHOLOGY

The current study (n = 262) examined the construct validity and generalizability of the Interpersonal Expectancy Scale (IES; Mather et al., 2004) and the Motivation to Avoid Negative Interpersonal Bias Scale (MANIB; Naylor et al., 2006). Consistent with Mather et al. (2005), the IES was positively related to the Future Events Scale (FES; Anderson, 1990), demonstrating construct validity. The IES was positively related to self-esteem like Mather et al. (2005). The MANIB was positively related to the FES, unlike Mather et al. (2007), who found no correlation between the scales. The MANIB was positively related to self-esteem, which was a new finding. The IES and MANIB were positively related, unlike Mather et al. (2007) who found that the scales were not related. Additionally, age, year in college, education of father, education of mother did not relate to the IES or the MANIB in the first exami-
nation of the relationship between these demographics and the IES and MANIB. There were no gender differences in IES scores in the first examination of the relationship between gender and IES. Finally, females scored higher on the MANIB that males did, a new finding consistent with gender differences in the need to belong.

03.06.03
IMPLICIT THEORIES OF RELATIONSHIPS AND PSYCHOLOGICAL WELL-BEING
UNIVERSITY OF CENTRAL OKLAHOMA
Ms. Natalie Deitz-Bales  EDMOND, OK, PSYCHOLOGY
This study examines implicit theories of relationships (i.e., destiny and growth) and psychological well-being (i.e., self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth) in a sample of undergraduate college students enrolled in a general psychology course. There was a main effect for destiny predicting both autonomy and self-acceptance, such that the higher the belief in destiny, the lower the levels of autonomy and self-acceptance, and a marginally significant main effect for destiny predicting total psychological well-being, such that the higher the belief in destiny, the lower the level of psychological well-being. Discussion focuses on how the development of implicit theories of relationships may affect psychological well-being.

03.06.04
CONGRUENCE AMONG SELF AND IDEAL SELF: RISK TAKING PERSONALITY AND HEALTH
UNIVERSITY OF CENTRAL OKLAHOMA
Ms. Cynthia Alvarez  EDMOND, OK, PSYCHOLOGY
The purpose of this study was to examine the relationship between congruence among self and ideal self and how it correlates with health and risk-taking. Participants in this research study were students enrolled in summer courses at a mid-sized university. There were 26 (31.7%) males and 56 (68.3%) females. Participants filled out three instruments consisting of two Q sorts to compute congruence among self and ideal self and a Likert-scale to determine a risk-taking personality. The researcher hypothesized a correlation between health and congruence, between risk-taking and congruence, and risk-taking and health. The analysis showed no significance between health and congruence, risk-taking and congruence, nor risk-taking and health.

03.06.05
TRACKING CHANGE BLINDNESS: A DYNAMICAL APPROACH
UNIVERSITY OF CENTRAL OKLAHOMA
Mr. Tyler McNamara  EDMOND, OK, PSYCHOLOGY
This study was designed to replicate and extend previous results concerning change blindness. Change blindness is a failure of visual cognition in which observers do not notice the variability in a changing (visual) scene. Several theories explain change blindness as a failure of attention—objects fail to capture attention. Other theories explain change blindness as a failure of visual short term memory in which two images are not compared.

The current work treats the change blindness paradigm as a type of visual search task in which participants were asked to detect changes to simple scenes. This experiment replicated the results of Rensink, O’Regan, & Clark (1997) who found that changes to scenes of high interest were noticed more rapidly and accurately than changes to low-interest scenes. The current work entailed recording the eye movements of 22 volunteers as they searched for differences in “flickering” scenes. Participants indicated when they found the relevant change by pressing the spacebar on a computer keyboard as they identified aloud the nature of the change. This procedure yielded data regarding how fast and accurately they noticed the change. Future work will include analyzing gaze trajectories, fixation points, and fixation durations for other insights about the change blindness phenomenon.

03.06.06
SELF-CONCEPTUALIZATION THROUGH ACCULTURATION: INDIA AND UNITED STATES CULTURE
UNIVERSITY OF CENTRAL OKLAHOMA
Mr. Bashir Abdullah  EDMOND, OK, PSYCHOLOGY
The purpose of this study is to examine self-conceptualization through acculturation of business students in India and the United States. College students at the St. Joseph’s College of Business Administration in Bangalore, India (N=59) completed a computer psychometric program (Idiographic - Self-perception imaging) using a Q-Method. A cross-cultural comparison was achieved through participants completing Q sorts on 6 conditions (Self, Preferred Self, Career, Family, Manager, and Preferred Spouse) with I-SPI on standard monitors and computers. Data was transcribed to Statistical Packaging for the Social Sciences (SPSS) for analysis. A Pearson’s correlation and factor analysis was used to analyze the data.
03.06.07  
**FREEING THE SEXY BEAST: THE EFFECT OF RELIGIOSITY ON AROUSAL**  

**UNIVERSITY OF CENTRAL OKLAHOMA**  
**Patrick Kubier**  
EMOND, OK, PSYCHOLOGY  

During activities such as sex, our arousal will likely increase due to ethical and moral constraints that are placed upon a human. This experiment investigated the idea of what is known as the Romeo and Juliet effect; we do something because we should not. Forty-nine participants were asked to view a series of pictures alternating between a model in underwear and a neutral picture such as grass. The EEG activity of each participant was recorded and analyzed to determine if arousal was increased while viewing pictures of the opposite sex, which it was. These statistics were then compared to the religious backgrounds of the participants to see if the religion was increasing arousal because they had been instructed that sex was bad. The hypothesis was supported, and a conclusion was reached; ethical and moral constraints on an individual will increase arousal.  

03.06.08  
**COMPLICATED LIVES: SELF-COMPLEXITY OF ACTUAL, IDEAL, AND OUGHT SELF-DESCRIPTIONS**  

**UNIVERSITY OF CENTRAL OKLAHOMA**  
**Mr. Matthew Eric Stephenson**  
EMOND, OK, PSYCHOLOGY  

This research analyzed Higgins’s (1985) self-discrepancy theory using Linville’s (1985) card-sorting task (see also Showers, 1992 for a description of the task). Previously, research on self-discrepancy focused only on the discrepancies of the content of self-descriptions in predicting psychological outcomes. Thus, the present study focused not only on the content, but also the complexity of the self-descriptions. To do this, participants completed card sorts describing their actual selves (who they or others believe they really are), their ideal selves (who they believe they want to be or believe others want them to be), and their ought selves (who they believe they should be or think others believe they should be). Findings indicated a relationship between the complexity in the self-descriptions of actual, ideal, and ought selves. That is, the higher the self-complexity of the actual self (i.e., greater number of self-aspects and less overlap between them) the higher the self-complexity of the ideal and ought selves. This indicates that individuals may be predisposed to think about themselves and others in certain ways; that is, they may have “default” organizational styles that they use to categorize themselves and others (even when thinking about who they want to be and who they should be). Future studies should include an investigation into the evaluative organization of these selves.  

03.06.09  
**HUMAN MATE SELECTION THEORY**  

**UNIVERSITY OF CENTRAL OKLAHOMA**  
**Elizabeth G. Shoemake**  
EMOND, OK, PSYCHOLOGY  

Current research into human mate selection processes has developed under two main theoretical approaches: evolutionary and social structural. While the evolutionary approach favors behavior mediated through evolved dispositions, the social structural approach is guided by cultural exchange and gender role expectations. The interpretation of empirical data within these two perspectives is reflected across the various dimensions of mate selection studies; particularly in the sexual differentiation of mate selection behaviors. Both theoretical models offer valuable insight into the mechanics of mate selection criteria; however, a combined theoretical approach provides a more thorough and comprehensive examination of the issue. Future research would benefit from a unified and multidimensional evolutionary and social structural approach.  

03.06.10  
**RELATIONSHIP DURATION, SEXUAL SATISFACTION AND ACADEMIC PERFORMANCE**  

**LANGSTON UNIVERSITY**  
**Graigory A. Colbert**  
LANGSTON, OK, PSYCHOLOGY  
**Dr. Yvonne Montgomery**  
LANGSTON, OK, PSYCHOLOGY  
**Quanita Reed**  
LANGSTON, OK, PSYCHOLOGY  
**Robert C. Smith**  
LANGSTON, OK, PSYCHOLOGY  

The purpose of the current study was to investigate the relationship between five (5) relationship variables and academic performance. The following research questions were investigated: 1) Among the clusters Common Beliefs, Attraction, Relationship Status/Duration and Sexual Satisfaction, which will emerge as a greater predictor of Overall Relationship Satisfaction? 2) Does participation in a satisfying relationship in college significantly impact one’s overall academic performance? Participants consisted of 268 undergraduates age 18 and older and enrolled in 30 hours or more of college credit. The Relationship Satisfaction Questionnaire (RSQ), which was designed by the research team, was used to collect the data. Data were analyzed using SPSS-14. Although, no strong correlations were found that predicted Overall Relationship Satisfaction, there was a positive correlation between students’ Overall Relationship Satisfaction and their Overall Sexual Satisfaction (r=.46; p<.01). Findings also concluded that those in longer lasting relationships perceive their relationship on the whole to be satisfactory. When divided by gender, females showed a higher correlation between Overall Sexual Satisfaction and Overall Relationship Satisfaction (r=.23; p<.01). Additionally, the results indicated that the longer
the duration of the relationship, the higher the reported Grade Point Average (GPA) \( r = 0.40; p < 0.05 \).

**03.06.11**

**SUPPRESSED POSITIVE THOUGHTS CAN REBOUND IN SOCIAL JUDGMENTS**

**UNIVERSITY OF CENTRAL OKLAHOMA**

**Robert D. Mather** - EDMOND, OK, PSYCHOLOGY

Many studies have demonstrated rebound effects on a second task for content suppressed on an initial task. Other studies have found that participants with sufficient cognitive resources in a second task formed impressions that were incongruent with the suppressed thought content of an initial task, suggesting effortful correction for the biasing influence of the accessible thoughts. Mather and Reich (2007) found such correction in social judgments using negative social judgment goals. In the current study, suppression of positive content was examined to test whether this correction after suppression applies generally to social judgments or whether it is valence-specific. Participants unscrambled sentences by omitting a word to form either a positive or negative sentence about a person. They received a positive suppression goal, a negative concentration goal, or no goal. Participants then watched a video of a child performing a spatial ability task with instructions that either emphasized careful thought and accuracy while judging the child’s ability, or simply asked participants to form an impression of the child’s ability. Participants who pursued a positive suppression goal in the first task judged the child’s performance as more successful in the second task than did participants with no goal, but only in the motivating condition. Findings demonstrate a rebound effect for positively suppressed content, with implications for when rebound or correction effects should occur.

**03.06.12**

**MEMORY AND VISUAL SEARCH**

**Doug Preddy** - EDMOND, OK, PSYCHOLOGY

**Aaron Likens** - EDMOND, OK, PSYCHOLOGY

**Brandi Striegel** - EDMOND, OK, PSYCHOLOGY

Some perspectives on visual search suggest that memory is absent during search tasks. In those frameworks, visual search is an oculomotor process dependent on rapid, random sweeps of the visual field. Oculomotor memory terminates when a more salient stimulus appears. An ecological-dynamical framework, however, predicts that memory is essential to visual search and suggests that the apparent absence of memorial processes is an artifact of technology-constrained research techniques. Participants generated eye movement, response time (RT), and error rate data while searching for color-shape targets in fields of four, five, six, seven, or eight set distracters over variable prompt-to-stimulus onset asynchrony (SOAs). Parametric analyses of RTs and error rates indicated null memory effects, as the randomized search model predicts. Time series analyses, however, revealed fractal microstructure in eye movement patterns indicative of memorial processes. This trial-to-trial pattern of correlations in eye movement data suggests that memory affects visual search.

**03.06.13**

**THE THIN IDEAL: THE ROLE OF POSITIVE AND NEGATIVE EXPECTANCIES**

**UNIVERSITY OF CENTRAL OKLAHOMA**

**Ms Hannah Thomas** - EDMOND, OK, PSYCHOLOGY

**Dr Mike Knight** - EDMOND, OK

A diagnosis of anorexia nervosa may be less common than other disorders yet yields the greatest mortality rate. Rates of body image distortion and eating pathology are increasing within our western society, seeping into other cultures and ethnicities, and plaguing girls at an exponentially younger age. The past and current trend in body image research has been focused on the ‘why’ as opposed to the ‘how’ of eating disorders. This focus has brought forth the ‘what is beautiful is good’ stereotype (Lavin & Cash, 2000), the phenomenon of internalization, and the social upward comparison theory (Bessenoff, 2006). Researchers and clinicians fumble through a variety of possible contributing factors with one goal in mind - desire of patient weight gain. Although weight gain is necessary in cases of extreme malnutrition, focus needs to be placed on the schematic factors leading to the desire and positive expectancy of being thin. The current research project is a pilot study, the start of a family of body image studies, focusing on the female schematic structure towards female models of differing weight. Participants viewed a set of fashion advertisements, differing in weight of model, and then completed multiple surveys related to their personal beliefs regarding thinness, the media, and their own weight. Finally, participants’ body mass index (BMI) was calculated as a quasi-independent variable as a predictor of body dissatisfaction based on the level of expectation of thinness.

**03.06.14**

**NARRATED INSTRUCTIONAL PROCEDURES FOR ESL LEARNERS**

**CAMERON UNIVERSITY**

**abbas johari** - LAWTON, OK, MULTIMEDIA DESIGN

**Keisha Brathwaite** - LAWTON, OK

**Mario Dominguez** - LAWTON, OK

**Derece Williams** - LAWTON, OK

This presentation demonstrates how the results of a recent study may differ from when another variable (narration) is added to its design. The intended audience
is international colleagues, public, and those who are interested in developing online spoken instructional procedures for ESL learners. It will report results on a follow up research study on learning a computer skill via a Flash movie procedural instruction for ESL learners. Visual-only (print screens) procedures do not (and cannot) provide all instructional steps to accomplish tasks. These procedures are not only time consuming and challenging to identify, but they also do not represent direct purposeful experiences to the learners. The effects of such instructions are more severe on learners whom English is the Second Language. In contrast, Captivate (™) -- a new product from Macromedia -- automatically records all onscreen REAL actions and then instantly creates interactive Flash instructional movies that are extremely rich in detail and completeness. It records audio narration and captures screen motion simultaneously. Therefore, the focus is on the effects of the narrated (spoken) Captivate treatment.

03.06.15
STIGMA OF MENTAL ILLNESS

EAST CENTRAL UNIVERSITY

Rachael Nichole Bryant  . ADA, OK, PSYCHOLOGY
My study was conducted to find if there is a stigma towards people with mental illness. The participants were asked to complete the survey made up of fictional individuals. They were to rate the likelihood that they would be friends with each person. The surveys were given to students from various psychology courses. My results indicate that people tend to stigmatize or discriminate against people who have a mental illness. I also found that people who knew someone with a mental illness are more accepting of all people whether or not they have a mental illness.

03.06.16
STRESS AND RELAXATION RESPONSES IN ADDUCTOR SPASMODIC DYSPHONIA

UNIVERSITY OF CENTRAL OKLAHOMA

Sarah Mosman  . EDMOND, OK, PSYCHOLOGY
Robert Digiovanni  . EDMOND, OK, PSYCHOLOGY
Aaron Likens  . EDMOND, OK, PSYCHOLOGY
Doug Preddy  . EDMOND, OK, PSYCHOLOGY

About 15,000 people in the United States experience involuntary vocal cord movements resulting in a tight, strangled-sounding voice. This phenomenon is known as adductor spasmodic dysphonia—a rare form of focal dystonia. The cause of the disorder is unknown and present treatments are limited to symptomatic approaches such as botulinum toxin (Botox) treatment of vocal folds, voice therapy, or surgery. The current study examined the immediate effects of stress and relaxation on voice quality. Specifically, the current work compared these effects between a single patient diagnosed with adductor spasmodic dysphonia and a control participant. Researchers induced stress using ice water limb immersion and induced relaxation using mindfulness meditation. Participants read a script aloud during limb immersion and after mindfulness meditation. Researchers recorded and analyzed cortical alpha amplitudes, heart rates, electrodermal activity, and voice production to explore the effects of transient stress and relaxation on vocal strain.

03.06.17
EYE MOVEMENTS REVEAL EVIDENCE OF SELF-ORGANIZED CRITICALITY

UNIVERSITY OF CENTRAL OKLAHOMA

Aaron Likens  . EDMOND, OK, PSYCHOLOGY
Doug Preddy  . EDMOND, OK, PSYCHOLOGY

People routinely perform rapid visual search tasks of great complexity. One method for studying visual search is to monitor eye movements as people view a scene. Such studies generate large quantities of time series data that contain substantial variability from trial to trial. Analyses of such data often rely on statistical models that treat trial-to-trial variability as error variance (noise). Dynamical systems theory suggests that if visual search is memory-dependent, variability in time series data from a visual search task may contain colored noise consistent with 1/f dynamics when subjected to an iterated function systems (IFS) test. Twelve undergraduates located 200 primed targets within novel scenes and their eye movement coordinates served as inputs to IFS clumsiness tests and spectral analyses. These data revealed evidence of self-organized criticality—1/f microstructure indicated long-term correlations (pink noise) and short-term correlations (brown noise) as expected when memory affects visual search.

03.06.18
COUNSELOR TRAINING AND CLIENT OUTCOME

UNIVERSITY OF CENTRAL OKLAHOMA

Dr. Lorri Youll  . EDMOND, OK, PSYCHOLOGY
Dr. Janelle Grellner  . EDMOND, OK
Dr. Mark Hamlin  . EDMOND, OK
Jaya Paily  . EDMOND, OK
Megan Tibbits  . EDMOND, OK

Counselor efficacy ratings were examined across levels of counselor training. Graduate counseling students completed 5-7 sessions with a volunteer client. Both student counselors and practice clients then completed several instruments assessing various aspects of the therapeutic outcome and therapeutic relationship. Results reported a discrepancy between client ratings and counselor ratings on counselor efficacy with clients evaluating stu-
Student counselors higher than student counselors rated themselves. The greatest discrepancy was after the first session. As the sessions progressed, the client-counselor discrepancy decreased; however, the discrepancy was still significant. In addition, the reported client symptoms significantly decreased across time while the client’s quality of life significantly increased, with the exception of the advanced counseling group.

03.06.19
TRANSFORMATIONAL LEARNING

UNIVERSITY OF CENTRAL OKLAHOMA
Justin Gibbons - EDMOND, OK
Angela Knight J.D. - EDMOND, OK, FUNERAL EDUCATION
Whitney Lawton - EDMOND, OK, PSYCHOLOGY
Gabriel Rupp PhD - EDMOND, OK, PSYCHOLOGY
Lauren Winston - EDMOND, OK, PSYCHOLOGY

Current trends in higher education is to provide pedagogy that reflects both an understanding of students’ own experiences and interests, as well as invites a transformation in their overall worldview. Professors at the University of Central Oklahoma structured a college success class so that both sophisticated communication technologies as well as students’ own motivations would come together to facilitate greater student understanding. The goal of this project was to have students deconstruct the roles of both successful and unsuccessful college students, with the larger end of promoting positive learning behaviors. First, after assigned readings, students were given a pre-test over the characteristics of a successful college student. Then they were required to construct a MySpace page representing an unsuccessful college student, which they then shared with other students. Following this exercise, students were directed to create a MySpace page of a successful student, using only the criteria provided by the text. Professors then gave a post-test. A t-test (p. .05) revealed both a significant difference between pre-and post conditions, as well as a large effect size. Although this study is more a demonstration than a quasi-experiment, tentative results suggest both directions for more formal comparisons of pedagogies and directions for further refinement of teaching strategies.

03.06.20
PREFERENCES AND VISUAL PERCEPTIONS OF NATURE:

UNIVERSITY OF CENTRAL OKLAHOMA
Jill Devenport - EDMOND, OK, PSYCHOLOGY
Basil Rayan - EDMOND, OK, PSYCHOLOGY
Tony Stelter - EDMOND, OK, PSYCHOLOGY
Danielle Kay West - EDMOND, OK, PSYCHOLOGY

Previous research has shown that people prefer natural environments over man-made environments and exposure to nature produces positive effects on mental, physical, and emotional states. However, substantial individual variability exists in how much people prefer nature, in experiences and activities associated with nature, and in commitment to preserving the natural environment. In order to understand these discrepancies, we surveyed college students about their preferences for nature, the extent of their nature experiences, their connectedness to nature, and demographic characteristics. Participants were asked to view a nature slideshow to help us better understand their experiences in nature. We also administered the PANAS mood scale before and after the slide show. We then asked the participants to return for follow-up measures of eye-tracking on 8 different slides of nature scenes. Using Prospect-refuge Theory, we created look zones to identify if there was a difference in visual perception that was related to preferences. We ranked the participants’ preferences for nature and separated them into high and low groups. We found that there were significant differences in connectedness to nature and a decrease in negative mood after the slide show among those with the highest nature preference. We expect to find that there is also a difference in the way these two groups perceive nature scenes that might relate to behavioral preferences.

03.06.21
INDUSTRIAL ORGANIZATIONAL PSYCHOLOGY: THAT’S THE NAME OF THE GAME

NORTHEASTERN STATE UNIVERSITY
Ms. Mylinda Fanj - BROKEN ARROW, OK, COUNSELING AND PSYCHOLOGY
Ms. Kim Lovelace - BROKEN ARROW, OK, PSYCHOLOGY AND COUNSELING
Dr. Marillon Morgan - BROKEN ARROW, OK, PSYCHOLOGY AND COUNSELING

This game titled “That’s The Name of the Game” is designed to be used by corporations and small businesses. It is focused on team-building and advancement among co-workers by emphasizing the rules and procedures of the organization. This game could also be used to evaluate and screen applicants for future management positions. The game design is patterned after other games, such as Wahoo and Sorry. There are 5 players; one CEO, who is the moderator, and 4 team members. The object of the game is for each team player to move his or her game piece, or symbol, around the board and finish first, winning the game. The goal is to win and become the new CEO.

The objective of the game is to stimulate a sense of friendly competition among co-workers as they strive for advancement. In addition, the game exposes players to the rules, procedures, and expectations of the company in a manner that is both entertaining and memorable.
Utilizing Wild Cards provides players with interesting twists in the game as they respond to procedural or ethical dilemmas.

03.06.22
JUSTIFYING ACADEMIC DISHONESTY: SEX DIFFERENCES

NORTHEASTERN STATE UNIVERSITY
Whitney N Pierce - TAHELLEUAH, OK. PSYCHOLOGY & COUNSELING
Beth M. Bowin - TAHELLEUAH, OK. PSYCHOLOGY & COUNSELING
Dr. Sharon L. Roberts - TAHELLEUAH, OK. PSYCHOLOGY & COUNSELING

Our study explored attitudes about academic dishonesty among students of introductory psychology courses at a small to moderate size university in the Midwestern U.S. In the anonymous survey, over 95% of 188 students responded to 13 items that tapped beliefs about cheating and plagiarism. Analyses revealed significant differences between males and females in specific beliefs. Larger proportions of males compared to females expressed the belief that cheating is a normal part of life. This prevailing thought is supported by the finding that males in this study were more likely than females to view cheating or plagiarizing as justifiable when they hold specific perceptions about the course, the instructor, or their time available for studying or assignment preparation. In spite of these justifications, males as well as females reported the belief that, when students cheat, the risk of getting caught and encountering meaningful punishment is high.

03.06.23
HEATHER’S FRIENDS: A CASE STUDY OF A 10 YEAR OLD FEMALE WITH DID

NORTHEASTERN STATE UNIVERSITY
Marilyn Guhl - TAHELLEUAH, OK. PSYCHOLOGY

This case study involved a 10 year old female, being treated for Attention Deficit/Hyperactivity Disorder, who dissociated into a completely separate personality and identity after being placed in a time-out by the therapist. For 1.5 years, the client was provided with three-hour sessions per week which allowed for the dissociative processes. Videotaping was used for documentation.

The client was unaware of the dissociations and referred to her switching into other personalities as “taking a nap”. The mother was always present so that she could provide feedback about the client's home environment while providing her with methods to handle the issues related to each personality.

The client exhibited approximately two dozen separate personalities or fractures of personalities with very distinctive characteristics including: different names; ages; sensory abilities; academic age/grade; intellectual differences; mental health disorders; handwriting/pictorial styles; and communication/math skills. The “operator” utilized a “filing system” for each personality. Although the foster care system defined the majority of the client’s home environment, none of the personalities reported a history of abuse. Treatment included traditional reconstitution therapy with several variants. With the significant assistance of the “operator”, the meshing process was completed over the approximately 250 hours of therapy. Treatment and DID issues are discussed.

03.06.24
SOCIAL NETWORK ANALYSIS, SCHOOL CULTURE AND PERSONAL AGENCY: TIES THAT BIND

UNIVERSITY OF CENTRAL OKLAHOMA
Dr. Janet White PhD - EDMOND, OK. PROFESSIONAL TEACHER EDUCATION
Dr. Mike Nelson PhD - EDMOND, OK.
Ms Jena White - EDMOND, OK. PROFESSIONAL TEACHER EDUCATION

We argue that to understand a school’s culture we must consider not only the attributes of individual actors but the dynamics among groups of players. Similarly, social network researchers (e.g., Boudeau, 2005; Frank, 2004; Lin, 2001) contend that (1) knowing how an actor (adolescent) is embedded in the structure of groups is critical to fully understanding his/her behavior and (2) knowing the psychological dimensions of actors may help in understanding their role in a social structure’s configuration. In this study we use a social network approach to explore socio-agentic profiles of members of social network structures embedded within organization context of an urban high-school. Social network analysis provides a tool to investigate the relationships among individuals and groups within a school, as well as to consider the psychological attributes of the actors. To collect this type of data, students were asked to identify who they hung out with at school and to self-report on a number of personal agency (see Bandura, 1989) related variables (e.g., social regulation, academic regulation, social and academic life skills, perceived control, and school belonging). Findings will discuss how social network configuration and profiles can be understood as potential mediator of school culture. In addition, findings will be discussed in terms of their implications for school administrators and classroom teachers.
03.06.25
SIMPLIFIED BLAME DISTRIBUTION IN RAPE, DOMESTIC VIOLENCE & CHILD ABUSE

NORTHEASTERN STATE UNIVERSITY

Marilyn Guhl M.Ed. TAHLEQUAH, OK, PSYCHOLOGY
Marilon Morgan Ed.D. BROKEN ARROW, OK, HIGHER ED ADMINISTRATION
Randy Bouche’r A.A. TAHLEQUAH, OK, NATIVE AMERICAN STUDIES
Kenneth Harris M.Ed. TAHLEQUAH, OK, PSYCHOLOGY
Tom Jackson Ph.D. TAHLEQUAH, OK, PSYCHOLOGY
Kathryn Sanders Ed.D. TAHLEQUAH, OK, PSYCHOLOGY

It has long been known that distribution of blame for sexual and physical violence is multidimensional, with offender, situational, societal and victim blame variables all contributing to overall perceived responsibility for these acts. While offenders are blamed most for the crimes of rape and violence in general, studies have repeatedly shown that, for domestic violence, societal factors receive greater blame than the offender. Gender effects have also been found with males placing less blame on the offender and disagreeing less strongly than females that the victim is to blame for all of the above crimes. These studies have sampled: the general population; emergency room personnel; psychologists and counselors; attorneys and judges; and victims and offenders of rape, incest and domestic violence.

This study sampled undergraduate students in an effort to simplify blame distribution in rape, domestic violence and child abuse, while maintaining the psychometric properties of extant, longer and more complex scales.

Results indicated that the simplified method of assessing blame distribution for the above crimes remained factor analytically sound, with prior gender and ethnicity effects being evidenced. Results are discussed with regard to the efficacy of the simplified blame sampling as well as potential pre-post treatment assessments and gender and cultural issues. Victim blaming remains a serious and salient issue.

03.06.26
THE EFFECT OF EMOTIONAL STATE ON GAZE TRAJECTORY

UNIVERSITY OF CENTRAL OKLAHOMA

Robert DiGiovanni EDMOND, OK, PSYCHOLOGY
Aaron Likens EDMOND, OK, PSYCHOLOGY
Sarah Mosman EDMOND, OK, PSYCHOLOGY
Doug Preddy EDMOND, OK, PSYCHOLOGY

The Effect of Emotional State on Gaze Trajectory Psychology

Accurate visual perception is critical for a number of emotionally demanding occupations. For example, paramedics’ rely on accurate visual perception for quick assessment of injuries, not to mention driving at high speeds in congested traffic. Emotional states are transient, but may affect our eye movements and consequently our perception of events. Current hypotheses consider visual search as an amnesic oculomotor process dependent on random sweeps of the visual field, independent of emotional state. However, a dynamical systems framework suggests memory is essential to the visual search process and the apparent randomness observed in eye movements may give evidence of nonlinearity. Specifically, if eye movement patterns exhibit nonlinearity, then visual behavior should give evidence of sensitive dependence—dissimilar gaze patterns at identical levels of emotional arousal across time (e.g. hysteresis). Researchers emotionally primed participants with sets of pictures from the International Affective Picture System. Participants completed visual search tasks after viewing each set of pictures. The current study examined the effect of emotional state on visual search patterns by examining eye movement data and cortical activity for indicators of hysteresis.
04.01.01 OKLAHOMA STATE REGENTS FOR HIGHER EDUCATION GRANT WRITING ASSISTANCE

OKLAHOMA STATE REGENTS FOR HIGHER EDUCATION
Dr. Linda Mason · OKLAHOMA CITY, OK, GRANTS
As Coordinator for Grant Writing Assistance for the Oklahoma State Regents, I will present an overview of services available to faculty, staff and students of Oklahoma higher education institutions. The display will provide information about training, access to research, consultation on grant proposals, and collaborative planning.

04.01.02 BLOGGING: THE MORBIDLY OBESE AND WEIGHT LOSS

NORTHEASTERN STATE UNIVERSITY
Dr. Amy Aldridge Sanford · TAHELQUAH, OK, COMMUNICATION STUDIES
The morbidly obese, defined as people who are 100 lbs or more overweight, are the fastest growing population amongst the obese. Today, they make up 5% of all American adults. The morbidly obese often live with health risks and face discrimination as a direct result of their size. Many of them would like to lose weight, and some even blog about their weight loss journeys. In fact, in 2006, it was estimated that 8% of all internet users kept a blog. This qualitative study, in its early stages, asks the question: What is the role blogging plays for the morbidly obese who blog about their weight loss journeys? This research question will be explored with data from weight loss blogs and synchronous interviews with weight loss bloggers. Potentially, the researcher will look through the lenses of computer mediated communication and uses and gratifications to answer the research question.

04.01.03 ASSESSING THE “ALTERNATIVE” IN ALTERNATIVE MEDIA

NORTHEASTERN STATE UNIVERSITY
David K Scott Ph D · TAHELQUAH, OK, COMMUNICATION STUDIES
Mike Chanslor Ph D · TAHELQUAH, OK, COMMUNICATION STUDIES
UNIVERSITY OF MISSOURI
Jennifer Dixon MA · COLUMBIA, MO, COMMUNICATION
In recent years scholars have observed that alternative media can be best seen in hybrid terms that incorporate elements of both mainstream and alternative modes of production. This paper argues that alternative news programs that seek to obtain a larger audience are more likely to incorporate a hybrid approach. This offers the possibility to establish the outer definitional boundaries of what constitutes contemporary alternative media itself. An earlier pilot test (2007) demonstrated the feasibility of this approach. A larger comparative content analysis of 948 news segments from the alternative newscast Democracy Now! and the PBS NewsHour indicate that alternative media can retain much of its distinctive character as it moves toward a mass audience. It is concluded that the unique aspects of alternative journalism are more of a reflection of specific ideological sensitivities. Some of the specific findings include: Alternative media (Democracy Now!) tends to reflect much greater diversity in using news sources of “color” whereas PBS (The NewsHour) has a much greater reliance on “white” news sources. Alternative media (Democracy Now!) has a much lesser reliance of using governmental news sources. In comparison the PBS (The Newshour) has a much greater reliance on government sources. Alternative media (Democracy Now!) uses grassroots “public advocates” as news sources to a much greater degree than PBS (The NewsHour).

04.01.04 THE INFLUENCE OF INTEPERSONAL COMMUNICATION ON DISTANCE LEARNING EDUCATION

NORTHEASTERN STATE UNIVERSITY
Mr. Kristopher Copeland · TAHELQUAH, OK, COLLEGE OF LIBERAL ARTS
Traditional classrooms now compete with new teaching systems made possible by technological advances. Distance education has become an increasingly popular educational program. However, one must consider the
04.01.09
PURSUING CONGRESSIONAL RECOGNITION FOR THE COMANCHE CODE TALKERS

OKLAHOMA BAPTIST UNIVERSITY

Ms. Christi Ann Mitchell - SHAWNEE, OK. ELECTRONIC MEDIA PRODUCTION
Vickie Ellis - SHAWNEE, OK.

On June 6th, 1944, the Allied assault took place in the European Theater. The U.S. 4th Infantry, which housed the Comanche Code Talkers, landed at Utah to link up with the 82nd and 101st Airborne divisions inland (Holm 2007). Meadows (2002) detailed the Comanche Code Talkers’ military history of the communication that the tribe performed for the 4th Infantry Division, 4th Signal Company. Through interviews with W. C. Meadows (our nation’s leading Comanche Code Talker scholar), Oklahoma museum curators, and relatives of the Comanche Code Talkers, this project reveals that the Comanche Code Talkers were patriotic warriors who should receive congressional recognition. In response to this goal, I pursued answers to the following questions: 1) what were the implications and the specific roles that the Comanche Code Talkers had on the European Theater during World War II’s Utah Beach invasion and 2) what is the best approach to enhancing support for House Bill 4454 which is currently in the senate being sponsored by Jim Inhofe.

04.01.10
ACCUSATION AND DEFENSE PAPERS:

CAMERON UNIVERSITY
Julianne Moini - LAWTON, OK.
Ronald Price - LAWTON, OK. COMMUNICATION
Kevin Chandler - LAWTON, OK. COMMUNICATION
Alexis Del Ciello - LAWTON, OK. COMMUNICATION
Chris Dunham - LAWTON, OK. COMMUNICATION
Quentin Farrell - LAWTON, OK. COMMUNICATION
Amanda Finch - LAWTON, OK. COMMUNICATION
Jorie Palmer - LAWTON, OK. COMMUNICATION


04.01.11
TEACHING SPEAKER-AUDIENCE INTERACTION: APPLAUSE SOLICITATION TECHNIQUES

UNIVERSITY OF CENTRAL OKLAHOMA
Dr. Samuel G. Lawrence Jr. - EDMOND, OK. MASS COMMUNICATION

This study examines the teaching of applause solicitation techniques in an advanced public speaking course. Scholars have identified techniques that initiate the majority of applause events at political speeches.

This project evaluates students’ applications of these techniques in soliciting applause from classroom audiences. Students demonstrated their learning by preparing a persuasive speech in which they attempted one solicitation of applause. Speeches were video-recorded.

Results show that students were successful in soliciting applause. Ten of sixteen students solicited applause. Analysis reveals orientations toward the simulated character of these speech events. First, in those cases in which applause did occur, the average burst of applause (M = 4.94 seconds, SD = .66) was shorter than the 8-second norm for political speaking. Audience members displayed readiness to begin clapping in a timely fashion; however, not one burst of applause met the 8-second norm. Second, audience members displayed various sorts of self-involvement during soliciting messages. Third, detailed analysis of one case shows that a burst of applause is followed by laughter. This laughter framed the speaker’s over the top solicitation and the ensuing applause as a joking rather than a serious event.

Discussion focuses on the laboratory character of public speaking classes and the implications of importing real world varieties of public speaking into the classroom.

04.01.12
MILLENNIALIST RISING

NORTHEASTERN STATE UNIVERSITY
Mr. Ryan Cannonie - TAHELQUAH, OK. COMMUNICATION

Currently there is a group of around 70 million people who will and are impacting our global society. This group of teens to twenty-somethings has already had a sizable effect on media and advertising. Soon they will begin to infiltrate the workforce and there are more to come. This has caused many companies and managers to look outside their company for help in handling this new breed
impact on students. One issue in distance education is the interpersonal dynamic created in the classroom. Distance education does not typically allow for the same kind of interpersonal relationships that exist in traditional classrooms. The term implies a separation of classmates and teachers as distance education lacks face-to-face communication. The purpose of this study is to examine the student perceptions of teachers’ interpersonal skills. These skills have been linked to student outcomes in traditional classrooms but have yet to be fully explored in a distance learning environment. This study will examine two interpersonal variables (students’ perceptions of the importance of communication skills and immediacy) and their relationship with learning outcomes.

04.01.05
A DEMOGRAPHIC DESCRIPTION OF AMERICAN INTERNET USERS AND THEIR ACTIVITIES

NORTHEASTERN STATE UNIVERSITY

rodney osborne - TAHLEQUAH, OK, COMMUNICATION AND ART

The purpose of this project was to provide a demographic description of internet users by age and generational classification, to identify the top 20 internet activities of American adults, and to identify the top 20 daily internet activities of American adults.

04.01.06
“ENGINEERING EFFICACY”: A CRITICAL APPROACH TO TEACHER ATTENTION

NORTHEASTERN STATE UNIVERSITY

Charles Rudick - TAHLEQUAH, OK, COMMUNICATION STUDIES/EDUCATION

According to the National Center for Education Statistics (NCES) approximately 269,600 (or 8.4%) teachers left the profession in 2004-2005 (NCES 2005). This number is over double the amount of teachers who left the profession in 1988-1989 (132,200) and is one and a half times the percent (5.6) (NCES 2005). To find out what causes teacher attrition researchers have administered numerous studies in job satisfaction which includes job pay, administrator management, and family issues. This type of study is exemplified in the NCES SASS (School and Staffing Survey) and TFS (Teacher Follow-Up Survey) and has been administered every year since 1987 and 1988 respectively. Since the current national research has done nothing to curb the trend of teacher attrition, it is imperative that a new framework be established to combat the rising problem of teacher attrition. The hope of this study is to provide a better understanding into or the beginning of research in 3 needed areas of study in regards to teacher attrition, meta-analysis of the current NCES surveys; language in regards to burnout and job satisfaction studies; and the creation of an alternative paradigm for combating teacher attrition which will be tested through a synthesis of quantitative analysis done by the NCES and interviews conducted by the researcher.

04.01.07
COMMUNICATION APPREHENSION:

NORTHEASTERN STATE UNIVERSITY

Lauren M Duncan - TAHLEQUAH, OK, LIBERAL ARTS - COMMUNICATION

Most students seem to deal with some level of communication apprehension (CA) before presenting a speech in class. Since the best thing for students to do before they present their speech is to practice, Communication Laboratories offer the resource with constructive feedback that students would benefit from. By looking at the use of the communication laboratory on campus and the types of help that they provide, the students’ communication apprehension level is assessed after their use of the lab. Several sections of COMM 1113 took surveys of their Communication Laboratory usage and a PRCA. The results confirm that Outlining and Delivery are both just as successful in preparing for presentations and helping with CA levels.

04.01.08
THE BRAWNY MAN INTRA-GENDER TRANSFORMATION

NORTHEASTERN STATE UNIVERSITY

Joshua Groomer - TAHLEQUAH, OK, COMMUNICATION STUDIES

A rhetorical criticism of gender issues in the mass media, this analysis of the Brawny Man’s physical and emotional transformation reveals why the portrayal of men as sensitive or of a feminine nature in popular culture through the use of the media are generating support, contrary to gender norms, and what rhetorical processes are being used to gain the support. Since research and society tend to focus on one role of the multiple masculinities at a time, it is overlooked that intra-gender characteristics may exist, which inadvertently perpetuates the idea and acceptance of the hegemonic male as a dominant figure in our society. In the analysis, a hierarchy is found in the constructs of gender, and when a shift in the conceptualization of masculinity or femininity occurs, it is revealed that the procedures of rhetoric are what determine domination between and within genders.
of employee. While research has been conducted showing different attitudes and talents more is still needed to determine the qualitative side of the issue. While studies have proven this next generation’s technological prowess and confident attitude only a few have looked at their feelings in the workplace setting. Many of the academic studies conducted have shown results in what Traditionalists, Boomers, and Gen Xers think about the next Generation, but none have measured their view in depth.

04.01.13
A RHETORICAL CRITICISM: COMMUNICATION WITH FEMINISTS AND TRANSWOMEN

NORTHEASTERN STATE UNIVERSITY
Ms. Kathryn Golsan · TAHELLEWAH, OK · COMMUNICATION
American society is notorious for placing labels on people, feeling that when labels are stuck to someone’s forehead it is easier to understand how that person behaves. “The plain truth is that transsexual is a medical term to identify the symptomology of Gender Dysphoria” (Stringer, 1990). However, this label that is put onto transsexuals is meant to be a mental disorder not a sex or gendered label. Because of the known dichotomy that most of society accepts, there is not a safe haven for those people that are physically born one sex, have a mental gender of the opposite sex, and physically change themselves to fit what they feel on the inside. Not all transsexuals consider themselves to be homosexual, so who is to say that they belong in that community? How would biologically born women feminists feel about transwomen needing to join the women’s movement with them?

The topic is the communication between transsexual male to female humans, or transwomen, and feminists that are portrayed in literature. This topic should be studied because of the absence of research that has not been shown after the second wave of feminism in the 1970s. Are transwomen considered to be the oppressors or the oppressed? Would identifying themselves with what they feel inside cause them pain and suffering to justify that they belong? Does a horror story of rape toward a transwoman from a so called feminist’s abuse support group give a rite of passage into the biological female’s world?

04.01.14
THE NORMS OF COLLEGE BINGE DRINKING

NORTHEASTERN STATE UNIVERSITY
Ms. Kathryn Golsan · TAHELLEWAH, OK · COMMUNICATION

By the time children are seniors in high school, approximately 30 percent are drinking heavily at least once a month, 40 percent of full time college students and more than 36 percent of other young adults (age 18-22) report heavy drinking (Bonnie, 2003). A normal full time student carries 12 hours, maybe has a part-time job, and has extra curricular activities and scholarships. According to a survey conducted by the Harvard School of Public Health, more than 50 percent of full time college students binge drink and 20 percent of them drink 3 or more times in a two week period. Binge drinking consists of drinking more than 3 nights a week and having more than 4 drinks in 2 hours. Also binge drinking is not just social drinking; it is drinking with the intent to get drunk (Spurlock, 2005).

How does binge drinking affect college students? What is it really doing to their bodies and mental health status? This paper will go through the norms and cultures of college drinking, how the media portrays drinking, the people who drink the most, high risk drinking consequences, and recent prevention methods of risky drinking to see if more research needs to be done to achieve a safer drinking college community.

04.01.15
CRISIS COMMUNICATION PREFERENCES AMONG THE UNIVERSITY COMMUNITY

NORTHEASTERN STATE UNIVERSITY
vicky green · TAHELLEWAH, OK · MASS COMMUNICATION

Due to the mass shooting at Virginia Tech University on April 16, 2007 there are now questions about plans of action and notification of the university community during a crisis. This study investigated how students, staff and faculty would prefer to be contacted in case of a crisis. In November 2007, a convenient sampling technique was used to determine how the university community would prefer to be notified in the event of a crisis. This study looks at the various technologies devices useable for crisis communication: like the web, land lines, voice mail systems, public address systems, broadcast methods and external internet sources such as Facebook and Myspace.

04.01.16
KEVIN, CHANDLER: “AN ANALYSIS OF THE BALCO AND BARRY BONDS INVESTIGATI

CAMERON UNIVERSITY
Kevin Chandler · LAWTON, OK · COMMUNICATION

Barry Bonds, an outfielder for the San Francisco Giants, hit 49 home runs in the 2000 season. In 2001 Bonds set a single-season record of 73 home runs. In the period following the 2001 season, some began to question the legitimacy of Bonds’ training methods. Ultimately both Bonds and BALCO(Bay Area Laboratory Co-Operative), were investigated. This research demonstrates how a poorly planned and badly timed defense posture can be utterly disastrous in the rebuttal of an accusation.
04.01.17
PERSONALITY TYPES IN THE WORKPLACE: RUNWAY RUN-A-WAY

SOUTHEASTERN OKLAHOMA STATE UNIVERSITY
Rebecca Rowland - DURANT, OK. COMMUNICATION AND THEATRE

Within the context of interpersonal and organizational communication, the purpose of this study was to identify personality orientations in the workplace and compare them respectively to personality types of individuals in their personal lives. A film analysis of “The Devil Wears Prada” was used to recognize distinctive personality traits and how they overlap. The significance of this research is that being able to recognize definitive personality traits can be helpful to colleagues inasmuch as this may lead to more effective methods for working harmoniously in their place of work, as was the underlying theme in this particular film. Subsequently, this analysis reflects how coworkers can communicate in a manner that does not conflict with each other’s predisposed personality types, but instead can accommodate the individual parties in achieving their mutual goals and individual objectives.

04.01.18
CIVIC ENGAGEMENT: EXTREME MAKE-OVERV

SOUTHEASTERN OKLAHOMA STATE UNIVERSITY
Tye Freeze - DURANT, OK. COMMUNICATION & THEATRE

The object of this project was to reach out to the community by completely renovating the home of a family headed by a single mother. By working in small groups made up of sixty church members, we were able to improve the quality of life for this family, while simultaneously improving the quality of communication and cohesiveness within the groups. Because communication is more effective in small groups, various small task groups were formed based on task assignments that included renovating the entire house. Working through this monumental project demonstrated the differences in communication styles and, subsequently, the importance of communication competence, along with the self-fulfillment resulting from giving of ourselves and labors to enhance the lives of others.

04.01.19
ALEXIS DEL CIELLO, THE LAWTON PUBLIC SCHOOLS SECURITY SCANDAL

CAMERON UNIVERSITY
Alexis Del Cielo - LAWTON, OK. COMMUNICATION

Mistakes are often seen in our organizational settings- the workplace. Lawton Public Schools’ role in making sure all guilty persons were accused and prosecuted helped clear its name from any wrongdoing. This was seen through their immediate response to questionable payroll numbers and the superintendent’s cooperation when authorities wished to look into his and his family’s financial records.

This poster will discuss the principles and concepts of Ware, Linkugel, and Ryan in shedding light on effective strategies used to appeal to an audience when responding to an accusation.

04.01.20
TO AFRICA AND BACK

SOUTHEASTERN OKLAHOMA STATE UNIVERSITY
Trent Castleberry - DURANT, OK. COMMUNICATION & THEATRE
Alison Davis - DURANT, OK. COMMUNICATION & THEATRE

College student volunteers in civic engagement have become one of the most productive and positive endeavors that universities have recently embarked upon. Although local issues are extremely important, we decided to take a look at global needs. In doing so, our team chose to enlist the help of twenty college students who volunteered their time and efforts for relief work in Africa. We recruited students by simple word of mouth and the amazing tool of the internet via Facebook and MySpace. Through concerted efforts we were able to raise funds for medical and building supplies.

04.01.21
CIVIC ENGAGEMENT: CONNECTION

SOUTHEASTERN OKLAHOMA STATE UNIVERSITY
Lance Coffman - DURANT, OK. COMMUNICATION & THEATRE
David Fannin - DURANT, OK. COMMUNICATION & THEATRE

The point of this project was to study certain real life topics and make sense of them with middle school students whom we connected with through a Discipleship Now (D-Now) event. The main theme of the weekend was connection through God’s grace. We spent personal time sharing our stories and testimonies. Time was spent influencing the young people through mentoring and showing them how effective leaderships and friendships can work. In doing so, we participated in several activities with the students and helped them by teaching and talking with them about any problems they had. By investing time and effort in these young people’s lives, all of us experienced spiritual and personal growth.
04.01.22
THE 2008 PRESIDENTIAL ELECTION: CIVIC ENGAGEMENT

SOUTHEASTERN OKLAHOMA STATE UNIVERSITY

Jana Donahoe - DURANT, OK, COMMUNICATION & THEATRE

Voting in a presidential election is an important part of one’s right as a U.S. citizen unfortunately, not all citizens are registered to vote or even know when, where or how to vote. The purpose of this activity was to inform as many citizens within a one county area the two step voting process before and on the day of the primary, therefore, I volunteered with a local grass roots organization to get early voters to the Texas primary and caucus. The primary vote is only two thirds of a vote and the caucus in the other one third; thus, it was important to inform all registered of this process so their whole vote would count. Implementing my communication skills, I talked with various voters in order to inform them of their voting responsibility and persuade them to vote. I did so through participating in door-to-door canvassing, making calls using online phone banking and handing out informative literature from tables outside various polling locations. This civic engagement showed that effective communication can increase voter turnout as was achieved through these efforts. Further, while communication important information to voters I was able to experience leadership and organizational management.

04.01.23
CIVIC ENGAGEMENT: KUDOS 4 KIDOS

SOUTHEASTERN OKLAHOMA STATE UNIVERSITY

Randi Burkhalter - DURANT, OK, COMMUNICATION & THEATRE

Emily Heath - DURANT, OK, COMMUNICATION & THEATRE

Becky Rowland - DURANT, OK, COMMUNICATION & THEATRE

Civic engagement has been defined as “individual and collective actions designed to identify and address issues of public concern.” For our civic engagement, we chose to volunteer at a local Big Five Head Start to examine the significance of small group communication while helping to provide comprehensive health, educational and developmental needs of head start students ages three and four. Volunteering in this capacity proved effective in addressing communication and its implementation in organizations. As a result, we became more efficient in organizational communication and realizing the impact of civic engagement, as well as the impact of head start programs in the community.

04.01.24
CHRIS DUNHAM, “THE MESSIANIC JEWISH ALLIANCE OF AMERICA”

CAMERON UNIVERSITY

Chris Dunham - LAWTON, OK, COMMUNICATION

The Messianic Jewish Alliance of America, established in 1915, was designed with two purposes: (1) To help Jews understand Yeshua (Jesus) and, (2) To help Christians understand the roots of their faith. The Alliance is working to bridge the gap that exists between Jews and Christians.

This poster, a study in religious history, sociology, and rhetoric examines Jesus’ Hebrew background, Old Testament prophesies, the beginning of the Ekklesia (the Christian church), and a rhetorical criticism of this movement.

04.01.25
PREACH IT: THE SPEAKING STYLES OF MEN AND WOMEN MINISTERS

NORTHEASTERN STATE UNIVERSITY

Jennifer Martin - TAHELQUAH, OK, LIBERAL ARTS: COMMUNICATION

Every Sunday, across this nation, people congregate in churches to hear a sermon from their pastors. Traditionally, men have held the role of the preacher, but as progression is made we see more equal rights of females in church roles. Today, many denominations license and ordain women, enabling them to hold significant positions in the church. In the early stages of this research, this study asks the question: What is the difference in speaking styles of female and male church ministers? The researcher will answer this question by looking at gender roles and speaking styles of church preachers.

04.01.26
CIVIC ENGAGEMENT: THE CLOTHES CLOSET

SOUTHEASTERN OKLAHOMA STATE UNIVERSITY

Jana White - DURANT, OK, COMMUNICATION & THEATRE

The purpose of this civic engagement was to observe how interpersonal communication increase trust and comfort levels within an environment. Giving a pair of jeans or a suit to someone for not cost is extremely rewarding, but certainly no match for the relationships built by the communication channels being opened on a one-on-one basis. The Clothes Closet in a non-profit organization that serves various communities by providing free clothing, shoes and hygiene products. The Closet focuses on developing a personal relationship with every person that comes through the doors. Through volunteering my time at The Clothes Closet I
became a participant observer of true reciprocity in its kind- est and most rewarding fashion. By volunteers, like myself, giving their time and clothing, The Closet is more than just a place for clothes, it is a place for compassion and humanity to grow to fit everyone, not matter what their size.

04.01.27
QUENTIN FARRELL, “DEFENSE OF A MAJOR LEAGUE BASEBALL POLICY”
CAMERON UNIVERSITY
Quentin Farrell · LAWTON, OK, COMMUNICATION
This study examines and explains the accusations made against Roger Clemens regarding the use of steroids. Clemens, a seven-time Cy Young award winner and destined for the Baseball Hall of Fame, was the main focus of the Mitchell Report, a congressional analysis of steroid use in American sports. Clemens defended himself in a “60 Minutes” report, denying having taken steroids. This poster examines his defense.

04.01.28
ALL SLAY AND NO PLAY: HOW BUFFY THE VAMPIRE SLAYER FIGHTS FOR FEMINISM
NORTHEASTERN STATE UNIVERSITY
Sarah E Turner · TAHLEQUAH, OK, COMMUNICATION STUDIES
With the growing purchasing power of young women in the mid-90s, television became flooded with prominent women. The TV series Buffy the Vampire Slayer, created by Joss Whedon, featured a teenage girl fighting against villains of all sorts, often protecting the women and men in her life. This rhetorical criticism uses a cluster method and feminist lens to determine whether or not Buffy displays any feminist characteristics. After analyzing key episodes in Season 5, it becomes apparent that there are feminist messages present in the show.

04.01.29
AMANDA FINCH, “THE PEOPLE OF ANNISTON, ALABAMA VS. MONSANTO”
CAMERON UNIVERSITY
Amanda Finch · LAWTON, OK, COMMUNICATION
This poster will discuss the conflict between the people of Anniston, Alabama and the Monsanto agricultural company concerning the pollution of PCBs (Polychlorinated Biphenyl-man made organic chemicals found to be highly toxic) in Anniston’s rivers, lakes and landfills. This poster will identify and evaluate the accusations made against Monsanto, beginning in 1993. Finally, it will analyze the effectiveness of Monsanto’s defense and how it could have been handled better.

04.01.30
PERSEPOLIS: THE STORY OF IDEOLOGICAL BELIEFS
NORTHEASTERN STATE UNIVERSITY
Sarah E Turner · TAHLEQUAH, OK, COMMUNICATION STUDIES
The increasing popularity of graphic novels warrants a closer look at the genre and the messages present. Marjane Satrapi’s Persepolis: The Story of a Childhood tells the story of her life growing up in Iran during the Islamic Revolution. Using an ideological lens, Satrapi’s resistance to the oppressive regime of her country and her feminist beliefs become apparent. This rhetorical criticism analyzes how the rhetor and situation present these messages to the audience.

04.01.31
IT’S A WOMAN’S WORLD: GENDER NORMS IN SCRAPBOOKING MERCHANDISE
NORTHEASTERN STATE UNIVERSITY
Sarah E Turner · TAHLEQUAH, OK, COMMUNICATION STUDIES
Similar to the quilting circles of past years, scrapbooking enables women from all walks of life to gather together and share common ideas. The vast growth of this industry has produced mass merchandise targeted specifically to women. Using a semantic differential scale, a quantitative survey will be administered to women over the age of 18 who describe themselves as scrapbookers. This survey will test if certain products appeal to gender norms. For example, blue colored products will be used to create boy pages and pink colored products will be used to create girl pages. Although this study lacks depth at understanding all aspects of gender norms present in scrapbooking, it is hoped that the research results analyzed using the theory of semiotics will lead to a precursor understanding of the buying habits of scrapbooking women.

04.01.32
THE DEVIL WEARS PRADA: HELL ON HEELS
SOUTHEASTERN OKLAHOMA STATE UNIVERSITY
Rebecca Biggs · DURANT, OK, COMMUNICATION & THEATRE
The Devil Wears Prada is exemplary for all types of management styles. When comparing communication styles and decision making, we have a better understanding of what to expect from managers and other employees. This is important in an organization because it can maximize or minimize productivity by employees’ lack of understanding the management styles of their supervisor; consequently, employees can not only hinder the company but can be fired for not respecting the choice of management style. A main concern of this analysis was that managers have more than one style depending upon the situation.
and relationship of others in an organization. Summari
this film demonstrates how not just a management style(s)
but the understanding of a management style(s) can make
or break a company.

04.01.33
JULIANNE MOINI, “THE ACCUSATION AND
DEFENSE OF R.J. REYNOLDS”
CAMERON UNIVERSITY
Julianne Moini · LAWTON, OK, COMMUNICATION
This poster analyzes the defense of R.J. Reynolds, the 2nd
largest tobacco company in the United States, regarding
the accusation that the company marketed its products
towards minors. The poster uses the postulates of Ware,
Linkugel, and Ryan in deciding the effectiveness of the
accusation and defense. The analysis also considers the
use of war metaphors employed by the company and
recommends a better rhetorical strategy.

04.01.34
COMMUNICATION UP IN SMOKE
SOUTHEASTERN OKLAHOMA STATE UNIVERSITY
Liz Aguilar · DURANT, OK, COMMUNICATION & THEATRE
Jennifer Kemp · DURANT, OK, COMMUNICATION & THEATRE
Krystal Myers · DURANT, OK, COMMUNICATION & THEATRE
This study examines what form of communication influ-
ences a person’s decision to begin smoking. A common
assumption is that tobacco companies are the dominant
motivating factors for initiating tobacco use; however,
the present research shows that his assumption is some-
what misleading. According to the 259 college students
surveyed for this project, the strongest influences over a
person’s choice to start smoking are friends, family, peer
 pressure and social smoking, in that order. Subsequently,
these findings indicate that interpersonal, family and
group communication are the greatest motivators for
a person to begin smoking. This is a significant finding
inasmuch as advertising campaigns and mass media are
generally perceived as the culprits for attracting young
people to tobacco.

04.01.35
JORIE PALMER, “IN DEFENSE OF THE MC-
DONALD’S CORPORATION”
CAMERON UNIVERSITY
Jorie Palmer · LAWTON, OK, COMMUNICATION
Unquestionably, McDonald’s is the biggest fast-food
restaurant chain in the world. Unfortunately, given the
rising obesity rate in America, this perception has been
detrimental to the corporation. One method of combat-
ing obesity in the United States has been to hold food
companies legally liable. There is an emerging belief that
legal efforts against fast food chains should mimic previ-
ous legal allegations against tobacco companies.
This poster analyzes the accusations against McDonald’s
and the corporation’s response.

04.01.36
NEGATIVE NONVERBAL NORMS OF A WAL-
MART ASSOCIATE
SOUTHEASTERN OKLAHOMA STATE UNIVERSITY
Matthew Cox · DURANT, OK, COMMUNICATION & THEATRE
The nonverbal communication between associates and
their customers was studied. The way in which they com-
municate nonverbally was the focus. When a person walks
up to a Wal-Mart associate for help, what he or she is
unknowingly walking into is a group of nonverbal norms
learned and transferred to associates by other associates.
The customer has no idea that the nonverbal exchange
was controlled by the associate, but it was. The norms are
what draws or repels a customer away from the associate.
This study is one of a set of norms picked up by a person
working at Wal-Mart. The participants were the associ-
ates of a Wal-Mart Super Center in rural Oklahoma. The
way in which associates handle themselves nonverbally is
the subject studied in this research. When surveyed, the
results showed that most of the associates did not utilize
the list of negative nonverbal actions. The data indicated
that the majority of associates studied would not use
these nonverbal actions to thwart helping customers.

04.01.37
BANNED FROM THE PARK: SKATEBOARD-
ERS AS MARGINALIZED CULTURE
NORTHEASTERN STATE UNIVERSITY
michele schmidt · TAHLEQUAH, OK, LIBERAL ARTS
This literature review focuses on negative views of a mar-
ginalized youth. Skateboarders, an ever-increasing group
of people, often adolescents, are experiencing discrimi-
nation in many ways. A look at skate culture nationally
and in a small Northeastern Oklahoma town reveals how
skateboarders are viewed and treated. The researcher
found that skateboarders are often lumped together into
a counterculture category of misfits and vandals, often
evoking images of drug use and profanity. The researcher
asked why so many people view skateboarders nega-
tively? Preliminary findings suggest that it is a result of
miscommunication and generational gaps.
Research participants will be interviewed by the research-
er, using a panel of questions. The researcher will then
conduct a content analysis of the participants’ answers.
04.01.38
THE BONDS OF FRIENDSHIP

SOUTHEASTERN OKLAHOMA STATE UNIVERSITY

Jamie Carrick  DURANT, OK, COMMUNICATION & THEATRE
Katy Landry  DURANT, OK, COMMUNICATION & THEATRE
Amy Wood  DURANT, OK, COMMUNICATION & THEATRE

This study examines the nonverbal communication between gender-based friendships and differences in proximity, eye behavior, facial expressions, greetings, and body posture. Participants observed were random students around a college campus and the local community. Friendships between these students proved that nonverbal communication between two females, two males, and males and females are different. Most female friendships are characterized by longer mutual gazing, close proximity, more dramatic facial expressions, and non-aggressive greetings. Most male friendships are characterized by brief mutual gazing, farther proximity, less expressive facial cues, and more aggressive greetings. In general, male and female friendships have more mutual gaze, close proximity, more facial expressions, and more playful contact. Nonverbal communication in each type of friendship played an integral role in the relationship.

04.01.39
THE AGE FACTOR

SOUTHEASTERN OKLAHOMA STATE UNIVERSITY

Jamie Carrick  DURANT, OK, COMMUNICATION & THEATRE
Larissa Copeland  DURANT, OK, COMMUNICATION & THEATRE
Jana Donohoe  DURANT, OK, COMMUNICATION & THEATRE

A person’s motivation to communicate with others from a different culture is called the affective component of intercultural communication (Neulip, 2006). With a focus on intergenerational communication, this study was conducted to learn about a person’s motivation, the degree of approach, or avoidance to communicate, changes with different age groups in relation to technology. After conducting a survey with people ages 18-66+, the results show that age is a factor in most people’s communication methods, but not so much in communication frequency among generations.

04.01.40
4-EVER MARKED

SOUTHEASTERN OKLAHOMA STATE UNIVERSITY

Randi Burkhalter  DURANT, OK, COMMUNICATION & THEATRE
Emily Heath  DURANT, OK, COMMUNICATION & THEATRE
Cassie McKeever  DURANT, OK, COMMUNICATION & THEATRE
Krystal Myers  DURANT, OK, COMMUNICATION & THEATRE

Tattoos on humans are a type of decorative body-modification. Tattooing has been practiced worldwide for many centuries. The tattoo culture has grown in the past ten years and the numbers of those who get tattoos are repeat clients. This study shows the cultural influence on the decision to get tattooed and the communication significance of tattoo symbols. Further examined here is the significance of tattoo symbols as a means of communication. Thirty surveys were administered to various college students asking their opinions on whether or not culture influenced them to get a tattoo. Seventy three percent agreed that culture had or would influence their decision. Despite some taboos surrounding tattooing, the present research indicates that this art of tattooing continues to communicate strong messages at an increasing rate in various cultures.

04.01.41
BEHIND THE SCREEN

SOUTHEASTERN OKLAHOMA STATE UNIVERSITY

Karen Maple  DURANT, OK, COMMUNICATION & THEATRE
Charlotte Morrow  DURANT, OK, COMMUNICATION & THEATRE
Buster Scoggins  DURANT, OK, COMMUNICATION & THEATRE

Many researchers argue that mediated communication can lead to dysfunctional behavior, lack of community, and social isolation. The purpose of this study is to compare data analyzed from random surveys against recent studies on the social impact of mediated communication. This study was designed to verify if the internet does, in fact, have negative impacts to social skills. Sixty random surveys were administered to evaluate time spent online in comparison to face to face interactions. The study also examines the effect of mediated communication in relationship with face to face interactions.
04.01.42
IT'S NOT A LOT OF BABEL

SOUTHEASTERN OKLAHOMA STATE UNIVERSITY

Michael Apala · DURANT, OK, COMMUNICATION & THEATRE
Karen Maple · DURANT, OK, COMMUNICATION & THEATRE
David Odem · DURANT, OK, COMMUNICATION & THEATRE

Analyzing the film, Babel, provided a view of relationships within cultures and the challenges confronted when communicating between cultures. The purpose of the study was to determine if the frequency of communication affects uncertainty reduction. Babel is based somewhat on the Biblical tower. Both address the barriers of language, in keeping with studies that show a high increase of uncertainty and anxiety when communicating outside of one’s own culture. These theories form the basis of this analysis that supports the premise of uncertainty reduction.

04.01.43
NONVERBAL DIFFERENCES BETWEEN INMATES AND US

SOUTHEASTERN OKLAHOMA STATE UNIVERSITY

Craig Andrus · DURANT, OK, COMMUNICATION & THEATRE
Romelle Terry · DURANT, OK, COMMUNICATION & THEATRE

This research was designed to analyze the significance of how nonverbal cues differ when used by the general public and by prison inmates. When incarcerated in government controlled institutions, nonverbal communication is a major factor that can determine how an inmate’s time is spent, to the extent of life or death situations. The data from this study indicates that inmates use nonverbal communication as a means of conception of other inmates without verbally interacting with them. For example, this contrasts with the free population where people are at liberty to ask questions to form perceptions of others. Further, the results indicate various examples when dealing with nonverbal communication; the same nonverbal behavioral cues have different meanings in the free world than in prison.

02 : ENGLISH

04.02.01
SELF-RELIANCE OR DEPENDENCE?: CONTRASTING METAPHOR FRAMES IN DISCOURSE ABOUT AbOU

UNIVERSITY OF CENTRAL OKLAHOMA

Mr. Kodi Weatherholtz · EDMOND, OK, ENGLISH

Metaphor is examined as a framing device in a political debate concerning abortion legislation. Emerging from the debate are two incompatible systems of metaphor frames, one emphasizing self-reliance and the other dependence. Recent linguistic work demonstrates that conflict resolution can be achieved through the development of a shared language, particularly by metaphor acceptance and appropriation.

It is argued here that metaphor rejection is a means of resisting conciliation when resolution is not desired, such as concerning conflict about abortion where resolution requires compromising fundamentally disparate beliefs. A metaphor-led discourse analysis demonstrates how both sides of the abortion debate reject the other’s metaphors as a way of rejecting the other’s conceptualization of abortion. The metaphor analysis is informed by cognitive linguistic and corpus-based approaches, and complex systems theory provides a framework for examining how metaphors emerge and are responded to throughout the discourse.

04.02.02
KONGLISH VS. GLOBISH: ALTERNATIVE VISIONS FOR GLOBAL ENGLISH

UNIVERSITY OF CENTRAL OKLAHOMA

Mr. Yu Da Kim · EDMOND, OK, ENGLISH

In an increasingly globalized economy and culture, methods of linguistic adaptation and appropriation provide a template for understanding broader patterns of intercultural conflict and cooperation. This study will assess two different methods of linguistic adaptation, one of which preserves the purity but inhibits the indigenization of the English language, and the other of which emphasizes the local inculturation of the English language but produces a significant degree of idiosyncratic linguistic transformation. The results of this study will help speakers of English, including speakers of English as a second language, to assess the benefits and liabilities of each form of linguistic adaptation as they prepare to enter into the global marketplace of commodities and ideas.

04.02.03
THE NIETZSCHEAN INFLUENCE IN THE POETRY OF WILLIAM BUTLER YEATS

NORTHEASTERN STATE UNIVERSITY

Dana M. Garvin · BROKEN ARROW, OK, LANGUAGES AND LITERATURE

The philosophy of Friedrich Wilhelm Nietzsche permeates William Butler Yeats’s work during many stages of his career. Yeats vividly weaves such Nietzschean ideas as eternal recurrence and transvaluation of values throughout his poetry. “The Gyres,” “The Phases of the Moon,” and “A Dialogue of Self and Soul” display specific evidence of
these themes. Yeats’s identification with Nietzsche’s work was not the sole inspiration for the development of his system of and belief in the cyclical nature of time, spirituality, and morality; rather, it aided him in the solidification of his own philosophy.

04.02.04
DOING WRITE FOR YOUR PROFESSOR

EAST CENTRAL UNIVERSITY

Jonathan Bergner · ADA, OK, ENGLISH
Hayley White · ADA, OK, ENGLISH

The purpose of this research is to determine whether students write according to their own preferences or to their professors’ preferences. This study will survey the freshman, sophomore, junior, and senior classes at East Central University. The professors will also be surveyed to determine their teaching styles and why they teach the way they do.

04.02.05
M.A. THESIS IN ENGLISH BY ENGL 5033 STUDENTS

NORTHEASTERN STATE UNIVERSITY

Tamara Danley · BROKEN ARROW, OK
Bryan Jones · BROKEN ARROW, OK
Jeremy Miller · TAHLEQUAH, OK
Samual Miller · TAHLEQUAH, OK
Melissa Moore · TAHLEQUAH, OK
Valeria Rader · TAHLEQUAH, OK
Clinton Robinson · BROKEN ARROW, OK
Jerry Stinnett · BROKEN ARROW, OK
Rosemary Torres · BROKEN ARROW, OK
Gregory Vanderveer · TAHLEQUAH, OK
Lorraine Walker · TAHLEQUAH, OK
John Borges · BROKEN ARROW, OK, LANGUAGES & LITERATURE
Dr. Mayrene Bentley · BROKEN ARROW, OK, LANGUAGES AND LITERATURE

The graduate students in the English M.A. program at Northeastern State University begin writing their theses in ENGL 5033 Graduate Research and Writing. This poster will highlight their creativity and scholarly insights into the literary symbolism of the Aeolian harp, water in Charles Dickens’ novels, Captain Wentworth in Jane Austen’s novel, anarchy in a post-modern age, World War II poetry, didacticism of Native American oral narratives, comic superheroes, and the depiction of evil in Milton. In addition to these pursuits into the literary world, two students are examining the role of writing in the academic community and beyond.

04.02.06
THE NEVER CHANGING PROPAGANDA: WORLD WAR I TO THE WAR ON TERROR

EAST CENTRAL UNIVERSITY

Adam Bishop · ADA, OK, ENGLISH

This paper explores how culture influences thoughts on war. Propaganda used in Britain’s World War I culture does not differ from American propaganda in the War on Terror. Through reading World War I poetry (Wilfred Owen and Siegfried Sassoon) one can realize how culture influences propaganda just as much as commercials and slogans do. In Sassoon’s poem, “They,” the church is blamed for supporting the war even through all the destruction it is causing to their young men. Does this sound familiar? Along with modern day propaganda of the War on Terror, I will be able to show the connection between our culture’s influences on the War along with the ties to Britain’s World War I.

04.02.07
BEAUTY AND BODIES

EAST CENTRAL UNIVERSITY

Angela Woods · ADA, OK, ENGLISH

I have compared the contents of 2 gender specific magazines. I have compared the language as well as the approach that each magazine takes. I would like to show the audience the way certain words can modify the meanings of similar information.

04.02.08
NON-STANDARD PHRASES AND DEMO-GRAPHICS

EAST CENTRAL UNIVERSITY

Mrs. Crystal Gale Craft · ADA, OK, ENGLISH

As non-standard English seems to saturate Oklahoma, I wanted to find out what demographics had correlations with the use of the phrase “fixing to.” I developed a survey asking questions about the phrase “fixing to” as well as questions regarding participant’s demographics. The major results of my research were that of the 40 people I surveyed, 80% claimed to use the phrase “fixing to,” while only 20% claimed not to use the phrase. Charts will show the breakdown of the varied demographics.
04.02.09
FORSTER WRITING WILDELY
EAST CENTRAL UNIVERSITY
Drew Butler - ADA, OK, ENGLISH
This poster compares the aspects of homosexuality in Oscar Wilde's novel The Picture of Dorian Gray and E.M. Forster's novel Maurice. While Wilde chose to leave the subject as a subtext when writing in the 1890's, Forster chose to write about it obviously when writing in the 1910's but chose not to publish the novel until after his death. This project explores why each author chose to write his novel in this fashion and how Wilde's imprisonment affected Forster as he penned Maurice.

04.02.10
CONSEQUENCES OF FIRST YEAR COLLEGE WOMEN BEING IN ROMANTIC RELATIONSHIPS
EAST CENTRAL UNIVERSITY
Katie Beth Benson - ADA, OK, ENGLISH
Changes during the first year of college will result in decisions that will affect the future. The effect of women being in a romantic relationship during the first year of college was first explored by Holland and Eisenhart in the 1970's and 1980's, and again by Gilmartin in 2002. Both concluded that success in school and same-sex relationships are negatively affected. The impacts can be better determined since it is set in a different location and is more up-to-date. A survey was constructed, questioning relationship status, school, and friendships. Women not in a relationship were slightly more focused on school, while women in a relationship found the maintenance of this area very important. Moreover, a young woman in her first year of college would most likely find greater success in these two areas of life, both short term and long term, if a significant other were not present.

04.02.11
WHAT IS THE 'WRITE' WAY TO TEACH GRAMMAR?
EAST CENTRAL UNIVERSITY
Laurie Schweinle - ADA, OK, ENGLISH AND LANGUAGES
sarah caldwell - ADA, OK, ENGLISH AND LANGUAGES
English teachers have long debated the value of formal grammar instruction. Some argue that formal grammar instruction does not produce better grammar results in student writing. We looked at papers from an East Central University Comp I class, over three assignments, and noted the number and type of grammar errors, as well as the sentence complexity. What we found was that grammar usage did not improve or decline over time but varied depending on the formality of the assignment. In the less formal personal narrative assignments, students showed fewer errors than in the formal compare/contrast assignments. As students stepped outside of their comfort zones, they were more likely to make grammar mistakes and more likely to use simpler sentences.

04.02.12
THE ANGLO ANGLE ON BEOWULF
EAST CENTRAL UNIVERSITY
Caleb Holton - ADA, OK
Michele James - ADA, OK
Jeff Gaylor - ADA, OK, ENGLISH
This poster investigates the Anglo-Saxon influences on the modern English language in order to learn about the origins of words and phrases used in English today. Utilizing themes from grammar and socio-linguistics within mythological texts, the investigation will provide research which includes the oral traditions surrounding Beowulf.

04.02.13
MODERN MOTIFS: THE USE OF TRADITIONAL AND MODERN FAIRY TALE MOTIFS IN NEIL SOUTHWESTERN OKLAHOMA STATE UNIVERSITY
Ms. Karissa Anne Whalen - WEATHERFORD, OK, LANGUAGE & LITERATURE
Modern folklorists often argue whether modern children’s stories have the ability to function as traditional fairy tales. This paper analyzes one particular children’s book, Neil Gaiman’s Coraline, along with the Aarne-Thompson Fairy Tale Motif Index, a system regularly used to classify traditional fairy tales by included motifs to determine whether Gaiman’s story truly functions as a traditional fairy tale. It is determined that Gaiman uses numerous traditional fairy tale motifs strung together as his plot line to create a universal tale, while also adjusting some traditional motifs to modernize them, specifically the wicked-stepmother motif, to make the story applicable to families today. According to these findings, it is possible to create modern fairy tales, but it requires a certain combination of traditional motifs and modern adaptations.

04.02.14
YOU AIN’T GOT NO GRAMMAR SKILLS
EAST CENTRAL UNIVERSITY
megan bateman - ADA, OK, ENGLISH
My Research Day poster is going to be based on a paper that I completed during my Approaches to Grammar course here at East Central University. For my paper I chose to examine the use of double negatives in the
particular dialect of Southern Oklahoma, and how the use of double negatives is evolving into a linguistic choice, used to give a statement greater emphasis. I will also be incorporating several different graphs into the poster to represent the primary research that I did with this paper, as well as incorporating the secondary research completed. The poster is highly effective in communicating the linguistic evolution that is taking place, and its importance to our society.

04.02.15
DAUGHTER, MISTRESS, MOTHER: MONSTER

SOUTHWESTERN OKLAHOMA STATE UNIVERSITY

Michele Charles - WEATHERFORD, OK, LANGUAGE AND LITERATURE

It is generally known that the origins of Mary Shelley’s Gothic novel Frankenstein derived from a challenge laid out by four friends to write a ghost story. The writer’s pact included herself, her husband Percy Shelley, and their friends, Lord Byron and William Polodori. Her story was the only one of the four to achieve such widespread fame. Viewed under such general circumstances, this tale of horror, “one to make the reader dread to look round, to curdle the blood, and quicken the beatings of the heart” (Shelley xxiii), seems the innocent product of a young girl’s wild imagination. However, looking closely at the author’s life, as many scholars have done throughout the years, we find that Frankenstein, perhaps, is not the product of such seemingly innocent circumstances, but instead the result of tragic events preceding and during the time Mary Shelley authored the book. It may be construed as a form of fiction to entertain or a literary piece of self-representation in which “the creature and creator tend to merge their identities in the novel, so in Mary Shelley’s own role the categories of author, creator and mother mirror and overlap one another” (Baldick 31). In those areas of merging identities, we can include the possibilities of finding Mary Shelley’s roles as daughter, mistress, mother and monster.

04.02.16
TOULMIN AND PLATO

EAST CENTRAL UNIVERSITY

Kasey McKinzie - ADA, OK, ENGLISH AND LANGUAGES

Toulmin’s ideas and beliefs about argument will be applied to Plato’s Phaedo. The research over this topic reveals their differing argumentation styles. This project will uncover Toulmin’s disagreements with five major points in Phaedo. It also uncovers the technical differences between the Toulmin model and the traditional syllogism. Plato uses the traditional syllogism, comprised of a major premise and minor premise. Toulmin invented the Toulmin model and used it to identify the fundamental components of an argument. His main concern with the syllogism is its language use.

Since Toulmin disagrees with the idea of absolutism, he could be considered more modern than Plato when reviewing his beliefs. This modernity may help Toulmin win a hypothetical argument against Plato. Toulmin may not be a revolutionary relativist, but he does have some good arguments against Plato’s claim in Phaedo. Plato, according to Toulmin, has weak assumptions, which leads to weak support, thereby causing the balance of the claim and data to be unequal.

04.02.17
CERTIFIED GENERAL PEER TUTOR TRAINING FOR QUALIFIED NSU STUDENTS

NORTHEASTERN STATE UNIVERSITY

Shari Clevenger - TAHELQUAH, OK, LANGUAGES AND LITERATURE

Kendra Haggard - TAHELQUAH, OK, LANGUAGES AND LITERATURE

Monique Idoux - BROKEN ARROW, OK, LANGUAGES AND LITERATURE

Joe Suse - TAHELQUAH, OK, LANGUAGES AND LITERATURE

The Northeastern State University Reading and Writing Center offers the College Reading and Learning Association (CRLA) International Tutor Certification Program at three levels: Level I (Basic); Level II (Advanced); and Level III (Master).

Each level of training requires 10 hours of general tutor training, 25 hours of tutoring, and 10 hours of subject-specific training. Level I Basic training covers the role of the tutor, the tutoring process, and the tutoring session; gaining student participation and structuring the tutoring session; direct tutoring techniques and communication skills; and identifying plagiarized text.. Level II Advanced training discusses personality types; characteristics of adult learners; and intercultural awareness and communication. Level III Master training covers the learning needs of specific target populations; test taking strategies and dealing with test anxiety; learning styles; and group consensus and decision making.

This training program is required activity for all individuals who will be tutors in the University Reading and Writing Center or Developmental English program and encouraged for peer tutors across the disciplines. The NSU/CRLA International Certified Tutor Training Program produces professional tutors who are confident, knowledgeable, and articulate and promotes credibility for participating programs and departments.
Hollywood's fascination with France is almost always inextricably tied to food and romance. I explored the former of these. French food has influenced American culinary culture and language with a common conception that French creations are a “high” form of culinary art. I surveyed subjects about their impressions of French food and also their knowledge of the etymology of some French derived culinary terms. I then researched the history of French influence on food and found the historical implications on not only American food, but culture as a whole.

The purpose of A Time of Evolution is to explore American priorities and how they have changed the past century. The comparisons and contrasts are made by first summarizing the front page articles from The New York Times of April 23, 1898 and The New York Times of April 23, 2007, followed by an analysis of the two papers and what it implies concerning American priorities. In addition to the author’s evaluation, the paper concludes with the professional opinions of a historian.

Concerning Oklahoma women’s political roles in the 1920’s election, women were thought to be more useful to the community without the option of a ballot. I am comparing the struggles that those women had to endure, to the struggles and progress that women have made in politics today. The women in the 1920’s had to defend themselves against anti-suffragettes, because it was considered unladylike conduct for a woman to be involved in politics. Decades later, politics have evolved to the point of having Hillary Clinton run for the Democrat Presidential ticket, and Sarah Palin on the Republican ticket for Vice President.

This is the story of my family for the last 4 generations. We are Chickasaw and trace back to the ancestral homelands. The research involves an understanding of the life and times of key figures in each of these generations. This project attempts to go beyond typical genealogy and recreate the sense of what living in Indian Territory was like from 1820 to 1939 for ordinary everyday Indian people while being cognizant of what was happening in American culture and the history of the West during the same time period. In some cases the research will also recognize gender roles and issues as appropriate to understand the story. The underlying theme is one of change, adaptability, survival and overcoming adversity to thrive and suc-
ceed - doing whatever is necessary to continue and build a better life for your children and family. The story is not intended to emphasize known issues and abuses of Native Americans; rather it is intended to be a true American story of renewal, rebirth and rugged optimism.

04.04.05
GENEALOGY RESEARCH AND CHEROKEE TRIBAL HISTORY: THE PROCTOR STORY

NORTHEASTERN STATE UNIVERSITY
Dr. Gary Dan Davis, TAHLEQUAH, OK, DEPARTMENT OF PROFESSIONAL STUDIES - SOCIAL WORK
Dr. Gary Dan Davis, Assistant Professor of Social Work, NSU-Tahlequah Campus-UKB(United Keetoowah Band) Cherokee Indian of Oklahoma explores the genealogy of the Cookson Hill Proctor Family - Full Blood Cherokees through the Dawes Enrollment Era. I also find the records of the murder of my grandfather and other documents of the life of the Proctor family during the dawn of the century. All the time starting this journey wanting to know more about a Family Picture sitting on my grandmother’s fireplace for sixty years! Little did I know this genealogy was so closely tied to Cherokee History.

A Sample of Historical Documents for Review Are:
*Cherokee by Blood and Adoption
*Original Cherokee Nation Citizenship Designation
*Cherokee Roll “Field Number”
*File with Cherokee number 9239 Department of Interior Interview dated 1902
*Probate Number 2776 Aggie (AKEY) Buster
*Death Certificate Charlie Proctor (Grandfather)
*Dawes Commission Packed Number 13379 Daniel Proctor Cookson, Oklahoma
Wado! (Thank You)

04.04.06
TWENTY-FIRST CENTURY TERRORISM AND THE UNITED STATES

EAST CENTRAL UNIVERSITY
Scott Knighten, ADA, OK, HISTORY
This article will explore the root of terrorism in the twenty-first century and its effects on the foreign and domestic policies of the United States of America.

There will be a specific focus on Islamic radical terrorist groups.

Motivations for terrorism will be examined as well as the reactions of the government and citizens of the United States.

04.04.07
THE REBIRTH OF THE CHICKASAW NATION IN OKLAHOMA

EAST CENTRAL UNIVERSITY
Scott Knighten, ADA, OK, HISTORY
After their removal westward, the Chicksaw people were forced to recreate their homes, livelihoods, and system of government while simultaneously holding onto what they could of their culture in the face of American encroachment.

The struggle for the existence of the tribe in particularly post Civil War Indian Territory and later during Oklahoma statehood will be examined, as well as the current state of the tribal government and people.

05 : GEOGRAPHY

04.05.01
STARBUCKS, GLOBALIZATION, AND THE GEOGRAPHY OF LATIN AMERICAN COFFEE

UNIVERSITY OF CENTRAL OKLAHOMA
Jeffrey Widener, EDMOND, OK, GEOGRAPHY AND HISTORY DEPARTMENT
Dr. Douglas A Hurt, EDMOND, OK, GEOGRAPHY AND HISTORY
Latin America is the largest coffee growing region in the world and the Starbucks Corporation is the largest coffeehouse company in the world. According to corporate publications, Starbucks purchases coffee beans in more than twenty countries as they promote the concept that “geography is a flavor”. In particular, Latin American beans are believed to have the characteristics of “great balance, medium body, and clean finish”. In this exploratory paper we assess to what extent Starbucks promotes the use of Latin American coffee beans in Latin America. In other words, is Starbucks a placeless multinational corporation using similar beans throughout the Americas or do their coffee houses utilize unique beans in different locations? Using Mexico City as a case study, we assessed the location of Starbucks coffeehouses and surveyed the regional origins of coffee beans available by the bag and by the cup at these stores. Our findings suggest that Starbucks is a multinational corporation that is not interested in marketing local products in different parts of the world. Instead, in Mexico City they promote American popular culture while selling the same regional coffees found in U.S. stores.
04.05.02
LAND USE CHANGES AT BELLE ISLE, OKLAHOMA CITY
UNIVERSITY OF CENTRAL OKLAHOMA
Mrs. Salena Elaine Etzler, EDMOND, OK, DEPARTMENT OF HISTORY AND GEOGRAPHY
The Belle Isle area in Oklahoma City has been characterized with significant land use changes over time. In 1907, Belle Isle was created as a community park that was located on the edge of the city. The park provided recreation and also housed a power plant to generate electricity for the interurban rail line that connected Belle Isle to downtown. In 1928, the park was closed and the power plant was turned over to Oklahoma Gas and Electric Company (OG&E). OG&E built a new power plant in 1931. The new power plant served Oklahoma City for over fifty years, but by the 1980s it had become obsolete and was closed. After sitting vacant for twenty years, the plant was demolished to make way for a shopping center. Belle Isle is now a bustling area of commerce containing popular corporate-owned shopping centers and restaurants. Keywords: Belle Isle, Oklahoma, historical geography, cultural geography.

04.05.03
MEASURING URBAN DEVELOPMENT INTENSITY - CASE STUDY: TULSA OK
UNIVERSITY OF OKLAHOMA
Heloisa Ceccato Mendes, TULSA, OK, URBAN DESIGN STUDIO
Shawn Schaefer, TULSA, OK, URBAN DESIGN STUDIO
1. INTRODUCTION AND GOALS:
This project presents a method to measure intensity of urban development and some of its possible applications.

The goals of this project are:

2.1. Investigate how high density developments can help cities to:
• Get the most out of its existing infrastructure
• Create more compact cities that are more likely to adopt sustainable practices such as implementation of transit and pedestrian friendly areas
• Create more vibrant urban environments

2.2. Develop a method that can be applied to:
• Measure intensity of development within city limits considering Density, Zoning and Land Cover Data
• Identify opportunities for the implementation of public policies

2.3. Develop and apply the method having Tulsa, Oklahoma as a Case Study
2.3 Present recommendations to apply the method to other American cities.

3. METHODS (Simple Statement):
The method is based on the following general steps:
1 - Establish criteria to quantify the categories of the Transect concept
2 - Apply the criteria separately to Density, Zoning and Land Cover data having Tulsa - OK as a case study

4. SUMMARY OF RESULTS:
After going through these general steps, two different ways of using the data are presented in this project. The first one is based on the overlay of the preliminary results obtained to this point, while the second one is based on the combination of the same preliminary results. Possibilities of application are presented for both options.

04.05.04
ACADEMIC RESEARCHERS INTEGRATION WITH CREW ABOARD A U.S. NAVAL FLAGSHIP
NORTHEASTERN STATE UNIVERSITY
Dr Susan Frusher, TAHLEQUAH, OK, DEPARTMENT OF EDUCATIONAL FOUNDATIONS AND LEADERSHIP
Michael W. Jackson, Director, OKLAHOMA CITY UNIVERSITY, INSTITUTIONAL RESEARCH AND ASSESSMENT
This session will portray selected experiences of two academic researchers in the relatively closed community of a U. S. Naval command ship stationed in Japan. A veteran researcher of the naval community asked an institutional researcher to assist in the blended quantitative and qualitative assessment study. The research, requested by the ship's captain, was conducted in two phases, at the beginning and the end of the mission, and focused on the attitudes and expectations of a composite crew of civilians and navy sailors while serving aboard a flagship. Closed environments are unique cultural domains often with their own traditions, language and location. Very few academicians are invited to integrate and study the closed environment of a naval shipboard community. The venue of the naval shipboard community and the unique experience for the academicians to integrate and study the crew are the focus of this session.
04.05.05
MANAGEMENT OF THE WEB ATLAS OF OKLAHOMA
EAST CENTRAL UNIVERSITY
Jim Brockman - ADA, OK, DEPARTMENT OF CARTOGRAPHY & GEOGRAPHY
During the summer of 2008, substantial maintenance was implemented for the Web Atlas of Oklahoma (www.okatlas.org). The Web Atlas is a collection of maps displaying subjects of interest for both Oklahoma and nationwide. Over time, many web pages hyperlinked from the Atlas to other web sites had changed in their URL names, so were “broken” and could not be accessed. New hyperlinks were also established for items of interest that were previously absent from the internet. This poster illustrates the methodology used to find and correct broken hyperlinks and efficiently search for new web content to be linked from the atlas.

04.05.06
CHANGING SPATIAL DISTRIBUTION OF FACULTY DEGREES AT NSU: 1987-2007
NORTHEASTERN STATE UNIVERSITY
Dr. Charles T. Ziehr - TAHLEQUAH, OK, SOCIAL SCIENCES
Various reports and rankings often focus on the doctoral origins of faculty members. Considerable attention is given to the prestige of the universities from which the faculty obtained their degrees. However, there is usually little emphasis placed on the baccalaurate and master degree origins of a university’s faculty. In addition, there is seldom any attention given to the location of these academic origins relative to the institution under study.

This study is the preliminary step in examining the spatial distribution of faculty degrees at Northeastern State University over time. This initial report examines data for 1987 and 2007. Later, data will be added for 1997, and comparisons will be made to other regional universities in Oklahoma.

Two hypotheses are examined:
1. Regional (particularly Oklahoma) ties, as evidenced by baccalaurate origins, will likely be influential factors in attracting faculty to NSU.
2. The spatial extent of masters and doctoral origins will be increasing over time.

Academic origins data were obtained from the instructional staff listings in the college catalog. The city and state of these colleges/universities of origin were then obtained from a variety of sources. These data were then geocoded using a geographic information system (ArcGIS). Tables and maps are used to present an examination of these changing spatial patterns. The increased diversity of academic origins over time is viewed as a positive and enriching development.

04.05.07
PROPERTY IMPROVEMENTS IN TIF DISTRICTS
EAST CENTRAL UNIVERSITY
Kindsey Maxwell - ADA, OK, DEPARTMENT OF CARTOGRAPHY & GEOGRAPHY
Tax Increment Finance (TIF) Districts are areas that the City of Ardmore is encouraging development of property parcels. Those who build or make property improvements in a TIF District are afforded a tax break. A spatial database is maintained to document such improvements. This database, consisting of point features, can be overlain with the TIF districts to make queries such as determining: (1) the number of improvements per district, (2) the number of new structures in any district, and (3) the total value of improvements by district. Similar analyses are possible by substituting the TIF districts with the subject desired; for instance, polygons representing school districts.

04.05.08
IMPROVEMENT OF THE DIGITAL ROAD NETWORK WITHIN THE CHICKASAW NATION
EAST CENTRAL UNIVERSITY
Justin Curry - ADA, OK, DEPARTMENT OF CARTOGRAPHY & GEOGRAPHY
The Chickasaw Nation’s Department of Geospatial Information is undergoing a project to improve the quality of a road and street database to be used for navigation, emergency services, and other applications over its thirteen county area. This poster illustrates how existing digital transportation data is often inadequate for optimal routing and how it can be corrected. Many of the county road segments and city streets may also be topologically invalid. Their real-world junctions either did not meet or incorrectly overlapped in the digital environment. Greater positional accuracy was also desired. Lastly, errors in the characteristics of roads and streets had to be identified and resolved.

Of particular significance was address ranging, whereby transportation segments are coded with minimum and maximum “house numbers” occurring on each side of the segment. Values must not only be logically correct in their numeric sequencing, but odd versus even numbers coded properly on its side of the street and ascending in the correct direction. The methodology for improving the database is demonstrated in this poster with the use of large scale orthophotography and data tables of addresses.
04.05.09
FACTORS TOWARD ACHIEVING QUALITY SCANNING AND GEOREFERENCING

EAST CENTRAL UNIVERSITY

Robert Rothell - ADA, OK, DEPARTMENT OF CARTOGRAPHY & GEOGRAPHY
The concept of georeferencing aerial photography or a scanned map means to define the location of the entire source image in real world coordinates. It requires the establishment of ground control points between the raster image to digital map data possessing a known geographic projection and/or coordinate system. This procedure is imperative to utilize such imagery with other spatial data in the disciplines of geographic information systems (GIS) and computer cartography. When data from different sources needs to be combined and then used in a GIS application, it is best that each source uses a common referencing system. An aerial photo or a scanned map plat that has been georeferenced to display or confirm important spatial data can serve as an effective decision-support tool. During an internship with the City of Ardmore's GIS department, a number of aerial photos and plats were examined, scanned, cleaned-up, georeferenced, and indexed to provide such decision-support for city employees and the general public. Quality georeferencing is directly related to the quality of the aerial photo or map plat, the scanning process, and quality ground control. Several images are displayed here to serve as examples of various levels of quality associated with these procedures.

04.05.10
USE OF AUTO-CAD IN ELECTRIC UTILITY SERVICES

EAST CENTRAL UNIVERSITY

Brian McCurdy - ADA, OK, DEPARTMENT OF CARTOGRAPHY & GEOGRAPHY
Peoples Electric Cooperative of Ada, Oklahoma has been working to develop a system for monitoring construction changes made in the field. Prior to the use of a computerized system, all changes that were made were recorded on paper then turned in to the head of cooperative construction. At that point changes would be made by hand in a map book. Once a month construction crews had to record changes in their own books that were kept in their work trucks. Many would not take the time to record these changes, and much time was wasted in the field due to lack of information. A solution was achieved by using a simple Auto-Cad program to create a multi-layered map that could easily be edited when changes in the field were carried out. The first layer consists of feeder information, which is the actual power lines themselves, including voltage, switches and phase feeds. The last layer includes the pole information which includes tag numbers and if the pole is a primary or secondary unit. When these three layers are combined edits can easily be made by one individual instead of going through a number of persons. Every other week a program called Batchplot will then collect all edits that have been made and burn them to a CD, which can then be taken to field trucks that contain laptops that construction crews can then use to work more efficiently in the field.

04.05.11
USING GIS TO MANAGE LEASES IN THE ENERGY INDUSTRY

EAST CENTRAL UNIVERSITY

Jeannett Phillips - ADA, OK, DEPARTMENT OF CARTOGRAPHY & GEOGRAPHY
This research demonstrates how Devon Energy has integrated GIS to help the company work in a more efficient and effective manner. It is used as a spatial management tool; giving a visual reference for information stored in a database and acting as a vehicle to deliver and share data across departments. Once Devon acquires a lease, an analyst enters the lease information into a database called Tobin Lease System. Tracts of land are grouped together according to ownership, file type, and which Township and Range they are in, creating a line of legal. Each line of legal is then given a survey object number. The survey object number is a unique number that is also given to a corresponding polygon that will be created; linking the spatial data of the polygon with the line of legal. Overnight the Tobin database updates another database called LandWorks. This is a simplified, scaled-down database that is designed to track the mapping progress of Devon's leases. A line of legal will be listed as mapped ok, not mapped or a mapping issue. If the status is shown as mapping issue then the file will be returned to the lease analyst for review. Once a line of legal has been created and loaded into LandWorks, a GIS technician obtains the file and maps a polygon for the legal. This is done to ensure the legal description is correct. By using GIS to manage its assets, the company can more effectively plan exploration and extraction activities.
04.05.12
BUFFERING PIPELINE MAPS FOR REGULATORY AND SAFETY APPLICATIONS
EAST CENTRAL UNIVERSITY
Sean Murray. ADA, OK. DEPARTMENT OF CARTOGRAPHY & GEOGRAPHY
The Piñon natural gas field in southwest Texas covers several hundred square miles. It contains over 600 wells and has several hundred miles of gathering, suction, discharge, and flow lines. The field is continuously evolving, with new wells being drilled regularly. Occasionally, pipelines are damaged by adjacent blasting. When new well pads are built, sometimes buried pipeline has to be relocated. As a means of increasing safety and communication between the midstream department and drilling, a series of maps was created to illustrate certain buffer zones around the pipelines. A right-of-way buffer of 15 feet was established around all gathering lines. A blasting buffer of 300 feet was established around all above ground pipelines. A jurisdictional buffer of 600 feet was established around any pipe that is regulated. Finally, a potential impact radius buffer was established to illustrate the effects of a possible explosion along any type of pipe.

06 : HUMANITIES
04.06.01
JOHN WESLEY POWELL, ETHNOGRAPHIC EXPLORER OF THE SOUTHWEST
NORTHEASTERN STATE UNIVERSITY
LD Brower. TAHALEQUAH, OK. DEPARTMENT OF SOCIAL STUDIES
A brief overview of the life of John Wesley Powell from the Civil War to the creation of the Bureau of Ethnology and the Smithsonian Institution focusing mainly on the ethnographic research conducted by him in the Southwest.

04.06.02
IMMIGRATION - SHOULD AMERICA PAY THE PRICE?
EAST CENTRAL UNIVERSITY
Ms. Lacey D Christopher. WEWOKA, OK. SOCIAL WORK
Ms. Sheila B Martin. MCALESTER, OK. SOCIAL WORK
Ms. Nikki L Miller. ADA, OK. SOCIAL WORK
Ms. Stephanie M Self. RINGLING, OK. SOCIAL WORK
Lacy Christopher, Sheila Martin, Nikki Miller, Stephanie Self, Social Work, East Central University, Ada, OK.
With immigration on the rise America is faced with an ethical and financial dilemma: Should social services be offered to illegal immigrants? According to the Center for Immigration Studies, illegal aliens are imposing billions of dollars each year to the US national deficit. This study was conducted to investigate the attitudes of social work students compared to those of social work professionals (and closely related fields) towards families headed by illegal aliens being eligible for social services. Participants were given a survey to solicit their views of this national issue.
Our hypothesis is that the results will reflect that social work students hold more conservative views of illegal immigrant households qualifying for social benefits as compared to a more liberal view from those who currently work in the field. Those surveyed include; social work students as well as social work, law-enforcement and medical professionals.

04.06.03
TWO VIEWS OF HYPATIA: ASSESSING ANOTHER PERSPECTIVE ON WHO SHE WAS
UNIVERSITY OF CENTRAL OKLAHOMA
Meredith Clement. EDMOND, OK. DEPARTMENT OF BIOLOGY
John F Barthell. EDMOND, OK. DEPARTMENT OF BIOLOGY
L L Pham. EDMOND, OK. DEPARTMENT OF BIOLOGY
B R Smith. EDMOND, OK. DEPARTMENT OF BIOLOGY
L M Lea. EDMOND, OK. DEPARTMENT OF MATHEMATICS
C K Simmons. EDMOND, OK. DEPARTMENT OF MATHEMATICS
D Smith. EDMOND, OK. DEPARTMENT OF MATHEMATICS
N A Wagner. EDMOND, OK. DEPARTMENT OF MATHEMATICS
We examined the life and contributions of the mathematician and philosopher, Hypatia, through the perspectives of two scholarly works written in the last 15 years. The first of these is the book entitled “Hypatia of Alexandria: Mathematician and Martyr” published in 2007 by M. A. B. Deakin. The second is the book “Hypatia of Alexandria” (published in 1995) by M. Dzielska. Forming an interdisciplinary seminar composed of undergraduate students in the sciences and mathematics, we compared the perspectives of the authors and were able to draw parallels to a recent historical counterpart, Rosalind Franklin. We assert that the perspectives of the authors on Hypatia are at variance with one another due to their differences in academic backgrounds (mathematics and history, respectively). We also conclude that Hypatia’s contributions are also assessed with clear reference to her gender. Beyond developing a comparison of these studies of Hypatia, the students participating in this seminar were provided with the opportunity to discuss the history and nature of mathematics and science and also gender issues that related to careers in this field. This seminar also provided the students with a chance to participate in the peer-review writing process.
04.08.01
THE EFFECTIVENESS OF THE STATE DEPARTMENT STATE SPONSORS OF TERRORISM LIST

EAST CENTRAL UNIVERSITY
Dr. John Ulrich · ADA, OK, POLITICAL SCIENCE AND LEGAL STUDIES
Brian Duncan · ADA, OK, POLITICAL SCIENCE AND LEGAL STUDIES
Matt Gelm · ADA, OK, POLITICAL SCIENCE AND LEGAL STUDIES
Jacobi Nichols · ADA, OK, POLITICAL SCIENCE AND LEGAL STUDIES

This project examines the relationship between the United State’s government’s policy of placing a foreign country on the U.S. Department of State’s list of State Sponsors of Terrorism and what effect this placement has on these countries. The countries examined in this project are Cuba, Iran, North Korea, Sudan, Syria and Libya. According to the U.S. Department of State, there are four main categories of sanctions resulting from designation on this list; restrictions on U.S. foreign assistance, a ban on defense exports and sales, certain controls over exports of dual use items; and miscellaneous financial and other restrictions. Each country is examined in the year(s) immediately following their placement on this list in order to determine if the above mentioned sanctions successfully decrease a country’s activity in terrorism.

04.08.02
“THE ROAD TO SAFETY:” STEPPING STONES TO A MORE SECURE NATION

EAST CENTRAL UNIVERSITY
Dr. John Ulrich · ADA, OK, POLITICAL SCIENCE AND LEGAL STUDIES
John Baca · ADA, OK, POLITICAL SCIENCE AND LEGAL STUDIES
Aleisha Brewer · ADA, OK, POLITICAL SCIENCE AND LEGAL STUDIES
Eric Wood · ADA, OK, POLITICAL SCIENCE AND LEGAL STUDIES

The goal of our project will be to evaluate various U.S. counter-terrorism policies and strategies implemented since September 11, 2001. We will explore, inter alia, the effectiveness of our nation’s aviation system security measures; how America has planned to strengthen critical infrastructure; as well as the creation and implementation of biometrics and other technologies designed to establish and verify identities and maintain information to enable governmental entities nation-wide to access that information in a timely way. We will discuss the significance of these new technologies and the time frame in which they will be implemented into the struggle for a more secure country.

04.08.03
SCOTTSBORO BOYS TRIAL

EAST CENTRAL UNIVERSITY
Jennifer Hicks · ADA, OK, INTRO TO LAW

The Scottsboro Boys Trial involved an alleged gang rape of two white women, Virginia Price and Ruby Bates, by nine black boys. The trial took place in Alabama in 1931, a place where racial unrest was at its highest. Society demonstrated that the color of your skin determines your guilt or innocence, a matter that proved to be devastating for the Scottsboro Boys.

As we reviewed the documents and transcripts, it became clear that a great crime of injustice had occurred. However, the injustice of what had supposedly occurred to the women was actually a wrongful and misconstrued act against the nine black males. Although both Price and Bates cried a gruesome and horrendous detailed story of rape, we discovered through our research that the main accuser, Virginia Price had fabricated the whole story. The truth of the alleged rape was revealed when the other accuser, Ruby Bates, recanted her story of being raped, saying that she was encouraged by Price to make the false accusations.

This case portrayed wrongful and unjust incidents, at the result of lies and deceits. Such incidents still occur today, as in the Duke University Lacrosse case in 2006, where a false allegation of rape was made by an African-American woman against several white Lacrosse players. The legal system rules upon truth and justice and rules on human integrity thus, if the individuals involved are dishonest, justice is compromised and obstructed.

04.08.04
RELIGIOUS HETEROGENEITY AND POLITICAL COMPETITION IN OKLAHOMA HOUSE RACES

EAST CENTRAL UNIVERSITY
Dr. John Ulrich · ADA, OK, POLITICAL SCIENCE AND LEGAL STUDIES
Dr. Charles Peaden · ADA, OK, POLITICAL SCIENCE AND LEGAL STUDIES

Two schools of thought exist regarding the impact of social heterogeneity on the degree of political and civic involvement within our communities. The first school posits that heterogeneity provokes conflict and conflict generates distrust and frustration, thereby lessening the likelihood of community involvement. The second school
suggests the opposite: the debate generated by community heterogeneity stimulates increased public interest, creating more opportunities for compromise, leading to increased political activity and community involvement. We test both schools with respect to the effect of religious heterogeneity and political culture on political competition and voter turn-out in Oklahoma State House of Representative district races.

**04.08.05**

**MISSISSIPPI BURNING TRIAL**

**EAST CENTRAL UNIVERSITY**

**Miss Jessica Rachelle Bailey**  - ADA, OK, LEGAL STUDIES  
**Christina Isom**  - ADA, OK, LEGAL STUDIES  
**Vicki Macy**  - ADA, OK, LEGAL STUDIES

The “Mississippi Burning Trial” was tried in Meridian, Miss. in Oct. of 1967. The Defendants, Price, Bowers, Roberts, Rainey, and Killen were charged with violation of the civil rights under the color of the law. Michael Schwerner, James Chaney, and Andrew Goodman were involved with the Congress on Racial Equality which was trying to help register African American voters in Meridian, Miss. during what is known as “Freedom Summer” 1964, were all murdered. The political climate at the time the murders were committed was one of racial prejudice and Ku Klux Klan. FBI began investigating the case on June 22, 1964; giving the federal government jurisdiction of the case. By Dec., an informant of the FBI and former Klan member, James Jordan, had provided them with enough information to begin the arrest of 19 men for conspiracy to deprive Schwerner, Chaney, and Goodman of their civil rights under the color of the state law. Federal Judge Cox threw out 17 of the 19 indictments. Cox dismissed the charges saying the confession of Jordan was hearsay. In 1966, U.S. Supreme Court overruled Judge Cox and reinstated 18 of the 19 original indictments. Those that were found guilty were Price, Bowers, Roberts, Snowden, Posey, and Barnett. The jury in 1967 was unable to decide a verdict dealing with the case of Killen; on Jan. 6, 2005 he was charged with murder. Rainey and Burrage were acquitted.

**04.08.06**

**MERCOSUR- EFFECTS OF REGIONAL GROUP MEMBERSHIP ON ECONOMIES**

**CAMERON UNIVERSITY**

**Matthew Dean Nies**  - LAWTON, OK, HISTORY AND GOVERNMENT

Regional group membership has become commonplace for many nations throughout the world. Many issues, such as economic stability, regional continuity, or collective security, drive nations to become members of these regionally based intergovernmental organizations. Using a comparative method, this study seeks to examine the economic policies of member states of MERCOSUR, in particular Paraguay and Uruguay, and to determine how, if at all, those policies affect the influence of the common market of MERCOSUR. The study hypothesizes that despite differences in economic policy, the benefits and failures associated with MERCOSUR are similar for each member state.

**04.08.07**

**THE PERCEPTIONS OF COLLEGE STUDENTS ON THE PRESIDENTIAL ELECTION**

**SOUTHWESTERN OKLAHOMA STATE UNIVERSITY**

**Austin Aispuro**  - WEATHERFORD, OK, DEPARTMENT OF SOCIAL SCIENCES  
**Whitney Lee**  - WEATHERFORD, OK, DEPARTMENT OF SOCIAL SCIENCES  
**Madison Merrill**  - WEATHERFORD, OK, DEPARTMENT OF SOCIAL SCIENCES

The purpose of this research is to explore the perceptions of college students toward the 2008 Presidential election. Approximately 100 students were surveyed using a Likert Scale questionnaire with 20 statements. The data was analyzed using SPSS Statistical package.

**04.08.08**

**CHANGING PERSPECTIVES ON TERRORISM IN THE UNITED STATES**

**EAST CENTRAL UNIVERSITY**

**Dr. John Ulrich**  - ADA, OK, POLITICAL SCIENCE AND LEGAL STUDIES  
**Ryan Logan**  - ADA, OK, POLITICAL SCIENCE AND LEGAL STUDIES  
**Gabriel Smock**  - ADA, OK, POLITICAL SCIENCE AND LEGAL STUDIES

Using today’s standards most Americans would identify September 11th, 2001 as the starting point of terrorist activities in the United States. On the other hand, Oklahomans would more likely point to April 19th, 1995, and the bombing of the Murrah Federal Building as the onset of terrorism in America. Neither view is accurate. The United States has been dealing with terrorism throughout its history, even before the phrase “terrorist” was coined during the French Revolution in 1789. However, events over the last 30 years have especially changed the United State’s outlook towards terrorism in profound ways. How did such of a radical change occur over a span of only 30 years? This research will examine key historical instances of terrorism within the last 30 years that have had a significant impact the United States and its stance/policy on terrorism.
09 : SOCIOLOGY & SUBSTANCE ABUSE

04.09.01
ATTITUDES, BELIEFS, AND PUBLIC PERCEPTIONS OF CRIMINAL

UNIVERSITY OF CENTRAL OKLAHOMA

Ms. Chelsie Antelope - EDMOND, OK. MCNAIR SCHOLARS

Today the concept of race seems to permeate almost every facet of American life. One of the most highly charged aspects of race relates to crime (Gabbion, 2005). Racial stereotypes and discrimination exist in the United States and have negative impacts on our society and is detrimental in the criminal justice system.

The purpose of the study is to examine attitudes, beliefs, and perceptions of criminal behavior related to race. The researcher proposes three hypotheses. Hypothesis I: The majority of the respondents in the study will perceive African American as exhibiting the highest rate of criminal activity. Hypothesis II: Caucasian respondents will have the most confidence in the criminal justice system and will perceive that it is fair. Hypothesis III: African American respondents will be the most conscious and critical of racial profiling than any other race.

The researcher utilized a sample population of 81 participants comprised of undergraduate students attending a mid-sized university located in the Midwest. The researcher constructed an eight item nominal questionnaire to evaluate each subject’s perceptions regarding criminal activity as it relates to race and also developed a four item questionnaire to assess each subject’s amount of trust in the criminal justice system. The findings of the study supported the researcher’s hypotheses.

04.09.02
COLLEGE STUDENTS AND THEIR POLITICAL PERSUASION

EAST CENTRAL UNIVERSITY

Amy Allen - ADA, OK. HUMAN RESOURCES
Carolyn Cannon - ADA, OK. HUMAN RESOURCES
Mrs. Heather Gilmore - ADA, OK. HUMAN RESOURCES
Ricki Looney - ADA, OK. HUMAN RESOURCES

The current Presidential election is historical and substantial in many ways; therefore, a great deal of interest is being generated, and an increased number of young voters are registering. We want to know if college students are voting and what factors persuade them to vote, if they do. This exploratory study is an attempt to identify the variables that influence the political persuasion of college students, to understand what motivates them to vote as they do as well as discover their level of political involvement. Data was gathered using survey questionnaire administered to college students. This data was analyzed using SSPS.

04.09.03
WHAT CAUSES POVERTY: COLLEGE STUDENTS’ VIEW

EAST CENTRAL UNIVERSITY

Mrs Carolyn Ann Lessley - ADA, OK. HUMAN RESOURCES
Mr. Chris Hodge - ADA, OK. HUMAN RESOURCES
Ms Ashley Meeks - ADA, OK. HUMAN RESOURCES
Ms Jerri White - ADA, OK. HUMAN RESOURCES

Poverty is a prevalent issue in America today, but what are the common beliefs of its causes? Do students believe poverty is a result of individuals’ choices, or the current social system? This study investigates college students’ view on poverty. The purpose of this study is to determine how students view poverty, and how they developed their opinion on the issue. Students used to conduct this survey come from the social work program as well as from business major students. We hypothesize that social work students will identify the social system more frequently as a cause of poverty than business major students.

04.09.04
STYLE VS SUBSTANCE

EAST CENTRAL UNIVERSITY

Mary Brannan - ADA, OK. HUMAN RESOURCES
Robin Carter - ADA, OK. HUMAN RESOURCES
Amanda Davis - ADA, OK. HUMAN RESOURCES

In Decision ’08 personal characteristics of political candidates has had a greater influence on voters’ decisions than in any other election in history. The purpose of this research is to explore the impact of personal characteristics versus policy position of political candidates. Factors considered include race, age, marital history, gender, religion, education, and social status. The students’ party affiliation and voting history are variables identified to assess the impact of students’ voting choices.
04.09.05
HELPING OR HURTING MARRIAGE; THE SUCCESS OF MARRIAGE VS. COHABITATION
EAST CENTRAL UNIVERSITY
kristin keiner - ADA, OK. SOCIAL WORK
Queen Threadgill - ADA, OK. SOCIAL WORK
Rachel A. Williams - ADA, OK. SOCIAL WORK
Couples today have a choice in relationships of cohabitation or marriage. There are questions whether cohabitation strengthens a relationship and leads to a more stable marriage. The purpose of this study is to discover the influence of cohabitation among younger adults in marriage. We hope to gain some insight into the opinions of students, in varied demographics, about the issue of cohabitation before marriage and it’s effect on commitment to the relationship, marriage, and divorce rate. Our sample was drawn from a small regional state college and will be compared to the National Gallup survey of American adults.

04.09.06
LEGAL! AT WHAT AGE: 18 OR 21!
EAST CENTRAL UNIVERSITY
Terry Eidson - ADA, OK. SOCIAL WORK
(ARE COLLEGE STUDENTS IN FAVOR OF CHANGING DRINKING AGE)
Terry Eidson, Nakita Mardione, Amanda Morgan, Jennifer Johnston, and Ricky Wright
The Amethyst Initiative supports informed and unimpeaded debate on the 21 year-old drinking age. Amethyst Initiative is made up of chancellors and presidents of universities and colleges across the United States. Higher education leaders have signed their names to a public statement that the problem of irresponsible drinking by young people continues despite the minimum legal drinking age of 21, and there is a culture of dangerous binge drinking on many campuses. This study will examine the factors influencing student’s choice on whether the legal drinking age should be changed. A cross-sectional sample of the student body in undergraduate classes was utilized. Variables in this study are life experience, drinking habits, availability, and campus environment. We hypothesize that age and drinking habits will be the major factor in voting to change the age of consent to drink.

04.09.07
A MULTI-METHOD EXAMINATION OF THE METHAMPHETAMINE PROBLEM IN OKLAHOMA
UNIVERSITY OF CENTRAL OKLAHOMA
Dr. Rashi Shukla - EDMOND, OK. SOC/CJ/SAS
Dr. E. Elaine Bartgis - EDMOND, OK. SOC/CJ/SAS
During the late 1990’s, methamphetamine emerged as one of Oklahoma’s most significant drug problems. The methamphetamine problem changed over time, as law enforcement and legislative efforts were undertaken to restrict opportunities to manufacture methamphetamine locally. This poster describes a multi-method study aimed at understanding the methamphetamine problem in Oklahoma from diverse perspectives. Three sources of data were examined: data on methamphetamine laboratory seizures from 2001 to 2005, survey data from law enforcement agencies, and in-depth, qualitative interviews with a small number of individuals with histories of involvement with methamphetamine. The utility of gathering data from different sources of data will be discussed, demonstrating the value of using multiple methods to better understand crime problems.

04.09.08
SOCIAL REALITY OF A RELIGIOUS GROUP
UNIVERSITY OF CENTRAL OKLAHOMA
Ms. Elisabeth Wood - EDMOND, OK. SOCIOLOGY/CRIMINAL JUSTICE/SUBSTANCE ABUSE STUDIES
According to a 2001 survey (National Survey of Religious Identification), Wicca had an adult population of over 300,000 members. This religious movement is also said to be one of the fastest growing religious groups in the nation. Wicca is a form of paganism and witchcraft that has a polytheistic belief system with both gods and goddesses. This belief system has recently been acknowledged as a religion and has enjoyed the advantages that come with this status. Although the movement has experienced some improved status, for many members perceptions of social ambiguity persist.

This study employs qualitative methodology, specifically, in-depth interviews and participant observation. In addition, we gathered information from practicing Wiccans through a web-based survey. All interview participants resided in a large southwestern metropolitan area. The web-based respondents were also drawn from metropolitan areas in a southwestern state. Our inquiry explored 3 key areas of religious activity: 1) conversion and identity; 2) sacred tools, symbols, and rituals; and 3) perceptions of opposition.
04.09.09
DV8-SURGICAL BODY MODIFICATION
SOUTHWESTERN OKLAHOMA STATE UNIVERSITY
Ryan J. McAdory WEATHERFORD, OK, SOCIAL SCIENCES
While today they are more widely accepted, tattoos, body piercing, and various forms of implantation are actions that have historically been seen as taboo. These actions are examples of body modification. Surgical body modification is the permanent or semi-permanent deliberate alteration of the human body for non-medical reasons. This issue will be approached through the Anomie/Strain theory. First, when will lower class individuals resort to deviant behavior to achieve a common goal in society, and second when will upper class individuals participate in deviant behavior although they have many resources and opportunities available to them. Surgical body modification (such as breast implants, beading, scarification, and branding) will be used to examine this theory.

04.09.10
GOD = AMERICA’S ENEMY?
SOUTHWESTERN OKLAHOMA STATE UNIVERSITY
Diana Leon WEATHERFORD, OK, SOCIAL SCIENCES
The Westboro Baptist Church (WBC), established in 1955 in Topeka, Kansas is a group led by Pastor Fred Phelps. The church believes that the actions of America accepting homosexuality have led God to send his wrath on America.WBC engages in peaceful demonstrations usually picketing funerals of U.S soldiers who, according to WBC, God has killed in Iraq in a “righteous judgment against an evil nation.”WBC pickets all over the United States and internationally, with the belief to spread the teachings of the Bible,and to preach against all forms of sin from homosexuality to divorce and sodomy. The presentation will focus on WBC’s methods of getting their voice heard.

04.09.11
SELF-MUTILATION IN TEENS
SOUTHWESTERN OKLAHOMA STATE UNIVERSITY
Laci Jo Vianco WEATHERFORD, OK, SOCIAL SCIENCES
Self-mutilation is a coping mechanism for many teens. It consists of inflicting physical harm such as cutting, burning, biting, bruising, head banging, or other forms of injury to oneself. This behavior may go widely undetected due to the teen’s ability to conceal the scars or wounds inflicted. The act decreases anxiety and makes the teen feel better. The teen engages in the behavior to cope with overwhelming feelings of stress, anxiety and other intense emotions. The teen that displays this type of behavior suffers from an inability to cope with emotions. The emotions then intensify to the point that desperate measures are sought for relief. This presentation will explain one reason why teens choose to self mutilate: peer pressure.

04.09.12
THE PRACTICAL EFFECT OF GUNS ON CAMPUS: SAFETY OR PANACEA
SOUTHWESTERN OKLAHOMA STATE UNIVERSITY
Dr. Philip D. Holley WEATHERFORD, OK, SOCIAL SCIENCES
Dr. Dan Brown WEATHERFORD, OK, SOCIAL SCIENCES
Recent attempts in Oklahoma and other states to permit handguns on university campuses fundamentally challenge the historical university culture. The recent Heller decision appears to be intensifying legislative efforts to expand locations in which handguns can be possessed. We will examine the data available from Oklahoma that will aid in determining the practical effects of guns being permitted on campus. These data include the number of concealed carry permits issued in Oklahoma, age of those acquiring concealed carry permits, age of students, etc. The project seeks to determine whether guns on campus offer a real increase in safety or a panacea.

04.09.13
IS GLOBALIZATION GOOD FOR THE HEALTH OF THE POOR?
NORTHEASTERN STATE UNIVERSITY
Dr. Ande kidanemariam TAHELQUAH, OK, SOCIAL SCIENCES
Is Globalization Good for the Health of the Poor?
What is globalization?
“Globalization is the process of increasing economic, political, and social interdependence and global integration that takes place as capital, traded goods, persons, concepts, images, ideas, and values diffuse across state boundaries” (Yach and Bettcher, 1998). When it comes to the effect of globalization on health, the views are quite contrasting and polarized. The advocates of globalization firmly believe that the process brings about enormous health benefits to the poor of the developing countries. They maintain that globalization is like a rising tide that lifts all boats. In this, they see that every one is a winner.

On the other hand, the opponents of globalization assert that globalization does more harm than good when it comes to the health and well being of the poor in the poor countries of the world. In fact, contrary to the pro-globalization assertion, those critical of globalization contend that a rising tide of globalization lifts only a few boats. It only creates winners and losers. Consequently, income inequality and privatization policies create severe and adverse health effects on the poor.

What does the evidence show? The goal of this presentation is to weigh the available evidence and draw a conclusion based on that evidence as to whether globalization is good or bad for the health and well-being of the poor.
04.09.14
U.S. AND PERU: AN ANALYSIS OF CRIME, POLICING, AND COOPERATIVE INITIATIVES

UNIVERSITY OF CENTRAL OKLAHOMA

Mr. John A. Flores-Hidones - EDMOND, OK, SOCIOLOGY, CRIMINAL JUSTICE, & SUBSTANCE ABUSE
Dr. Elaine E. Bartgis - EDMOND, OK

A global approach to criminal justice must by definition include a comparative analysis of diverse systems of law enforcement, the courts, and correctional systems that exist throughout the world. While current criminal justice system research is replete with data relating to many countries including Latin Americans, very little is presented on the Peruvian criminal justice system. This study provides a needed comparison of United States and Peruvian law enforcement, crime, and cooperative initiatives between the two countries. While Peru is not unique in the criminal matters that face law enforcement today, the United States has had a vested interest in developing a working relationship with Peruvian officials.

The increase in cocaine trafficking has been a major concern of U.S. authorities for many years. Because Latin countries were found to account for most of the cocaine that enters the U.S., strategic efforts to reduce those exports was initiated in 1989 (Brummet, et al. 1991). This study contains an overview of police roles, public expectations, and programs aimed at change in the goals and image of policing. Statistics are also included in an attempt to show their degree of success.

Transnational crime, while significant, is not the only reason to develop a better understanding of Peru’s police. A comparison of U.S. and Peruvian police provides a rich knowledge base for change and a better understanding for the cooperative initiatives between the two countries.

04.09.15
FACTORS THAT INFLUENCE STUDENTS PERCEPTIONS OF THE PRESIDENTIAL ELECTION

SOUTHWESTERN OKLAHOMA STATE UNIVERSITY

Bobby Baker - WEATHERFORD, OK, DEPARTMENT OF SOCIAL SCIENCES
Brooke Gibson - WEATHERFORD, OK, DEPARTMENT OF SOCIAL SCIENCES
Kari McCoy - WEATHERFORD, OK, DEPARTMENT OF SOCIAL SCIENCES
Selena Padilla - WEATHERFORD, OK, DEPARTMENT OF SOCIAL SCIENCES

The purpose of this research is to explore the attitude and perceptions of college students toward the presidential election. Approximately 100 students were surveyed using a Likert Scale questionnaire. The data was analyzed using SPSS statistical package.

04.09.16
THE PERCEPTION OF COLLEGE STUDENTS TOWARD GENITAL CIRCUMCISION

SOUTHWESTERN OKLAHOMA STATE UNIVERSITY

James Crittenden - WEATHERFORD, OK, DEPARTMENT OF SOCIAL SCIENCES
Michael Hixon - WEATHERFORD, OK, DEPARTMENT OF SOCIAL SCIENCES
Jessica Stewart - WEATHERFORD, OK, DEPARTMENT OF SOCIAL SCIENCES
Tiffany Walton - WEATHERFORD, OK, DEPARTMENT OF SOCIAL SCIENCES
Winnona Youngbird - WEATHERFORD, OK, DEPARTMENT OF SOCIAL SCIENCES

The purpose of this research is to explore the perceptions of college students toward the practice of genital circumcision. Gender issues will primarily be explored when defining what constitutes circumcision. Approximately 100 students will be surveyed using a Likert Scale format. Data were analyzed using SPSS Statistical package.

04.09.17
THE PERCEPTIONS OF STUDENTS TOWARD LOWERING THE LEGAL DRINKING AGE

SOUTHWESTERN OKLAHOMA STATE UNIVERSITY

Marisela Hernandez - WEATHERFORD, OK, DEPARTMENT OF SOCIAL SCIENCES
Diana Leon - WEATHERFORD, OK, DEPARTMENT OF SOCIAL SCIENCES
DonNell Myers - WEATHERFORD, OK, DEPARTMENT OF SOCIAL SCIENCES
Tiffany Tyler - WEATHERFORD, OK, DEPARTMENT OF SOCIAL SCIENCES

The purpose of this research is to explore the perceptions of college students toward lowering the legal drinking age. Approximately 100 students were surveyed using a Likert Scale questionnaire. Respondents were selected by convenience sample and data were analyzed using SPSS Statistical package.
**LIBERAL ARTS**

**04.09.18**  
**THE INFLUENCE OF PERSONAL HEALTH HABITS ON COLLEGE SUCCESS**  
SOUTHWESTERN OKLAHOMA STATE UNIVERSITY  
Jeremy Briscoe · WEATHERFORD, OK. DEPARTMENT OF SOCIAL SCIENCES  
Glynn Cobb · WEATHERFORD, OK. DEPARTMENT OF SOCIAL SCIENCES  
Daniel Gerber · WEATHERFORD, OK. DEPARTMENT OF SOCIAL SCIENCES  
Staci Masquelier · WEATHERFORD, OK. DEPARTMENT OF SOCIAL SCIENCES  
The purpose of this research is to explore the perceptions of college students regarding the effects of their personal health habits on their academic success. Approximately 100 students were surveyed using a Likert Scale format and a convenience sampling technique. Health habits included exercise, stress, sleep, eating habits, and social activities. The data were analyzed using SPSS Statistical package.

**04.09.19**  
**EFFECTS OF CYBER-BULLYING ON TEENS**  
SOUTHWESTERN OKLAHOMA STATE UNIVERSITY  
Travis Levi McLemore · WEATHERFORD, OK. CRIMINAL JUSTICE/SOCIOLOGY  
Effects of Cyber-Bullying on Teens  
This presentation is about the effects of cyber-bullying on teens. Cyber bullying is the use of communication technologies to participate in hostile behaviors by an individual or group that is intended to harm others. This project will focus on the social effects. Some of the symptoms that this project will focus on are feeling depressed or crying without reason, becoming anti social, and spending a lot of time on the computer.

**04.09.20**  
**ONE DRINK WONT HURT ON THE WAY HOME**  
SOUTHWESTERN OKLAHOMA STATE UNIVERSITY  
patrick Cornish · WEATHERFORD, OK. CRIMINAL JUSTICE  
This presentation is about teen drinking while driving in society. Every twenty-two minutes someone dies in an alcohol-related motor vehicle accident. On any given weekend evening, one in ten drivers on America’s roads and highways have been drinking. 70 percent of all teenagers drink alcohol. 60 percent of all teen deaths in car accidents are alcohol-related. The focus of this presentation is on teen drinking while driving because the consequences can be fatal. Society is losing too many teens to alcohol-related motor vehicle accidents.

**04.09.21**  
**DOES VIOLENCE IN VIDEO GAMES AFFECT THE CHILD’S MIND?**  
SOUTHWESTERN OKLAHOMA STATE UNIVERSITY  
Chris James Hansen · WEATHERFORD, OK. DEPARTMENT OF SOCIAL SCIENCES  
This presentation will discuss the effects of violent media on America’s youth. Video games are becoming more popular every passing year and some people think that, because of the violent content, children today are more violent themselves. One question that is asked frequently is whether or not the government should regulate the content of these games. The answer is not easily found. This presentation asserts that the government should regulate video games by making retailers follow the video game rating system, although the government should not say what content can be in the game itself.
**04.09.22**

**TATTOOS IN AMERICAN SOCIETY: DEVIANCE AMONG YOUTH**

SOUTHWESTERN OKLAHOMA STATE UNIVERSITY

Court Lane - WEATHERFORD, OK, DEPARTMENT OF SOCIAL SCIENCES

Many of America’s young people today are covering their bodies with what they call art in the form of tattoos. They believe this to be a form of self expression, but American society today believes that this shows these youths are rebellious “thugs” and ‘punks.” This form of art goes against society’s definition of what is “normal and proper,” although in these young people’s minds “normal and proper” is not a category in which they want to fit. This presentation is about highly visible tattooed individuals and how society reacts to them. Society sees these individuals as outcasts and treats them in unique ways (such as not getting certain jobs).

**04.09.23**

**EFFECTS OF PTSD ON LAW ENFORCEMENT OFFICERS**

SOUTHWESTERN OKLAHOMA STATE UNIVERSITY

Mr. Jeremy Isom Briscoe - WEATHERFORD, OK, CRIMINAL JUSTICE

Post Traumatic Stress Disorder can affect people after they have participated or witnessed a horrific event. Two examples of an event that may cause PTSD are natural disasters or a serious accident where someone is a fatality. It is estimated by Dr. George Everly that at one time 15 to 32% of law enforcement officers will be dealing with some type of PTSD. This may force some law enforcement officers to turn to alcohol or drugs to cope. This will cause some to commit types of deviant behavior. This presentation is about how PTSD affects law enforcement performance.

**04.09.24**

**DRUGS AND THE PSYCH**

SOUTHWESTERN OKLAHOMA STATE UNIVERSITY

Kenzie Skinner - WEATHERFORD, OK, SOCIAL SCIENCES

One of the following four conditions classifies a substance as a drug. Substances are considered drugs if they affect psychoactivity, are used for medical utility, or considered according to its legal status and whether or not it is thought to be a drug by society (Goode, 2008). There are many different types of psychoactive drugs available today, some of which are legal and most of which are illegal. This project will cover illegal drugs that are considered to be psychoactive, with the main focus on methamphetamine. Some of the effects of methamphetamine will be presented. They include, the drug is not complicated to make, methamphetamine is more powerful than any other amphetamines, and that the drug is not as widespread geographically as other drugs.

**04.09.25**

**EMBEZZLEMENT: A WHITE COLLAR CRIME**

SOUTHWESTERN OKLAHOMA STATE UNIVERSITY

Staci Masquelier - WEATHERFORD, OK, SOCIAL SCIENCES

Every year there are numerous reports of white collar crime across the nation. One of the most common types is embezzlement. Crime affects many socioeconomic classes, but white collar crime is committed by middle or upper class individuals. Embezzlement is a serious crime that not only affects the people involved but society as a whole. It is a serious crime of stealing the funds or property of an employer, company or government misappropriating money or assets held in a trust that can result in a variety of punishments. Since this crime is often committed by upper-middle class individuals they are not always prosecuted as the victim feels they should be. Embezzlement is becoming more of a serious problem in our society, and needs to be taken seriously because it affects society as a whole. The presentation focuses on the extent and nature of embezzlement in our society.
05.01.01 COMPARISON OF PENTOSIDINE LEVELS IN THE BREAST AND PATAGIUM OF BIRDS

WEST VIRGINIA UNIVERSITY
Crissa Cooey - MORGANTOWN, WV, DIVISION OF ANIMAL & NUTRITIONAL SCIENCES

UNIVERSITY OF CENTRAL OKLAHOMA
William Radke - EDMOND, OK, OFFICE OF ACADEMIC AFFAIRS

WEST VIRGINIA UNIVERSITY
Hillar Klandorf - MORGANTOWN, WV, DIVISION OF ANIMAL AND VETERINARY SCIENCES

Measuring pentosidine concentrations in avian skin to determine chronological age is a relatively new method of aging birds. However, a previous study suggested that the concentration of pentosidine varied between different skin locations. Because the principal focus of that study was to analyze pentosidine concentrations in the breast of deceased birds, the intent of the current study is to reexamine pentosidine measurements in breast vs. patagium skin, so that future studies can harmlessly sample living, wild-caught birds by taking a skin biopsy from the patagium. Forty mg skin samples from the breast and patagium of 25 deceased Double-crested Cormorants (Phalacrocorax auritus) and 38 deceased Monk Parakeets (Myiopsitta monachus) were analyzed. Results showed that there was no significant difference in the concentration of pentosidine when comparing breast and patagium skin for each species (p=0.499 for cormorants and p=0.344 for parakeets). A significant difference, however, was found when comparing the pentosidine concentrations of the breast and patagium skin between Double-crested Cormorants and Monk Parakeets (p<0.0001). These results suggest that within a species skin can be taken from either the breast or the patagium for measurement of pentosidine concentrations. The data also support the view that the age related accumulation of pentosidine in the skin varies among species.

05.01.02 INVERTEBRATES OF WATER-FILLED BRACCTS IN HELICONIA CARIBAEA FROM SABA

UNIVERSITY OF CENTRAL OKLAHOMA
Courtney Megan Bass - EDMOND, OK, BIOLOGY
Dr. David Bass - EDMOND, OK, BIOLOGY

The aquatic invertebrates living in the liquid-filled bracts of Heliconia caribaea inflorescences were studied on Saba, a small island in the northeastern Caribbean Sea. A total of 17 species were collected from the H. caribaea inflorescences and all inflorescences that were sampled had invertebrates living in their bracts. These inflorescences contained an average of 294 invertebrates and 5.8 species. Immature dipterans and hydrachnids composed the most abundant groups found in the inflorescences. Based on these samples, a confidence interval of 294 ± 149 individuals for each inflorescence was calculated. A Spearman rank order value indicated a correlation existed between the volume of liquid and the number of individuals in each inflorescence. The Mann-Whitney statistic indicated there were no significant differences in numbers of individuals in collections made at higher elevations of Saba when compared to those from lower elevations of the island. The Mann-Whitney statistic also indicated there were no significant differences in numbers of individuals in collections made on the windward side of Saba when compared to those from the leeward side of the island. A Spearman rank order correlation indicated no correlation existed between the volume of water in the bracts and the number of species in each bract; therefore, the data does not support the species-area aspect of island biogeography theory.

05.01.03 GEOGRAPHICAL VARIATION IN SPATIAL LEARNING OF THE LITTLE BROWN SKINK

NORTHEASTERN STATE UNIVERSITY
Mark Paulissen - TAHELLEUH, OK, NATURAL SCIENCES

Many species of lizard run directly to under retreats when pursued by predators; the only way they could know the locations of these retreats is through spatial learning. I began studying the capacity of the Little Brown Skink (Scincella lateralis), to learn the location of escape retreats while I was in Louisiana, and continued my studies when I moved to Oklahoma. The basic methodology involves placing a lizard in an experimental chamber with two retreats and chasing it until it ran under the pre-determined “correct” retreat. Eight trials were run: trials 1-4 on Day One and trials 5-8 on Day Two 48 hours later. A significant decrease in the amount of time the lizard takes to escape to underneath the “correct” retreat from trial 1-8 indicates spatial learning. As a group, Little Brown
Skinks from southwestern Louisiana were poor spatial learners (though a few individual lizards were very good learners). However, as a group, Little Brown Skinks from northeastern Oklahoma were very good spatial learners, most showing significant learning in only four trials (on Day One), though they did a poor job of “remembering” between Day One and Day Two. These surprising results suggest spatial learning abilities differ dramatically among geographically separated populations of lizards.

05.01.04
BLACK RAT SNAKE PREDATION OF SWAINSON’S WARBLER NESTLINGS

NORTHEASTERN STATE UNIVERSITY
Dr. Mia R. Revels. TAHELQUAH, OK. NATURAL SCIENCES
Swainson’s Warbler (Limnothlypis swainsonii) is an elusive, difficult to study species for which little natural history is known, including information about the types of nest predators and parental responses to those predators. This study describes the depredation of three Swainson’s Warbler nestlings and parental behavioral responses to this snake predation event. A Swainson’s Warbler nest containing 5-day old nestlings was depredated while being videotaped on the Little River National Wildlife Refuge in McCurtain County Oklahoma in 2003. The entire predation event was filmed as well as approximately 3.5 hours of parental behavior which followed. These behaviors are described in detail. Black Rat Snakes are fairly common in Swainson’s Warbler habitat, so similar predation events are probably not rare.

Swainson’s Warblers are one of North America’s most poorly studied migratory bird species. Due to the difficulty of locating and monitoring their nests, very little is known of their breeding biology, particularly nesting behavior. This study was initiated in order to document adult behaviors at the nest, including parental responses to predators. This information will be valuable for conservation and management of Swainson’s Warblers.

05.01.05
BARRIERS TO INSECT COLONIZATION: WIND AS A POTENTIAL FACTOR LIMITING RESOURCE UTILIZATION

UNIVERSITY OF CENTRAL OKLAHOMA
Ms. JeAnna Redd. EDMOND, OK. BIOLOGY
Flies are important forensically and ecologically. Forensically, their larvae development is used by forensic entomologist to determine an estimated time of death (post mortem interval or PMI). Ecologically, these carrion insects are responsible for improving our public health by recycling dead animals in various habitats. This study is important because it is the first study of its kind conducted in the state of Oklahoma, as well as the first urbanized study of its kind in the United States.

The researcher set out to determine whether the increased amount and frequency of wind in Oklahoma affected flying carrion insects’ (Order: Diptera) attraction to carcasses simulated by beef liver. The results emphasized an environmental difference between an open field and a wooded area. Overall, there was less animal life in the field because of increased wind and heat. However, the arrival of flies to the bait in the woods proved to be unaffected by the wind and heat. With these results, it was concluded that PMI estimations in less vegetated areas must be carefully determined.

This study also highlighted the importance of urbanized wooded areas as home to such forensically and ecologically important animal life. With the onset of global warming, progressively less animal life will be in open fields. Therefore, maintaining wooded areas is vital for these living things.

05.01.06
GLUCOSE MEASUREMENT BASED ON FÖSTER RESONANCE ENERGY TRANSFER

LANGSTON UNIVERSITY
Felicia Ekpo. LANGSTON, OK. BIOLOGY
Diabetes affects approximately 16 million people in the United States and over 100 million people worldwide. Numerous diabetics prefer a painless method to measure their blood glucose levels in order to manage the fluctuation of their levels more effectively. The goal of the experiment is to develop a new glucose sensor that will act effectively with the fluorescent light in order to be sensed through the tissue after excitation from an internal or external source by the Föster resonance energy transfer (FRET). If the goal is accomplished there will be a great possibility to develop biocompatible materials for assay encapsulation. If results are sufficient, the ideas of implantable glucose-sensitive microspheres will be more feasible. During experimentation, the concentrations of the dextran, gold nanoparticles, and ConcanavalinA-Fluorescein Isothiocyanate (Con A-FITC) solutions were established and several tests were run to ensure accurate results. The results proved that the .6 µM of ConA-FITC at the fluorescence intensity at 520 nm would be most effective when testing because the concentration is neither too high nor low and demonstrated that the effects were consistent with the Föster Resonance Energy Transfer.
05.01.07
THE FUNCTION OF JNK1 SIGNALING PATHWAY IN ZEBRAFISH DEVELOPMENT

LANGSTON UNIVERSITY

Marshall Bailey. LANGSTON, OK. BIOLOGY

The aim of our research is to understand the role of JNK1 signaling pathway in the embryonic development of zebrafish, Danio rerio. Understanding the function of JNK is important because the mechanisms that regulate embryonic development in the zebrafish also regulate development in human embryos. JNK is a kinase that phosphorylates a diverse set of proteins including the transcription factor c-Jun, and likely regulates multiple embryonic processes; therefore, we hypothesize that JNK is essential for understanding the embryonic development of Danio rerio. Wild-type cDNA of the zebrafish JNK1 and its upstream regulators MAP2K4a and MAP2K7 were isolated from standard PCR methods and gel electrophoresis. The purified products were cloned and sequenced to confirm their identity. cDNA containing the open reading frame for each gene was cloned into pCS2+, a plasmid designed for efficient in vitro mRNA production. A dominant negative form of JNK1 (DN-JNK) was created by site directed mutagenesis and mRNA was produced by in vitro-transcription reaction. This RNA was microinjected into developing zebrafish embryos for analysis and observation of the resulting phenotype.

05.01.08
EFFECTS OF VITAMIN C & E TREATMENT ON BIOTRANSFORMATION IN DIABETIC RAT

LANGSTON UNIVERSITY

Shabree Nicole Nichols. LANGSTON, OK. ARTS AND SCIENCES

Diabetes is a disease that is characterized by the body’s inability to produce sufficient insulin to maintain normal glucose levels in the blood. Diabetes has many known effects such as “diabetic nephropathy, retinopathy, neuropathy, and cardiovascular complications”, many of which stem from oxidative stress. Oxidative stress has been proven to stem from many factors such as free radicals, whose disruption of metabolic activities causes a disturbance of normal cellular activity. The antioxidant characteristics of vitamins C and E were therefore tested to reverse the oxidative stress caused by diabetes. This study sought to show the effects of vitamin C and E treatment on hepatic and renal detoxification in normal and diabetic rats. We hypothesized that the treatment of rats with vitamins C and E would reverse some of the complications associated with diabetes. The results of this study suggest that treatment with vitamins C and E is beneficial in the reduction of cytochrome P450 enzymes in the liver.

05.01.09
RECOMBINANT OPIUM POPPY SALUTARDINE SYNTHASE AND SALAT IN PICHIA PASTORIS

LANGSTON UNIVERSITY

Erica Smith. LANGSTON, OK. BIOLOGY

Salutaridine synthase and salutaridinol acetyltransferase are vital enzymes in the biosynthesis of morphine in opium poppy. Salutaridine synthase is an enzyme that is responsible for production of salutaridine, an alkaloid that is involved in the biosynthesis of morphine. Salutaridinol acetyltransferase is an enzyme responsible for the conversion of salutaridinol to salutaridinol-7-0-acetate, also in the biosynthetic pathway of morphine. In the present study we used Pichia pastoris as an expression system to determine if propagation of these specific genes could occur and functional proteins could be obtained from the cloned genes. PCR reactions were used to amplify specific DNA in our vector, pA0815. By performing P:C:I, ethanol precipitations, and gel extractions we were able to perform restriction digest with EcoRI on each PCR product and the vector. P:C:I and ethanol precipitation were then performed again before conducting Calf Intestinal Alkaline Phosphatase (C:I:A:P). DNA ligation was then performed for transformation into E. coli. With our gene inside of pA0815, we transformed salutaridinol acetyltransferase and salutaridine synthase into E. coli. Sequencing of the salutaridinol acetyltransferase showed that the gene and the vector were present. Salutaridine synthase had lower transformation efficiency. Transformation into Pichia pastoris with subsequent assay tests will be done in the future.

05.01.10
CHROMOSOME ABNORMALITIES IN SYSTEMIC LUPUS ERYTHEMATOSUS

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Mr. James Wise Harding Jr. LANGSTON, OK. BIOLOGY AND CHEMISTRY

Recent work has shown that men with Klinefelter’s syndrome (47,XXY) are 14-fold increased among men with systemic lupus erythematosus (Scofield, et al, 2008). This increase predicts a rate of lupus in 47,XXY men that is equivalent to 46,XX women and 10-times greater than in 46,XY men. These observations prompted a comprehensive review of any contradictory data concerning sex in the 6433 lupus cases and 5261 controls, mainly in the Lupus Family Registry and Repository. We began by searching the genotyping results for men who had been genotyped as women, which might be explained by mislabeled samples, genotypic 46,XY men living as women (transvestites), or 47,XXY men (Klinefelter’s syndrome).
We found 11 men who were alleged to have two X chromosomes. We used 6 microsatellites to determine whether any of these men had polymorphic X chromosomes. We will attempt to collect new samples any men who appear to be polymorphic at X. At this point, chromosome analysis now shows evidence for Klinefelter’s syndrome (47,XXY) or a mosaic of normal and Klinefelter’s syndrome (46,XY/47,XXY) in 7 of 238 (2.94%) male lupus patients, continuing to confirm the high level of Klinefelter’s among men with lupus. Clearly, sex chromosomes influence the risk of lupus. What makes this happen will be the subject of much future research.

05.01.11
ANTIOXIDANT ACTIVITY OF PEPTIDES FROM PORCINE PLASMA ALBUMIN IN RATS

LANGSTON UNIVERSITY
Dr. Jin-Zhi Wang
LANGSTON, OK, AMERICAN INSTITUTE FOR GOAT RESEARCH

CHINA AGRICULTURAL UNIVERSITY
Dr. Fa-Zheng Ren
BEIJING, BJ, COLL. OF FOOD SCI. & NUTRITIONAL ENGINEERING
Dr. Hao Zhang
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LANGSTON UNIVERSITY
Dr. Steve Zeng
LANGSTON, OK, AMERICAN INSTITUTE FOR GOAT RESEARCH

Our previous research showed that porcine plasma peptide fractions (A5, MW<3 KDa) had antioxidant effect in vitro. In the present study, the effect of A5 on antioxidant activity, lipid peroxidation, and total antioxidant capacity (TAOC) in rats was investigated in vivo. Thirty five male Sprague Dawley rats (3 months old; body weight (BW) = 425 g, SE = 25 g) were randomly divided into five groups. The five treatments were control, 100, 200, 400 mg of A5/kg BW, and 10 mg of vitamin E/kg BW (as positive control). Blood samples and organ tissues (liver, heart, spleen, thymus, and lung) were collected one month after daily treatments started. TAOC, activities of superoxide dismutase (SOD) and glutathione peroxidase (GSH-Px), and level of malondialdehyde (MDA) in serum and organ tissues were determined. The results showed that A5 treatments increased TAOC and the activities of SOD and GSH-Px, and decreased the level of MDA in all the organ tissues tested. It is concluded that the peptide fractions A5 can enhance the TAOC and antioxidant activities, reducing the risks of lipid peroxidation in rats.

05.01.12
SUBJECTIVE COMPARISON OF TWO DAILY DISPOSABLE CONTACT LENSES

NORTHEASTERN STATE UNIVERSITY
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Monica Rein
TAHLEQUAH, OK, OPTOMETRY
Whitney Scott
TAHLEQUAH, OK, OPTOMETRY

Background: Contact lenses are prescribed for 2,000,000 people in the world. Knowing which lenses provide the best comfort and fit is critical to the practice of optometry. Focus Dailies® with AquaRelease™ is the daily disposable contact lens currently with the highest market share. Proclear® 1-Day is a new introduction into the daily disposable market.

Methods: Forty-one subjects were successfully fit with both brands of daily disposable contact lenses. Subjects wore the lenses for ten consecutive days. The subjects were surveyed following the ten days of wear to determine which lens was preferred in terms of comfort, handling, and overall preference.

Results: Surveys were collected from 40 subjects. Twenty-four of 40 chose Proclear® 1-Day as more comfortable at the end of the day. Nineteen of 40 chose Proclear® 1-Day as their overall preference. No statistically significant difference was found in the categories of insertion, removal, folding, tearing, and comfort upon insertion.

Conclusion: This independent study found that Proclear® 1-Day was subjectively chosen for end of the day comfort (p=0.0003) and overall preference (p=0.0364) when compared to the Focus Dailies® with AquaRelease™ or no preference. The authors hope this information will give insight to eyecare practitioners when deciding which daily disposable contact lens to fit on patients.

05.01.13
SERUM BIOMARKER ANALYSIS FOR RHEUMATOID ARTHRITIS TEST DEVELOPMENT

OKLAHOMA CITY COMMUNITY COLLEGE
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OKLAHOMA CITY, OK, BIOTECHNOLOGY

Objective: Rheumatoid arthritis (RA) is a chronic inflammatory disease that can result in severe joint damage and disability. If RA patients are treated rapidly and with appropriate therapy the disease is easier to control. Unfortunately, current disease assessment tools used in practice are subjective and poorly correlated to disease activity; therefore therapy may not be optimized for a given patient. We are identifying serum proteins that are highly correlated to disease activity. These “biomarkers” will then be made into a laboratory test to aid in treatment.
Methods and Results: A list of 27 candidate markers was developed from several sources. This included markers that were only available in an ELISA format. Identification of vendors, establishing vendor choice criteria, test QC, modification of methods, final testing of optimized protocols.

Results: Effects of rheumatoid factor (RF) overall were significant. RF binds to immunoglobulin causing nonspecific signal in immunosandwich assays. Observed signals were as high as x% over expected values. Of 22 assays analyzed 10 required additional analysis of RF blocking, 17 of 22 required redilution of serum, and 6 of 22 required adjustments of standard concentration. These issues have been addressed in the majority of assays, which are now ready for assessment of marker levels in a correlation study.

05.01.14
SINGLE TUBE ISOLATION AND EXTRACT-N-AMP PCR READY MIX

OKLAHOMA CITY COMMUNITY COLLEGE

Christy Ackley. OKLAHOMA CITY, OK, BIOTECHNOLOGY
DNA Solutions provides animal identification for white-tail deer using hair, tissue, blood, and semen samples. The DNA profile for each animal entails a 14 marker panel that provides a unique profile for each deer. The Sigma Extract-N-Amp Ready Mix PCR Kit contains all reagents necessary for isolation and extraction of DNA and is a quick method for extracting DNA from mouse-tails, saliva, animal tissue, and buccal swabs. The purpose of this experiment was to determine if the Sigma Extract-N-Amp Tissue/PCR Kit was compatible with the primers necessary for the identification panel.

05.01.15
QUALIFICATION AND VALIDATION OF THE ÄKTAPILOT CHROMATOGRAPHY SYSTEM

OKLAHOMA CITY COMMUNITY COLLEGE

Veronica Datin. OKLAHOMA CITY, OK, BIOTECHNOLOGY
The purpose of the qualification and validation of the Äktapilot chromatography system is to assure and to demonstrate consistent performance. The manufacturing department at Cytovance Biologics establishes the criteria for acceptable results for this system.

During the qualification and validation of the Äktapilot chromatography system, it was found that some of the results did not fall within the acceptance criteria. Some of the unexpected results were as follows. After cleaning in place (CIP), the level of total organic carbon (TOC) was elevated in the system rinse sample. Also, the gradient deviation was out of the limits.

The root cause of the elevated TOC results were un-known, therefore troubleshooting was performed. First, the problem was identified. Second, a hypothesis was presented. Then, a scientific method was put in practice based on the hypothesis. The scientific method was repeated several times until the results met the criteria. After much trouble shooting, the root cause of the elevated (TOC) was determined, however, the source of the gradient deviation remains under investigation.

05.01.16
HUMAN LEUKOCYTE ANTIGEN (HLA): STRUCTURE, FUNCTION, AND DETECTION METHODS

OKLAHOMA CITY COMMUNITY COLLEGE
Ryan Hardaway. OKLAHOMA CITY, OK, BIOTECHNOLOGY
Human Leukocyte Antigens, or HLA, are protein molecules expressed on the surface of cells that play an essential role in immune system responses. They are so named, because, in effect, they act as antigens toward human leukocytes.

HLA molecules contain sites which hold peptides from proteins which are degraded in the cell. These peptides are held on the surface of cells and presented to Leukocytes, and an immune response is then either elicited or prohibited by specific protein pathways in the immune cells.

There are 2 distinct classes of HLA molecules (Class I and Class II), which differ in structure, peptide source, and, responses elicited from the immune system. The purpose of HLA molecules are to create an appropriate response from the immune system in order to destroy pathogens and other materials foreign to the body. However, by the same means, HLA molecules also contribute directly to transplantation failures and play a role in numerous auto-immune diseases.

The ELISA assay (Enzyme Linked Immunosorbent Assay) is a test which can quantify the amount of HLA molecules in a given cell sample, through the use of antibodies and enzyme reactions. A variety of ELISA methods exist, one of which will be discussed here.

05.01.17
UTILITY OF THE OMEGA COCCI. ANTIBODY EIA IN DIAGNOSING COCCIDIOIDOMYOSIS

OKLAHOMA CITY COMMUNITY COLLEGE
Austin Johnson. OKLAHOMA CITY, OK, BIOTECHNOLOGY
Coccidioides spp. is a dimorphic fungus that exists as either a mycelium (saprobic growth) or spherule (parasitic growth). The organism causes respiratory diseases and can also affect other organs. Though endemic in Southwestern United States and Mexico, increased travel to the endemic areas has also increased the incidence in nonen-
A study of the plasmid curing effects of peppermint oil

Sheila Carson - Broken Arrow, OK, Biology
Kathi McDowell - Broken Arrow, OK, Biology

Plasmids are small circular DNA molecules that can be transferred between bacterial cells via transduction, transformation, or bacterial conjugation. Plasmids usually provide some type of selective advantage (i.e., the ability to ferment lactose, the resistance to antibiotics). Plasmid curing is the elimination of plasmids either by lack of selective pressure, or by blocking of the replication by a chemical additive. Chemical agents proven to be effective include Peppermint Oil. The first step in our project was to determine if the concentration of peppermint oil reported in the literature would be the same for a different strain of E coli containing a different plasmid. E coli JM109 containing pBluescript plasmid were utilized in our experiment and were grown in media containing various concentrations of peppermint oil. Our experiments tested peppermint oil at concentrations of; 0.45, 0.55, 0.65, 0.85, and 1.05 mg of peppermint oil per ml of LB. We did observe some plasmid curing effects of peppermint oil, but our results were inconclusive in that our results varied from experiment to experiment. In addition, our results did not correspond to the literature data at any specific concentration.
05.01.21
LAYER-SPECIFIC GLYCOSAMINOGLYCAN CONTENT AND MECHANOBIOLOGY OF THE AORTIC V

LANGSTON UNIVERSITY

Alex Henderson  LANGSTON, OK, CHEMISTRY
The aortic valve is paramount to the ability of the heart to pump blood to the rest of the body. During ventricular systole, pressure rises in the left ventricle. Once the pressure in left ventricle has risen above the pressure in the aorta the aortic valve opens allowing blood to exit the left ventricle and flow into the aorta. This process also closes the aortic valve. The aortic valve exists as a tricuspid valve meaning there are three valves, the right, left, and non coronary valves. Each of these valves can be split up into three layers, fibrosa, spongiosa, and ventricularis. Until recently, it was widely believed that tissue engineering a heart valve could be done by examining the leaflets as a whole. This research intends to investigate the valve leaflets by their three layers. Particularly close attention will be paid to the fibrosa and ventricularis layers because the spongiosa layer is difficult to extract. The ventricularis layer is known for its elasticity while fibrosa is known for its strength. Glycosaminoglycans (GAGs) can be covalently linked to a protein to form proteoglycans (PGs). Using this knowledge an inference can be made as to which PGs comprise each valve layer. Once a quantitative analysis of the GAGs and subsequent PGs in each layer is complete inferences about the mechanobiology of the proteoglycans in each layer can be made. To do this a technique known as Fluorophore Assisted Carbohydrate Electrophoresis (FACE) will be implemented.

05.01.22
COMPARING VISUAL REACTION TIME BETWEEN MODERATE ALCOHOL AND NO ALCOHOL CONS

NORTHEASTERN STATE UNIVERSITY

Mrs Kimberley Brunk  TAHLEQUAH, OK, OPTOMETRY
Jessica Zwanziger  TAHLEQUAH, OK, OPTOMETRY
Purpose: The present study sought to determine the effect alcohol had on an individual's reaction time in response to a specific stimulus as well as their color vision. Methods: Thirty subjects participated in data collection. At the preliminary visit no alcohol was consumed. Objective vision was evaluated by means of Farnsworth D-15 saturated color vision test. Baseline breath alcohol concentration (BrAC) was also taken to assure a BrAC of 0.00%. Subjects proceeded with the initial Speed-Trac reading. On the second day of data collection, subjects were given beer to consume (24 fluid ounces of 6.0% alcohol). The target for the peak BrAC was 0.05%. Subjects proceeded with the initial Speed-Trac data collection followed by the Farnsworth D-15 saturated color vision test. Results: The mean visual reaction times for all subjects before and after alcohol consumption were 48.88 ms and 28.53 ms respectively. This difference was statistically significant (p = 0.009324) based upon the two-tailed result of a paired two sample t-test for the difference of means. Otherwise, there were no significant statistical differences in any data comparisons between test subjects. Conclusions: The only significant difference before and after alcohol consumption was a decrease in visual reaction time after alcohol consumption. This conveys that visual reaction time improved after alcohol consumption. Color vision results did not significantly change following consumption of alcohol.

05.01.23
PROGRESS TOWARDS A METHOD TO MAP CHROMATIN ARCHITECTURE IN YEAST

NORTHEASTERN STATE UNIVERSITY

Dr. John de Banzie  TAHLEQUAH, OK, NATURAL SCIENCES
Current methods to map chromatin organization within the nucleus give relatively low resolution data. A method that will provide a detailed picture of the spatial relationships between specific sequences is being developed. A filter-bound probe sequence is used to bind cross-linked genomic DNA. Any cross-linked genomic DNA that hybridizes to the probe should include non-contiguous sequences that are in close proximity to the probe sequence in the nucleus. Non-contiguous sequences are detected by hybridizing with primer-tagged genomic DNA (sensor DNA) which is then eluted and amplified. Controls include filter-bound probes hybridized without added genomic DNA and filter-bound probes hybridized with non-cross-linked genomic DNA. Non-contiguous sequences should be represented by amplimers that are present in hybridizations with cross-linked genomic DNA but not present in either control. Sequencing of these amplimers should allow identification of non-contiguous sequences that are in close proximity to the probe. Multiple experiments of this type could generate a map that elucidates the higher-order folding of DNA within the nucleus. Recovery and amplification of sensor DNA from filter-bound probes has been demonstrated. To date, no bands have been detected that are present in experimental (cross-linked genomic DNA) hybridizations but absent from controls. Background noise is higher than was anticipated. Efforts to reduce background and increase signal are underway.
05.01.24
OFLOXACIN RESISTANCE IN AEROMONADS FROM TAHELLEUAH CREEK

NORTHEASTERN STATE UNIVERSITY

Dr. Cindy R. Cisar - TAHELLEUAH, OK, NATURAL SCIENCES
Maegan L. Dallis - TAHELLEUAH, OK, NATURAL SCIENCES
Samantha K. Henderson - TAHELLEUAH, OK, NATURAL SCIENCES

Chrstal Moore - TAHELLEUAH, OK, NATURAL SCIENCES
Sue Paine - TAHELLEUAH, OK, NATURAL SCIENCES

In November 2007 during a study of antibiotic resistance in bacteria in a freshwater ecosystem that receives wastewater treatment plant effluent we isolated four ofloxacin resistant aeromonad strains from creek sediments downstream of the Tahlequah WWTP. This result was unanticipated, as quinolone resistance in aeromonads has not been reported previously in the United States. Resistance to quinolone antibiotics is mediated by either 1) chromosomal mutations in the gyRA, gyRB, parC, or parE genes that code for proteins involved in DNA replication, or 2) plasmid-encoded genes coding for antibiotic blocking proteins (qnr genes) or a quinolone modifying enzyme [aac(6')-Ib], or 3) overexpression of efflux pump systems or changes in permeability of the cytoplasmic membrane. We have initiated experiments to characterize resistance in each of the four ofloxacin resistant aeromonad strains. Chromosomally encoded resistance in the strains was examined by amplification and sequencing of the quinolone resistance determining regions (QRDRs) of the gyRA, gyRB, parC, and parE genes. Plasmid-encoded resistance was also examined in each strain using a qnr gene multiplex PCR assay and a PCR assay for the gene encoding the cr variant of the quinolone modifying enzyme (an aminoglycoside transferase), aac(6')-Ib. PCR products from these experiments were also sequenced. Experimental results will be presented and discussed.

05.01.25
THE DETERMINATION OF WHETHER OR NOT LEAVING THE CAP OFF A BOTTLE OF CONTACT

NORTHEASTERN STATE UNIVERSITY

Dr. Jeff Miller - TAHELLEUAH, OK, COLLEGE OF OPTOMETRY
Sean Summers - TAHELLEUAH, OK, COLLEGE OF OPTOMETRY
Bryan Womack - TAHELLEUAH, OK, COLLEGE OF OPTOMETRY

Background: In the last twenty years, there has been a noticeable increase in the number of microbial infections in contact lens wearers. Therefore proper use of contact lens solutions is important and detrimental to the health of a patient’s eye. For this reason it is important to understand all aspects of the contact lens solution. This study determined whether or not leaving a bottle of solution uncapped would have any affect on the preservative’s effectiveness against Pseudomonas aeruginosa. Methods: A bottle of Opti-Free Replenish had its cap removed and was tested a total of 5 times. A 2 mL sample was taken from the test bottle, as well as a control bottle, and inoculated with the bacteria and allowed to soak for 8 hrs in a sterile capped test tube. To determine how much of the bacteria survived the sample was serial diluted. A blood agar plate was made for each dilution and these plates were incubated for 24 hrs. After the incubation plates were examined and bacteria on each individual plate were counted and recorded. Results: There was no statistically significant difference (p=.693) between the test bottle and the control bottle. However, during one of the last tests there showed definite difference between the two bottles that warrants further investigation. Discussion: Both bottles performed equally through out the study and both bottles performed within the guidelines set forth by the ISO. This meant that each bottle had a reduction of bacteria >= to a 3 logs.

05.01.26
ONE YEAR AFTER FLOODING: LIMNOLOGICAL CONDITIONS IN CROWDER LAKE

SOUTHWESTERN OKLAHOMA STATE UNIVERSITY

Dr. Steven O’Neal - WEATHERFORD, OK, BIOLOGICAL SCIENCES
Erica Benda - WEATHERFORD, OK, SURE-STEP PROGRAM
Johnny Boschman - WEATHERFORD, OK, SURE-STEP PROGRAM
Ryan Brewer - WEATHERFORD, OK, SURE-STEP PROGRAM
Mikkinzi Davis - WEATHERFORD, OK, SURE-STEP PROGRAM
Lucas Keyes - WEATHERFORD, OK, SURE-STEP PROGRAM
Chris Ozment - WEATHERFORD, OK, SURE-STEP PROGRAM
Morgan Scott - WEATHERFORD, OK, SURE-STEP PROGRAM

Oklahoma experienced its wettest June on record in 2007. Crowder Lake, a 158-acre reservoir on Cobb Creek in Washita County experienced significant flood conditions at this time. Lake conditions and phytoplankton populations immediately following the floods were monitored during the summer of 2007 and compared with records of pre-flood conditions in 2001. The goal of this study was to determine whether detectable recovery was occurring one year after the floods.

Four sites, representing riverine and lacustrine regions, were sampled on July 16 & July 23, 2008. Water samples collected from a depth of 0.5 m were processed for chlorophyll-a, pH, conductivity, turbidity, ammonia, nitrate, soluble iron, total phosphorus. Water temperature, dissolved oxygen, and Secchi depth were also measured at the sites. Depth profiles of water temperature and dissolved O2 were run at the deepest site located near the dam. Parameters measured were compared with similar measurements made in the summers of 2001 and 2007.
The range of the dwarf palmetto includes North Carolina, an understory palm located in low-lying, swampy habitats. The dwarf palmetto, Sabal minor, is a relatively small species that can become an oncogene due to mutations or increased expression. The Hepatocyte Growth Factor (HGF) also known as the scatter factor (SF) plays a significant role in the motility interaction with MET receptor, as its only known activating ligand. However, the detailed relationship of the HGF/SF and Met is not yet clear. Previous mutagenesis data has indicated that NK1 (the N-terminal and first kringle domains of HGF) is responsible for high affinity binding of HGF to the Met receptor. However, NK1-Met binding affinity is too weak to be therapeutically viable. Defining how wild-type NK1 and high affinity NK1 mutants interact with Met in cell scattering and cell invasion assays can provide insights on approaches to inhibit Met-driven tumor metastasis. The objective of this research project is to develop and troubleshoot biological assays to evaluate Met receptor activation. The cell-based assays enabled investigation of engineered NK1 mutants on Met receptor activation using scatter and invasion assays. We have shown that the high affinity NK1 mutant 20-1 is active in the cell-based biological assays. Collectively, these results support future exploration to more fully characterize its biological effects and its potential as a therapeutic.

The intensifying research has driven a vast amount of progress in understanding mechanisms of the MET tyrosine kinase receptor and its role in metastasis. The MET receptor is proto-oncogene, which is a normal gene that can become an oncogene due to mutations or increased expression. The detailed relationship of the HGF/SF and Met is not yet clear. Previous mutagenesis data has indicated that NK1 (the N-terminal and first kringle domains of HGF) is responsible for high affinity binding of HGF to the Met receptor. However, NK1-Met binding affinity is too weak to be therapeutically viable. Defining how wild-type NK1 and high affinity NK1 mutants interact with Met in cell scattering and cell invasion assays can provide insights on approaches to inhibit Met-driven tumor metastasis. The objective of this research project is to develop and troubleshoot biological assays to evaluate Met receptor activation. The cell-based assays enabled investigation of engineered NK1 mutants on Met receptor activation using scatter and invasion assays. We have shown that the high affinity NK1 mutant 20-1 is active in the cell-based biological assays. Collectively, these results support future exploration to more fully characterize its biological effects and its potential as a therapeutic.

Chlorophyll-a, nitrate, and turbidity remained high in 2008 and showed no signs of dropping to pre-flooding levels. Dissolved oxygen concentrations at depths > 1 meter started recovering from hypoxic levels measured in 2007.

**05.01.27**

**CHARACTERIZATION OF MET-INDUCED CELL MOTILITY**

**LANGSTON UNIVERSITY**

Miss Kendra R Vann - LANGSTON, OK, CHEMISTRY

The intensifying research has driven a vast amount of progress in understanding mechanisms of the MET tyrosine kinase receptor and its role in metastasis. The MET receptor is proto-oncogene, which is a normal gene that can become an oncogene due to mutations or increased expression. The detailed relationship of the HGF/SF and Met is not yet clear. Previous mutagenesis data has indicated that NK1 (the N-terminal and first kringle domains of HGF) is responsible for high affinity binding of HGF to the Met receptor. However, NK1-Met binding affinity is too weak to be therapeutically viable. Defining how wild-type NK1 and high affinity NK1 mutants interact with Met in cell scattering and cell invasion assays can provide insights on approaches to inhibit Met-driven tumor metastasis. The objective of this research project is to develop and troubleshoot biological assays to evaluate Met receptor activation. The cell-based assays enabled investigation of engineered NK1 mutants on Met receptor activation using scatter and invasion assays. We have shown that the high affinity NK1 mutant 20-1 is active in the cell-based biological assays. Collectively, these results support future exploration to more fully characterize its biological effects and its potential as a therapeutic.

**05.01.28**

**DISTRIBUTION OF THE THREATENED DWARF PALMETTO, SABAL MINOR, IN OKLAHOMA**

**UNIVERSITY OF CENTRAL OKLAHOMA**

Christopher J Butler - EDMOND, OK, BIOLOGY

Jennifer Curtis - EDMOND, OK, BIOLOGY

The dwarf palmetto, Sabal minor, is a relatively small understory palm located in low-lying, swampy habitats. The range of the dwarf palmetto includes North Carolina, South Carolina, Georgia, Alabama, Mississippi, Louisiana, Arkansas, Texas and Oklahoma. In Oklahoma, S. minor is restricted to McCurtain County. According to the Oklahoma Natural Heritage Inventory, S. minor is categorized as a S1 plant, where the state ranking S1 is used for species that are “Critically imperiled in Oklahoma because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor of its biology making it especially vulnerable to extinction”. Based on field observations of numerous S. minor near Red Slough Wildlife Management Area (McCurtain County), we hypothesized that the numbers and distribution of this rare plant was greater than previously reported. We used a combination of herbarium records and fieldwork to map locations where S. minor occurs. We then used ecological niche modeling to model the distribution of the dwarf palmetto. We found that S. minor was restricted to the lowest elevations of McCurtain County but was much more widespread (albeit at a low density) than previously reported. Preliminary field-checking of the map of its predicted range was carried out in March 2008 and additional data collection will be carried out in November and December 2008.

**05.01.29**

**EFFECT OF ARTIFICIAL TEARS ON ABERRATIONS OF THE HUMAN EYE**

**NORTHEASTERN STATE UNIVERSITY**

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Kyle R. Head BS - TAHOEQUAH, OK, OPTOMETRY

Thomas O. Salmon O.D., PhD, FAAO - TAHOEQUAH, OK, OPTOMETRY

PURPOSE: This study investigates the effect of artificial tears of different viscosities on aberrations of a healthy eye.

METHODS: We recruited subjects from the student population of the Northeastern State University Oklahoma College of Optometry. Using the Complete Ophthalmic Analysis System (AMO Wavefront Sciences), aberrometry measurements containing the first six Zernike orders were taken every second for sixty seconds with a blink every ten seconds. These measurements were taken in the absence of artificial tears, after instillation of TheraTears® non-preserved drops (Allergan), and after instillation of SystanePF® (Alcon). Measurements were analyzed using Microsoft Excel© and compared for differences from baseline and between the drops.

RESULTS: Both drops yielded significantly higher values than baseline for higher-order aberration (HOA) RMS value, spherical equivalent power, and cylinder power (p<0.001, paired t-test). SystanePF® (Alcon), a viscous tear, showed significantly higher values than TheraTears® non-preserved drops (Allergan) in HOA RMS and cylinder in all interblink periods (p<0.001, paired t-test).

CONCLUSIONS: This study shows artificial tears have a
significant impact on aberrations of the eye, and should not be used when precise measurements are needed. This effect is sustained for at least one minute. Further testing is needed to make any definitive statements about the duration of the effect.

05.01.30
EXPANDING THE SCORING NORMS OF THE DEM FOR CHILDREN AGE 14 YEARS AND OLDER.

NORTHEASTERN STATE UNIVERSITY
Anna Clagg - TAHLEQUAH, OK, COLLEGE OF OPTOMETRY
Amanda Crum - TAHLEQUAH, OK, COLLEGE OF OPTOMETRY
Dr. Wes DeRosier - TAHLEQUAH, OK, COLLEGE OF OPTOMETRY

PURPOSE: The purpose of this study was to expand the normative data for the Developmental Eye Movement (DEM) test to children fourteen through eighteen years in order to evaluate oculomotor functioning. We hypothesized that there would be less variability between the DEM scores in the older age groups.

METHODS: We performed the DEM test on 101 subjects grouped into age groups of 14 years to 18 years old. The experimental protocol used in this study was identical to the original DEM protocol by Garzia, Richman, and Nicholson. Errors and times to complete the vertical and horizontal tests were recorded.

RESULTS: Means, standard deviations and percentile ranks were calculated for vertical adjusted times, horizontal adjusted times, errors, and ratio scores for each age group. The mean vertical adjusted time for all age groups combined was 27.26 (±4.36 SD) and the mean horizontal adjusted time for all age groups combined was 31.68 (±6.07 SD).

CONCLUSION: Our study found that subjects older that 13 years performed better than subjects in the original DEM study. We were able to develop normative data for the DEM test for children ages 14 to 18 years; however, further research is needed for these age groups without the limitations presented in this study.

ADDITIONAL COMMENTS: We thank Dr. Salmon and Dr. Proctor.

05.01.31
REGULATING CB2 CANNABINOID RECEPTOR PHOSPHORYLATION

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INDIANA UNIVERSITY
Dr. Kenneth Mackie - BLOOMINGTON, IN, DEPARTMENT OF PSYCHOLOGICAL & BRAIN SCIENCES
Mr. Brady Atwood - BLOOMINGTON, IN, DEPARTMENT OF PSYCHOLOGICAL & BRAIN SCIENCES

Most of the effects cannabinoids are mediated by the G protein-coupled receptors (GPCRs), CB1 and CB2. GPCR signaling is often regulated by phosphorylation of the receptor. We hypothesized a single amino acid replacement of serine at position 352 in the human CB2 (hCB2) receptor by alanine will prevent hCB2 receptor phosphorylation and thus its internalization as well as prevent recruitment of the G protein receptor kinase (GRK) 2 and 3. This hypothesis is based on previous findings that hCB2 is phosphorylated at Ser352 following hCB2 activation and phosphorylation can lead to the internalization of other GPCRs. A PCR-based mutagenesis approach was used. Sense and antisense primers were used to amplify and mutate the part of hCB2 with Ser352. Reaction was analyzed for the presence of the desired amplicon by electrophoresis in .8% low melt agarose stained with ethidium bromide. The product was extracted using a QIAquick Gel Extraction Kit. The amplicon was restriction digested with Bcl 1 and Bgl 2 and then ligated into a vector (pPhCB2-pcDNA3) containing hCB2 previously cut with Bgl 2. Competent bacterial cells were transformed with the ligation mix. DNA was obtained from bacterial colonies and mutation was assessed by DNA sequencing. The role of Ser352 will be assessed by transfecting HEK293 cells with the mutated CB2 receptors and GFP-GRK3 or GFP-GRK2 and compared to control HEK293 cells with wild type hCB2 and GFP-GRK3/GRK2.
MATH & SCIENCE

05.01.32 DISTRIBUTION OF INTRINSIC CHOROIDAL NEURONS IN MYOPIC CHICK WHOLE MOUNTS

LANGSTON UNIVERSITY
Richard Anderson - LANGSTON, OK CHEMISTRY

UNIVERSITY OF OKLAHOMA HEALTH SCIENCES CENTER
Jody Summers-Rada - OKLAHOMA CITY, OK, CELL BIOLOGY
Distribution of Intrinsic Choroidal Neurons in Myopic Chick Whole Mounts
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Objective: The current study suggests that intrinsic choroidal neurons (ICN) may stimulate the changes in thickness and blood flow of the choroid that occur during myopia. The objective was to determine the distribution of ICN in the chick choroid and the possible changes in distribution of the neurons during different stages of myopia.

Methods: NADPH-diaphorase was utilized to identify nitric oxide containing ICN in choroidal whole mounts and cross sections. The neurons were counted using a dissecting microscope and were viewed with light microscopy.

Results: The neurons were most abundant in the superior region of the eye and less abundant in the inferior region. Additionally, examination of cross sections indicated localization of the neurons on the retinal side of the choroid. Conclusions: Results of these studies indicate that ICN are most abundant in the superior region of the choroid and less abundant in the inferior region. The neurons may also play a role in controlling the blood vessels of the choroidal capillaries.

Funding was provided by NIH (EY09391) and the LINC Program.

05.01.33 IMPACT OF WWTP EFFLUENT ON ANTIBIOTIC RESISTANCE IN AEROMONADS

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Aeromonads, gram-negative bacteria belonging to the genus Aeromonas, are ubiquitous in freshwater ecosystems. Our objective in this study was to determine whether wastewater treatment plant (WWTP) effluent contributes to antibiotic resistance in aeromonads. In November 2007 bacteria were isolated from Tahlequah Creek sediment samples taken upstream and downstream of the Tahlequah WWTP. Aeromonads were identified by sequencing their 16S rRNA genes. Each isolate was tested for susceptibility to the antibiotics tetracycline, trimethoprim, and ofloxacin. Forty-five aeromonad strains were isolated from sediment samples upstream of the WWTP and 28 aeromonad strains were isolated from sediment samples downstream of the WWTP. Of these 7 strains were resistant to trimethoprim (1 upstream, 6 downstream), 6 strains were resistant to tetracycline (2 upstream, 4 downstream) and 4 strains were resistant to ofloxacin (all downstream). We believe that this is the first report of ofloxacin resistance in aeromonads in the United States. In addition, four of the downstream strains were resistant to more than one antibiotic while none of the upstream aeromonads exhibited multidrug resistance. Although the sample size is small, the data indicates a statistically significant increase in the incidence of antibiotic resistance in aeromonads exposed to effluent from the WWTP.

05.01.34 NESTING LIZARDS COMPENSATE PARTLY, BUT NOT COMPLETELY, FOR CLIMATE CHANGE

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Species in which ambient temperatures directly determine offspring sex may be at particular risk as global climates change. Whether or not climate change affects sex ratio depends upon the effectiveness of buffering mechanisms that link ambient regimes to actual nest temperatures. For example, females may simply lay nests earlier in the season, or in more shaded areas, such that incubation thermal regimes are unchanged despite massive ambient fluctuation. Based on 10 years of monitoring nests in the field at an alpine site in south-eastern Australia, we show that even though lizards (Bassiana dupepreyi, Scincidae) have adjusted both nest depth and seasonal timing of oviposition in response to rising ambient temperatures, they have been unable to compensate entirely for climate change. That inability stems from the fact that the seasonal progression of soil temperatures - and thus, the degree to which thermal regimes at the time of laying predict subsequent conditions during incubation - also has shifted with climate change. As a result, mean incubation temperatures in natural nests now have crossed the thermal threshold at which incubation temperature directly affects offspring sex in this population.
05.01.35
PRELIMINARY EVALUATION OF NUTRIENT LIMITATION IN CROWDER LAKE

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Nutrient limitation and zooplankton grazing effects on phytoplankton populations in Crowder Lake were investigated using microcosms incubated in situ from July 15 to July 21, 2008. Four replicate 10L microcosms were established for each of the following treatments: control, nitrogen added, phosphorus added, and minus zooplankton. Zooplankton was removed by pouring lake water through a 250 µ plankton net. The experimental design was repeated for water collected from both the riverine and lacustrine regions of the lake to look for region differences within the reservoir. After the incubations period, the microcosms were sampled for dissolved oxygen, turbidity and chlorophyll-a.

Dissolved oxygen, turbidity, and chlorophyll-a all increased significantly in response to phosphorus additions to water collected from the riverine region. Nitrogen addition to the riverine water produced a significant increase only in dissolved oxygen. Zooplankton removal did not increase any measured parameter. Lacustrine turbidity and chlorophyll-a did not show significant responses to any of the treatments. Dissolved oxygen was significantly elevated in lacustrine microcosms treated with either nitrogen or phosphorus with nitrogen producing the greatest increase. These results suggest that riverine and lacustrine phytoplankton populations may be experiencing different nutrient conditions.

05.01.36
THE Efficacy OF PRESERVATIVES IN MULTI-DOSE ARTIFICIAL TEARS

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BACKGROUND: Benzalkonium chloride (BAK) is one of the most widely used preservatives in ocular solutions, however ocular surface tissue damage is commonly caused by BAK. A newer preservative, stabilized oxychloro complex (SOC), also known as Purite®, has been shown to cause little ocular surface damage while effectively suppressing microbial growth. The goal of this research was to test the efficacy of preservatives in multi-dose artificial tears using real life conditions.

METHODS: Fifty bottles of artificial tears preserved with Purite® and 50 bottles of artificial tears preserved with BAK were inoculated by touching the tip of each bottle to the orbital adnexa of the two researchers. One drop from each bottle and the tip of each bottle was cultured and incubated for 19 hours.

RESULTS: In this study there was no statistical difference between the number of contaminated bottles, however a quantitative difference in the amount of growth between BAK and Purite® plates was noted.

CONCLUSIONS: This study demonstrated no statistical difference between BAK and Purite® in suppressing bacterial growth. Therefore, both preservatives are equally effective in suppressing microbial growth in the artificial tear solutions. However, BAK was more likely to permit heavy bacterial growth. Based on these findings, we recommend that patients with ocular surface issues use an artificial tear preserved with a gentle preservative such as Purite®.

05.01.37
GAD 1 GENE MUTATION

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In our specific study of cerebral palsy, we are looking at the Glutamate Decarboxylase 1, GAD 1, mutation located on gene number 2q31. The genetics database sources used in our research are: OMIM, Entrez Gene, and Spidey. “Glutamate decarboxylase catalyzes the conversion of glutamate acid to gamma-aminobutyric acid (GABA), the major inhibitory neurotransmitter in the vertebral central nervous system.” GAD 1 is a protein coding gene found in Homo sapiens, which can affect various enzymatic reactions and immune response mechanisms. GAD 1 encodes for more than one glutamic acid decarboxylase, one variation has been “identified as a major autoantigen in insulin-dependent diabetes. A pathogenic role for this
enzyme has been identified in the human pancreas since it has been identified as an autoantigen and an autoreactive T cell target in insulin-dependent diabetes.” However in other limited studies, GAD 1 mutations have been correlated to other diseases such as schizophrenia, stiff man syndrome, and Alzheimer’s disease.

Our GAD1 mutation for cerebral palsy has a very narrow field of study. It involves 4 Pakistani siblings birthed from an incestual union. The family is autosomal recessive for spastic cerebral palsy. This mutation is recognized as homozygous 36G-C transversion that is found in Exon 1 of 16 of the GAD 1 gene. The gene product results in a ser12-to-cys substitution in the N-terminal.

05.01.38
HELMINTHES OF RANA CATESBEIANA IN POTTAWATOMIE COUNTY, CENTRAL OKLAHOMA

EAST CENTRAL UNIVERSITY

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Examination of 24 Rana Catesbeiana collected from a tributary of the N. Canadian river and from five farm ponds within Pottawatomie county, central Oklahoma from May through July, 2008 for Helminthes revealed numerous species of digenetic flukes and a species of nematode. Of the Bullfrogs examined 15 were males and 9 were females. Sex identification was accomplished by observing the presents of testes or ovaries during the dissection process. The specimen’s snout-vent length was taken as well as the weight. The weight of the frogs ranged from 23.1 g to 352.8g. Total number of parasites collected from the 24 frogs was 142. The average number of helminthes per host frog was 5.9. Nineteen of twenty-four Bullfrogs were infected (prevalence = 79.1%) with one or more parasites. Parasites where identified to species. The abdominal cavity, urinary bladder, heart, lungs, gall bladder, liver, digestive tract and subcutaneous layer where searched for parasites. Total number of parasites where regressed against the size of the host frogs and the sex of the frogs. Each location was quantified and then divided by the total number of host specimens to give an average number of parasites per individual for each location.

05.01.39
PARASTIE EGGS AND CYSTS FOUND IN THE RED-EARED SLIDER TURTLE (TRACHEMYS SCR)

EAST CENTRAL UNIVERSITY

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Testudines are a heavily parasitized group of pokilotherms and are commonly host to multiple parasite species infections. There is a paucity of current data on the helminth parasites of Oklahoma testudines. Much of the available data is in excess of fifty years old. Our findings will add to the information available on parasites of Oklahoma testudines. Fifty Red-Eared slider turtles (Trachemys scripta elegans) were collected in southern Oklahoma. These testudines were dissected; sex and size information recorded, and all organs were analyzed for parasites. Anatomical structures found with cysts, eggs, or embedded parasites were preserved for histological screening. These tissues included: small intestine, large intestine, stomach, kidney, bladder, heart, esophagus, lungs, liver, and spleen. Tissues were fixed in 10% formalin, and larger tissues were sectioned to less than 3cm to ensure proper processing and paraffin embedding. Slides were stained with a standard H+E stain. Histological evaluation of slides will include locating, typing, and determining life stage of parasites. A morphological evaluation of the host tissues as well as the modification or destruction of the same tissues was performed. It is hoped that this data increased the knowledge of the life cycles of these poorly known parasites within Oklahoma.

05.01.40
POPULATION GENETIC STRUCTURE OF HIBERNATING CAVE MYOTIS, MYOTIS VELIFER.

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The cave myotis, Myotis velifer, is an insectivorous bat which occurs in caves and man-made structures. Individuals that comprise populations in Oklahoma appear to be permanent residents, hibernating in caves during the winter. Both sexes of the cave myotis hibernate in the same localities in the winter, but disperse to separate
maternity and bachelor roosting sites during the spring and summer. Recent studies conducted in northwestern Oklahoma reported that cave myotis begin arriving in their hibernaculum in October and continued to increase in number until December when population densities reached a high. Recent studies also indicate that after December, densities of bats begin to decrease due to relocation of individuals to other cave localities. Our goal was to examine if the movement patterns and frequency of dispersal of individuals among cave localities impacts the population genetic structure of M. velifer within several caves of the Selman Cave system in northwestern Oklahoma throughout the late fall, winter, and early spring. Wing punches were collected from individuals of M. velifer hibernating in several cave localities during November 2007 and January and March 2008. Wing punches will be collected throughout the winter months of 2008-2009. We will discuss the degree and pattern of differentiation among populations of M. velifer based on DNA sequence data for the control region of the mitochondrial genome.

05.01.41
THE POPULATION GENETICS DIVERSITY OF THE BROWNSVILLE YELLOWthroats (GEOTHLY)

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Habitat fragmentation is particularly severe in the Lower Rio Grande Valley (LRGV) of south Texas where 95% of the native brushland has been affected by not only agriculture but also by urban development. One of the many species that may have been affected by fragmentation in the LRGV is the Brownsville Yellowthroat (Geothlypis trichas insperata) a subspecies of the Common Yellowthroat warbler. Its distribution is now restricted to the LRGV with most of the birds occurring in the lower regions of Cameron County, Texas and possibly in the adjacent region of north Tamaulipas, Mexico. We hypothesized that the Rio Grande acts as a corridor for this species and as a result, individuals and subpopulations should be more closely related to each other than to other individuals north of the river. Blood samples were collected from 77 individuals for microsatellite testing. These microsatellite data will be used to test for heterozygosity in the birds as well as test for immigration and emigration between subpopulation in the LRGV. This is important because with these data, the relatedness of and gene flow between subpopulation can be described. The results will be combined into a spatially explicit population model to examine the metapopulation ecology of this species. This model can be then used to study the affects of habitat fragmentation of the population of Brownsville Yellowthroat.

05.01.42
FIELD BIOLOGY COURSE - ITS PLACE IN A BIOLOGY CURRICULUM

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The Department of Biology, University of Central Oklahoma, offered a Field Biology course during the summer session, 2008. This was the first time that the department offered this course. The purpose was to introduce students to the local flora and fauna, the techniques of collection, identification and preservation, and pertinent literature. In light of the fact that many departments are undergoing curriculum reviews, this course also examined the role of field courses in biology curricula and the benefits to students. The eight-week session was team-taught by ten faculty members. Fifteen undergraduates and one graduate student were enrolled. Topics covered included fungi, vascular plants, reptiles and amphibians, aquatic invertebrates, insects, mammals and birds. Class was held during the afternoons four days a week with about one week being spent on each topic. Class time consisted of lecture/lab activities and local field trips. Outside of class, one all-day trip was taken to south-central Oklahoma and an overnight trip was taken to the Selman Living Lab in northwest Oklahoma. Grading consisted of written and practical exams and most topics also required a collection. The course culminated in a bioblitz at Hafer Park in Edmond. Students worked in groups and each group made a poster on their results and gave a presentation to the class. Student feedback on the course was favorable and suggestions were made for improvement.
LYCOPENE EFFECTS IN TISSUE CULTURE CELLS

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Lycopene is an antioxidant from the carotenoid family of phytochemicals produced in plants. It imparts the red color found in some fruits and vegetables such as tomatoes and watermelon. Unlike many other carotenoids it lacks a terminal beta-ionic ring and provitamin A activity. It is a relatively stable and easily absorbed molecule that can cross the blood brain barrier and is distributed throughout the body by the circulatory system. Lycopene has been widely explored in nutritional and clinical studies focused on prevention of prostate cancer and cardiovascular disease. While there are collections of studies focusing on the antioxidant properties of lycopene, several other mechanisms of action have also been indicated including gene functional regulation, hormone or immune regulation, carcinogen metabolism and others. Many questions still remain. We have chosen to use tissue culture as a model to further examine the roles of lycopene, including the effects on cancer cell growth and the potential protective roles in response to cell stress.

LOCALIZATION OF GENES INVOLVED IN SYNTHESIS AND DEGRADATION OF CAMP

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Cyclic AMP is a regulator of gene expression in Dictyostelium. Before culmination, cAMP is required for the induction of cell-type specific gene expression in the two cell types, prespore and prestalk. However, during culmination, prestalk cells differentiation is inhibited by cAMP, while prespore differentiation is stimulated. Synthesis and maintenance of a specific level of cAMP may be the result of a coordinated interaction of adenylate cyclase (the synthetic enzyme), cAMP phosphodiesterase (the enzyme that degrades cAMP to 5'AMP), 5'-nucleotidase (the enzyme that degrades 5'AMP to adenosine) and adenosine deaminase (the enzyme responsible for degrading adenosine into inosine). Using in situ hybridization technique mRNAs will help us to determine the location of gene expression of genes that are involved in cAMP metabolism during different stages Dicyostelium development.
Chemical Structure and Rate of Degradation of Anti-Cancer Drug Temozolomide

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Kelly D Fine - Weatherford, OK, Biological Sciences

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Temozolomide (anti-cancer drug Temodar) has recently been approved by the FDA for the treatment of brain tumors and is labeled as showing “good brain uptake”. Many drugs are unable to be easily absorbed into the brain. The blood brain barrier (BBB) protects the brain from what it sees as harmful toxins; which is in the case for so many drugs. Passage through the BBB is based on molecular qualities such as lipophilicity, size, and overall charge. Temozolomide also is a pro-drug, meaning it must break down into its active anti-cancer metabolite, MTIC. Temozolomide degradation is affected by fluctuations in temperature and is extremely pH dependent.

TerraPene Morphometrics: Examining Interbreeding Within the Genus

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The evolutionary relationship between species within the genus TerraPene is unclear (Milstead, 1969). Members of the Genus have undergone several nomenclatural revisions (Boulenger, 1889, 1895; Carr, 1940; Milstead, 1967; Smith, 1939; Stejneger & Barbour, 1933). Milstead (1969) proposed a phylogeny for the Genus based on 16 characters including paleontologic data and morphometrics of interplastral scute ratios. Minx (1996) proposed a phylogeny based on 32 morphological characters including skeletal structures, extremity variation, and shell characters. A series of meristic measurements have been taken from members of two species of the Genus TerraPene. These measurements were taken to provide data for morphometric study utilizing statistical analyses. Data will be used for determination of possible interbreeding between these two species. Statistical analysis has been employed with all data collected by Discriminant Function Analysis, Principal Component Analysis, and Cluster Analysis. It is hoped that this research will yield valuable information about the constancy of these species in an evolutionary context. The phylogeny of this genus has undergone several revisions and questions about the relationships of these turtles are still unclearly defined. The data suggests that there are hybrids between the species and that the two species are currently interbreeding and forming hybrid specimens.

Virus Mediated Delivery of Therapeutic Transgenes to the G.I. Tract

Southwestern Oklahoma State University
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Objective: The goal of my project is investigate the efficacy of peroral administration of AAV-2 vector gene transfer. Specifically to investigate the effects of the orogastric route on AAV-2 vector transduction levels in mice and propose a possible method of improving cellular transduction levels in patients with inherited gastrointestinal disease. This study evaluated the stability of the AAV2 vector in the GI tract and whether or not the transduction levels could be increased through GI intraluminal manipulation.

Methods: The rAAV-2 vector carrying the therapeutic transgene, ß-galactosidase and marker transgene eGFP’s stability was investigated in several environments modeling the GI tract. For in vivo experiments, FVB/NJ mice were perorally administered the rAAV-2 vector and vector in combination with sodium bicarbonate and aprotinin. Transduction efficiencies were evaluated with PCR and histochemical assays.

Results: Transduction levels were decreased with in HCl, trypsin, chymotrypsin, gastric fluid, and intestinal fluid. Acid neutralization with sodium bicarbonate and the protease inhibitor aprotinin increased in vivo stability of the vector.

Conclusion: The overall environment of the GI tract was found to be detrimental to AAV 2 vector mediated gene transfer. The addition of aprotinin and sodium bicarbonate markedly increases in vivo transduction levels although these therapeutic transgene levels were still low.
APOPTOTIC REGULATION BY P53-DEPENDENT PATHWAYS IN CANCER CELLS

SOUTHWESTERN OKLAHOMA STATE UNIVERSITY

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Programmed cell death has been associated with the phenomenon of apoptosis. However, this general definition is no longer fitting on the grounds that programmed cell death can refer to a number of cytolethal processes: Autophagy, Necrosis, also known as oncisis. It is paramount that these modes of cellular death are understood, because their suppression is often an underlying origin of oncogenesis. Apoptosis is induced by the overexpression of the p53 protein. The p53 protein, a powerful tumor suppressor, is encoded by the TP53 gene. p53 is sequence specific transcription factor that is triggered by stress signals associated with cancer. This protein is responsible for the coordination of reverse cellular arrest or apoptosis. For this reason, many tumor cells attempt to disable the p53 protein during transformation. p53 is often considered the guardian of the cell, because the disruption of this protein in the initiation of apoptosis frequently results in the progression of oncogenesis and chemo-resistance. It is because the TP53 gene, which codes for the production of the p53 protein, is the most commonly mutated gene in most human cancers that we have chosen to p53 as the focus of this project.

IS DISPERSAL FROM NATAL SITES SEX-BIAS ED IN COLLARED LIZARDS?

UNIVERSITY OF CENTRAL OKLAHOMA

Kathryn Rogers - EDMOND, OK, BIOLOGY

We used mark-recapture data recorded over a 12-year period (1995-2007) to examine dispersal distances between natal sites and the home ranges/territories established by mature female (N = 91) and male (N = 54) collared lizards to test whether of not dispersal distance was female biased as predicted for mating systems in which males are polygynous through the defense of resource based territories. Although on average males dispersed 51.2 m (SE = 12.9) from sites occupied as hatchlings compared with 32.3 m (SE = 7.2) by females, dispersal distance in the sexes was not statistically different (t = 1.39, P = 0.17). There was a tendency for dispersal distance to vary by year in males (F = 1.88, P = 0.07), but not in females (F = 1.31, P = 0.24). Variation in dispersal distance by males was not related to annual variation in the number of same-sex competitors (r² = 0.125, P = 0.287). Our results do not support the expectation of female-biased dispersal predicted for polygynous species by the mating system hypothesis. Rather, our results revealed a tendency for farther dispersal by males, which is consistent with the findings of the only other study of lizard dispersal.
05.01.52
TESTUDINE VARIATION OF THE CARAPACAL VASCULAR INTERACTIONS WITH THE SCUTE L

EAST CENTRAL UNIVERSITY

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Ms. Chelsea S Downs · ADA, OK, DEPARTMENT OF BIOLOGY
Mr. Kyle Ingram · ADA, OK, DEPARTMENT OF BIOLOGY

This study examined anatomical structures of the sub-scute layers. Included were vascular interactions with the underlying acellular compact bone and presence of adaptations for thermoregulation. Five shell samples were extracted from each turtle: neural, left peripheral, right peripheral, nuchal, and pygal carapace. Samples were decalcified using formic acid and chelating decalcification methods. Samples were fixed and stained using H&E and Heidenhain’s AZAN trichrome staining methods. Vascular networks were examined to determine their interaction with scutes. Five distinct layers in the carapace were observed. A non-living, highly keratinized scute layer, a transitional layer of tightly packed epithelial cells, a layer containing a single layer of germinal cells, a vascular region containing blood vessels, adipose tissue, and loose irregular connective tissue, and a layer of acellular compact bone. Chelydra serpentina was the largest and most primitive species examined. C. serpentina had networks of small capillaries within loose connective tissue in this layer while Terrapene carolina carolina possessed large blood vessels within the acellular bone layer. Presence of a vascular layer between scute and acellular bone showed a network for oxygen supply, nutrition, and waste removal. This region could also provide a facilitated method for shunting blood supply to regulate temperature. Adipocytes in the Terrapene indicate a possible heat-sink function to regulate temperature.

05.01.53
AN EXPERIMENTAL TEST OF OPTIMAL ESCAPE THEORY IN COLLARED LIZARDS

Cody Braun · EDMOND, OK, BIOLOGY

Optimal escape theory (OET) predicts that animals should flee and take refuge when the benefits of remaining at a chosen location are exceeded by the risks of attack incurred if they remain. Predictions of OET are usually tested by exposing free-ranging animals to a controlled approach by a human, and recording the distance that the observer approaches when subjects respond (approach-flight distance = AFD), and how far subjects flee (flight distance = FD). In ectothermic vertebrates, the intensity of responses is predicted to vary inversely with both temperature and how directly the stimulus approaches. We tested these two predictions of OET in hatching collared lizards using field experiments involving direct and indirect approaches when temperatures were optimal, and direct approaches when ambient temperatures allowed lizards to be emergent but ranged above and below that which is optimal for activity. As expected, AFD was inversely correlated (P = 0.005) with temperature, but temperature only explained 15% of the variation in AFD. In response to direct approaches, lizards reacted more frequently (P < 0.0001), fled farther (P = 0.0001), and when the stimulus was farther away (AFD; P = 0.06). Our data indicate that optimal escape theory is a useful model to explain predator avoidance behavior in hatching collared lizards.

05.01.54
3-D DETERMINATION OF NEUROFIBROMIN USING ONLINE DATABASES

NORTHEASTERN STATE UNIVERSITY

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Leena Tidball · BROKEN ARROW, OK, GENETICS

Neurofibromatosis type 1, also known as von Recklinghausen NF, is a genetic disease linked with NF1 that affects 1 in 3000 people in America. NF1 is located on chromosome 17q11.2 and its mutation weakens or modifies the protein neurofibromin, also known as the tumor suppressor protein. This mutation causes the rapid growth of cells around the nervous system leading to enlargement and deformation of bones and curvature of the spine. Spatial arrangement of the protein neurofibromin and its function are areas of active research. Our project aimed to provide insight into computer modeling and online database searches for the gene NF1 and its related protein. The OMIM and GenBank online databases were used to provide the chromosomal location and online database searches for the genetic sequence of NF1. Blast, Spidey, and Entrez Protein databases were used to determine the mRNA for NF1 and the 3-D structure of neurofibromin. Our project revealed that using online databases is a helpful tool in the ongoing research of genetic diseases. Future research would include spatial comparison and physiological implications of the 3-D structure of the mutant protein.
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MATH & SCIENCE

05.01.55
GROWTH AND REGULATION OF CHAETOMIUM GLOBOSUM IN CHEMICAL AMENDED MEDIA

EAST CENTRAL UNIVERSITY

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Charles Biles - ADA, OK, BIOLOGY DEPARTMENT
Shane Casey - ADA, OK, BIOLOGY DEPARTMENT
Rachel Pattison - ADA, OK, BIOLOGY DEPARTMENT
Marianni Fuego, Rachael Pattison, and Charles Biles

Chaetomium globosum is a fungus commonly found on water-damaged building materials. It has been implicated as an allergen and can cause severe human diseases, especially in an immune-compromised individual. The spores of this fungus are highly resistant to any known method of control or treatment. The fungus was grown on salts at different concentrations in order to determine chemical regulators for perithecia production and hyphal growth. Four isolates of C. globosum (NMSU, mtNM, Carolina, and PC 932) were plated on 7 salts each at 1mM, 10mM, and 100mM concentrations and were then incubated in the dark at 25°C. The hyphal growth and production of perithecia were measured on days 4, 7, 14, 21. For most isolates tested, salts such as KCl and CaCl2 appear to stimulate perithecia production, whereas, KClO3, and NH4Cl inhibit perithecia production. NH4Cl also inhibited hyphal growth. KClO3 appears to specifically inhibit perithecia production without significantly reducing hyphal growth at low concentrations. Inhibition of hyphal growth was concentration dependent and varied among the salts used. Chaetomium globosum is an allergenic fungus that also degrades building materials. These experiments showed that low concentrations of various chemicals can inhibit fungal growth and reproduction. Use of these chemicals in building materials may be helpful in deterring building degradation and airborne allergens.

05.01.56
PHENYLKETONURIA

NORTHEASTERN STATE UNIVERSITY

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Phenylketonuria (PKU) is a recessive autosomal genetic disease that affects the function of the enzyme phenylalanine hydroxylase. The most common type of PKU is caused by the non-functional phenyalanine hydroxylase enzyme which is coded for by the PAH gene. The OMIM number assigned to this disease is +261600 this means that the entire sequence of this gene is known. The template gene is 79,278 base pairs (bp) in length with the mature processed mRNA being 2,860 bp in length. During the processing of the DNA, 12 introns are spliced, resulting in 13 exons. The mRNA has a primary assembly pattern with two alternates, AC_000055.1 and AC_000144.1, listed in Genbank. The first five coding sequences of the primary assembly of the gene are CAGCT and the final five coding sequences are GTTTA. The largest exon in the gene was the last (13th) exon at 893 bp in length with the second longest exon being the first at 532 bp in length. The remaining exons are an average of 100 bp each. When using Entrez the symbol for the gene is PAH, with the alternate symbols HPA and PKU1. The accession number of the mRNA is NM_000277.1. The protein in its final translated form is 452 amino acids in length and has 12 beta-pleated sheets and 14 alpha-helices. The protein is classified as a non-heme iron II dependent enzyme and its mechanism of action is to hydroxylate L-Phenylalanine to L-Tyrosine. The molecular weight of the assembled protein is 51731 and the accession number is NP_000268.1.

05.01.57
THE EFFECTS OF STRESS ON LONGEVITY: AN EPIDEMIOLOGICAL SURVEILLANCE & L

LANGSTON UNIVERSITY

Ph.D Edward Khiwa - LANGSTON, OK, HEALTH ADMINISTRATION

A cohort study was designed to cover a sample of seventy (70) individuals, fifty (50) of whom, constituted the experimental group and twenty (20) others as a control group. The dominant variables used were (a) aggressiveness to achieve and (b) social deprivation. Participants were observed from age ten (10) through ages sixty-nine (69). For the study, “stress” was defined as the result of aggressive behavior to achieve. “Social deprivation” meant lack of interaction with others. “Surveillance” meant, systematic monitoring of the health status of participants. Of the experimental group that engaged in stressful activities, sixteen (16), 32% died before age sixty (60). In the case of the control group, three (3), 15% died before sixty nine. Methodology: Three (3) of the surviving colleagues and compatriots ages 69 to 70 from the study group, monitored the study and participants. This included communication, social and functional activities observed among individual participants studied. The results of the study tended to show that there is a significant relationship between stress and mortality rate. Limitation of the study: the study covered a small population from an African country; a larger group is necessary to ascertain the findings.

Edward Khiwa, Ph.D, Director/Associate Professor Of Health Administration & Gerontology Departments.
05.01.58
THE EFFECTS OF NON-Steroidal Anti INFLAMMATORY DRUGS ON NORMAL SUB-JECTS DUR-NORTH EASTERN STATE UNIVERSITY

Dr. Michelle Welch - TAHLEQUAH, OK, COLLEGE OF OPTOMETRY
Marcus Randall - TAHLEQUAH, OK, OKLAHOMA COLLEGE OF OPTOMETRY

The Effects of Non-Steroidal Anti Inflammatory Drugs on Normal Subjects During the Initial Intraocular Pressure Lowering Phase of Latanoprost
Marcus Randall, BS, Michelle Welch, OD

Purpose: To determine the effects of a single dose of a topical non-steroidal anti inflammatory drug (NSAID) on normal subjects during the initial intraocular pressure (IOP) lowering phase of a prostaglandin analog.

Methods: Ten normal subjects were given a one week dose of latanoprost. At the end of one week of treatment subjects were given a single dose of either ketorolac or placebo. Intraocular pressure was then measured over the course of six hours to determine if the NSAID would affect the IOP.

Results: Intraocular pressure measurements showed no significant difference after one week of treatment with latanoprost. There was also no significant change in IOP after treatment with either ketorolac or placebo.

Discussion: Topical ketorolac shows no significant impact on IOP in normal subjects after one week of treatment with latanoprost.

05.01.59
COMPETITION FOR RESOURCES MAY LIMIT AMERICAN BURYING BEETLE REPRODUC-TION

NORTHEASTERN STATE UNIVERSITY

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Dr. Craig W. Clifford - TAHLEQUAH, OK, NATURAL SCIENCES

The reproductive habitat preferences of the endangered American burying beetle (Nicrophorus americanus) were examined at nine habitat types within Camp Gruber Army Training Center, Muskogee County. Four 200g carcasses (Rattus norvegicus) were made available for burial at two replicate locations for each of the nine habitats (18 total locations) from 12 May - 20 May 2008. Carcasses were excavated 11-14 days post burial and larva were weighed to the nearest 0.01g. Vertebrate scavengers removed 57.5% of available carcasses. An additional 24.6% were used by invertebrate decomposers. Only 17.9% of rats were buried by N. americanus. Of those, 5.8% were incomplete burials. Thirty-six carcasses were successfully buried at eight different habitat locations by N. americanus and four carcasses were buried by N. orbicollis at four sites. Beetles moved carcasses an average of 31.7 cm (range 0-114 cm) before burying them at an average depth of 9.1 cm (range 0-15 cm). Burial did not significantly vary with habitat type (P=0.338). Areas with lower soil compaction tended to have more burials(P=0.045). Larva were observed at five sites (13.9% of total burials). Brood size ranged from 10-32 larva. Larva ranged in weight from 0.2-1.80g with a mean of 0.75g. Competition with vertebrate scavengers and invertebrate decomposers may limit the number of carcasses available for N. americanus. Soil compaction may limit burial. What further limits production of larva is currently unknown.

05.01.60
FEEDING BEHAVIOR OF DROSOPHILA MELA-NOGASTER ON SUCROSE PATCHES

SOUTHWESTERN OKLAHOMA STATE UNIVERSITY

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Casey Cochran - WEATHERFORD, OK, DEPARTMENT OF BIOLOGICAL SCIENCES
Wendy Jones - WEATHERFORD, OK, DEPARTMENT OF BIOLOGICAL SCIENCES

We used the fruit fly (Drosophila melanogaster) as a model to study how animals make decisions when foraging for food. Many plants defend themselves from herbivores by producing toxic compounds such as quinine, and flies readily feed on sucrose solutions, but are deterred by quinine. The salt receptor has been suggested as the chemoreceptor used by flies to detect quinine and other alkaloids. Our purpose was to test the effect of quinine and salt on acceptance of sucrose solutions by the flies. We mixed quinine or salt into the sucrose solution and colored the food solutions with food coloring. In one test, the flies were presented with a choice between pure sucrose (red) and sucrose with quinine (blue). In the second test, the flies chose between pure sucrose (red) and sucrose with salt (blue). The color of the food consumed was visible through the abdomen of the flies after the test. All flies rejected sucrose containing quinine concentrations as low as 3.26mM. However, 20% of the flies still fed on sucrose containing 2M NaCl. This shows that very small concentrations of quinine are very effective deterrents and large salt concentrations are still acceptable to the flies. The results suggest that quinine may not be detected by the salt receptors and may require a separate chemoreceptor.
71 rodents from six Oklahoma counties, representing 13 species (Blarina hylophaga, Sciurus niger, Perognathus flavus, Chaetodipus hispidus, Reithrodontomys fulvescens, Peromyscus attwateri, P. leucopus, P. maniculatus, Sigmodon hispidus, Neotoma floridana, N. micropus, Mus musculus, and Microtus pinetorum) have been biopsied and tested for leishmaniasis. All biopsies were negative.

05.01.63
DNA PROFILING

SOUTHWESTERN OKLAHOMA STATE UNIVERSITY

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Dawod Salah Dawod • WEATHERFORD, OK, BIOLOGICAL SCIENCES
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The sequence of one’s DNA is unique to every individual. In the field of forensics, DNA analysis is essential to solve the mysteries that shroud a crime scene. DNA can be obtained from something as small as a hair follicle to bodily fluids that can accurately identify an individual to an act. The process involves the use of unknown DNA samples and its identification using various methods. This project will explore the possibilities of DNA analysis using Denaturing High-Performance Liquid Chromatography (dHPLC) and Polymerase Chain Reaction (PCR) to solve forensic cases. The use of dHPLC for analysis has low cost per sample ratio with quick results. Modified DNA due to chemical exposure is detected by dHPLC and used to identify a culprit at the scene of a crime. DNA profiling was used to identify the remains of numerous victims of the 9/11 tragedy. Techniques for the profiling of DNA have evolved over the years to provide cutting edge technology for sample identification. Advancements in this field bring about ethical concerns in the widespread use of DNA databases. Genetic fingerprinting and analysis information has to be collected for a mass population for its efficient use in the modern world. The ability of DNA testing to pinpoint an individual is highly accurate and provides various advantages to the field of forensics.

05.01.64
DECIPHERING STRUCTURAL FEATURES IMPORTANT FOR HETEROAROTINOID GROWTH INHIBI

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Objective: The hypothesis is that specific structural features of the flexible heteroarotinoid (Flex-Het) chemicals are responsible for their differential killing of cancer cells over normal cells. Our objective was to determine which

05.01.62
LEISHMANIASIS IN OKLAHOMA RODENTS

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The worldwide prevalence of leishmaniasis is increasing, and it is spreading northward from South America and Mexico into the southern areas of the United States. Until recently, in Oklahoma, leishmaniasis was only known to occur in dogs. However, the Oklahoma State Department of Health has indicated that the first two cases of human leishmaniasis have recently been diagnosed in south-eastern Oklahoma. In Texas, woodrats (Neotoma) serve as hosts for leishmaniasis. To what extent leishmaniasis occurs in rodents in Oklahoma is unknown. The objective of this continuing study is to determine if rodents in Oklahoma have leishmaniasis. This will aid in the development of a database that will assist in understanding the temporal and spatial occurrence of leishmaniasis in Oklahoma. It will provide data applicable to the formation and implementation of policies that educate the general public about the potential health risks of leishmaniasis. To date

05.01.61
AZOREDUCTASE ACTIVITY IN MICROCOCCUS LUTEUS

LANGSTON UNIVERSITY

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Azo dyes are widely used in cosmetic, textile, food and pharmaceutical industries. Several bacteria are capable of reducing azo dyes to aromatic amines that are carcinogenic. Azoreductase enzymes are enzymes that can decolorize azo dyes. Recently genes encoding for aerobic azoreductases were cloned from at least six different human intestinal bacteria. The purpose of this research was to study azoreductase activity in Micrococcus luteus. M. luteus can be found on human skin. The azo dye, Direct Blue -15 was treated with cultures of M. luteus. Our studies demonstrated that M. luteus was able to reduce the azo dye at different concentrations. The degradation of the azo dye indicates that azoreductase was functionally expressed in the bacterium. Polymerase chain reaction (PCR) results with genomic DNA were inconclusive since the expected PCR product was obtained only once. These results warrant further study with different primers to isolate the azoreductase gene followed by DNA sequence analysis.

05.01.60
MATH & SCIENCE
Flex-Het structural features are responsible for the cell killing activities.

Methods: Cancer cells and normal cells were plated into 96 well plates. The cultures were incubated with a series of Flex-Hets that differed by single structural alterations over a range of concentrations from 0 to 10 micromolar. After 72 hours treatment, the CellTiter 96 Assay was used to measure the number of cells remaining after each treatment. For each compound, the potency was derived as the concentration that induced 50% cell kill, and the efficacy was derived as the maximal percent cell loss observed.

Results: Both compounds with and without N heteroatoms exhibited differential effects on cancer vs. normal cultures. The potencies and efficacies of compounds with the N heteroatoms were weaker than their counterparts without heteroatoms. Other changes to the drug structure had minor consequences.

Conclusions: Since the compounds with N heteroatoms were weaker than their counterparts without heteroatoms, we propose that the N heteroatom decreases the cytotoxicity in general and that other structural features are important for the differential cytotoxicity on cancer over normal cells.

05.01.65
COMPARISON OF TWO AUTOMATED KERATOMETERS AGAINST A MANUAL GOLD STANDARD

NORTHEASTERN STATE UNIVERSITY
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Misty Otte - TAHLEQUAH, OK, OPTOMETRY
ABSTRACT
Purpose: To compare keratometry measurements obtained from two automated instruments against a manual gold standard instrument

Methods: Keratometric measurements were obtained from right and left eyes of 20 subjects on 3 separate occasions using Bausch and Lomb manual keratometer, ARK-900 Autorefractor/Keratometer, and Medmont E300 corneal topographer.

Results: All results showed interchangeability between instruments except for 2 instances; these instances concerned the J45 meridian for the manual keratometer vs. the topographer group regarding all eyes and right eyes only.

Conclusion: We found the two automated instruments to be compatible with the manual instrument 89% of the time.

05.01.66
EHLERS-DANLOS SYNDROME

NORTHEASTERN STATE UNIVERSITY
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Chad Call - BROKEN ARROW, OK, BIOLOGY
Sean Carson - BROKEN ARROW, OK, BIOLOGY
Stana Gaw - BROKEN ARROW, OK, BIOLOGY
Chaz Privett - BROKEN ARROW, OK, BIOLOGY
Bryan Sturman - BROKEN ARROW, OK, BIOLOGY

As a model to present information available on public databases, our group chose one subtype of several types of Ehlers-Danlos syndromes, type I the classic type. This genetic disorder affects the phenotype of collagen and it’s functional characteristics. It arises from mutations on either the COL5A1 gene, a 203,038 base pair portion of chromosome 9 with 66 coding regions or a 147,965 base pair gene called COL5A2 that’s located on chromosome 2 with 53 exons and is very close to gene COL3A1. Both these genes are found in Norway rats and house mice. This and other information organized into a poster format is referenced to the databases OMIM, GeneBank, BLAST, Protein, and Spidey to educate the public about current resources for genetic research.

05.01.67
GAUCHER’S DISEASE TYPE I

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DR. MUATASEM UBEIDAT - WEATHERFORD, OK, BIOLOGICAL SCIENCES

The purpose of this study is to investigate the causes and the genetic treatment of Gaucher’s disease Type I. This disease is defined as a lipid storage disorder. Approximately 1 in 50,000 to 100,000 people in the general population acquire Gaucher’s Disease. Gaucher is more prevalent in peoples of Central or Eastern European Jewish ancestry with 1 in 500 people acquiring the disorder. There are three types of Gaucher’s disease, Type I is the most common and most treatable. It is an autosomal recessive disorder that is identified by a deficiency of an enzyme known as β-glucocerebrosidase. This enzyme is responsible for the degradation of old cells in the body. Without this enzyme, these cells build up in macrophages, the cells that ingest them, then they become bloated and are then called Gaucher’s cells. This bloating has a withering result on the body, causing multiple problems in the liver, lymph nodes, spleen, bone marrow and basically anywhere macrophages are located. A diagnosis can be made by measuring the levels of β-glucocerebrosidase in the blood. Upon diagnosis, individuals most commonly undergo gene replacement therapy. This treatment, de-
pending on the individual, can nearly reverse symptoms of Gaucher’s disease. The National Institute of Neurological Disorders and Stroke, a branch of the National Institutes of Health, is currently performing clinical studies and supporting research to find ways to prevent and treat lipid storage disorders.

05.01.68
UNDERSTANDING AN INVASIVE SPECIES AT HOME: A COMPARISON OF POLLINATOR RESP

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Megan Mills-Novoa - PORTLAND, OR, DEPARTMENT OF BIOLOGY

CORNELL UNIVERSITY
Katharine C Crocker - ITHACA, NY, DEPARTMENT OF BIOLOGY

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Brant McCall - STILLWATER, OK
Cassondra Walker - STILLWATER, OK

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Kara D Leavitt - SHERWOOD, OR, DEPARTMENT OF BIOLOGY

THE UNIVERSITY OF TULSA
Dr. Harrington Wells - TULSA, OK, DEPARTMENT OF BIOLOGICAL SCIENCE

UNIVERSITY OF CENTRAL OKLAHOMA
Dr. John F Barthell - EDMOND, OK, DEPARTMENT OF BIOLOGY
Erica Becker - EDMOND, OK, DEPARTMENT OF BIOLOGY

UNIVERSITY OF THE AEGEAN
Theodora Petanidou - MYTILENE, GR, DEPARTMENT OF GEOGRAPHY

A leading hypothesis for how some invasive plant species succeed in new environments is their ability to attract pollinators through nectar production in their flowers. This is especially true for plant species that require outcrossing among individuals in populations. We have studied the highly invasive plant yellow star-thistle, Centaurea solstitialis L., a widespread and noxious weed species in the western United States, on Santa Cruz Island (California, USA) and the Northeast Aegean island of Lesvos (Greece). Our studies indicate substantially higher levels of nectar flow production in those populations studied on Santa Cruz Island relative to Lesvos. Furthermore, as predicted in a model by Schaffer et al., honey bees and other social species (e.g., bumble bees) tended to forage at those study plots with higher standing crops of nectar whereas smaller bodied native species exploited plots with lower nectar availability. The implications of these findings are two-fold. First, higher nectar availability will tend to support more effective and larger bodied pollinators of this invasive weed species that, in turn, promotes outcrossing. Secondly, as detected in an ancillary study, the density of seed head predators (e.g., tephritid flies) may mediate nectar production. Invasion success in this species (and others) is therefore facilitated in the presence of coevolved pollinators (honey bees) but is limited by the presence of its natural enemies.

05.01.69
GROWTH SUPPRESSION AND APOPTOSIS OF CANCER CELLS USING GREEN TEA EXTRACT

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Tea is rich in antioxidants. Therefore, it is widely investigated as possible pre-treatment against some cancers. Tea or Camellia sinensis contains epicatechins, antioxidant, in its green foliage. Epigallocatechin gallate is the most abundant and the most effective antioxidant of the epicatechins in green tea. Epigallocatechin gallate (EGCG) is composed of three phenol rings and displays very strong antioxidant properties. Some methods have looked at epigenetic and genetic effects of EGCG in inhibiting telomerase in specific cancer cells. The study targeted hTERT subunit of telomerase which is essential telomerase function. Cells treated with different polyphenols including epicatechin gallate (ECG) have suppressed cyclin D1 during cell cycle and showed significant induction of cell growth arrest and apoptotic cell death which showed the largest reduction in abundance of cancer cells. Each epicatechin has different effects on different cancer cells. Different studies showed that epicatechins found primarily in green tea have chemo preventative properties and may be used in growth inhibition and apoptosis of varying cancer lines. More information needs to be attained on these polyphenolic antioxidants for better use in cancer treatments.
05.01.70
LOCALIZATION OF A PROTEIN ISOFORM FOUND IN CAENORHABDITIS ELEGANS

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OKLAHOMA MEDICAL RESEARCH FOUNDATION
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Our laboratory is taking a genetic approach to studying cholinergic gene expression in Caenorhabditis elegans. The cha-1 gene in C. elegans encodes choline acetyltransferase (ChAT), which is required for acetylcholine biosynthesis. The unc-17 gene encodes the vesicular acetylcholine transporter (VACHT). cha-1 and unc-17 are coordinately expressed from a shared promoter as members of the cholinergic “operon.” A cha-1 specific promoter nested within the second intron of cha-1A was identified that expresses a ChAT protein isoform (CHA-1B). When the entire intron was fused to gfp to construct a cha-1B::gfp reporter, expression was observed in only 25 of the known cholinergic neurons. Our objective is to determine whether CHA-1B is only expressed in these 25 cells, or if additional upstream regulatory sequences are necessary for expression in the remaining cholinergic cells. A cha-1B::gfp reporter containing approximately 4 kb of upstream sequences has been constructed. The fusion will then be microinjected into C. elegans in order to determine whether the additional sequences can influence cha-1B expression.

This work supported by NIH grant RR016478-07

05.01.71
ROLE OF SER 24 IN CHA-1B PROTEIN TARGETING IN C. ELEGANS

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Acetylcholine is an excitatory neurotransmitter found at vertebrate neuromuscular junctions. Choline Acetyltransferase (ChAT) is necessary for the synthesis of acetylcholine. Caenorhabditis elegans has two isoforms of ChAT, which are encoded by cha-1A and cha-1B. The CHA-1B isoform contains an alternative N-terminus and appears to be targeted through the secretory pathway to synapses in cholinergic neurons. A potential PKC phosphorylation site was identified in at Ser 24 of CHA-1B. To test whether Ser 24 plays a role in protein targeting, PCR based site-directed mutagenesis was used to generate a cha-1B::gfp reporter fusion containing a Ser-Gly mutation at amino acid 24. Both mutant and wild-type reporter fusions are currently being injected into C. elegans. Fluorescence patterns of the mutant and wild-type constructs will be compared to determine the significance of Ser 24 in CHA-1B protein targeting.

05.01.72
IDENTIFYING PROTEIN INTERACTIONS IMPORTANT IN SISTER CHROMATID COHESION

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Sister chromatid cohesion (SCC) holds sister chromatids together from S phase until the onset of anaphase, and is essential for the proper segregation of sister chromatids during cell division. We aim to understand the interactions between proteins important in SCC. The yeast 2 hybrid (Y2H) assay uses plasmids encoding hybrid proteins to test for direct interaction between proteins of interest. We performed a Y2H screen using sororin, a positive regulator of SCC, as “bait” to identify novel interacting proteins. This will allow us to better understand sororin’s function. We have tentatively identified three novel sororin-interacting proteins, one of which is an essential replication factor.

A similar strategy was used to investigate the interaction between human orthologs of Pds5 and Eco1, regulators of cohesion that are thought to interact directly in fission yeast. Bait plasmids encoding the N- and C-terminal regions of Eco1 were constructed and tested for interaction with hPds5 in the Y2H assay. The results suggest that Pds5 interacts with the C-terminus of Eco1. Experiments are currently underway to further investigate these interesting observations.
05.01.73
SCIENCE LEARNING: EVALUATING TEACHING METHODS AND STUDENT RETENTION RATES

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Dr. Elizabeth Allan - EDMOND, OK, DEPARTMENT OF BIOLOGY
This research motivation stems from the lack of research in the field of understanding best practices to teach students science at the collegiate level. The purpose of the research was to determine which teaching methods college students believe to be the most effective in science courses, and to measure student retention rates in an introductory biology course. Students in both the control group and experimental group were administered interest inventories and the Views on the Nature of Science assessment (VNOS-C). The interest inventory was designed to measure constructs of the affective domain in relation to science education. Students in the experimental group were guided in an inquiry lab project. Results from the interest inventories revealed that students believe it is beneficial to their learning if a) lecture given back-to-back with the laboratory portion b) hands-on activities implemented to reinforce learning of concepts in lecture. The subjective test, VNOS C, revealed that students in the experimental group had a much better understanding of science processes. Retention rates were examined and no differences were observed. The data obtained for the study implies most of the best teaching practices suggested by the National Academies of Science for K-12 education also apply to college science courses.

05.01.74
NICROPHORUS AMERICANUS PRONOTAL DIMENSIONS AS RELATED TO AGE AND GENDER

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The ABB is listed as an endangered species due primarily to its greatly reduced geographical distribution over the last century. It was historically found in 35 states, but is now found in only seven to eight states. Annual surveys of the population of the American burying beetles (ABB), Nicrophorus americanus Olivier, are conducted in late June and early July at Camp Gruber Training Site in Braggs, Oklahoma to determine ABB population demographics. ABBs show clear sexual dimorphism but aging is subjective. Pronotum width and height was measured to determine if it could be used as a less subjective method of aging ABBs. Standard methodology for baited cup traps as prescribed by the USFWS was used to monitor 59 Land Condition Trend Analysis (LCTA) sites. A total of 1277 trap nights resulted in the capture, labeling and release of 433 ABBs. Pronotum width and height were measured for 361 (85%) of N. americanus using digital calipers. Pronotal height was significantly smaller in beetles classified as young (P<0.0004). Width significantly varied with age and sex. Young beetles had smaller pronotal widths (P<0.0001) as did females (P<0.0008). Pronotal measurements may be a field friendly means to better determine the age structure of the population.

05.01.75
EYA 1

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EYA 1
By: Mark Hall, Leslie Faulkner, Ashley Gharibvand, John Stauffer, Richa Dalal, Sandra Escondor
As students enrolled in Genetics at NSU Broken Arrow we have been doing research in bioinformatics. The different databases we explored were OMIM, GenBank, BLAST, Spidey, Blink, MMDB, and Primer3. We used these sites to research a specific genetic mutation that caused a human disease. Our group decided on the EYA 1 gene. This gene mutation was originally found associated with Dorsophila, but was soon linked to humans with the branchiootorenal (BOR) syndrome. The EYA 1 gene belongs to a family that includes the EYA 2, EYA 3, and EYA 4 genes. It spans 156kb of DNA and is composed of 17 exons. This DNA sequence codes for a 559-amino acid protein and the mutation consists of an insertion, deletion, and/or nonsense mutation. The EYA 1 gene is found on the on the long (q) arm of chromosome 8 at position 13.3.
05.01.76
CHAETOMIUM GLOBOSUM GROWTH IN VARIOUS MEDIA EXPOSED TO 3 LIGHT REGIMES

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Indoor mold is a major health concern especially in homes that have experienced water damage. Chaetomium globosum is in the Kingdom Fungi, Phylum Ascomycota and forms perithecia containing light brown to olive subglobose ascospores. C. globosum grows well on building materials and the spores, hyphae, and possible mycotoxins can cause human health disorders. Experiments were conducted to investigate the growth and reproductive ability of 4 different C. globosum isolates on 10 different media. In addition, each set of media was placed in 3 different light regimes. Fungal hyphal growth was fastest on Oat, rice (RM) and V-8 agars. After 8 days of growth perithecia were most numerous on Oat, RM, V-8, CMC and SNA, respectively. After 21 days in culture, ascospore production was highest on Oat, RM, V-8, and PDA. C. globosum growth when exposed to the different light regimes varied in regard to media and isolate. In general, the 24 hr light regime appeared to reduce perithecia production. Understanding the optimum carbon sources and light requirement of C. globosum will help develop methods to control fungal growth and dissemination.

05.01.77
USING STABLE ISOTOPES TO EXPLORE MIGRATORY CONNECTIVITY IN THE YELLOW RAIL

UNIVERSITY OF CENTRAL OKLAHOMA
Lisa Pham · EDMOND, OK, BIOLOGY
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Yellow Rails (Gottornicops noveboracensis) breed in the northern US & Canada & are considered to be a “Species of Special Concern” in several states & provinces. These elusive birds spend the winter along the Gulf Coast but are seldom seen during migration. Many details of their migratory ecology are unclear. One of the few places they are regularly encountered during the fall is the Red Slough Wildlife Management Area in McCurtain County, OK. Our research will take place during their fall migration, & the objectives are (1) to use stable isotope analysis (dD:δ12C) in feathers to identify the rail’s breeding grounds & (2) to characterize the habitat the rails choose during fall migration. Using stable isotopes is helpful to infer their origin because when a bird moves from one “isoscape” to another “isoscape,” its feathers retain an isotopic signature of its previous location. Comparing dD values from feathers to dD values from the average precipitation map has been useful in estimating the origin of migrant birds. Moreover, identifying their breeding grounds will help establish if there is strong migratory connectivity—the degree to which the rails from a mutual breeding area migrate to the same nonbreeding area and vice versa. Understanding the migration patterns of the Yellow Rail is important for management and conservation. Lastly, sampling for the type of vegetation they use during fall migration is important because few studies have focused on their stopover sites.

05.01.78
MORPHOLOGY AND DEMOGRAPHY OF SONORAN MUD TURTLES (KINOSTERNON SONORIENSE)

UNIVERSITY OF CENTRAL OKLAHOMA
Brian Stanila · EDMOND, OK, BIOLOGY
Marie Stone · EDMOND, OK, BIOLOGY
Paul Stone · EDMOND, OK, BIOLOGY

UTAH STATE UNIVERSITY
Kenneth Locey · LOGAN, UT BIOLOGY

Aquatic habitats exist along a permanence axis and range from temporary to permanent. These habitats are characterized by stochastic events, environmental factors, and biotic interactions. We conducted research in the Peloncillo Mountains, Hidalgo Co., New Mexico and Cochise Co., Arizona. The Peloncillo Mountains are characterized by an intertwining network of canyons (some with stock tanks and some without), seasonal monsoons, and periodic drought. The Sonoran Mud Turtle (Kinosternon sonoriense) occurs in aquatic habitats along the permanence axis and are potentially impacted by environmental and biological factors associated with these habitats. Using mark-recapture techniques, we investigated the influence of aquatic habitat on body size and population size of K. sonoriense in 14 locations in the Peloncillo Mountains. Significant body size variation existed among locations for K. sonoriense, with the largest turtles existing in the most permanent habitats. Population densities were highest in locations with intermediate permanence and with habitat architecture that included a canyon and stock tank. Populations were least dense in locations at either end of the permanence axis, suggesting several locations in the Peloncillo Mountains do not provide adequate habitat for Sonoran Mud Turtles. We present data from our recent research and discuss potential population threats and limitations for K. sonoriense.
05.01.79
GRASSHOPPER AND FUNGAL COUNTS IN PASTURE VS TREE-FILLED AREAS

EAST CENTRAL UNIVERSITY

Dr. Terry Cluck - ADA, OK, BIOLOGY
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Over 20,000 species of grasshoppers are found in almost every habitat except for dense forests and swamps. Most grasshoppers lead solitary lives causing little harm to crops or gardens. Their life cycle consists of going through 5 instar stages over 30-50 days before becoming an adult. Grasshopper populations are controlled by: 1. various species of flies and wasps that parasitize grasshopper nymphs and eggs, 2. predators such as flies, beetles, birds and rodents, and 3. infections from fungi. The purpose of this study was to compare the distribution of grasshoppers in mowed versus un-mowed areas in a mixed grass pasture and in a tree-filled environment. The distribution of fungal genera in the same areas was compared to the grasshopper distribution. Grasshoppers were found in all four areas. Counts were higher in the pasture. However, un-mowed pasture was equivalent in grasshopper counts to short mowed pasture. Higher spore counts from the air were found in the tree-filled area. This correlated with fewer grasshoppers in the tree-filled area. A number of fungal genera were isolated from surface “sterilized” grasshopper sections (head, thorax, and abdomen). The connection between these fungal isolates and reduced number of grasshoppers in areas with high fungal spore counts needs further investigation.

05.01.80
HEART RATE VARIABILITY IN INSULIN RESISTANCE DOG MODEL

LANGSTON UNIVERSITY

Detrick Watson - LANGSTON, OK, BIOLOGY

Introduction: Physiologically the cardiometabolic syndrome provokes a decrease in the autonomic nervous system control of respiratory sinus arrhythmia in insulin resistant dogs. The sympathetic nerves increase heart rate, whereas the parasympathetic (vagus) nerves slow heart rate. The influence of parasympathetic innervations can be evaluated by analyzing the heart rate variability through the use of power spectral analysis (PSA). When vagal influences are strong, the high frequency power increases. Hypothesis: We hypothesize that the high frequency power of fat-fed, insulin resistant dogs will be significantly lower compared to the baseline time measurements and to lean controls. Methods: The dogs in this study were fed a high fat hyper caloric diet for 6 weeks, and changes in the body mass, blood glucose and insulin sensitivity were monitored. The high fat diet was reported to produce a diet-induced insulin resistance and hyperinsulemia. Results: The heart rate increased from week 0 to week 6 in 4 of 6 of the fat-fed, insulin resistant dogs and was largely unchanged in the control dogs. Likewise, the average high frequency power in the insulin resistant dogs decreased significantly in 4 of 6 animals and was unchanged in controls. Conclusion: We conclude that the changes in heart rate consequent to fat feeding are the result of changes in parasympathetic influence as evident from parallel changes in the high frequency power in the insulin resistant dogs.

05.01.81
ELEVATIONS IN BMI PRODUCE BLUNTED VASCULAR RESPONSES TO PAIN IN THE FACE

LANGSTON UNIVERSITY

Shawn Cain - LANGSTON, OK, BIOLOGY

We investigated the relationship between Cold Pressor Stimuli (CP), Cardiovascular Responses, and Body Mass Index (BMI) in healthy individuals.

Purpose: Several studies9-13 as well as previous pilot data from our lab demonstrate that pain perception is rated higher by individuals with elevated body mass index. We hypothesize that individuals with elevated body mass index will therefore have an elevated blood pressure response to cold pain stimuli.

Methods: Six normotensive volunteers, 18-21 years of age were recruited for this study. Subjects were studied at the same time of day and instrumented to record Mean Arterial Pressure (MAP), Systemic Vascular Resistance (SVR), Body Mass Index (BMI), and Borg’s 20-point rating of Perceived Pain (RPP). Both normal (<29) and elevated (≥29) BMI groups submerged their right hand for 3 minutes in a 2 Degree Celsius cold water bath. Pre-CP and CP data were collected. All subjects reported their RPP prior to each stimulus and every 15 seconds until pain was no longer reported.

Results: 1) The elevated BMI group has an exaggerated MAP response to the CP stimulus. 2) The elevated BMI group has an exaggerated Pain Perception to the CP stimulus. 3) The elevated BMI group demonstrated a blunted vascular responses per unit of perceived pain.

Conclusion: Individuals with elevated BMI have a higher overall MAP increase when compared to individuals with normal BMI.
05.01.82  
THE CHANGING DOVE FAUNA OF OKLAHOMA CITY

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The Eurasian-Collared Dove (Streptopelia decaocto), White-winged Dove (Zenaida asiatica), and Inca Dove (Columbina inca) are relatively new species to Oklahoma. All three doves are expanding their range and increasing their population. Our goals are to see if dove abundance increases as areas become increasingly developed and to create a distribution map of the three doves in the Oklahoma City metro area. We conducted a pilot study during April 2008 sampling for the number of the three doves in the Oklahoma City metro area using 1-km transects. No data on White-winged Doves or Inca Doves were recorded. The abundance of Eurasian Collared-Doves was found to be greater in urban areas (p = 0.086). The small data set (n = 9) suggested Eurasian Collared-Doves abundance increases with increased urbanization. Sampling of the doves resumed in September 2008 and ended early October 2008 because of the departure of White-winged Doves. The sampling locations included random-generated locations and locations where we knew at least one of the three doves are present. Sampling will resume in the spring when all three doves are present in Oklahoma.

05.01.83  
FAMILIAL AMYOTROPHIC LATERAL SCLEROSIS: THE SOD1 GENE

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Amyotrophic Lateral Sclerosis (ALS), a neurodegenerative disease also known as Lou Gehrig’s disease, results from a progressive degeneration of motor neurons. Denervation causes upper and lower motor neurons to lose the ability to transmit messages to muscle cells, resulting in weakness and atrophy of muscles and, ultimately, the inability to initiate or control all voluntary movements, except for the eyes. Familial ALS (FALS) accounts for approximately 10% of all cases. Researchers have linked chromosome 21 to FALS and have isolated the SOD1 gene, chromosomal location 21dq22.1, as a major contributor to the disease. SOD1 gene (OMIM code 147450) is responsible for production of an enzyme, superoxide dismutase 1, which serves to protect cells from metabolic waste, converting reactive oxygen to harmless water. It is believed mutations (over 100 identified) of SOD1 induce a gain in toxic properties. It occurs as a mutation in the amino acid sequence; alanine replaced with valine at position 4. The end result may be a protein that is improperly folded and not functional. Common theory is that disruption of the SOD1 structure results in accumulations of proteins, or aggregates. The aggregates become sticky towards themselves and other proteins. The accumulations inhibit metabolic processes of proteosomes and lysosomes resulting in destruction of neurons. Various databases, such as OMIM, BLAST etc., were the key facet in discovering useful information about the disease.

05.01.84  
FUNGAL PATHOGENS OF GREENBRIERS: POSSIBLE BIOCONTROL AGENTS OR ENDOPHYTES?

EAST CENTRAL UNIVERSITY  
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Greenbrier (Smilax sp.) also known as Cat brier, is a major weed problem in home landscaping and agricultural environments. Smilax spp. are native to much of the southeastern third of the U.S. and northeastern Mexico. Although chemical control has shown limited success, alternative methods, such as biological controls are becoming more desirable as homeowners are more conscious of the environment and the possible hazards of excessive chemical use. In the summer of 2008, 51 Greenbrier plants were collected from 7 locations. Sections were taken from symptomatic regions of the plants, surface sterilized, and placed on potato dextrose agar (PDA). After 3-5 days, subcultures were placed on ¼ PDA and incubated. A total of 123 subcultures were examined microscopically. 18 different genera were identified from the 7 locations. The most common fungi isolated were Alternaria (6 out of 7 sites), Fusarium oxysporum (5 out of 7 sites), and Pestalotia sp. (4 out of 7 sites). Other species commonly observed were Nigrospora, Chaetomium, Phoma, Trichoderma, and Geotrichum. Some of these genera are known pathogens of Smilax sp., however, many are common endophytes in several plant species. Smilax sp. is a very hardy plant and we hypothesize that the endophytes found in this study contribute to their hardness. Further investigations will apply these pathogens to test the bioherbicide potential and also consider the prevalence of certain endophytes of Smilax sp.
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MATH & SCIENCE

05.01.85
INVESTIGATION OF PURPLE EGG PHENOMENON IN LAKE EUFAULA, OK

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In May 2006, blue catfish (Ictalurus furcatus) in the northern arm of Lake Eufaula were discovered to have discolored purple eggs. These eggs were examined using histological methods and found to be non-viable. In the years following, this phenomenon has continued to be exhibited in this species in Lake Eufaula, along with visual abnormalities of the liver and gall bladder. After extensive journal research, there appears to be no documented cases of this happening in blue catfish anywhere else worldwide. Yearly sampling has been conducted using electro-shock for fish capture, syringe method for egg extraction, and dissection for collection of internal organs. Each specimen was divided, with half being preserved in formaldehyde solution and half being frozen. Samples have been taken from three locations, each one in a major watershed area respectively. To date, the highest concentrations of abnormality have been found in the fish located the in the northern watershed, which is the Deep Fork River, with spotty occurrence in the North Canadian River watershed where it converges with the Deep Fork River watershed. The unhealthy condition of these blue catfish may be an indicator that the lake ecosystem is at risk. There is also concern for the human population that relies on Lake Eufaula as a food and drinking water source as well as an economic source through tourism.

05.01.86
EFFECTS OF ABIOTIC FACTORS AND GRAZING ON GYPSUM OUTCROP VEGETATION

UNIVERSITY OF CENTRAL OKLAHOMA
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Dr. Gloria Caddell - EDMOND, OK, BIOLOGY

Patterns of vascular plant species composition in relationship to abiotic factors and cattle grazing history were quantified for gypsum outcrop communities of the Cimarron Gypsum Hills of northwestern Oklahoma. We sampled thirty-nine 10 x 10m quadrats at 13 sites during summer and fall of 2006, and spring and summer of 2007. One hundred and fifty-five species were identified, of which only 7 were introduced. The dominant species were native perennial herbs, and the outcrops appear to be “islands” of predominantly native vegetation. Although there were differences in species composition among sites, plant assemblages were similar enough to be considered the same community, and richness and diversity differed little among sites. Detrended Correspondence Analysis showed that differences in species composition along Axis 1 were significantly correlated with changes in average annual precipitation, average annual temperature, longitude, and elevation, with a weak grazing history gradient shown along Axis 2. Indicator Species Analysis identified few significant indicators for a particular grazing history. The native plant community persists in spite of grazing; however, plant cover was higher on long-ungrazed than on currently-grazed outcrops.

05.01.87
EFFECTS OF HYDROGEN PEROXIDE ON MYOFIBROBLAST PHENOTYPE

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Melville Vaughan - EDMOND, OK, BIOLOGY

Myofibroblasts are contractile cells that function in normal wound healing. They are also present in pathological contractures and tissue fibrosis. Our goal is to understand how to modulate the phenotype. Previous studies found that growth arrest by telomerase and antioxidants inhibits the phenotype of myofibroblasts. The common result was cell proliferation. Therefore, we hypothesize that the inhibition of proliferation by growth inhibitors of fibroblasts will promote myofibroblasts. One of the growth inhibitors that will be used to promote the myofibroblasts is hydrogen peroxide, which is known to damage DNA and cause growth arrest. We will make and fix coverslips with control cells and peroxide-treated cells, followed by transforming growth factor-beta, a known myofibroblast-promoting chemical. Then, the coverslips will be stained and we will look for the hallmark myofibroblast phenotype: smooth muscle alpha actin. Pictures will be taken and used to determine if the foresaid hypothesis is correct.

05.01.88
MOTORLESS MYOSIN V TRANSCRIPTS IN MAMMALS.

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Kyle Ingram - ADA, OK, DEPARTMENT OF BIOLOGY

Myosin V is a motor protein that transports several different cargoes along actin filaments. In the nematode Caenorhabditis elegans, the hum-2 gene encodes the myosin V protein, and several alternatively spliced tran-
scripts are derived from this gene. One of these transcripts, hum-2C, codes for a widespread neuronal version of the protein that does not have a motor domain. Given the importance of the truncated transcript in C. elegans, we believe that motorless versions of myosin V may also exist in mammals. Three full-length mouse and human myosin V genes (myo5A, myo5B, myo5C) have been identified from the genome sequencing projects. We identified EST sequences in the GeneBank database that may correspond to truncated versions of myo5B and myo5C and have similar gene structures to the C. elegans hum-2C transcript. Using species-specific primers, we identified a unique, alternatively-spliced myo5C exon from both mouse and human cDNA libraries. This exon appears to be the lead exon for a truncated version of myo5C. The mouse and human lead exons encode peptides that have little homology to each other, which may indicate that they are promoters rather than coding exons. However, the presence of an internal promoter still suggests that truncated myoVc products are present. We have inserted the unique mouse sequence into the yeast pGBK-T7 bait plasmid. Yeast two hybrid screens, along with 5'RACE, will be used to confirm that this is a protein-coding sequence.

05.01.89
FECAL ANALYSIS OF SONORAN MUD TURTLES, KINOSTERNON SONORIENSE

UNIVERSITY OF CENTRAL OKLAHOMA
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Brian Stanila  EDMOND, OK, BIOLOGY
Paul Stone  EDMOND, OK, BIOLOGY

Recently, our lab has begun to investigate variation in demography and morphology of Sonoran Mud Turtles (Kinosternon sonoriense) in the Peloncillo Mountains, Hidalgo Co., New Mexico. Our goal is to investigate the influence of permanence on the diet of turtles inhabiting Buckhorn Tank, a permanent habitat with fish, and Blackwater Hole, a temporary habitat without fish. Resources are predicted to be more abundant in permanent aquatic habitats than in temporary aquatic habitats. We assessed the diet of Sonoran Mud Turtles by opportunistically collecting fecal samples during May 2005 - August 2008. Because Sonoran Mud Turtles primarily feed on invertebrates, we used invertebrate abundance as an indicator of resources availability. We assessed resource availability by sampling for invertebrates 37 times from 1 July - 12 October 2007. Fecal samples were stored in 70% ethanol and transported back to the lab for identification. Each sample was dissected and sorted according to plant and animal material. Later we will identify components of the feces to the lowest possible taxon. We will compare invertebrate abundance in aquatic habitats to invertebrate abundance in fecal samples using rarefaction curves. We will also test whether invertebrate abundance is higher in permanent or temporary aquatic habitats, and whether diet varies along the permanence axis.

05.01.90
DE-EPIDERMIzed DERMIS INHIBITS RAS KERATINOCYTE INVASION

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Cancer cells secrete an enzyme, which degrades the basement membrane of skin. The cells then invade and migrate to other locations. This experiment will test the ability of the basement membrane to inhibit ras-expressing keratinocytes. Ras cells secrete similar enzymes, but their targets may be different than basement membranes. Our previous research showed that ras keratinocytes, when plated on a dermal layer, invade the dermal layer prior to basement membrane formation, and then appear to stop. Therefore, it can be determined if the basement membrane is a factor crucial in inhibiting invasion. To begin the experiment, ras keratinocytes were plated on de-epidermized dermis (DED), consisting of a dermal compartment and a basement membrane. Some cells were plated with the dermis down/basement membrane up and others were plated with the dermis up/basement membrane down to act as the control. The tissues were fixed at 1, 7, 14, and 21 days for both frozen and paraffin sections. Invasion of keratinocytes is expected in the dermis up samples due to the absence of a basement membrane, while inhibited invasion would be expected in the dermis down samples. Surprisingly, no invasion occurred in either condition. Because the epidermis seemed to be rescued by this tissue our goal now is to characterize the tissue using epidermal specific stains, previously shown to be randomized in the earlier model, to demonstrate that the environment can instruct cells.

05.01.91
NESTBOXES FOR MANGROVE SWALLOWS - IF YOU BUILD IT, WILL THEY COME?

UNIVERSITY OF CENTRAL OKLAHOMA
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Chris Butler  EDMOND, OK, BIOLOGY

The Mangrove Swallow (Tachycineta albilinea) is a blue-green and white sexually monomorphic swallow. This bird breeds in coastal areas in Central America from northern Mexico to Panama and has been noted several times within 200 km of the US border. Although mangrove forests in extreme south Texas were frozen back to the waterline by the unusually severe freezes of 1983 and 1989 they have since largely recovered from the freeze. Mangrove Warblers (Dendroica petechia bryanti) have inhabited the area since 2003 and the potential exists that other man-
grov specialists (such as the Mangrove Swallow) may also move into this location if suitable nesting sites (such as nestboxes) are provided. We intent to put up nestboxes near South Padre Island to see if Mangrove Swallows can be enticed to breed. A person who regularly monitors the Mangrove Warbler population (Scarlett Colley) has volunteered to keep an eye on the nestboxes. If Mangrove Swallows do begin using these nestboxes, the potential exists to compare the reproductive biology of this species at the northern extreme edge of its range with an ongoing study in Belize.

05.01.92
ANALYSIS OF TISSUE LAYER STRATIFICATION IN KERATINOCYTES OVEREXPRESSING GFP

UNIVERSITY OF CENTRAL OKLAHOmA
Eyuel Terefe · EDMOND, OK, BIOLOGY
Dr. Mel Vaughan Ph.D. · EDMOND, OK, BIOLOGY

I examined whether the stratification of keratinocytes, the primary cells of skin epithelium, that over expressed the Cdk4 and telomerase, which made them into immortal cells, had an influence on whether the keratinocytes tissue layer was organized as normal keratinocytes. These immortal keratinocytes were engineered to overexpress GFP so they could be used in wound healing models to monitor keratinocytes migration in real time as they healed a wound. The goal was to determine if GFP affected their ability to stratify and differentiate similar to normal keratinocytes. I arrived at my results by examining immunoflourcense stains for the presence of proteins within the epithelial layers/dermal compartment in their proper location and orientation. The staining was for the proteins: Involucrin, a differentiation marker; Keratin 14, a regenerative cell marker; and basement membrane proteins collagen IV and laminin-5. I found that the organization of the epithelial layers of the over expressing keratinocytes to be similar as those of non-over expressing cells, which means that keratinocytes maintained epithelial cellular organization although they were going through abnormal proliferation. I also analyzed the epithelial layer organization of keratinocytes that were cultured for prolonged period (7 weeks). I also found that skin equivalents that were maintained for long period of time were similar to those that weren’t maintained for such a long period (3 weeks).

05.01.93
INCIDENCE AND IDENTIFICATION OF MICROBES CAUSING BOVINE MASTITIS

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USDA-ARS
Dr. Mike Brown · EL RENO, OK, GRAZINGLANDS RESEARCH LABORATORY

Mastitis, or infection of the mammary gland, potentially causes lowered milk production, lowered calf gains, and increased cow replacement rates for producers. Our objectives were to determine the incidence and microbial causes of udder infections in beef cows of varying genotypes. Milk samples were collected from beef cows (n=36) on May 20-21, July 15-16 and September 9-10, 2008, in early, middle and late lactation, respectively. Microbes were isolated when 3 or more colonies of the same morphology were present in duplicate milk samples. Eleven, sixteen and eleven of 36 cows had microbes isolated from at least one quarter in early, middle and late lactation, respectively.

Incidence of infection will be calculated by cow, quarter, genotype and period of lactation. Research will also involve the classification of microbes based on Gram reaction, cell and colony morphology, hemolytic and hydrolytic patterns, catalase production, oxidase reaction, tube coagulase test, and growth on selective media. Commercial kits (API® bioMerieux, Hazelwood, MO) will be employed to identify microbial species; microbes found in May were primarily Staphylococcus species. Results may suggest which cow breeds are most susceptible to mastitis. Our ultimate goal is to develop management schemes which minimize microbial impacts on animal health and losses in production.

Funding is provided by a NASA Space Grant Scholarship, SWOSU CPGS Grant, and NIH INBRE Summer Research Program.
05.01.94
A SURVEY OF THE HERPETOFAUNA OF THE BOEHLER SEEPS PRESERVE, OKLAHOMA

SOUTHEASTERN OKLAHOMA STATE UNIVERSITY
Dr. Tim Patton - DURANT, OK, BIOLOGICAL SCIENCES
Jared Wood - DURANT, OK, BIOLOGICAL SCIENCES
Understanding a faunal community structure is a necessary component of conservation efforts. We conducted a survey of the amphibians, reptiles, and turtles of The Nature Conservancy’s Boehler Seepts Preserve during 2008. Our survey protocol included monthly visual encounter surveys from March - October, anuran calling surveys from March - August, and three separate turtle trapping events during the summer months (each event ca. 2 weeks). We encountered a total of 41 species representing 17 families. Notable results from this survey include new county distribution records, elucidation of the temporal calling patterns of anurans, discovery of a population of a state sensitive species of turtle, and patterns of ecological succession on two large wetlands that are critical to this habitat. This information is already being used to develop management strategies for the preserve, and serves as a good example of how basic inventory data can be used for conservation efforts.

05.01.95
PRELIMINARY SURVEY OF CAVE INSECTS

UNIVERSITY OF CENTRAL OKLAHOMA
Mr. Lee D. Nguyen - EDMOND, OK, BIOLOGY
The purpose of this field study was to determine a room-by-room population of cave crickets in the Selman Cave System, a series of gypsum caves in Woodward County, OK. This type of study has not been done on this cave system.1 (Ref 1 - Dr William Caire, Nov, 2007, personal communication.)

The project was done under the guidance of Dr. William Caire and Dr. John Bowen, and in conjunction with Dr. G. O. Graening, an acknowledged expert in the Oklahoma gypsum caves.

I established baited traps from the front end of the cave to the back end of the cave. We wanted to see what the population of cave crickets and see in what area of the cave they are primarily settled in. Due to the size of the traps and the lack of data of invertebrates in the cave. After the first trapping period, three weeks in November 2007, it was seen that the predominant animal trapped was the cave cricket. At that time, Dr. Caire modified the goal of the study to determine the cave cricket population distribution in the section of the cave that we had selected.

The trapping method used was described by Collecting and Preserving Insects and Mites, (Ref 2 - Schauff, M. E., “Collecting and Preserving Insects and Mites. “Washington, DC: Agricultural Research Service, 1986) and utilized glass vials with a diameter of 2 cm and were 8 cm long, with screw caps. They were partially filled with propylene glycol2 to kill and preserve the trapped animals.

05.01.96
CONSERVATION OF RARE SPECIES AND HABITATS: LET NATURE TAKE ITS COURSE?

SOUTHEASTERN OKLAHOMA STATE UNIVERSITY
Dr. Tim Patton - DURANT, OK, BIOLOGICAL SCIENCES
Joseph McAllister - DURANT, OK, BIOLOGICAL SCIENCES
Scientists have debated the relative role of active management of species and habitats versus letting nature take its course without interference by man. The terms conservation and preservation, respectively, have been used to describe these philosophies. While a preservation philosophy may be the appropriate course of action in some situations, other situations may deem a more hands-on and proactive approach. We use three examples of situations in which we determined that active management was the appropriate course of action. These three examples include restoration of a unique wetland habitat complex, and captive breeding or rearing of two state-sensitive species: Western chicken turtle (Deirochelys reticularia) and American Alligator (Alligator mississippiensis). In this presentation, we discuss the reasons that the decision was made to take a proactive conservation approach, the actions that are being taken, and what will be done to monitor the success of these efforts.

05.01.97
EFFECTS OF SEDIMENTATION AND ECOLOGICAL SUCCESSION IN LAKE TEXOMA, OKLAHOMA

SOUTHEASTERN OKLAHOMA STATE UNIVERSITY
Dr. Tim Patton - DURANT, OK, BIOLOGICAL SCIENCES
Due to an extensive influx of sediment from the Red and Washita Rivers, portions of Lake Texoma are filling in at a rapid rate. We used GIS technology to assess the extent of filling in one portion of Lake Texoma. We used Gill nets to sample the fish community to describe how fish communities have responded to filling and reservoir fragmentation. Ecological succession on new lands was quantified using standard vegetation inventory protocols. Areas that were formerly open water have become forested landscapes, and patterns of sediment deposition have effectively fragmented parts of the reservoir. As with most landscape changes, some organisms may be affected.
negatively by this process, while others may benefit. For example, reservoir fragmentation may restrict fish movement, whereas development of mud flats and marsh-like conditions will likely provide improved habitats for some species of amphibians, shore birds, and waterfowl. Additionally, reservoir users such as anglers, property owners, marina operators, and lake-side vendors have, and will continue to be, affected by these changes. The change is probably inevitable, and all stakeholders should be aware of the processes.

05.01.98
EFFECT OF N-ACETYL CYSTEINE ON MYOFIBROBLAST PHENOTYPE REVERSAL

UNIVERSITY OF CENTRAL OKLAHOMA
Sarah Chukwuma - EDMOND, OK, BIOLOGY
Dr. Mel Vaughan Ph. D. - EDMOND, OK, BIOLOGY

Myofibroblasts are cells present in normal wound healing and pathologies such as Dupuytren's contracture. Understanding these cells will be useful in developing therapies for their treatment. Recently, n-acetyl cysteine (NAC), an antioxidant, was found to reduce smooth muscle-alpha actin, the primary protein identified with myofibroblasts. We have since shown that NAC prevents myofibroblast formation and reduces contractility associated with myofibroblasts. The goal of this study is to determine whether NAC can reverse the myofibroblast phenotype once it is established. To test this, we will grow cells in culture, treat them with Transforming Growth Factor-beta to induce myofibroblasts, and follow with NAC treatment. Initial experiments will determine percent of the population that is reversed by immunofluorescence staining for smooth muscle-alpha actin. Western blotting and contractility studies will follow.

05.01.99
ARE THESE SKIN EQUIVALENTS TENSE ENOUGH FOR MYOFIBROBLASTS?

UNIVERSITY OF CENTRAL OKLAHOMA
Tiffany Palmer - EDMOND, OK, BIOLOGY
Dr. Mel Vaughan Ph.D. - EDMOND, OK, BIOLOGY

Myofibroblasts are contractile cells found in normal wound healing. During aging, wound healing is slow, due perhaps to the inability of myofibroblasts to function properly. Tension generation is necessary to allow fibroblasts to become myofibroblasts. Skin equivalents, composed of fibroblasts, collagen, and keratinocytes, have been used to study wound healing in vitro. The classical skin equivalent model uses a tension-free environment that inhibits myofibroblast formation. We developed a tension-maintaining dermal tissue and demonstrated the presence of myofibroblasts, suggesting the model would be an appropriate foundation for a skin equivalent, which could then be used to study wound healing in vitro. The purpose of this study is to determine the effect of a keratinocyte layer on the temporal and spatial location of myofibroblasts. We established dermal tissues with tension and plated keratinocytes on top to create an epidermis. Samples were collected at 7, 14, and 21 days after setup. Preliminary staining results show a stratified epidermis and elongated fibroblasts within the dermis. Myofibroblast presence will be analyzed by staining frozen and paraffin sections from each time point to visualize smooth muscle-alpha actin, the hallmark protein expressed by myofibroblasts.

05.01.100
CATT DISPLACEMENT PROTEIN REGULATES TIMP-1 EXPRESSION IN ACTIVATED ASTROCYT

LANGSTON UNIVERSITY
Ebony Collins - LANGSTON, OK, BIOLOGY

UNIVERSITY OF NORTH TEXAS HEALTH SCIENCE CENTER
Kathleen Borgmann - FORT WORTH, TX, CELL BIOLOGY AND GENETICS
Adam J. Fields - FORT WORTH, TX, CELL BIOLOGY AND GENETICS
Anuja Ghorpade - FORT WORTH, TX, CELL BIOLOGY AND GENETICS

Tissue Inhibitors of Metalloproteinase (TIMP-1) and Astrocytes are intimately involved in the mechanisms of neural injury and repair and thus in neurodegeneration. Past work in the lab has lead to the hypothesis that Transforming Growth Factor (TGF)-β working through or upon CAATT Displacement Protein (CDP) may reduce the production of TIMP-1 by activated astrocytes. To verify this association, Primary human astrocytes were cultured in vitro, transfected with CDP small interfering RNA (siRNA), and activated with TGF-β or interleukin (IL)-1α to represent neuroinflammation. CDP silencing was verified in staining for CDP. TIMP-1 protein levels in cell supernatants were measured by ELISA. Since we hypothesize that there is a negative association between TIMP-1 and CDP, interference with CDP expression (i.e. less CDP) should lead to elevated astrocyte-Timp-1 levels.
05.01.101
EXPRESSION AND ANALYSES OF THE C-KIT TYROSINE KINASE AND ITS MUTANT C-KIT?S

SOUTHEASTERN OKLAHOMA STATE UNIVERSITY
Amanda Brock, DURANT, OK, PHYSICAL SCIENCES

UNIVERSITY OF OKLAHOMA HEALTH SCIENCES CENTER
Shaofeng Wang, OKLAHOMA CITY, OK, PATHOLOGY
Zhizhuang Joe Zhao, OKLAHOMA CITY, OK, PATHOLOGY

Objective: A tyrosine kinase is an enzyme responsible for transferring a phosphate from ATP onto a tyrosine residue of a protein. Mutations of genes that code for these kinases are thought to be accountable for tumorigenesis. This study involves working with a normal c-Kit tyrosine kinase and a mutated form, c-Kit?S. Upon expression of these genes in a baculovirus system, the cells response to the mutated kinase can be observed and compared to that of the normal kinase. We then want to find chemicals to prevent the mutant kinase activity. Our objective, therefore, is to characterize the activity of this mutant enzyme, and to screen for its inhibitors.

Methods: The DNA segments encoding the catalytic domain of the c-Kit and c-Kit?S kinases were amplified using PCR, and the products were inserted into the pBluescript KS vector for cloning. The inserts were then subcloned into the pBlueBacHis2a vector for generation of recombinant baculoviruses which were used to infect Sf9 insect cells to express recombinant proteins.

Results: Recombinant proteins carrying the catalytic domain of the c-Kit and c-Kit?S were highly expressed in Sf9 cells as judged by Western blotting analyses. Both proteins exhibited tyrosine kinase activity based on autophosphorylation assays.

Conclusions: The Baculovirus system has proven to be effective for expression and activity of the c-Kit and c-Kit?S kinases. We can now compare the two, and screen for their inhibitors.

05.01.102
THE NOVEL FUNCTION OF RALBP1 IN PROTECTION OF OXIDATIVE STRESS

LANGSTON UNIVERSITY
Mr. Kennedy Wayne Germany Jr., LANGSTON, OK, CHEMISTRY

RLIP76 (Ral binding protein-1) is a stress-responsive and stress-protective multi-specific transporter of glutathione conjugates (GS-E) and xenobiotic toxins (1-5). It is frequently over-expressed in malignant cells, and plays a prominent anti-apoptotic role selectively in cancer cells. Since RLIP76 transports anthracycline and vinca alkaloid drugs as well as glutathione electrophilic conjugates (GS-E), and because it confers resistance to these drugs (1-5), we proposed that depletion or inhibition of RLIP76 should sensitize the cancer cells and over-expression of RLIP76 through liposomes should protect the cells from the radiation as well as other oxidative stressors. Non small cell lung cancer cells (NSCLC) H358 cell lines were used in the research. Cytotoxicity of Adriamycin was examined in cultured NSCLC cells. Effects of RLIP76 depletion by phosphorothioate antisense against RLIP76 was confirmed and was associated with drug sensitivity of H358 cells. These studies demonstrate that RLIP76 serves as a key effector function in cancer cell survival and is a valid target for cancer therapy, and confirm that inhibitory modulation of RLIP76 transport activity at the cell surface is sufficient for drug sensitivity.

05.01.103
PHYLLOQUINONE LEVELS IN WILD HARVESTED PLANTS

NORTHEASTERN STATE UNIVERSITY
Monica Macklin, TAHELEQUAH, OK, NATURAL SCIENCES

Phylloquinone (vitamin K) levels are important due to their activity in the blood clotting process. Plants with high phylloquinone levels may interfere with anticoagulation therapies. Many older Native Americans from a variety of hemostatic problems and tend also tend to consume diets higher in green leafy vegetables, both from commercial sources as well as wild-harvested plants. In addition, phylloquinone has been implicated other medical issues, particularly in the maintenance of bone health. This study was initiated by a request from a clinical dietitian at an Indian Health Service hospital. Five species that are commonly harvested from wild plants and eaten by older Native Americans were the focus of this study. Each species was harvested from at least two different habitat types. The samples were analyzed by reverse phase high pressure liquid chromatography in a commercial laboratory. The results were compared data available from the USDA Nutrient Database. Phylloquinone levels ranged from a low of 377 mg/100 g serving to a high of 703 mg/100 g serving. All of the wild harvested plants exceeded the levels in fresh broccoli, the standard used for green vegetables. Also, each of the five species tested had higher levels than the previously reported numbers in the database. The results of this study indicate that a more rigorous testing of wild harvested plants may be necessary to accurately maintain phylloquinone levels of patients on anticoagulant regimens.
05.01.104
ARTHROGRYPOSIS

NORTHEASTERN STATE UNIVERSITY
Shyla Flickinger - BROKEN ARROW, OK, BIOLOGY
Brooke Burkharter - BROKEN ARROW, OK, BIOLOGY
Barry Cook - BROKEN ARROW, OK, BIOLOGY
Ericka Evans - BROKEN ARROW, OK, BIOLOGY
Jeffrey Simms - BROKEN ARROW, OK, BIOLOGY

Arthrogryposis is classified as fibrous stiffness of one or more joints, present at birth. As genetic students we used bioinformatic databases to give you information concerning this human genetic disorder. We took a look at the OMIM database to give you information such as gene location, which in our case is 9p13.2-13.1. Then we also go into the GenBank database which is a genetic sequence database that gives information such as the length of our sequence; which in our case is 8064bp, the source of our sequence; which is for us DNA, and the date that the information was last modified; which again ours is 03-March-08. The Blast database is used to compare DNA or protein sequences. Our gene was done on the DNA level and we compared it to other sequences similar to it in the database. This comparison, is measured using an E-value, our value was 2.2.18t We end with the Protein database were we will illustrate protein NP_0161138 in a 3D structure.

05.01.105
DIETARY DIVERSITY OF BARN OWLS, TYTO ALBA, ACROSS THE OKLAHOMA ECOREGIONS

UNIVERSITY OF CENTRAL OKLAHOMA
Lisa Pham - EDMOND, OK, BIOLOGY
Chris Butler - EDMOND, OK, BIOLOGY
Brad W. Watkins - EDMOND, OK, HISTORY & GEOGRAPHY

From 1976-1999, Barn Owls (Tyto alba) pellets were collected across Oklahoma by Paul Wilson. Approximately 47,000 pellets were then donated to University of Central Oklahoma’s Museum of Natural History, and their contents (primarily small mammals) were catalogued. Barn Owls are selective foragers with small mammals making up the majority of their diet. We used geographic information systems (GIS) to map the sample locations onto an Oklahoma Level IV Ecoregion map and also to assign the sample locations geographic coordinates. We predicted that there will be no spatial-temporal variation in the measures of prey species richness and evenness. We will use rarefaction curves (which will control for abundance) to examine species richness and evenness between ecoregions and between years. We will also use an abundance-based Chao estimator to estimate how total species richness varies between ecoregions and years.

05.01.106
TRAVEL DISTANCES OF THE ENDANGERED AMERICAN BURYING BEETLE AND ITS CONGER

NORTHEASTERN STATE UNIVERSITY
Alisha L. Powell - TAHLEQUAH, OK, DEPARTMENT OF NATURAL SCIENCES
Craig W. Clifford Ph.D. - TAHLEQUAH, OK, DEPARTMENT OF NATURAL SCIENCES
Amy D. F. Smith Ph.D. - TAHLEQUAH, OK, DEPARTMENT OF NATURAL SCIENCES

The American burying beetle, Nicrophorus americanus, is the largest carrion beetle in North America. This species is endangered, but its eight congeners have not shown a similar decline. N. americanus uses larger carcasses for reproduction. A decrease in these appropriately sized carrion can increase competition. It is hypothesized that it must search over a larger area for carrion than smaller congeners, but little information on the travel distances of the Nicrophorus species is available. Fifty-nine Land Condition Trend Analysis (LCTA) sites representing nine different habitat types were surveyed for N. americanus and its congeners between June and July 1996-2008 at Camp Gruber Military Training Site, Muskogee County Oklahoma, using a standardized transect method. The N. americanus were marked with a small notch on the left elytron and with a unique colored and numbered bee tag to determine travel distances. Travel distances were determined for N. orbicollis, in 2006 with a mean distance of 1.71 km night-1. The travel distance of N. orbicollis is well within the range (0.83-1.94 km) of N. americanus and greater than the mean distances (1.28 km) observed between 1996-2008. This suggests that N. americanus does not travel a larger distance in search of carcasses than smaller congeners such as N. orbicollis.

05.01.107
SERIAL ANALYSIS OF THE WOLLASTON EFFECT

NORTHEASTERN STATE UNIVERSITY
Nathan Kluttz - TAHLEQUAH, OK, OPTOMETRY
Brandon Mayes - TAHLEQUAH, OK, OPTOMETRY

Eye contact is important in today’s society as a form of communication. Wollaston first hypothesized that perception of gaze is not based solely on where the centers of the irises are pointed, but is skewed in the direction the head is turned. In our study we evaluated the effects of head turn and eye turn on judging position of gaze. We
photographed the head of one female subject. Images of the subject's eyes, straight (ES) or eyes turned (ET) were layered on a straight head (HS) or turned head (HT) using Photoshop. Twenty observers judged the position of gaze of the images. Each observer slid a fixation bead along an optical bench to estimate where the subject appeared to be looking. All the data was analyzed with a two tailed t-test. The results showed that images with the head turned showed a skew in the direction of the head turn. Images with turned eyes also were skewed in the direction of head turn. When comparing accuracy of one eye only, abducted eyes showed greater accuracy than adducted eyes in judging perception of gaze when gaze was averted. We concluded that head turn as an isolated variable does skew perception of gaze in the same direction when one or both eyes are visible. The Wollaston Effect held to be true in our study. A reverse Wollaston Effect was also found for images with turned eyes. Our results also indicate there may be more influence on judging gaze from the abducting eye than the adducting eye when the eyes are averted from straight ahead gaze.

05.01.108
THE EFFECTS OF INDWELLING CATHETERIZATION ON HOSPITALIZED PATIENTS

LANGSTON UNIVERSITY

Miss Katrena Lynn Wilson - LANGSTON, OK, HEALTH ADMINISTRATION

Studies indicate that indwelling catheterization may be a precursor to urinary tract infections. Due to this complication, hospitalized patients with disease processes unrelated to urinary tract infections may have an increase length of stay. These patients may also have a complicated course during hospitalization due to disease process affected by urinary tract infections. The objective of this study is to determine the effects indwelling catheterization may have on hospitalized patients. The study was conducted over a four month span and included 43 hospitalized participants. Participants were chosen based on urine samples that were positive for urinary tract infections based on bacterial growth of colonies higher than 100,000 colony forming units. Of the 43 participants 68% had urinary tract infections related to the use of indwelling catheters. The other 32% had urinary tract infections unrelated to urinary tract infections. The other 32% had urinary tract infections at the time of admission. Current research suggests that there is a positive relationship between indwelling catheterization and urinary tract infections. Studies show that urinary tract infections are the number one nosocomial infection affecting hospitalized patients. The findings of this study provides valuable information to the use and care of patients who have indwelling catheters. Thus the effects of indwelling catheterization can be detrimental to a patient's health which could possibly increase their length of stay and complicate their present disease process.

02 : CHEMISTRY

05.02.01
IDENTIFYING METALS BY USING SPECIFIC HEAT

UNIVERSITY OF CENTRAL OKLAHOMA

Mr. Sharome Goode - EDMOND, OK, CHEMISTRY

The purpose of this study was to research a specific heat experience and identify errors that may cause problems during calculations. The researcher hoped to improve the results that general chemistry students get while performing experiments. The researcher examined various aspects of heat experience that may cause problems.

05.02.02
C-C BOND CLEAVAGE AND DEPROTONATION KINETICS OF RADICAL CATIONS

CAMERON UNIVERSITY

Paritosh Das - LAWTON, OK, PHYSICAL SCIENCES

EKIGENT TECHNOLOGIES

Douglas Cyr - DUBLIN, CA, LLC

Transient radical cations from 1,1,2,2-tetraphenyl ethane and related phenyl-substituted hydrocarbons have been generated by 337.1 nm laser flash photolysis in acetonitrile at room temperature via photoinduced charge transfer to singlet excited 1,4-dicyanonaphthalene (acceptor). On the nanosecond time scale, the radical cations undergo either fragmentation via C-C bond cleavage into radicals and carbocations or deprotonation to radicals. The data on rate constants and activation parameters associated with the fragmentation and deprotonation processes will be presented.

05.02.03
THEORETICAL COMPUTATION OF S-S BOND DISSOCIATION ENERGY

CAMERON UNIVERSITY

Paritosh Das - LAWTON, OK, PHYSICAL SCIENCES

Tho Thi Quynh Nguyen - LAWTON, OK, PHYSICAL SCIENCES

Using computation methodologies based on density functional theory (DFT), we have calculated S-S bond dissociation energies (DE) of several aliphatic and aromatic disulfides. In case of systems for which experimental DE data and computational DE from higher-level ab initio methods are available, our best computed DE's were found to be slightly lower. For 4,4-disubstituted diphenyl disulfides, a Hammett plot of computed DE values indicated a steady increasing trend on going from electron-releasing to electron-withdrawing substituents.
**05.02.04**

**A SYNTHESIS OF AN AZO DYE FROM READILY AVAILABLE STARTING MATERIALS**

**EAST CENTRAL UNIVERSITY**

Dr. Daniel McInnes - ADA, OK, CHEMISTRY  
Ms. Whitley Freeman - ADA, OK.  
Mr. Saehan Park - ADA, OK, CHEMISTRY

This synthesis, which is appropriate as a two-part Organic Chemistry II laboratory experiment, begins with the methylation of p-aminobenzoic acid (PABA). PABA methyl ester is then subjected to diazotization conditions, forming the corresponding diazonium salt. Coupling the diazonium salt with salicylic acid affords an azo dye in reasonable yield. This experiment involves the following important Organic Chemistry II reaction mechanisms: nucleophilic acyl substitution and electrophilic aromatic substitution.

**05.02.05**

**RADIOLABELING LIPOSOMES WITH 99MTC**

**LANGSTON UNIVERSITY**

Kirk Braggs - LANGSTON, OK, CHEMISTRY  

Liposomes are a lipid-based drug delivery system and are used as a vehicle for a few clinically used anticancer and antifungal drugs. Labeling liposomes with a gamma ray emitting radionuclide, coupled with non-invasive imaging can be particularly useful. Our first goal was to synthesize a lipid that can chelate Tc-99m while structurally inside the lipid bilayer of liposomes. To this effect we synthesized, Distearoylphosphatidylethanolamine conjugated to 6-hydrazinonicotininate (DSPE- HYNIC). The compound was monitored by TLC. Next, we prepared liposome with distearoylphosphatidylcholine, DSPE-HYNIC, and cholesterol (1:0.07:1, molar ratio). The liposomes were allowed to react with Tc-99m as the pertechnetate, in the presence of stannous chloride reductant and tricine as a co-ligand. Labeling efficiency was monitored by gel exclusion chromatography with PD-10 column.

Results: We could successfully synthesize the chelating lipid DSPE-Hynic in high yields, 36%. The labeling efficiency of liposomes containing this lipid ranged from 10-35%. After PD-10 column purification the labeled product yielded >95% radioactivity associated with the liposomes. Liposomes can be successfully labeled with Tc-99m. More work needs to be performed for optimal conditions of labeling in order to obtain higher labeling efficiency. Future work will entail the use of this technique to follow in vivo distribution of labeled liposomes with gamma camera imaging.

**05.02.06**

**CONSTRUCTING THEORETICAL THREE DIMENSIONAL MODELS OF GLYCOSYLTRANSFERASES**

**LANGSTON UNIVERSITY**

Karole L Blythe - LANGSTON, OK, CHEMISTRY  

**LAWRENCE BERKELEY NATIONAL LABORATORY**

Paul Adams PhD. - BERKELEY, CA, DIVISION OF PHYSICAL BIOSCIENCES

Plants are an inexpensive source of carbon, and therefore, are an excellent candidate to generate an efficient biofuel. The process of producing biofuel from biomass requires the deconstruction of lignocellulose into fermentable sugars. Unfortunately, hemicellulose binds tightly to cellulose and lignin forming a sturdy connection to the plants walls. Hemicellulose is also composed of high percentages of pentose monosaccharides, which are difficult to ferment. The complications of fermentation caused by hemicellulose are the main focus of this research. This study examines one method of better understanding hemicellulose, which is to create theoretical three dimensional models of the glycosyltransferases responsible for its synthesis. The technique of homology modeling is used to construct the theoretical models. The names and amino acid sequences (query sequences) of genes encoding glycosyltransferases involved in hemicellulose synthesis were identified. BLAST programs were used to pinpoint protein sequences (templates) from the Protein Data Bank. After which, MODELLER was used for sequence alignments with each of the query sequences and templates previously identified. Finally, MODELLER calculated a theoretical model for each sequence alignment. Unfortunately, two of the models contained long strands of disordered amino acids and will give no indications to the proteins function in that region, and were therefore omitted from the results.

**05.02.07**

**MAKING A CONNECTION: SCIENTIFIC RESEARCH AND K12 STUDENTS**

**UNIVERSITY OF CENTRAL OKLAHOMA**

Dr. Elizabeth Allan - EDMOND, OK, BIOLOGY  
Dr. John Bowen - EDMOND, OK

Oklahoma educational code does not require four years of science for high school graduation. As a result, most students will not have an experience with upper-level science. For those that do have such an experience it is unlikely they will do scientific research or have laboratory experiences past a typical cookbook-type lab found in the textbook. Projects such as this one address this by providing students an opportunity to participate in science. In
the experience of the co-principal investigators there is little understanding of the actual nature of science and engineering in the minds of incoming university freshmen. Most high school students tend to think of science as a stuffy class based on mathematical word problems, and difficult concepts, all of which are of no relevance to the real world. Additionally, few if any of them have any concept of what scientists and engineers actually do at work. The goal of this study is to bring this realization to students at an early age, and interest them in careers in science and engineering. This project addressed the need outlined above by using an already existing UCO partnership with an area school to provide high school students the opportunity to participate in scientific research and make a contribution to the field. The poster will further explain the project and the ‘lessons learned’.

05.02.08
OPTIMIZATION OF A BIOASSAY FOR CARBOHYDRATE UPTAKE BY ESCHERICHIA COLI

SOUTHEASTERN OKLAHOMA STATE UNIVERSITY
Joseph A. Sampson. DURANT, OK. CHEMISTRY, COMPUTER, AND PHYSICAL SCIENCES
Joel T. Smith. DURANT, OK. CHEMISTRY, COMPUTER, AND PHYSICAL SCIENCES

An analytical method for the carbohydrate analysis of growth media for Escherichia coli (E. coli) was developed. The growth media contained 12 reducing saccharides known to be found in the intestinal mucus membrane of mammals. This mucus membrane serves as the point of colonization for invading pathogenic bacteria and the nutritional preference of various E. coli strains is of great interest. Reducing carbohydrates where derivitized with 4-aminobenzotrile using reductive amination prior to analysis. A separation method was developed and optimized using capillary electrophoresis with UV detection utilizing a borate-based electrolyte. The separation was optimized in terms of borate concentration, electrolyte pH, separation voltage, and column temperature. The optimized method resolved the 12 target metabolites in less than 24 minutes. Effective mobility was used to offset minor variations in the migration time due to changes in the electroosmotic flow. This greatly aided in automated peak identification and quantification. The analytical reproducibility was established using a pooled growth media sample. The application of this methodology to determine the carbohydrate consumption order of pathogenic E. coli strain EDL933 and nonpathogenic E. coli strain MG1655 is provided. Minor differences in the carbohydrates metabolism were evident.

05.02.09
MONITORING METABOLISM CHANGES IN E. COLI DURING AMINO ACID STARVATION

SOUTHEASTERN OKLAHOMA STATE UNIVERSITY
G. Aaron Hightower. DURANT, OK. CHEMISTRY, COMPUTER, AND PHYSICAL SCIENCES
Joel T. Smith. DURANT, OK. CHEMISTRY, COMPUTER, AND PHYSICAL SCIENCES

The impact of amino acid (isoleucine) starvation on amino acid metabolism in E. coli was explored for wild type MG 1655 and a mutant (relA spoT double mutant). A unique analytical method was developed to determine the amino acid concentrations in a growth media. The method utilized capillary electrophoresis-electrospray ionization-mass spectrometer (CE-MS). The amino acids were separated using a 1 M formic acid electrolyte (pH 1.8) where the amino acids migrated as cations toward the mass spectrometer. Once the E. coli consumed all of the isoleucine, the E. coli must reprogram its metabolism to continue to grow. Significant differences were observed between the mutant and WT. The analytical reproducibility was less than 3% CV. The generation of the chemical data set was complimented with a microarray data set that showed gene regulation. The combination of microarray and chemical data allowed for reprogrammed metabolism pathways to be proposed.

05.02.10
THERMODYNAMIC STUDY ON AN ANTIGEN-ANTIBODY INTERACTION

OKLAHOMA BAPTIST UNIVERSITY
Jami Rico. SHAWNEE, OK. BIOCHEMISTRY

OKLAHOMA CITY UNIVERSITY
Aaron Martin. OKLAHOMA CITY, OK.

In this study the biomolecular interaction analysis system, SensiQ, was used to observe effects that different temperature settings might have on the affinity constant (KD) of a protein - protein interaction. The interactant pair used for this study were recombinant interleukin-18 and its corresponding monoclonal antibody, anti-interleukin-18. After having the interleukin-18 covalently immobilized to the sensor, a 2-fold dilution series of anti-interleukin-18 was performed at each temperature 15 °C, 25 °C, and 35 °C. Three affinity constants (KD) were obtained by global kinetic analysis of each antibody binding assay. The constants obtained from the assays were plotted.
and analyzed using a form of the van’t Hoff equation. The enthalpy (ΔH) and entropy (ΔS) associated with the interaction was calculated in this way. Results from the study demonstrate that different temperatures have a kinetic effect on the interaction of interleukin-18 with antibody.

05.02.11
PARTICLE SIZE EFFECTS ON FENTON REGENERATION OF MTBE-SPENT ACTIVATED CARBON

ROBERT S. KERR ENVIRONMENTAL RESEARCH CENTER USEPA
Dr. Scott Huling · ADA, OK, APPLIED RESEARCH AND TECHNICAL SUPPORT BRANCH

EAST CENTRAL UNIVERSITY
Caleb Wingo · ADA, OK, PHYSICS
Fenton-driven regeneration of spent granular activated carbon (GAC) is a developing technology that may reduce water treatment costs. In this study, the effect of GAC particle size on Fenton-driven oxidation of methyl tert-butyl ether (MTBE)-spent GAC was evaluated. The GAC was sieved to create several particle size fractions (<0.35 to >2 mm) and iron (Fe) was loaded onto the GAC using two Fe loading methods. Bulk Fe loading involved the application of a ferrous Fe solution to the GAC. Acid pre-treatment of the GAC was performed before sequential Fe amendment to enhance Fe distribution in the GAC. Subsequently, MTBE was amended to the GAC, followed by oxidative treatments with H2O2. The H2O2 degradation rate and the extent of MTBE oxidation were inversely correlated with GAC particle size, increasing as size decreased. Acid pre-treatment of the GAC followed by Fe amendment resulted in significantly greater MTBE oxidation. Overall, results indicate that MTBE removal and GAC regeneration increases as particle size decreases and with acid pre treatment.

05.02.12
WATER TREATMENT USING MOLYBDENUM OXIDE AND CAPPED MAGNETIC NANOPIRICLES

OKLAHOMA STATE UNIVERSITY
A. W. Apblett · STILLWATER, OK, CHEMISTRY

SOUTHEASTERN OKLAHOMA STATE UNIVERSITY
Mo. Chehbouni · DURANT, OK, CHEMISTRY, COMPUTER & PHYSICAL SCIENCES

UNIVERSITY OF TEXAS AT BROWNSVILLE
T. Trad · BROWNSVILLE, TX, CHEMISTRY AND ENVIRONMENTAL SCIENCES

Novel approaches for water treatment using metal oxides were investigated in this project. Phase-I focuses on “green”, high yield synthesis of metal molybdates by the reaction of aqueous solutions of metal salts with molybdenum trioxide. The utilization of the molybdenum oxide showed high efficiency in removing metals from water. Phase-II addresses arsenate remediation using a new family of fine magnetic nanoparticles. The latter was prepared using iron(III) hydroxide caprylate, iron(III)-Ni(II) hydroxide caprylate, iron(II) stearate and iron(II)-Ni(II) stearate precursors. The materials have proven to be successful in reducing the level of arsenate in highly concentrated solutions to concentrations far below EPA standards.

05.02.13
UNRAVELING THE GTP-MEDIATED COORDINATION OF CTP SYNTHETASE

SOUTHWESTERN OKLAHOMA STATE UNIVERSITY
Dr. Jason Johnson · WEATHERFORD, OK, CHEMISTRY & PHYSICS
Hans Igou · WEATHERFORD, OK, CHEMISTRY & PHYSICS
Jacinda Nuttle · WEATHERFORD, OK, CHEMISTRY & PHYSICS

CTP synthetase (CTPS) catalyzes the synthesis of CTP from UTP, ATP, and glutamine. Since the enzyme sets the limits of intracellular CTP concentration supporting DNA, RNA, and phospholipid synthesis, it is a target of anticancer, anti-parasitic, and anti-viral therapies. Among the entire amidotransferase family of proteins, CTPS is also the only one whose activity is directly regulated by an allosteric effector, GTP. It is both activated in its glutaminase activity and inhibited in its ligase activity by GTP. With only one binding site for GTP per monomer of the homotetramer, the mechanism for this action is unclear. We seek to unravel these complex allosteric signals, in part, via an evaluation of the enzyme’s fluorescence response to GTP binding, potentially revealing a unique pharmaceutical target. CTPS exhibits three native tryptophans, too many to independently resolve. Our approach is to use the QuickChange Method to genetically engineer a variant of the enzyme devoid of tryptophan residues, which can then serve as a template for inserting probes into areas proposed to be involved in the GTP-mediated synchronization of CTPS. The gene for CTPS has here been redesigned to optimize codons for bacterial expression, synthesized by the company GenScript, and inserted into the pET-15b vector. Expression and purification via IMAC yields more than 20mg/L culture of His-tagged CTPS, 10-fold greater than levels reported in literature. Supported by INBRE Grant #P20RR016478-04.
05.02.14
QUALITATIVE STRUCTURE-ACTIVITY ANALYSIS OF FLEX-HET INHIBITION OF COMPLEX I
SOUTHWESTERN OKLAHOMA STATE UNIVERSITY

Keturah Odoi. WEATHERFORD, OK. CHEMISTRY AND PHYSICS

Dr. William Kelly. WEATHERFORD, OK. CHEMISTRY AND PHYSICS

Flexible heteroarotinoids (Flex-Hets) inhibit proliferation of human tumor cell by inducing apoptosis. Studies show that Flex-Hets target mitochondria, increase reactive oxygen species and inhibit respiration in ovarian cancer cells. Recent work in our lab has shown that SHetA2, the lead Flex-Het, inhibits NADH:ubiquinone oxidoreductase (Complex I) by an uncompetitive inhibitor mechanism. The goal of this work has been to assess Complex I inhibition by structurally different Flex-Hets. Complex I inhibition studies employed bovine heart muscle sub-mitochondrial particles. Enzymes activity was assayed as the decrease in absorbance of NADH at 340nm. IC50 values were obtained by curve fitting dose response curves to the four-parameter Hill-Slope equation. Flex-Hets are inhibitors of Complex I activity at physiological concentrations with IC50 values between 4-17 uM. In contrast, 4-HPR, a known inhibitor of Complex I had a measured IC50 of 3.6 uM. SHetA2 and SHetC2, which contain a nitro phenyl ring structure, were the most potent Flex-Hets with the IC50 values of 4-5 uM. SHetA3 and SHetA4, which contain a carboethoxy phenyl ring structure, were less potent inhibitors of Complex I, stimulating Complex I activity at low concentration, but inhibiting at higher concentration. Flex-Hets represent a new class of Complex I inhibitors and further illustrate the role of Complex I inhibition in the therapeutic treatment of cancer. Grant Support NIH INBRE P20RR016478-08.

05.02.15
IS SYNCHRONIZATION IN CPS BASED ON DYNAMIC CHANGES IN THE OXYANION HOLE?
SOUTHWESTERN OKLAHOMA STATE UNIVERSITY

Dr. Jason Johnson. WEATHERFORD, OK. CHEMISTRY & PHYSICS

Garrett Scott. WEATHERFORD, OK. CHEMISTRY & PHYSICS

The reaction between ATP and HCO3- at one active site within carbamoyl phosphate synthetase (CPS) represents the stimulus for an allosteric signal promoting glutamine hydrolysis at a separate active site. Although the mechanism for this conformational response is unknown, it has been shown that C248 becomes exposed to labeling reactions upon addition of ATP and HCO3-, and that the mutation C248D enhances glutaminase activity. Crystallographic differences between C248D and native CPS are therefore proposed to mimic conformational changes associated with the synchronization of active sites. The mutation produces a large change in the position of residues G243 through A251 toward greater solvent exposure. This sequence spans the “oxyanion hole”, residues speculated to interact with and stabilize tetrahedral intermediates accompanying glutaminase activity. We have constructed Y250W, thereby introducing a fluorescence probe potentially sensitive to coordinating allosteric signals. Separately, the C248D mutation has also been introduced with Y250W. The kinetic properties, absolute fluorescence properties, and the ligand-induced fluorescence changes of Y250W vs. Y250W/C248D are being examined. If ATP and HCO3- association induces a change in fluorescence properties of Y250W analogous to that caused by the introduction of C248D, credence will be given to the notion that synchronizing conformational changes are indeed mimicked in C248D. Supported by INBRE Grant #P20RR016478-04.

05.02.16
UNDERSTANDING THE MECHANISM OF TRICHLOROACETIC ACID-INDUCED PRECIPITATION
LANGSTON UNIVERSITY

Charles Loftis. LANGSTON, OK. DEPARTMENT OF CHEMISTRY

The mechanism of 2,2,2-trichloroacetic acid (TCA)-induced precipitation of proteins is examined. The TCA-induced protein precipitation curves are observed to be U-shaped and does not significantly depend on the nature and size of the protein. It is observed that the protein-precipitate-inducing effect of TCA is mainly due to the trichloro group in the molecule. In this study, using acidic fibroblast growth factor (aFGF), we attempt to understand the molecular mechanism underlying the TCA-induced protein precipitation by using a variety of biophysical techniques including multidimensional NMR spectroscopy. The results of this study shows that the sodium trichloro acetate (STCA) is a protein denaturant even at neutral pH and the unfolding of aFGF in STCA involves the formation of a stable equilibrium intermediate state(s). 1-anilino-8-naphthalene sulfonate (ANS) binding and size-exclusion chromatography results suggest that aFGF exist as a partially structured state(s) in 5 % (w/v) STCA. Limited trypsin digestion analysis and urea-induced unfolding data reveal the increased flexibility in portions of the protein backbone in the partially structured state(s) of aFGF with 5 % (w/v) STCA. The results collectively suggest that TCA-induced protein precipitation is mostly due to reversible association of protein molecule in their “molten globule (MG)”-like state(s).
144 OKLAHOMA RESEARCH DAY 2008

05.02.17
DPASV FOR THE DETECTION OF BA AND PB FROM GUNSHOT RESIDUE

SOUTHWESTERN OKLAHOMA STATE UNIVERSITY

Dr. Curt Woolever. WEATHERFORD, OK, CHEMISTRY AND PHYSICS
Kevin Bright. WEATHERFORD, OK,
Justin Cullen. WEATHERFORD, OK,
Kaleb Fischer. WEATHERFORD, OK,
Katherine Helms. WEATHERFORD, OK,
Crystal Mars. WEATHERFORD, OK,
Shawn Plymesser. WEATHERFORD, OK,
Tamara Powell. WEATHERFORD, OK,
Kaden Stratton. WEATHERFORD, OK,

Differential pulse anodic stripping voltammetry (DPASV) has been applied for characterization and quantitative detection of barium and lead from gunshot residue (GSR). Previous electrochemical techniques have detected antimony and lead from gunshot residue, however, barium had never been detected. This technique allows for simultaneous detection of barium and lead that is simple, fast, and nondestructive. Current work is investigating the use of various concentrations of LiClO4 electrolyte to improve determination of barium in the gunshot residue.

05.02.18
PHOTOREDOX CAPABILITIES OF A CAGED CHROMIUM(III) COMPLEX

NORTHEASTERN STATE UNIVERSITY

Andrew Williams. TAHLEQUAH, OK, NATURAL SCIENCE, CHEMISTRY

The photoredox properties of ruthenium(II) polypyridine complexes are well recognized. Chromium(III) polypyridine complexes have similar photoredox properties in addition to substantially longer excited state lifetimes. Unfortunately, the parent complex Cr(bpy)33+ undergoes an autocatalytic ligand substitution reaction which ultimately leads to the loss of at least one bipyridine. In order to stabilize the chromium(III) complex a caging ligand (1,3,5-tris((5'-methyl-2,2'-bipyridin-5'yl)ethyl)benzene or (5-bpy-2C)3Bz) was synthesized and the complex prepared and characterized by ESI/MS, UV/Vis and comparison to Cr(bpy)33+. NMR was not useful due to the paramagnetism of the chromium(III). The Cr(5-bpy-2C)3Bz)3+ was found to have similar characteristics to Cr(5,5'-dimethylbpy)33+. Both Cr(5-bpy-2C)3Bz)3+ and Cr(5,5'-dimethylbpy)33+ exhibit d-d absorption bands that are shifted to lower energy when compared to the corresponding bands in Cr(bpy)33+. Comparison of the yield for photosubstitution (loss of bpy) under intense white light indicate that the yield with Cr(bpy)33+ > Cr(Cr(5,5'-dimethylbpy)33+) > Cr(5-bpy-2C)3Bz)3+. No significant differences in excited state lifetimes were observed. Complexes containing Zn(II), Ni(II), Cu(II), Mn(II), and Co(III) in place of Cr(III), were prepared using similar methods.

05.02.19
DEGRADATION KINETICS OF CARBON TETRACHLORIDE BY SULFATE GREEN RUST

EAST CENTRAL UNIVERSITY

Bridget Toews. ADA, OK, CHEMISTRY

Chlorinated solvents such as trichloroethene (TCE) and carbon tetrachloride (CT) are priority groundwater contaminants. Green rust (GR) minerals are important corrosion products of zerovalent iron (Fe0) that has been used in permeable reactive barrier (PRB) technologies to remediate groundwater contaminants. Green rusts also occur naturally and are found in certain soils and sediments. Because green rusts play an important role in both active remediation and natural attenuation of contaminants in the subsurface, it is necessary to study their interactions with chlorinated solvents. Although preliminary evidence suggests that sulfate green rust (SGR) can degrade CT, little is known about the influence of geochemical factors such as pH and transition metals like copper (as a catalyst) on reaction kinetics. Therefore, the purpose of this project was to study degradation kinetics and products of CT by iron(II, III)hydroxysulfate green rust (sulfate green rust, Fe(II)4Fe(III)2(OH)12SO4·3H2O) as a function of reaction time (0 to 360 hours), pH (6 to 11), and concentrations of copper (Cu(II) ions (0 to 10 mM)) in microcosm tests. Results indicate that the pseudo-first-order reaction equation is able to satisfactorily describe most of the data. Degradation rates generally accelerated with an increase in pH while the addition of copper resulted in faster and more complete CT degradation. These results suggest that in PRB systems where pH is high (9-11), CT may readily degrade.

05.02.20
STRUCTURAL CHARACTERIZATION OF SIDEROPHORES FROM MARINE FUNGI

NORTHEASTERN STATE UNIVERSITY

Leane Coppick. TAHLEQUAH, OK, DEPARTMENT OF NATURAL SCIENCES
Kyle Elam. TAHLEQUAH, OK, DEPARTMENT OF NATURAL SCIENCES
Jessica Martin. TAHLEQUAH, OK, DEPARTMENT OF NATURAL SCIENCES

Siderophores are molecules that are produced for binding iron when soluble iron concentrations are low. Our objective was to grow, isolate and define the structure(s) of siderophores produced by the marine fungus, Sporid-
Charles Loftis - LANGSTON, OK, CHEMISTRY

Protein folding is a process by which an unfolded polypeptide chain folds into a specific native biological active structure. Protein aggregation is a widespread phenomenon that occurs during protein folding in vivo and in vitro. Understanding the mechanism of protein aggregation is important in solving the problem of formation of inclusion bodies during overexpression of recombinant proteins in host vectors and also in the prevention and cure of various human diseases (including Alzheimer’s disease). 2,2,2-trichloroacetic acid (TCA) is a well-known protein precipitating agent. In the present study, we attempt to understand the mechanism by which TCA induces precipitation of proteins, using various biophysical techniques including polyacrylamide gel electrophoresis, steady state fluorescence, 8-anilino-1-naphthalene sulfonate (ANS) binding, circular dichroism, and multidimensional NMR spectroscopy. It is observed that the protein-precipitate-inducing effects of TCA are due to the trichloro group. Using acidic fibroblast growth factor (aFGF), as a model protein, we attempt to understand the molecular basis for the TCA-induced effects. We demonstrate that aFGF is in a partially structured “molten-globule” state in 5% (w/v) sodium trichloroacetate (STCA). It appears that TCA-induced protein precipitation occurs through coalescence of partially structured state(s) of the protein.

JoAnna Reedy - TAHLEQUAH, OK, DEPARTMENT OF NATURAL SCIENCES

A growing interest in marine biology has stimulated interest in microbiological iron acquisition strategies in this low iron environment. Nearly all microorganisms as well as macroorganisms need iron to survive. Cunninghamella elegans ATCC 36112, a marine-derived fungus, was cultured and harvested for analysis. Previous studies demonstrated that the siderophore produced by C. elegans under iron limitation was rhizoferin. Desferrioxamine B has been shown to form Mn(II) and Mn(III) complexes, which are highly dependent on pH. Complex formation of rhizoferin with Mn(II) or Mn(III) was monitored by UV-visible spectrophotometry from pH 3.0 to 10.0. Future studies will further evaluate the properties of these complexes and will investigate the biological relevance of Mn(III)-siderophore complexes.

Source Water Analysis for NW Oklahoma City

Robert Felde and Ngoc Tran

The purpose of this project was to check for possible contamination along the North Canadian River, from Canton Lake to Lake Hefner canal. These sources contamination include; runoff from farms and communities, drilling activities, and concentrated animal feeding operations (CAFO). Samples were collected, refrigerated and processed on site, with the Oklahoma City Water Treatment Plant Lab doing more in-depth analysis the following day. On site field analysis included temperature, pH, Turbidity, Conductivity, Nitrite (low and high ranges), Nitrate (low and high ranges), and phosphorous. The laboratory analysis included fluoride, chloride, bromide, nitrate, phosphate, sulfate, and bacteria tests. The water sampling and analysis procedures were based on EPA (Environmental Protection Agency) guidelines. Some of these contaminants, that even in very low level can cause detrimental health effects. These effects include cancer, birth defects, organ damage, nervous system disorders, and compromised immune system. Excess contaminations also affect the water treatment process, and leads to the development of undesirable disinfection byproducts (DBP).
05.02.24
POLYMERIZATION OF METHYL METHACRYLATE IN MICROEMULSIONS USING MICROWAVES

NORTHEASTERN STATE UNIVERSITY
Mioto Sato - TAHOEQUAH, OK, NATURAL SCIENCE
Spence Pilcher - TAHOEQUAH, OK, NATURAL SCIENCE
Samples of poly(methyl methacrylate) (PMMA) were prepared in microemulsions using cetyltrimethylammonium bromide (CTAB) as the surfactant (surfactant/monomer = 0.5) via free radical polymerization using 2,2’-azobis(2-methylpropionamide) dihydrochloride (V-50) or potassium persulfate (KPS) as the initiator. Comparisons were drawn among the yield of the polymers produced using microwave irradiation and those produced using a conventional conductive heating method at two different initiator concentrations (0.1% and 1.0 % wt/wt initiator to monomer) for the polymerizations each conducted at 60 °C at various reaction times (5, 15, 30, 60, and 240 minutes). Polymerizations which employed the initiator, V-50 (1% wt/wt), achieved a higher percent conversion than the analogous polymerizations using KPS regardless of thermal heating method (microwave or conventional). For polymerizations using microwave irradiation at low initiator concentrations (0.1% wt/wt) of V-50, the percent conversion varied from 60% for 5 minutes to 80% at 60 minutes. In trials using low concentrations of KPS, microwave promoted polymerizations generally produced polymer although the percent conversion was low (2-3%). Conventional heating at low initiator concentrations failed to produce polymer regardless of initiator and reaction time.

05.02.25
EFFECT OF TITANIUM DIOXIDE NANO PARTICLES ON THE PHOTODEGRADATION OF ALOIN

CAMERON UNIVERSITY
Dean Prince - LAWTON, OK, PHYSICAL SCIENCES
Dr. Elizabeth Ann Nalley - LAWTON, OK, PHYSICAL SCIENCES
XETA-COMP
Charles Seeny - LAWTON, OK
Aloin, one of the active ingredients in many cosmetic products and body care products, undergoes rapid photodegradation when subjected to the effects of short wave UV irradiation. SunVex, a sun screen product manufactured by XetaComp in Lawton, OK has found a way to inhibit the degradation of Aloin. By incorporating nanoparticles in the form of coated titanium dioxide in their sunscreen formulation, the photolytic degradation of Aloin has been totally arrested. A kinetic study of this photodegradation of aloin was performed in the absence of and presence of titanium dioxide nanoparticles. The results of this study will be discussed and possible mechanisms for the inhibition of the photodegradation of aloin will be discussed.

05.02.26
ALTERNATIVE HEATING METHOD FOR THE MULTISTEP SYNTHESIS OF DILANTIN

NORTHEASTERN STATE UNIVERSITY
Rebeka Moore - TAHOEQUAH, OK, NATURAL SCIENCE
Spence Pilcher - TAHOEQUAH, OK, NATURAL SCIENCE
Many organic reactions performed in the undergraduate organic chemistry laboratory require heat to convert reactants to products. Traditionally, this is accomplished with a hotplate, heating mantle, or an oil bath. Heating with microwaves is an alternative heating method that is rapidly becoming more commonplace due to the dramatically reduced reaction times and higher product yields often seen with this technology. The primary objective for this study was to shorten the reaction time and increase the product yields for two separate reactions commonly performed in the undergraduate organic chemistry laboratory which typically take 60 minutes under reflux for each reaction to reach completion. These reactions were the oxidation of benzoin to benzil and then the reaction of benzil with urea to produce phenytoin which is marketed using the trade name Dilantin. For the oxidation of benzoin to benzil, the optimum conditions using microwave irradiation were a reaction temperature of 165°C and a 5 minute reaction time which produced a yield of 93%. For the conversion of benzil to phenytoin, the optimum conditions were a reaction temperature of 120°C using a 5 minute reaction time producing a yield of 55%.

05.02.27
STRUCTURAL STUDIES OF [CPFE(CO)(µ2-SC6H4OCH3)]2

CAMERON UNIVERSITY
Andrea Brock - LAWTON, OK, DEPARTMENT OF PHYSICAL SCIENCES
Dr. Danny McGuire - LAWTON, OK, DEPARTMENT OF PHYSICAL SCIENCES
Karisa Beacham - LAWTON, OK, DEPARTMENT OF PHYSICAL SCIENCES
Dr. Clint Bryan - LAWTON, OK, DEPARTMENT OF PHYSICAL SCIENCES
Metal thiolates have been an important factor in regulating electron transport, but are yet to be fully understood. The synthesis and analysis of other metal thiolates, such as [CpFe(CO)(µ2-SC6H4OCH3)]2 will begin to provide a...
binder of the internal chemistry of compounds such as these. It is suggested that stability of cysteinate ligands is increased with the increased presence of electron donating compounds. Bond angles and bond distances were compared. DFT calculations were performed with Gaussian software. X-ray data for this crystal structure were collected using an Enraf-Nonius CAD4 diffractometer.

**05.02.28**

**HUMAN OVARIAN CANCER CELL PROTEIN KINASE C ISOFORM IDENTIFICATION AND RESPON**

**UNIVERSITY OF CENTRAL OKLAHOMA**

**Alysha Rauhauser**: EDMOND, OK. **DANA RUNDLE**: EDMOND, OK. CHEMISTRY

It has previously been shown that retinoic acid (RA) regulates cancer cell growth both in vitro and in vivo. Because chronic retinoid treatment exhibits debilitating side effects, RA derivatives possibly having reduced toxicity and increased therapeutic value were synthesized at Oklahoma State University. One of these compounds, SHetA2 ([N-4-[2,3-dihydro-2,2,4,4-tetramethyl-2H-1-benzo[1]pyran-6-yl]-N’-4-nitrophenyl] thiourea), is under investigation in this project. Retinol and its metabolites bind to the regulatory domain of several protein kinase C (PKC) isoforms. There are 12 isoforms in the PKC family of serine/threonine kinases and several are known components of the apoptosis pathway in cancer cells. Based on the known interaction of RA with PKC, we hypothesize that SHetA2 may be activating a PKC to initiate an apoptotic response to drug treatment. Formation of an active PKC signaling complex has been shown to be tyrosine phosphorylation-dependent for some PKC isozymes. The first phase of this project was to identify the PKC isoforms present in the human ovarian cancer cell line (A2780). We show that the PKC isoforms alpha, iota/lambda, delta, and gamma are present in A2780 cells. Our data does not suggest that any of these PKCs are activated by tyrosine phosphorylation in response to SHetA2 treatment.

**05.02.30**

**CONFINEMENT EFFECTS ON LiPF6-DIMETHYL CARBONATE SOLUTIONS**

**NORTHEASTERN STATE UNIVERSITY**

**Dr. Chris Burba**: TAHCLEQUAH, OK. DEPARTMENT OF NATURAL SCIENCES

**Mio Shato**: TAHCLEQUAH, OK. DEPARTMENT OF NATURAL SCIENCES

According to the Gibbs-Thomson equation, the thermodynamic melting point of a liquid is lowered when it is confined inside a porous matrix, with the degree of the melting-point depression inversely proportional to the average pore radius of the confinement host. Although the Gibbs-Thomson equation has been tested for a large number of solvents, there are very few instances where the validity of the equation has been examined for solutions. Therefore, we used differential scanning calorimetry to assess the thermal properties of a series of LiPF6-dimethyl carbonate solutions (2.0 to 0.5 molal) confined inside MCM-41. The confinement host (MCM-41) is a mesoporous silica that has an average pore diameter of ~4 nm. Confinement is found to significantly decrease the melting point of the solutions, with the magnitude of the melting point decrease somewhat dependent on solution concentration. These experiments constitute a first step towards understanding the relationship between melting point and confinement for nonaqueous solutions.
There have been many studies of ligands, small molecules that bind to protein molecules. Although the identification of ligand structures has been performed for many years and over 8,800 structures have been deposited in databases, there are variants of the same structures. The goal of this research is to create a list of the top 200 most commonly used ligands. Scientists like crystallographers who study protein crystals may have a ligand in their protein and knowing that specific ligand will be significant to their research. This new list will cover over sixty percent of ligand entries and will increase the probability of ligand findings. Searching the protein database (PDB) provided information that helped categorize the ligands. Methods that enumerated the list included: graphing to compare and contrast ligands, searching the PDB, and making sub lists according to certain criteria. Some criteria used are as follows: most PDB entries, and ligands with the unique structures or shapes. In doing so, a unique programming language, Python, was used in order to write coding or scripts to search the PDB and generate the lists. Additional studies will use PHENIX (Python-based Hierarchical Environment for the Integrated Xtallography). This new software will provide essential algorithms to be carried out from reduced intensity data to refined molecular models. Moreover this software can create structures that will help enumerate the ligand list.

Solid oxide fuel cells (SOFC) represent an electrochemical energy conversion device. A metal-supported Solid Oxide Fuel Cell (SOFC) is comprised of an oxygen electrode, an electrolyte layer, a hydrogen electrode, and a stainless steel support layer. Once sintered the oxygen electrode is applied using screen printing. Difficulties in building up the cell include adhering the oxygen electrode to the electrolyte layer and obtaining a strong enough hydrogen electrode to support the electrolyte. The goal of this project is to investigate the use of a second porous electrolyte layer between the oxygen electrode and electrolyte layer both to increase the surface area of the oxygen electrode/electrolyte interface, and to increase the strength of the hydrogen electrode to better support the electrolyte layer.
rich in oil. GC-MS fatty acid methyl ester (FAME) analysis of 50/50 chloroform/MeOH extracts from bulk samples of purchased seeds revealed that the major fatty acids were linoleic (C18:2; 50-55%) and oleic (C18:1; 30-35%), with lower amounts of palmitic (C16:0; 9-10%) and stearic (C18:0; 3%) and traces of arachidic and linolenic acids. 15 to 17% (w/w) of hexane-extractable oil was obtained from commercial seed samples. The fatty acid profile of Centaurea oil is very similar to soybean and corn oils, and therefore may serve as an excellent alternative for modern production of biodiesel fuel. To test for possible variations in oil composition due to genetic variation or environmental differences, seeds were collected from wild populations in 12 locations in 2007 and 15 locations in 2008. Seeds collected from one site in 2007 showed a statistically significant increase in linoleic content, so seeds from several locations were grown in test pots in 2008 to determine if oil composition differences were observable in the next generation. Possible yields of seeds and oil per acre were also estimated from wild populations. (Funded by Oklahoma Center for the Advancement of Science and Technology (OCAST) Oklahoma Applied Plant Science Research Grant #PSA08-03 and NSF-EPS-CoR OK Educational Outreach Program EPS-0132534.)

05.02.35

COMPARISON OF OIL FEEDSTOCKS FOR BIODIESEL (B100) PRODUCTION

SOUTHEASTERN OKLAHOMA STATE UNIVERSITY

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Joshua Brown - DURANT, OK, CHEMISTRY, COMPUTER AND PHYSICAL SCIENCES
Justin Dodds - DURANT, OK, CHEMISTRY, COMPUTER AND PHYSICAL SCIENCES
Ricardo Lemos - DURANT, OK, CHEMISTRY, COMPUTER AND PHYSICAL SCIENCES
Micah Sampson - DURANT, OK, CHEMISTRY, COMPUTER AND PHYSICAL SCIENCES
Jimmy Stephens - DURANT, OK, CHEMISTRY, COMPUTER AND PHYSICAL SCIENCES
Ron Workman - DURANT, OK, CHEMISTRY, COMPUTER AND PHYSICAL SCIENCES

Here we compared conversion of several commercial available oils into biodiesel under lab conditions mimicking parameters used at a commercial, continuous-style production facility. Fuel properties and processing data for soy, corn, canola, safflower, sunflower, palm kernel and peanut oils will be presented. The cloud points and flash points of biodiesel samples were well correlated with the chain lengths and unsaturation of FAME components. (Funded by OCAST R&D Internship Award AP-71-i19 and NASA Oklahoma Space Grant Consortium.)

05.02.36

HIGH TEMPERATURE CHEMISTRY OF THE COBALT-OXXYGEN-HYDROGEN SYSTEM

EAST CENTRAL UNIVERSITY

Dr. Dwight Lee Myers - ADA, OK, CHEMISTRY
Alisha Rae Shepherd - ADA, OK, CHEMISTRY
Volatile metal hydroxide species are important corrosion products in combustion environments. Currently, the thermodynamics of the Co-O-H system are being investigated in our laboratory. Existing data are being assessed by means of equilibrium calculation utilizing the free energy minimization program SOLGASMIX-PV. Preliminary vaporization experiments have been performed to determine the significant volatile species. Geometry optimization and vibrational frequencies for relevant molecules are also being determined using the GAMESS ab initio program. Preliminary results will be discussed.

05.02.37

THE EFFECT OF PURITY ON THE GEL POINT OF BIODIESEL

UNIVERSITY OF CENTRAL OKLAHOMA

Evan Michael McIntyre - EDMOND, OK, CHEMISTRY
Petar Petrov - EDMOND, OK, CHEMISTRY
Biodiesel has a fairly moderate gel point meaning it solidifies in vehicles in colder climates. The goal of this research is to find a way to produce a more pure biodiesel that hopefully gels at a lower temperature. After obtaining a sample of biodiesel large enough we found the sample’s gel point to be 10.4 degrees Celsius. Then we distilled a sample of the biodiesel and collected the distillates in small vials. In one the vial that contained the distillates that came off the sample at a lower temperature we found that there were two distinct layers, a clear one and a more yellowish color. After separating the 2 layers with a pipette, and running them on the Gas Chromatograph Mass Spectrometer(GCMS) we found the clear distillate to be mostly comprised of acids not biodiesel although to see if this is what gelled at an early
temperature we tested its gel point we were unable to reach a low enough temperature with our freezer. But when we ran the yellow distillate that came off at 70 degrees through the GCMS we found it contained nearly pure methyl esters. This samples freezing point was found to be 1.5 degrees Celsius. The distillate at that came off at the higher temperatures (220-235 degrees Celsius) was found to be a mix of Biodiesel and acids and gelled at 6.4 degrees Celsius. Distillation works to isolate and get rid of several of the impurities that increase the gel point of biodiesel.

05.02.38
REACTION OF 2-MERCAPTO NICOTINIC ACID, 2-MERCAPTO SALICYLIC ACID AND PYRIMID

Mr. Frank Han · OKC, OK, CHEMISTRY
Dr. A.K.Fazlur Rahman · OKC, OK, CHEMISTRY
Ms. Margaret Wang · OKC, OK, CHEMISTRY
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Abstract:

Copper II nitrate reacts with 2-mercapto-nicotinic acid (H2Mna, C6H5NO2S) in water at 800C to form a bi-nuclear, water soluble compound of formulae [(C12H8CuN2O8S2). (H2O)2]. (1) . Crystal structure analysis of the complex (1) shows that during the course of the reaction the mercapto(RSH) group has converted to RSO3H by the reduction of the nitrate to NO. Reaction of copper ion and silver ion with tetrahydropyrimidine thiol gives corresponding coordinated complexes which have been characterized by X-ray Crystallography. The developed algorithm identifies the combinations of Amino Acids that create one structural sequence when there is a structural sequence that can be created only by a certain pattern of Amino Acids.

05.03.02
VIDEOPHONE

NORTHEASTERN STATE UNIVERSITY

Mr. Hiromichi Sato · TAHELEQUAH, OK, COMPUTER SCIENCE
Dr. Rad Alrifai · TAHELEQUAH, OK, MATHEMATICS AND COMPUTER SCIENCE

This work focuses on developing a Voice over IP (VoIP) videophone. VoIP is an evolving technology that is getting the spotlight in Networking and data communication. The project is developed in Java because of its rich API library that supports VoIP. The implementation of this system uses two main protocols: RTP and UDP. RTP, Real Time Protocol, is used for defining a standardized packet format for delivering audio and video over the Internet. This protocol is used for real time transmission. UDP, User Diagram Protocol, allows programs on networked computers to exchange IP packet.

05.03.03
SIMPLE INTRANET TELEPHONY

NORTHEASTERN STATE UNIVERSITY

Mr. Tatsuya Shoji · TAHELEQUAH, OK, COMPUTER SCIENCE
Dr. Rad Alrifai · TAHELEQUAH, OK, MATHEMATICS AND COMPUTER SCIENCE

The focus of this project is to create a simple java based soft-phone to be used over Local area networks (LANs). The system is programmed with Java and uses the Internet Protocol (IP). The system uses JAIN SIP for call setup. JAIN SIP is a software module that is available through the National Institute of Standards and Technology (NIST). JAIN SIP is the implementation of Session Initiation Protocol (SIP) on the java platform. SIP is a protocol used to establish a session between different hosts on IP-based
networks. The server program runs on the Linux platform and includes MySQL database to store data for mapping users’ IP addresses to their corresponding SIP addresses. A SIP address is just like the email address with the keyword “SIP:” attached before the email address. The system is composed of two components: a server and phone clients. While the server is responsible for tracking users’ information and establishing calls, the phone clients are responsible for providing the User Interface (UI) to access the service. To use this system, the user information must be listed at the server; the client machine requires Java version 6 (JRE 6) to be installed on it; and the users need to have headsets to access the phone system.

05.03.04
AN INTRODUCTION TO SCTP
CAMERON UNIVERSITY
Chao Zhao . LAWTON, OK, COMPUTING AND TECHNOLOGY
Feridoon Moinian . LAWTON, OK, COMPUTING TECHNOLOGY
AN INTRODUCTION TO STREAM CONTROL TRANSMISSION PROTOCOL (SCTP)

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ABSTRACT

The Stream Control Transmission Protocol (SCTP) is a new transport layer protocol that was originally designed to deliver PSNT signaling message over IP network but it is also capable of serving as a general-purpose transport layer protocol. Like TCP, SCTP provides reliable, ordered delivery of data between two endpoints, and like UDP it also preserves data message boundaries. Beyond TCP and UDP, SCTP offers two primary core features: multihoming and multistreaming. Both of these features increase data transmission availability, reliability, and security. In this article, we will introduce some core features of SCTP.

05.03.05
FAULT-TOLERANT DUAL POWER MANAGEMENT IN WIRELESS SENSOR NETWORKS

UNIVERSITY OF CENTRAL OKLAHOMA
Dr. Myung Ah (Grace) Park . EDMOND, OK, COMPUTER SCIENCE
How to adjust the transmission power at each node to achieve global energy efficiency while maintaining the network connectivity, referred as power management problem, is the major target of various topology control technologies. Moreover, fault tolerance which is often modeled as 2-edge or 2-vertex connectivity is another desired feature in many applications. In this paper, we study the fault tolerant dual power assignment problem. With the assumption of dual universal transmission power levels, we aim to minimize the total number of nodes assigned to high power level such that the resultant network topology is 2-edge or 2-vertex connected. As the problems are NP-hard, we design a novel algorithm to compute nearly optimal solutions. From the theoretical perspective, we prove that our algorithm can guarantee 3.67-approximation for both 2-edge connectivity and 2-vertex connectivity, which improves the existing best approximation algorithm. We also conduct some numerical experiments which show that results of our algorithm are at most 2 times of optimal solutions in average and have significant improvements compared to that of existing algorithm.

05.03.06
FACULTYCALENDARS

NORTHEASTERN STATE UNIVERSITY
Mike Rex . TAHLEQUAH, OK, MATHEMATICS AND COMPUTER SCIENCE
Dr. Rick Matzen . TAHLEQUAH, OK, MATHEMATICS AND COMPUTER SCIENCE
Northeastern State University requires every faculty member to fill out three copies of a form listing the faculty member’s office hours and class schedule. This form is for administrative records and also for the student body and the general public to know how to contact the faculty member during their scheduled office hours. The form is small and cumbersome to fill out by hand. Two copies get filed away and one goes on the faculty member’s door. The process of viewing these cards is inefficient for everyone.

This project was undertaken using standard software engineering steps: requirements and specification, design, and implementation. The behavioral approach was used in the design phase where various behaviors were assigned to particular parts of the system.

FacultyCalendars provides an easy, one time method for faculty members to fill out and display their office hours and class schedule. It is a useful tool for administration, faculty, and students, and it provides a simple and efficient alternative to the schedule cards currently in use.
05.03.07
NSU OK SCHEDULER

NORTHEASTERN STATE UNIVERSITY

Takeshi Shiina - TAHOEAH, OK, MATHEMATICS AND COMPUTER SCIENCE
Dr. Rick Matzen - TAHOEAH, OK, MATHEMATICS AND COMPUTER SCIENCE

Every student must choose classes and enroll every semester. Before the semester starts all students get a printed schedule or access the online schedule of classes offered. To choose which classes they are going to take, students must access the list of open classes in addition to the class schedule. The NSU OK Scheduler helps students find and choose open classes when enrolling.

Two different versions of the program were developed to test response time with two different approaches. The PHP version gets the open class information from the NSU web page every time that this program is used, while the Java/SQL version stores the open class information in a database and only updates it when the NSU open class list changes.

When users open the NSU OK Scheduler site, they can choose to go directly to make a schedule or they can choose to view the User Instructions first. From the main schedule page they can select a semester, a department, and a course number and then click the Search Selected Classes button. Each version of the program gets the current list of open classes, and provides a good set of features to assist students in selecting their schedules. This tool facilitates a student’s ability to easily construct their class schedule for enrollment. The Java/SQL version is much better because it responds faster to user requests.

05.03.08
AN APPROXIMATE QUERY ALGORITHM FOR BIOINFORMATICS DATA INDEXING

UNIVERSITY OF CENTRAL OKLAHOMA

Brian Gammill - EDMOND, OK.
Dr. Gang Qian - EDMOND, OK, COMPUTER SCIENCE

ND-tree is an efficient disk-based index structure for querying bioinformatics data. With relatively small Hamming distance ranges, the ND-tree significantly outperforms sequential search and metric trees. However, the performance of the ND-tree decreases as the search range increases. We present an approximate query algorithm for the ND-tree that supports large search ranges efficiently. Our experimental studies show that the proposed algorithm is quite promising.

05.03.09
DEVELOPMENT OF OBJECT ORIENTED COMPUTER GAME

UNIVERSITY OF CENTRAL OKLAHOMA

Paul Wiechmann - EDMOND, OK, COMPUTER SCIENCE
Hong K Sung - EDMOND, OK, COMPUTER SCIENCE

We developed Java program which mimics a traditional arcade game called Space Invaders. To fully utilize the object oriented features of the Java language, this Space Invaders game consists of six classes called SpaceInvaders, Ship, Enemy, Projectile, Powerup, and UpgradeWindow. The space invaders class extends the Java Applet class and contains the program’s game loop. Projectiles are instantiated when someone fires, and are removed when they intersect a ship or move outside of the level bounds. Powerups can be instantiated when an enemy is removed from the enemy list, and are removed when they intersect the player’s ship or move outside of the level bounds. The upgrade window extends the JFrame class and is created when the enemy and powerup array lists are empty and a function is called to end the level. The upgrade window is disposed upon closing. Collision detection between two objects is handled with simple point in axis aligned bounding box tests. The midpoint of a projectile or power-up object is tested against the regular rectangular bounding box for either the player ship object or an enemy ship object. Enemy ships are moved based on mathematical equations and can fire at set intervals given a percent chance to fire based on their distance from the player’s ship.

05.03.10
INTRODUCTION OF MEASURABLE QUALITY FACTORS IN TO THE SMART-COP

SOUTHWESTERN OKLAHOMA STATE UNIVERSITY

Dr. Warren Moseley - WEATHERFORD, OK, COMPUTER SCIENCE
Vicki Abernathy - WEATHERFORD, OK, ENTREPRENEURSHIP AND COMPUTER SCIENCE

In this poster session we will show the stages of progression, the significant transformations, and the way in which the Science Mathematics Association of Rural Teachers (SMART) Community of Practice (COP) was started, how it grew and why it now thrives. As a community begins the key domain issue it faces is defining the scope of the domain in a way that elicits the heartfelt interest of members and aligns with the organization as a whole. The key community issue of finding people who share this common interest and trying to show them what thing could be like by sharing the knowledge. In addition it is important to convince the participants that the potential
for the discovery of new and better ways to approach a rural educational setting. In 1987 Congress helped a slowly growing U.S. quality movement by establishing the Malcolm Baldrige National Quality Award to promote quality awareness. Now America’s highest honor for performance excellence, the Baldrige Award is presented annually to U.S. organizations by the President of the United States. The first Malcolm Baldrige National Quality Award was given to an Educational Organization in 2001 in this country and education was changed forever. This projects goal is to extract relevant organizational factors from the Baldrige process, combine these with the synergy derived from the communities of practices and apply them to rural math and science teachers across Western Oklahoma.

05.03.11
HETEROGENEOUS XGRIDS FOR 3D RENDERING OF COMPLEX ANIMATED DIGITAL IMAGES

SOUTHWESTERN OKLAHOMA STATE UNIVERSITY

Dr. Warren Moseley - WEATHERFORD, OK, ENTREPRENEURSHIP AND COMPUTER SYSTEMS
Chris Goree - WEATHERFORD, OK, ENTREPRENEURSHIP AND COMPUTER SYSTEMS
Mike Davis - WEATHERFORD, OK, GRAPHICAL VISUALIZATION

SOUTHWESTERN OKLAHOMA STATE UNIVERSITY

David Goree - WEATHERFORD, OK, ENTREPRENEURSHIP AND COMPUTER SYSTEMS

Xgrid is a proprietary distributed computing protocol developed by the Advanced Computation Group subdivision of Apple Inc. The program allows a group of networked computers to contribute their processing power to the same task. Xgrid provides network administrators an easy-to-implement method of exploiting previously unused computational power at low cost. The program acts as a job scheduler, splitting and allocating tasks to available nodes. Blender is a powerful open-source 3D application available for many platforms, and used by many professionals and hobbyists around the world. Blender 2.33a now includes raytracing, ambient occlusion, YafRay integration, and cellular procedural textures. Blender is well suited for use with Xgrid as a solution for network rendering. Another advantage to the Xgrid solution is that once the agent is configured to participate in a cluster, no advanced configuration or setup is needed by other users at the agent end to participate in the grid. The grid controller ensures that the proper files are distributed when the task starts. The appeal of XGrid is that it shields the end user from the details of the cluster. What is missing to make it even more powerful is an agent for architectures other than Mac OS X. This computer infrastructure available to scientists that is not always based on Mac OS X. This project demonstrates the Xgrid agent for Linux that can be integrated in any XGrid cluster as long as it is managed by OS X.

05.03.12
LOW COST MULTI-TOUCH LIGHT TABLE

SOUTHWESTERN OKLAHOMA STATE UNIVERSITY

Warren Moseley - WEATHERFORD, OK, ENTREPRENEURSHIP AND COMPUTER SYSTEMS
Eric Boebs - WEATHERFORD, OK, ENTREPRENEURSHIP AND COMPUTER SYSTEMS
Karl Kirch - WEATHERFORD, OK, ENTREPRENEURSHIP AND COMPUTER SYSTEMS
Jonathan Larsen - WEATHERFORD, OK, ENTREPRENEURSHIP AND COMPUTER SYSTEMS

The open source project is building a low cost version of a multi-touch table which will be developed as a software and hardware combination technology that will allow a user, or multiple users, to manipulate digital content by the use of natural motions, hand gestures, or physical objects. Multi-touch (or multitouch) denotes a set of interaction techniques which allow one or more computer users to control graphical applications with several fingers. The hardware will use 2 mac minis, a firewire camera, 4 IR Arrays, and a digital projector. One of the Mac Minis will be dedicated to image processing of finger presses and fiducial object recognition. The first Mac Mini will convert the information received from the firewire camera into a text string that will be sent to the other Mac Mini via UDP packets. This second Mac Mini will be responsible for gesture recognition and drawing the image to work with via the projector. The IR Arrays are used as a light source for the camera to pick up on the fingers or fiducial objects that may be on the screen. The software framework uses Java objects that will allow for easy creation of applications for anyone that would like to pick up on the project. It will build upon the touchlib or reactivision project.

05.03.13
HIERARCHICAL DATA VISUALIZATION METHODS

THE UNIVERSITY OF TULSA

Jerald Dawkins - TULSA, OK, ISEC
Matthew Matlock - TULSA, OK, MCS

In the age of information, the sheer volume of data that must be processed by computers is barely fathomable. In order for such a large quantity of data to fulfill its purpose - that is, to inform human users - we must find methods of extracting useful information, which can be recognized and acted upon quickly. We are particularly interested in
hierarchical data, where the visualization must preserve clear relationships between data lower in the hierarchy, and that above them. In particular, such visualizations must make it easy to analyze the properties of all data items, while also ensuring that the user is aware of the relationships between each of them. We examine the role of pre-attentive processing in human analysis of several common hierarchical data visualization methods, namely tree maps and fan maps. Finally, we apply these methods to visualizing information from a number of domains, including stock market data and network traffic flows, and offer a comparative analysis.

05.03.14
FURTHER INVESTIGATION INTO ROUTING WITH LINUX OS

CAMERON UNIVERSITY

Esmond Burke · LAWTON, OK, COMPUTING AND TECHNOLOGY

This research explored network routing using a cluster of 4 PCs running on Linux Fedora 9 OS, 4 switches, and 4 Cisco routers. The research topics include an overview of internet lab work, single-segment IP network, static routing, and dynamic routing.

05.03.15
ENGINEERING A BEOWULF-STYLE COMPUTER CLUSTER

CAMERON UNIVERSITY

Nnaji Okwudiri · LAWTON, OK, COMPUTING AND TECHNOLOGY

A typical computer cluster consists of linked computers, working closely together so that in many respects they form a single computer. To classify such a system as a true Beowulf cluster, one of the machines has to take the job as the central node that does the coordination and management of the rest of the nodes. For this research project, a cost effective, high-performance, personal, portable Beowulf-style computer cluster was designed and built. The basic idea is to pack a lot of processing power into a small volume using multi-core CPUs.

The system consists of three slave nodes, one head node (master), one hard drive, one CD/DVD ROM drive and an 8-port gigabit Ethernet switch attached to micro-ATX motherboards. The operating system of choice is Ubuntu Linux. The slave nodes are diskless systems and were configured to remote boot using Preboot eXecution Environment (PXE). The system is currently searching for the largest prime number greater than 12 million digits.

05.03.16
BUILDING A UNIVERSITY-WIDE GRID COMPUTING INFRASTRUCTURE

SOUTHWESTERN OKLAHOMA STATE UNIVERSITY

Dr. Anil Lawrence Pereira · WEATHERFORD, OK, ENTREPRENEURSHIP AND COMPUTER SYSTEMS

Mr. Eddy Lepatio · WEATHERFORD, OK, ENTREPRENEURSHIP AND COMPUTER SYSTEMS

The Globus Toolkit is being installed and configured on PCs running Linux and Windows in the Computer Networking lab at Southwestern Oklahoma State University (SWOSU), Weatherford. The Globus Toolkit is open source software used by several organizations world-wide for building Grid Computing Systems. Grid Computing supports the coordinated sharing of data and computational resources among different organizations. Computation and data intensive applications can be highly parallelized on the Grid due to the availability of a large number of processing nodes and data stores. The possibility of building a Grid across the SWOSU campuses at Weatherford and Sayre is being explored. The Grid could interface to resources from other universities, such as the Supercomputer at the University of Oklahoma in Norman. Several issues in Security and Large Scale applications on the Grid such as issues for Multi-participant 3-D Simulations and Games are being investigated. This Research could lay the ground work for realistic 3-D Simulations of Search and Rescue operations, Fire Fighting and Warfare. Issues in Grid Computing like latency, fault tolerance, distribution of workload and diverse Security Models will need to be addressed to create such working applications.

05.03.17
INFORMATION SECURITY IN A UNIVERSITY-WIDE GRID COMPUTING INFRASTRUCTURE

SOUTHWESTERN OKLAHOMA STATE UNIVERSITY

Dr. Anil Lawrence Pereira · WEATHERFORD, OK, ENTREPRENEURSHIP AND COMPUTER SYSTEMS

Mr. Benjamin vanTreese · WEATHERFORD, OK, ENTREPRENEURSHIP AND COMPUTER SYSTEMS

Grid Computing technologies have been adopted in many scientific and commercial sectors, but many Security issues have to be resolved for them to gain much wider acceptance. Their true potential will only be realized by developing secure systems that can encompass multiple organizations. Grid Computing supports the coordinated sharing of data and computational resources among different organizations. Computation and data intensive applications can be highly parallelized on the Grid due to the availability of a large number of processing nodes and data stores. Current identity and role-based Security mechanisms have several drawbacks in addressing
Security issues in dynamic environments like Grids. Several advanced Security models such as semantic-based, task-based and workflow-based access control models are being investigated at Southwestern Oklahoma State University (SWOSU), Weatherford. A comprehensive Grid Security model would include elements of these models and even extend them in order to support requirements such as interoperability, scalability, privacy protection, dynamic delegation, information flow and workflow within and between organizations, and diverse Security mechanisms and policies.

05.03.18
A REAL-TIME INTERNET TIC-TAC-TOE GAME

SOUTHEASTERN OKLAHOMA STATE UNIVERSITY
Dr. Ming-Shan Su - DURANT, OK, DEPT. OF CHEMISTRY, COMPUTER, AND PHYSICAL SCIENCES
Aaron Hamilton - DURANT, OK, DEPT. OF CHEMISTRY, COMPUTER, AND PHYSICAL SCIENCES
Aaron Hamilton and Ming-Shan Su, Dept. of Chemistry, Computer, and Physical Sciences, Southeastern Oklahoma State University, Durant, OK

This internet game application was given as a bonus project in the Net-Centric Computing class. Its purpose was to encourage students to integrate the skills of internet Socket programming, basic C++ programming, and the knowledge of the classic Tic-Tac-Toe game together to create a real-time internet Tic-Tac-Toe game application. Upon completion of the project, students were able to understand the concepts of Client-Server architecture, the design of Master/Child page, the procedures of the E-Commerce Pipeline such as Browse the Product Catalog, Add an Item to the Cart, Checkout, Process the Order, Create a Customer Account, Take the Credit Card Information, Confirm Purchase & Send Order, and Track the Order, and the deployment of an E-Commerce Application.

In addition, this project helped students to learn how to build a simple web site by using the standard server controls (e.g., TextBox, Button, DropDownList, etc.) and a dynamic web site by using the more advanced server controls, such as Navigation SiteMapPath & Menu, Membership Login & Password Recovery, and Data Grid & AccessDataSource under ASP.NET 2.0. For interested readers, this online E-Grocery Store application can be tested at the website http://babbage2.sosu.edu/dhamman/hw05/shop.aspx.

05.03.20
DEVELOPMENT OF WEATHER MONITORING PRODUCTS/SYSTEMS IN GIS

WEATHER DECISION TECHNOLOGIES
Michelle Ganson - NORMAN, OK, FORENSICS

UNIVERSITY OF OKLAHOMA
Preston Carter - NORMAN, OK, SCHOOL OF METEOROLOGY
Maggie Schoonover - NORMAN, OK, SCHOOL OF METEOROLOGY

Weather Decision Technologies, Inc. (WDT) is consistently creating and displaying innovative weather products for the consumer market with the purpose of forecasting potentially hazardous conditions. These forecasted conditions, which can be both weather-related and lifestyle-
related, are the end-result of products created by WDT employees within a GIS environment. WDT is continuing to improve the quality of two such product areas: Life-style Weather Products and precipitation accumulation estimation and forecasts. The Lifestyles Weather Products will be suited for providing automated alerts within a GIS framework (e.g. ESRI ArcGIS, Google Earth, etc.) using a combination of meteorological data and data related to health to indicate, for example, conditions leading to an increased discomfort due to allergies. In addition, a verification project is being conducted to evaluate the skill and accuracy of WDT’s GIS enabled Quantitative Precipitation Estimation/Forecasts (QPE/QPF) products. The current focus for this verification is on intense rainfall events over the state of Oklahoma, with the intent to expand to winter weather events and hail events within the contiguous US.

Progress on research and development including objectives, methodology, data sources, and current results will be presented.

04 : FORENSIC SCIENCE

05.04.03 ARSON: ACCELERANTS AND STATS
NORTHEASTERN STATE UNIVERSITY
Ms Emily Ann Clay. TAHLEQUAH, OK, CRIMINAL JUSTICE
This presentation addresses arson statutes, investigation techniques, common accelerants, death rates, and damages.

05.04.04 THE “METH MOUTH” EPIDEMIC
NORTHEASTERN STATE UNIVERSITY
Ms. Kelly Price. BROKEN ARROW, OK, CRIMINAL JUSTICE
This presentation will demonstrate the rise of “meth mouth”. The presentation and poster will also illustrate the effects meth has on the teeth and gum tissue and how meth mouth is on the rise in Oklahoma’s prison system.

05.04.05 DETERMINATION AND QUANTITATION OF NOROXYCODONE IN HUMAN URINE SAMPLES USING
UNIVERSITY OF CENTRAL OKLAHOMA
Christopher D. Doctorman. EDMOND, OK, CHEMISTRY
Dr. Robert O. Bost. EDMOND, OK, CHEMISTRY
Human urine samples, collected as part of another study to determine the elimination rate of oxycodone, were used as test samples for the detection and quantitation of noroxycodone. A method developed for the simultaneous quantitation of several opiates, including codeine, hydrocodone, hydromorphone, oxycodone, oxymorphone, and morphine, was modified to also incorporate noroxycodone as one of the compounds using selected ion monitoring (SIM). This method was utilized on a 4-channel multiplexing HPLC system interfaced with triple quadrupole mass spectrometer. Limit of quantitation, as well as between day accuracy and precision (%deviation and %CV) of noroxycodone was established at 100 ng/mL (3.9% and 24.9%).

Urine samples were collected over a period of a week from ten individuals given one of three different concentrations of oxycodone, along with a naltrexone blockade (50 mg per day). Concentrations of noroxycodone, oxycodone, and oxymorphone resulting from the analysis of an individual dosed with 80 mg tablets of oxycodone have shown noroxycodone to be the primary metabolite (70.8%±4.7) followed by oxycodone (18.5%±5.2) and oxymorphone (10.8%±2.1). Results for samples from other individuals will be tabulated and presented. These concentration results indicate that CYP3A4 mediation is the predominant metabolic pathway of oxycodone in humans.
05.04.06
DEVELOPMENT OF LOW TEMPERATURE DERIVATIZATION TECHNIQUES FOR THE DETECTION

UNIVERSITY OF CENTRAL OKLAHOMA
Ms. Katie Petersen - EDMOND, OK
Mr. Brehon Davis - EDMOND, OK, CHEMISTRY
Dr. David Lee von Minden - EDMOND, OK, CHEMISTRY
In the analysis of drugs of abuse by gas chromatography/mass spectrometry, it is often advantageous to form volatile derivatives of the analytes in order to improve their gas chromatographic characteristics or to increase the number of intense fragment ions in their mass spectra used for quantitative analysis. Historically, these derivatization reactions occur at high temperatures (80-100 degrees Celsius) for extended periods of time (30-45 minutes). A new technique of using microwave radiation or non-heat assisted techniques to facilitate these derivatization reactions is presented. A comparison of results using traditional, room temperature, and microwave techniques is given, showing decreased reaction times and increased yields for the preparation of trimethylsilyl derivatives of opiates.

05.04.07
PRELIMINARY STUDY OF CARRION COLONIZATION BY NECROPHAGOUS FLIES IN OKLAHOMA

UNIVERSITY OF CENTRAL OKLAHOMA
JeAnna Redd - EDMOND, OK, FORENSIC SCIENCE
Wayne D. Lord Ph.D. - EDMOND, OK, BIOLOGY
Katelyn Metzger - EDMOND, OK, BIOLOGY
Carrion-frequenting (necrophagous) flies are important ecologically and forensically. Central to understanding the ecological and forensic significance of necrophagous diptera is knowledge of the environmental and ecological factors influencing carrion detection, access, and colonization. This study examined the community of necrophagous flies colonizing carrion (liver) in two suburban Oklahoma habitats. Standardized samples of beef liver (uniformed attractant) were placed in a suburban woodlot and turf grass field in Central Oklahoma. Wind speed, wind direction, and temperature were measured at each site and correlated with carrion fly colonization rates and species diversity. Distinct necrophagous fly communities characterized the woodlot and turf grass habitats. This study suggested a difference between habitat microclimates. The turf field was characterized by stronger winds, higher temperatures, more rapid carrion desiccation, reduced fly colonization rates, and lower species abundance and diversity and was characterized by a significantly greater number of days devoid of carcass colonization by carrion flies. Woodlot vegetation mediated diversity and activity. The study demonstrates the potential influence of environmental factors on carrion colonization by necrophagous flies and vertebrate carcass recycling in non-vegetated habitats in central Oklahoma, and the importance of insular suburban woodlots as a refuge and species pool for dipteran decomposers.

05.05.01
EQUILIBRIUM STABILITY CRITERIA FOR NONLINEAR DYNAMICAL SYSTEM

EAST CENTRAL UNIVERSITY
Dr. Robert R Ferdinand - ADA, OK, MATHEMATICS
Mr. Jacob Gammill - ADA, OK, MATHEMATICS
We present a model that describes dynamics between nutrients and bacteria in a living organism. This model takes the form of a coupled system of two nonlinear ordinary differential equations (ODEs). Existence-uniqueness of model solution is established, followed by finding equilibrium points of the model. A linearization technique, using Jacobian of a matrix is used, whereby stability conditions for each of the equilibrium points found earlier is established. Finally, graphical illustrations are presented using MATHEMATICA to confirm the stability conditions.

05.05.02
SOME PRELIMINARIES TOWARDS CHAOS

EAST CENTRAL UNIVERSITY
Dr. Robert R Ferdinand - ADA, OK, MATHEMATICS
Mr. Brandon M Rosa - ADA, OK, MATHEMATICS
A coupled system of two nonlinear ordinary differential equations (ODEs) is presented. This system models population dynamics of two interacting species of a living organism. These two species grow in number owing to factors such as reproduction and decline in number owing to intra- and inter-species competition for resources. Equilibrium points for this model are found. This is followed by a linearization technique, using Jacobian of a matrix, whereby the equilibrium points are categorized as attractors, repellors or saddle points based on relationships between model parameters. Graphical illustrations are presented and future work towards understanding the chaotic nature of this nonlinear dynamical system is planned.
05.05.03
ON THE NEWTON-KANTOROVICH METHOD AND NONLINEAR FINITE ELEMENT METHODS
CAMERON UNIVERSITY
Ioannis Argyros · LAWTON, OK, MATHEMATICAL SCIENCES
We use a weaker version of the Newton-Kantorovich theorem[2] to provide a finer discretization result for finite element solutions to elliptic boundary value problems. Our results under less computational cost lead to finer estimates on the distances involved and a more precise information on the location of the solution.

05.05.04
THE ADVANCED ENCRYPTION STANDARD
NORTHEASTERN STATE UNIVERSITY
Cristina Cooper · TALEQUAH, OK, MATHEMATICS
Caleb Knowlton · TALEQUAH, OK, MATHEMATICS
Aaron James LaBounty · TALEQUAH, OK, MATHEMATICS
Yenchance Yang · TALEQUAH, OK, MATHEMATICS
This dissertation discusses the Advanced Encryption Standard (AES) which uses the Rijndael block cipher. Using our knowledge of abstract algebra and with the help of visual aids we will (1) Present the basic mathematical knowledge needed to understand how the cipher works, (2) Show how Rijndael encrypts information, and (3) Discuss the security of Rijndael, and compare it to its predecessor, the Data Encryption Standard (DES).

05.05.05
A MATHEMATICAL MODEL OF ERYTHROPOIESIS SUBJECT TO MALARIA INFECTION
UNIVERSITY OF CENTRAL OKLAHOMA
Dr. Jeremy Thibodeaux · EDMOND, OK, MATHEMATICS AND STATISTICS
There have been numerous mathematical studies on the dynamics of erythropoiesis. The same can be said of the dynamics of malaria infection within a particular host. In this study, we develop a mathematical model of erythropoiesis under the influence of malaria infection. The model takes the form of six coupled equations. Two are first-order, hyperbolic, partial differential equations describing the precursor and mature erythrocyte populations. The remaining four are ordinary differential equations describing the erythropoietin concentration, the parasite population, the infected erythrocyte population, and the body’s immune response.

05.05.06
THE SIX-COLOR THEOREM
LANGSTON UNIVERSITY
Rochelle Howard · LANGSTON, OK, MATHEMATICS
The Six-Color Theorem is a commonly known theorem that is used in the study of Topology. It states that every planar graph can be colored with at most six colors. The objective is to effectively prove The Six-Color Theorem. To prove The Six-Color Theorem, the Planar Graph Fact (every planar graph has at least one vertex of order five or less) is needed. Using an argument by contradiction, the Planar Graph Fact can be proven thus proving the Six-Color Theorem.

05.05.07
OBSERVATIONS REGARDING HARMONIC MEASURES
UNIVERSITY OF CENTRAL OKLAHOMA
Kristi Karber · EDMOND, OK, MATHEMATICS AND STATISTICS
This poster presentation is a portion of joint research with John R. Akeroyd and Alexander Yu. Solymin. We investigated crescent configurations which carry proportional harmonic measures. Configurations with two and three crescents carrying proportional harmonic measures will be demonstrated.

05.05.08
STABILITY ANALYSIS OF FOREST POPULATION MODEL
UNIVERSITY OF CENTRAL OKLAHOMA
Miss April Foltz · EDMOND, OK, MATHEMATICS AND STATISTICS
As we enter an age of increasing environmental awareness, many new technologies have been introduced. These technologies change our very way of life so that we might have a brighter tomorrow. This poster considers the ways in which we cut down trees. By looking at a differential equation model of logging scenarios through MATLAB and Mathematica, we can notice trends in tree growth and development over time. An example of one such trend is an equilibrium. These are places where trees have reached a size that can be sustained by the environment and then stay at this size. Specifically, equilibria were looked at to see if they were stable, thereby finding conditions in which the potential of long-term survival is realized.
ASSESSING STUDENTS OUTCOMES IN COLLEGE ALGEBRA

UNIVERSITY OF CENTRAL OKLAHOMA

Dr. Cynthia Murray  EDMOND, OK, MATHEMATICS AND STATISTICS

This study investigated the outcomes of college algebra students at UCO during the past five years with respect to their ACT math score and whether they had taken intermediate algebra prior to college algebra. Specifically, success rates (grades A, B, or C) were compared using the current ACT cutpoint of 19 with higher cutpoints for entry into college algebra to determine if there was a significant improvement in success rates. Success rates in college algebra were also compared for those students having satisfactorily completed intermediate algebra with those students who had not taken intermediate algebra or who had not satisfactorily complete it.

SIMULATION OF AIRCRAFT MISSED APPROACH TRAJECTORIES

UNIVERSITY OF CENTRAL OKLAHOMA

Dr. David Stapleton  EDMOND, OK, MATHEMATICS AND STATISTICS

Based upon data obtained from flight testing by a light (Piper Seneca PA 34-200) and a heavy (US Air Force McDonnell Douglass KC-10) aircraft an attempt is made to simulate the trajectory an aircraft flies during the time that a pilot pulls the aircraft up to execute a missed approach. Validation of a model pioneered by former WWII German Aviation specialist W.J.G. Pinsker and later upgraded by his former Russian Ph.D. student Radislav Danilov is made by applying given initial conditions from the test flights to the model and searching for model input parameters that make the simulation as accurate as possible.

MULTI-YEAR COMPARISON OF INTIMATE PARTNER VIOLENCE AMONG ADOLESCENTS

LANGSTON UNIVERSITY

Jamila K Harris  LANGSTON, OK, CHEMISTRY

Intimate partner violence (IPV), is defined as abuse between two people in an intimate relationship who are not married. A relationship does not require sexual intimacy to be classified as IPV. According to the Centers for Disease Control, there are four main types of IPV, which can also include stalking. The four types include, physical violence which is the intentional use of physical force with the potential for causing death, disability, injury or harm. Secondly, threats of physical or sexual violence which includes using words, gestures, or weapons to communicate the intent to cause death, disability, injury or physical harm. Psychological and emotional violence is the third type of IPV which involves trauma to the victim caused by acts, threats of acts, or coercive tactics, and the fourth type is sexual violence.

This descriptively review compares the prevalence rates of IPV among adolescents in Texas and the United States using YRBS data. The YRBS data was used to collect data prevalence rates of IPV among adolescents for the United States and Texas, 2001, 2005, and 2007 while also comparing gender, grade, and race. During this study, there were several interesting trends that were displayed in the YRBS data such as the trend between males and females, and the grade to which adolescents report IPV. Our research has sparked potential future studies to find out why males are reporting more than females and why adolescents are reporting more as they get older.

POPULATION MODELING

UNIVERSITY OF CENTRAL OKLAHOMA

Mr. Michael Brandon Ridener  EDMOND, OK, ENGINEERING AND PHYSICS

Throughout this research we will be using differential equations to model populations which undergo at least three life stages (e.g. frogs, insects). The model mentioned is a system of three nonlinear ordinary differential equations. We assume that the second two stages compete with each other while the individuals in the first stage only experience competition from their own stage. We find conditions on the parameters of the model which guarantee local asymptotic stability of the trivial solution, i.e., conditions under which the model predicts extinction of the population.

RADIAL LIMITS OF HOLOMORPHIC FUNCTIONS

UNIVERSITY OF CENTRAL OKLAHOMA

Dr. Michael C. Fulkerson  EDMOND, OK, MATHEMATICS AND STATISTICS

A classical uniqueness theorem of Lusin and Privalov says that radial limit zero sets of nonconstant holomorphic functions on the unit disc must be locally “small” in a sense that involves both Lebesgue measure and Baire category. The converse of this theorem was proved by Robert Berman. We prove a higher-dimensional version of the Lusin-Privalov theorem, but we show that the converse does not hold. We also show that in every dimension there is a residual subset E of the unit sphere and a nonconstant holomorphic function on the ball having radial limit zero on E.
05.05.14
THE STRUCTURE OF THE CONE OF ESD MATRICES

UNIVERSITY OF CENTRAL OKLAHOMA
Dr. Thomas Milligan. EDMOND, OK, DEPARTMENT OF MATHEMATICS AND STATISTICS

Dr. Chi-Kwong Li. WILLIAMSBURG, VA, DEPARTMENT OF MATHEMATICS

INDIANA UNIVERSITY
Dr. Michael Trosset. BLOOMINGTON, IN, DEPARTMENT OF MATHEMATICS
A matrix $A$ is an ESD matrix if the $(i,j)$ entry of $A$ is the squared euclidean distance between the $i$-th point and $j$-th point of a collection of $n$ points in Euclidean space. This set of matrices form a convex cone. The structure of the convex cone is investigated. Results are given concerning the facial structure of the cone, as well as other results, including bounds on the angle between minimum dimensional members and the center of the cone.

05.05.15
BENJAMIN GOMPertz: PIONEER OF ACTUARIAL SCIENCE

UNIVERSITY OF CENTRAL OKLAHOMA
Dr. Charlotte K. Simmons. EDMOND, OK, MATHEMATICS & STATISTICS
Dr. Jesse W. Byrne. EDMOND, OK, MATHEMATICS & STATISTICS
In this work, we investigate the contributions of actuarial pioneer Benjamin Gompertz, known for his capacity to sustain the complex computation required to generate “tables of lives and tables of stars,” to the field of actuarial science. Gompertz is best known today for his Law of Mortality, an extremely powerful tool in the study of mortality and in the creation of corresponding life tables for actuaries. The significance of this law is examined. Additionally, we discuss the contributions of friend and staunch supporter, Augustus De Morgan, to the field, both direct (via his own papers) and indirect (via his defense of Gompertz during the Edmonds-Gompertz controversy). Because of De Morgan’s efforts, Edmonds is “now remembered only for the disparagement of the work of a man of genius,” while Gompertz is remembered “because his outstanding brilliance as a mathematician was equalled by his modesty and generosity.”

05.05.16
LET’S MAKE A DEAL

SOUTHWESTERN OKLAHOMA STATE UNIVERSITY
Sulav Regmi. WEATHERFORD, OK, MATH
Vaibhav Pandya. WEATHERFORD, OK, MATH
Joe Wilson. WEATHERFORD, OK, MATH
The Monty Hall Problem is a probability puzzle loosely based on the 1960’s TV game show “Let’s Make A Deal,” which was hosted by Monty Hall. The problem appeared in a letter to Marylin vos Savant’s popular “Ask Marylin” question-and-answer column in Parade magazine. Craig F. Whitaker of Columbia, MD wrote: Suppose you’re on a game show, and you’re given the choice of three doors. Behind one door there’s a car, behind the others, goats. You pick a door, say number 1, and the host, who knows what’s behind the doors, opens another door, say number 3, which has a goat. He says to you, “Do you want to pick door number 2?” Is it to your advantage to switch your choice of doors? Marylin’s response “switch because the probability you’ll win the car is 2/3” caused an avalanche of correspondence, mostly from people who did not accept her solution. It turns out that Marylin’s solution is correct, as long as additional assumptions are imposed on the problem. We provide a thorough analysis of the Monty Hall Problem and investigate some of its many variations. In particular, we analyze stay versus switch probabilities for an n-door game, as well as stay-switch probabilities for a multi-stage game where the contestant has more than one opportunity to switch their choice of doors.

05.05.17
BIRTHDAY PARADOXES

SOUTHWESTERN OKLAHOMA STATE UNIVERSITY
Sulav Regmi. WEATHERFORD, OK, MATH
Vaibhav Pandya. WEATHERFORD, OK, MATH
Cammi Valdez. WEATHERFORD, OK, MATH
How many people need to be in a room so that the probability at least two of them share the same birth-day (month and day) is greater than 50%? Surprisingly enough, only 23 people are needed. We extend the results of this birthday paradox by finding the number of people needed so there is more than a 50% probability at least three of them have the same birthday. We also find a general formula for the probability that at least k out of n people in a room share the same birthday.
Friedreich ataxia (FRDA) patients are homozygous for large expansions of a GAA triplet-repeat (GAA-TR) sequence in the FXN gene displaying somatic instability with a remarkable degree of cell-to-cell and tissue-specific variability. Our recent data in FRDA patients over a wide range of age, indicated that mutational load and frequency of large expansions increases with age. This age dependence supports the hypothesis that the mutational mechanism driving expansion is not entirely based on DNA replication and may be to some extent caused by DNA repair. Using SP-PCR we have determined allelic distributions for somatic cells in vivo, derived from the dorsal root ganglia (DRG) of six individuals who are homozygous for expanded GAA-TR alleles, ranging in size from 540 to >970 triplet repeats (TR) at the FXN locus. Our stochastic models focus on understanding a repair-based mutational mechanism in DRG. We have developed several continuous-time Markov chain models describing repair errors. Maximum likelihood estimates (MLE) of the error length distribution included large expansions in an age-dependent manner. The age dependence was confined to expansion error size variation which appears to increase with subject age (R2>.5, p=.05). Our analysis suggests that the large expansions seen in DRG somatic instability occur as the result of mutational events whose TR-length is highly variable and that this variability increases with age while the frequency of mutation does not.

The purpose of this project was to investigate the effects of hypertension, give the causes and its treatments. For the study, hypertension is another name for high blood pressure. It is a condition that occurs when the pressure inside your larger arteries is too high. Studies showed that 9 of every 10 people who are diagnosis with hypertension do not exhibit symptoms. Research said that hypertension can be inherited from biological parents. Environment also plays a very important role, things such as weight, keeping physically fit, eating a healthy diet, limiting alcohol intake, and avoiding medications that may cause high blood pressure. We conducted a survey of about 100 people on Langston University's campus asking questions such as “Do you have high blood pressure?”, “Are there any medications involved?”, and “Is there any exercise in your daily activities or any time during the week?”. The results showed that 43 people or family members out of 100, which were 21%, were currently diagnosis with hypertension. Several who answered no to being diagnosed and yes to having a family history of hypertension have not taken any precautionary measures to prevent the developing the condition. Research showed that people are aware of what hypertension is however, it also showed that precautions such as daily exercise and eating healthy were not being practice.
and chicken breast tissue. The gel phantoms were irradiated by an 805-nm diode laser. Using a 7.1-Tesla magnetic resonance imaging system and a specially designed Mathematica algorithm, in vivo temperature mappings were obtained. The temperature mappings showed the selective laser photothermal effect could result in temperature elevation in a range of 10°C to 55°C. The data obtained provided invaluable information necessary to enhance future laser-immunotherapy.

**05.07.02**

**“REUSABLE SOLID ROCKET MOTOR BALLISTICS: LOW LEVEL TAIL-OFF ANALYSIS”**

**LANGSTON UNIVERSITY**

Leethaniel Brumfield III  ·  LANGSTON, OK. CHEMISTRY

Tail-off, the earliest time to the latest action time, was defined for the newly designed 06907 reusable solid rocket motor (RSRM) model as 20 seconds of motor operation after the time the motor reached 50 psia measured head-end pressure. Low pressure tail-off thrust model enveloped solid rocket booster (SRB) performance from thrust tail-off through separation from the shuttle to ensure no contact would occur. RSRM ballistics was performed to analyze whether the flight operation pressure from the 06907 model was comparable to that of the new five segment RSRMV. An adjusted RSRM shape term was used to calculate low level s tail-off traces. The RSRM shape term scaled during the first 1.4 sec to match the dispersion peak times for the RSRMV dispersions, which suggests that the new shape term allows for more variation than the trace projects. Low pressure SRM/HPM data appropriate for RSRM characterization was performed, which proved that mean and variation of low pressure data for RSRM was very similar to RSRM. In addition, burn rate was calculated as 0.368 in/sec nominal, ± 0.005 in/sec variations, while propellant mean bulk temperature (PMBT) variation ranged from 50-82 °F. The upper 3-s limit after cut-off was extrapolated from last value and followed similar shape to RSRM. Therefore, flight operation pressure from the 06907 model was 4486 lbf/psia (versus 4088 for RSRM) and the updated performance nominal and dispersed values corresponded to the RSRMV.

**05.07.03**

**IMMUNOLOGICAL RESPONSES FROM RESIDUAL TUMORS AFTER LASER IMMUNOTHERAPY**

**UNIVERSITY OF CENTRAL OKLAHOMA**

Halie Ferguson  ·  EDMOND, OK, DEPARTMENT OF ENGINEERING AND PHYSICS

Chris Bobo  ·  EDMOND, OK, DEPARTMENT OF ENGINEERING AND PHYSICS

Wei R. Chen  ·  EDMOND, OK, DEPARTMENT OF ENGINEERING AND PHYSICS

Chet Joshi  ·  EDMOND, OK, DEPARTMENT OF ENGINEERING AND PHYSICS

Henry Le  ·  EDMOND, OK, DEPARTMENT OF ENGINEERING AND PHYSICS

Laser immunotherapy, a combination of a near-infrared laser, a light absorbing dye, and an immunostimulant, is a method developed to treat metastatic tumors. It is hypothesized that the treated tumors in the animals play an important role as the sources of tumor-specific antigens. In this study, we tested this hypothesis by surgically removing the tumors after the laser treatment. Female Balb/C mice implanted with 105 live EMT6 mammary tumor cells were divided into 6 groups: control, laser treatment only, surgical removal of tumors followed by GC injection, ICG-GC injection followed by laser treatment, laser-ICG-GC treatment followed by immediate surgical removal of tumor (laser-ICG-GC-0wk), and laser-ICG-GC treatment followed by surgical removal of tumor after 1 week (laser-ICG-GC-1wk). The animals in the surgery-GC group had the lowest survival rate (33.3%) while animals in the group of laser-ICG-GC-1wk had the highest survival rate (76.9%). In comparison, the group of laser-ICG-GC-0wk had a noticeably lower survival rate (57.1%). Our results indicate that the treated tumors in the mice have an important function on the survival of the tumor-bearing mice. This study also revealed the importance of the balance between the use of the treated tumor cells for immunological stimulation and the removal of the residual viable tumor cells to prevent further tumor development. Further studies are needed to study the immunological reactions in the treated animals.
05.07.04
USE OF SURFACTANTS TO DECREASE AIR-WATER INTERFACIAL TENSION DURING SPARGING

EAST CENTRAL UNIVERSITY
Mr. Kyle Grady Ingram - ADA, OK, BIOLOGY
Dr. Michael Brooks - ADA, OK, SOIL ENGINEER

Sparging treatment efficiency depends on air-phase distribution. Likewise air-phase distribution is also dependent on a number of factors, one of which is interfacial tension (IFT). This experiment was conducted to determine how significantly a decreased air-water interfacial tension affects air-flow distribution and air saturation during sparging. Surfactants used to decrease IFT were fluorocarbons and sodium dodecylbenzene sulfonate (SDBS). First the drop weight method was used to select the SDBS concentration (0.08 g/L) and the fluorocarbon (perfluorohexane [FCH]) that had similar interfacial tensions of approximately 60 dyn/cm. This represents an IFT percent reduction relative to air-water of 18%, where the interfacial tension for water was measured at approximately 73 dyn/cm. An aquifer model with the dimensions 15.2 cm X 14.7 cm X 1.4 cm was constructed and packed with 20/30 sand. Sparging experiments were conducted using a range of air flow rates (0.01 to 0.13 SLPM) in three systems: air-water, air-water-FCH (FCH sparged with air), and air-water-SDBS (SDBS being dissolved in water). Light transmission visualization was used to measure and compare the air-phase distribution between systems. Relative to air-water system, sparging experiments with FCH and SDBS resulted in larger bulk air saturation in model. Our results showed air saturation increased most with SDBS, with the maximum air saturation increasing from 60% for the air-water system, to 80% for FCH, and 90% for SDBS system.

05.07.05
A CONTRAST ENHANCEMENT FILTER FOR IMPROVEMENT OF STENT VISIBILITY IN X-RAY

UNIVERSITY OF CENTRAL OKLAHOMA
Dr. Yuhao Jiang - EDMOND, OK, ENGINEERING AND PHYSICS
Ms. Ling-Hsiao Chang - EDMOND, OK, ENGINEERING AND PHYSICS

The feature enhancement filter has been an attractive idea to improve detection performance. Due to the high levels of noise in low exposure fluoroscopy, improving stent visibility can benefit a variety of interventional procedures. We are developing a stent enhancement filter. The idea is to use a Gaussian oriented filter to detect the edge of the stent. For a fully or partially deployed stent, a part of its structure is symmetrical. We will be able to generate a likelihood map of stent edge by local symmetry. The likelihood map may be added back to the original image to get a contrast enhanced x-ray stent image. This filter will be applied to a simulated x-ray fluoroscopy image sequence. We expect this filter to improve image quality without accentuating image noise significantly.

05.07.06
A MODIFIED WEIBULL FAILURE THEORY FOR ENGINEERING AND BIOLOGICAL STRUCTURES

UNIVERSITY OF CENTRAL OKLAHOMA
Dr. Morshed Khandaker - EDMOND, OK, ENGINEERING & PHYSICS

A high stress gradient occurs in a component when the stress, due external loading, rises asymptotically. High stress gradients are generated due to the geometric irregularities, material mismatch, thermal mismatch and/or contact loading. The conventional Weibull failure theory overestimates the probability of failure for structures with high stress gradients. A modified Weibull failure theory is presented to handle structures experiencing high stress gradients. The theory considers variable equivalent stress intensity factors along the faces of cracks; hence, it considers that the strength of a specimen to be dependent on the stress field. The failure theory is applied to engineering structures, and the results show the ability of the proposed theory to handle high stress gradients. The failure strength of a cortical bone is governed by the severest flaw and, hence, may be analyzed using Weibull statistics. In the research, a two-parameter Weibull method is applied to experimentally obtained results for fracture strength of bovine femoral cortical bone obtained using specimens extracted from both the circumferential-longitudinal and longitudinal-circumferential directions of the bone. Last but not least, the application of the modified Weibull failure theory on the bone-cement interfaces will be discussed. The ongoing research to obtain a probabilistic mechanistic interpretation of how bones fail and how the debonding of bone-cement interfaces occurs will be introduced.
05.07.07
**THE DIFFRACTION OF LIGHT: A STUDY OF TWO-DIMENSIONAL DIFFRACTION PATTERNS**

NORTHEASTERN STATE UNIVERSITY

Brandon Childress - TAHLEQUAH, OK, MATHEMATICS AND COMPUTER SCIENCE
Evan Linde - TAHLEQUAH, OK, MATHEMATICS AND COMPUTER SCIENCE
Brian Riley - TAHLEQUAH, OK, MATHEMATICS AND COMPUTER SCIENCE
Robin Tilley - TAHLEQUAH, OK, MATHEMATICS AND COMPUTER SCIENCE

In our experiment, we will show some diffraction patterns that are possible when a beam of coherent light is transmitted through an image that has been printed, using a computer, on a small piece of clear plastic. The images are high resolution and two-dimensional and are designed to allow the light through them at certain points while blocking the light at other points. Our goal is to acquire an intuitive understanding about the phenomenon of the diffraction of light.

05.07.08
**RTD BASED TEMPERATURE SENSOR FOR A QUARTZ PRESSURE SENSOR**

THE UNIVERSITY OF TULSA

Mr. Travis Ellison - TULSA, OK
Miss. Courtney Palmer - TULSA, OK
Dr. Kaveh Ashenayi - TULSA, OK, ELECTRICAL ENGINEERING

This project entails adding a RTD based temperature sensor to an existing quartz crystal pressure sensor.

Several prefabricated RTDs were tested and found to be inappropriate. Hence, a new one was designed and is being implemented in GRC.

Students are involved in every aspect of this project.

05.07.09
**DESIGN OF 3-D CHITOSAN GELATIN SCAFFOLDS FOR TISSUE ENGINEERING**

UNIVERSITY OF CENTRAL OKLAHOMA

Stella Onyeri - EDMOND, OK, ENGINEERING & PHYSICS

My senior design project was to design a scaffold that has the mechanical strength to mimic the mechanical properties of bone. The natural polymers that were chosen for this process were chitosan and gelatin. They were made into three-dimensional matrices and then analyzed for results using different test. The overall aim was to have a process and prototype that could serve as a tool and reference for future dental applications. This deliverable would be marketable and would have to meet the required specifications for usable scaffolds.

Studies of the morphology of the scaffolds, cell viability and proliferation, and binding characteristics were conducted for physical characterizations. The scaffolds were stable in regards to cell-surface interactions. Further investigations were carried out on the mechanical properties of the designed scaffold. Structural comparisons to bone were made along with studies on the failure mechanics. Chitosan and Gelatin together showed stronger characteristics than the Chitosan alone. Although not proven to mechanically resemble that of bone in the brittle region, it maintained a relationship with bone according to structure and could be used as supporting precursors for bone regeneration in the mouth.

05.07.10
**DESIGN OF A “WANKEL-LIKE” ELECTRO-MAGNETIC MOTOR**

UNIVERSITY OF CENTRAL OKLAHOMA

Mr. Ryan Berend - EDMOND, OK, ENGINEERING & PHYSICS
Mr. John Boyd - EDMOND, OK, ENGINEERING & PHYSICS
Mr. Robert Cowley - EDMOND, OK, ENGINEERING & PHYSICS
Ms. Samantha McEntire - EDMOND, OK, ENGINEERING & PHYSICS

The purpose of this design project was to create a rotary type magnetic motor that can fit inside a 1-ft cube box. The motor uses a spiral composed of permanent Neodymium (Nd) magnets with an electromagnet placed in the spiral opening. The rotor uses permanent Nd magnets so that their magnetic poles oppose the magnetic poles of the spiral magnets.

Design modifications were used to maximize the power output of the motor. A linear magnet test was designed to mimic the spiral expansion ratio of the motor; making it easier to adjust the spiral expansion ratio. The linear magnet test was also used to determine the best angle between the spiral magnets and the rotor magnet. The linear magnet test showed that the best configuration for the spiral magnets was to have the magnetic poles of the spiral and rotor magnets directly face each other. The best spiral expansion ratio started with a 5 mm gap and ended with a 37 mm gap.
The design has met many of its proposed requirements. The most important of these is that the system arrives at steady state with laminar flow, and can be varied to accommodate different Reynolds numbers. By achieving these objectives, pressure measurements can be taken at incremented position for various flow rates to determine the pressure measurements as related to flow. Since loss coefficients are independent of flow rates, the pressure loss coefficient should be the same for various Reynolds numbers representing laminar flow.
05.07.16
BUILDING LIGHTNING DETECTING ELECTRIC FIELD AND MAGNETIC LOOP ANTENNAS

SOUTHWESTERN OKLAHOMA STATE UNIVERSITY

Wessley Lamoreaux - WEATHERFORD, OK, CHEMISTRY AND PHYSICS
Justin Silkwood - WEATHERFORD, OK, CHEMISTRY AND PHYSICS

Lightning produces pulses of electric and magnetic fields that can be detected hundreds of kilometers away. We designed, built, and tested a magnetic field loop antenna and a capacitive electric field antenna with accompanying signal amplifying circuits to measure these fields. Here we will discuss lessons learned from building these devices including preliminary measurements.

05.07.17
 STELLAR CARTOGRAPHY: A GUIDE TO DETERMINING DISTANCES IN SPACE

NORTHEASTERN STATE UNIVERSITY

Amanda Barker - TAHLEQUAH, OK, MATHEMATICS
Lacey Coltrane - TAHLEQUAH, OK, MATHEMATICS
Cara Johnson - TAHLEQUAH, OK, MATHEMATICS
JoAnna Reedy - TAHLEQUAH, OK, MATHEMATICS
Hiromi Sugiyama - TAHLEQUAH, OK, MATHEMATICS

Astronomers use mathematics to locate stars and to determine distances from the earth to the stars, planets, and distant galaxies. Our project considers the various methods that are often used. These include trigonometric parallax, the moving clusters method, and the Baade-Wesselink method. Another common method used to find cosmological distances is known as standard candles. Our goal is to better understand how an object’s characteristics and location can be used to determine which method is best for calculating its distance.

05.07.18
TIGHT BINDING SIMULATION OF GRAPHENE DEVICES

CAMERON UNIVERSITY

David Mutala - LAWTON, OK, PHYSICAL SCIENCES
Matthew McLaughlin - LAWTON, OK, PHYSICAL SCIENCES
Dr. Ramiro Moro - LAWTON, OK, PHYSICAL SCIENCES

We present computer simulations that model graphene devices with a tight binding approximation that considers only nearest neighbor hopping. The model, in spite of its simplicity, has proven adequate for predicting the main characteristics of these novel devices. The simulation software allows the user to design the device by selecting a pattern, which is used to calculate the eigenenergies and eigenvectors of the electronic levels. These results are then used to simulate the propagation of electrons.

05.07.19
IN-SITU MICROWIRES USED FOR CURE MONITORING AND CONTROL

UNIVERSITY OF OKLAHOMA

Matt Stover - NORMAN, OK, CHEMICAL ENGINEERING
Lesley White - NORMAN, OK, COMPUTER ENGINEERING

In order to develop a product that will enable temperature monitoring in the center of a Composite Fiber Reinforced Plastic (CFRP) part, we tested the reliability of amorphous microwire temperature sensors, developed by Thermal Solutions, Inc., when permanently embedded deep in a CFRP part and interrogated remotely and wirelessly. Each microwire is approximately 300mm in length and 27 micron diameter. There were four (4) microwires placed on the corners of CFRP part at varying depths (one 10mm up from the bottom, two 25mm up from the bottom, on opposite corners, and one 40mm up from the bottom). When laying up the CFRP panel, industry used E-type thermocouples were placed in line with the microwire sensors. These thermocouples were also monitored during the cure and used as a control for the analysis of the reliability of the microwires. The feedback from the microwire sensor is obtained through evaluation of a large change in magnetic flux caused by a 1 KHz magnetic field emitted by a reader device. Our goal was to show that these patent pending microwire sensors could be as accurate as the thermocouples commonly used in industry.

05.07.20
VASCULAR MODELING OF HUMAN CAROTID ARTERIES WITH AGE

UNIVERSITY OF CENTRAL OKLAHOMA

Dr. Jaehoon Seong - EDMOND, OK, ENGINEERING AND PHYSICS
Benjamin Brett - EDMOND, OK, ENGINEERING AND PHYSICS
Fariha Sultana - EDMOND, OK, ENGINEERING AND PHYSICS

A recent study of morphological long-term development in human carotid arteries reported the substantial growth of the internal carotid artery (ICA) and the development of a carotid sinus at the root of the ICA during late adolescence. It is important clinically and physiologically to understand the hemodynamics and developmental forces that play a role in remodeling of the human carotid bifurcation and maturation of the sinus in association with brain maturation. This understanding can lead to better prognostication and therapy of carotid disease. For the investigation of the local hemodynamic effect on
The major components of this setup are: linear actuator, measure the bonding strength of a bimaterial specimen.

To achieve this goal, a 3 point bend setup will be built in this study. The 3 point bend experimental setup is used to sense the deformation in the LC film resulted by the presence of targeted analytes in chemical and biological sensors. Different transduction methods have been developed to sense the deformation in the LC film resulted by the presence of targeted analytes in chemical and biological sensors.

In the last decade, liquid crystals (LCs) have recently been demonstrated to be excellent candidates for low cost, portable, highly selective chemical and biological sensors. In these sensors, the molecular alignment of the liquid crystal is altered by the presence of targeted chemical or biological agents. Surface driven orientational changes in LC films have proven to be highly effective in amplifying the presence of targeted analytes in chemical and biological sensors.

Different transduction methods have been developed to sense the deformation in the LC film resulted by the presence of the stimuli. This presentation aims to focus on the capacitive sensing mechanism in the LC based sensors.

A straight test section with constant diameter was milled and is in use to compare pressure measurements with laminar flow theory. Once the system testing phase is complete, various junctions will be fabricated to make the desired pressure loss measurements.
05.07.24
EVALUATION OF BRIDGING STRESS AND CRACK TIP TOUGHNESS ON A COMPACT BONE

UNIVERSITY OF CENTRAL OKLAHOMA

Dr. Morshed Khandaker, EDMOND, OK, ENGINEERING & PHYSICS
Sanjay K. Sah, EDMOND, OK, ENGINEERING & PHYSICS

An evaluation of measurement of crack opening displacements on a compact bovine bone was performed. To determine the intrinsic fracture toughness of the material, a least square procedure was applied, which takes into account not only the near tip crack opening displacements, but the crack opening displacements of the complete crack profile. The crack opening displacement measurements on the compact bone were obtained in three point bending specimen with a fatigue crack at the tip of a U shaped notch. From the experimental results, the bridging stresses along the crack profile were expressed as a function of crack opening displacement. In addition, the cumulative distribution function of the intrinsic fracture toughness tests result from the three point bend test were compared with the cumulative distribution function found from a new failure model. This failure model is based upon Weibull failure theory, but modified for bone material, to consider the crack tip toughening characteristic of compact bone.

05.07.25
DESIGN OF MODELS OF HUMAN RENAL ARTERY ANEURYSMS FOR FLOW EXPERIMENTS

UNIVERSITY OF CENTRAL OKLAHOMA

Josh Brown, EDMOND, OK, ENGINEERING AND PHYSICS
Evan Lemley, EDMOND, OK, ENGINEERING AND PHYSICS

The proposed project focused on the design of models of the human renal artery with and without an aneurysm. These models were designed and produced from acrylic to meet the needs of planned experiments to measure pressure losses and flow rates in simulated renal arteries to better understand flow near renal artery (RA) aneurysms. This project was carried out in collaboration with the University of Oklahoma (OU), where computational fluid dynamics simulations of flow in renal artery aneurysms has been performed.

A technique was developed to create RA models. The artery network was milled into a block of acrylic to match geometries simulated by the OU research group. In connection with this project, a group of UCO students have designed an experimental apparatus to produce given flow and pressure conditions and to measure small pressure losses in fluid flow through aneurysm test sections.

To replicate flow in the human body the experimental apparatus will use a water/glycerol mixture matching the viscosity of blood. Flow rates and pressures are also adjustable with the apparatus to match actual aneurysm flow conditions. Work is ongoing to (1) ensure pressure measurements have required resolution, (2) that measurements may be made within an aneurysm test section, and (3) that system conditions may be controlled to match simulation conditions.

05.07.26
POROUS NETWORK GEOMETRY PRODUCTION AND FLOW SIMULATIONS

UNIVERSITY OF CENTRAL OKLAHOMA

Timothy A. Handy, EDMOND, OK, ENGINEERING AND PHYSICS
Evan Lemley, EDMOND, OK, ENGINEERING AND PHYSICS

Scientists predict flow rates through porous media such as oil and gas reservoirs, aquifers, packed beds, and gas filters using relationships, which require empirical coefficients that are difficult and expensive to measure. A computer code, FTPM (Flow Through Porous Media), was developed at the University of Oklahoma (OU), which creates computational models of pore networks for flow analysis using the medium’s porosity and pore statistics and simulates flow through porous media by making simplifying assumptions about the fluid velocity and pressure. The goal of the project described here (counterpart to the OU FTPM project) is to validate FTPM results by performing intensive, high resolution, detailed pressure and flow calculations for pore networks. These calculations will be carried out using computational fluid dynamics (CFD). In companion projects at UCO, a research team is performing flow simulations and scale model experiments of individual micro-junctions.

One assumption in FTPM is that overlapping pores do not interact, but the UCO detailed simulations will consider these interactions. To this end a computer code was written to create new pore junctions where overlaps occur. An algorithm was also developed to create planar 3D pore junctions required to assemble an entire pore network. Currently testing is underway to improve meshing in junctions and interconnecting tubes, which will allow for large scale network simulations and comparison of results to FTPM.
05.07.27
PRODUCT DEVELOPMENT RESEARCH AT GENERAL MOTORS

OKLAHOMA STATE UNIVERSITY

Dalton T Kelley - STILLWATER, OK, MECHANICAL AND AEROSPACE ENGINEERING
While at General Motors, I worked in Product Development in the Body Engineering/Front & Rear Closures group. My main project was a competitive hood over-slam/overtravel study. Overtravel is the distance a hood travels past the normal “closed” position as it is being shut. If the amount of over travel is too great then the hood may come in contact with interfacing parts, such as headlamps and grilles, and cause damage. GM vehicles have been carefully engineered so that this does not occur, but the question is whether or not they are over engineering their hoods. If GM can reduce the amount of engineering work as well as the size or number of parts (such as dampeners, struts, etc) that go into a hood’s design while still preventing damage during a hood slam, the result would be a decrease in cost as well as an overall decrease in mass, which is a very effective way to improve fuel economy.

For my experiments I used high speed video cameras, optical velocity meters, and other equipment to measure the amount of overtravel that occurs as the hood of a vehicle is being shut. I performed these tests on several GM and non-GM vehicles, analyzed the data, and compared the results.

05.07.28
ALTERNATIVE ENERGY: A SURVEY OF FUTURE ENERGY SUPPLY

Robert Morrison - OKLAHOMA CITY, OK
Alim Ramji - OKLAHOMA CITY, OK
A.K.Fazlur Rahman - OKC, OK, CHEMISTRY
Dr. Jayanta Rudra - OKC, OK, PHYSICS

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In 2008, gas prices across the globe suddenly showed a marked increase in prices. In the US national average price per gallon of regular unleaded gas price ranged between $4-5. This caused a steady movement towards developing alternative energy technologies to meet future energy supply. Alternative energy is typically defined as coming from sources that do not deplete natural resources or harm. Typical examples include Biofuels, Biomass, Geothermal, Solar energy, Tidal power, Wind energy, Wave Power, Hydroelectric, Nuclear sources. This presentation will describe a brief survey of alternative energy resources in the context of depleting fossil fuel and with the increasing demand of energy with the rise of world population.

05.08.01
EFFECTS OF ACCLIMATIZATION ON ENERGY EXPENDITURE BY MEAT GOATS

LANGSTON UNIVERSITY

Dr. Arthur Goetsch - LANGSTON, OK, AMERICAN INSTITUTE FOR GOAT RESEARCH
Dr. Getachew Animut - LANGSTON, OK, AMERICAN INSTITUTE FOR GOAT RESEARCH
Dr. Terry Gipson - LANGSTON, OK, AMERICAN INSTITUTE FOR GOAT RESEARCH
Dr. Amlan Patra - LANGSTON, OK, AMERICAN INSTITUTE FOR GOAT RESEARCH
Dr. Ryszard Puchala - LANGSTON, OK, AMERICAN INSTITUTE FOR GOAT RESEARCH

Spanish and Boer yearling doelings were confined and fed near the maintenance energy requirement (MEm) with minimal environmental control. Energy expenditure (EE) was determined over 2-d periods 13 times during a 1-yr period based on EE:heart rate (HR). Climate variables were averaged over 2, 4, 6, and 8 wk preceding EE measurement. Mean, minimum, and maximum values during the 2 wk preceding EE determination were 19.9, 7.9, and 31.8 degrees C for ambient temperature (Temp) and 53.6, 36.1, and 62.5% relatively humidity (Hum), respectively. Neither Temp nor Temp-Hum index were correlated with or had significant effects in regression equations to predict the difference between EE at measurement times and the 1-yr mean (EEdiff). Conversely, Hum was correlated (P < 0.01) with EEdiff. When the 13 HR measurement times were assigned to Cool and Warm periods, EEdiff was affected (P < 0.01) by a genotype x period interaction. Nonetheless, the effect of Hum in models including genotype, period, and genotype x period was significant for 2, 4, 6, and 8 wk (P < 0.01). The R2 of linear regressions of EEdiff against Hum were slightly greater for 2 and 4 vs 6 and 8 wk (0.11, 0.10, 0.08, and 0.07, respectively); regression coefficients for 2 and 4 wk were 1.265 and 1.163 kJ/kg metabolic body weight per 1% Hum, respectively. In conclusion, without extremes eliciting cold or heat stress, Hum appears to have a slight effect on the MEm of meat goats in both cool and warm periods of the year.

MATH & SCIENCE
05.08.02
ENVIRONMENTAL EFFECTS ON FEEDING BEHAVIOR OF GROWING MEAT GOATS

LANGSTON UNIVERSITY
Dr. Terry Gipson • LANGSTON, OK, AMERICAN INSTITUTE FOR GOAT RESEARCH
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In a 12-wk buck performance test, feed intake of 55 bucks (27 in 2005 and 28 in 2006) was recorded using a completely automated electronic feeding system, which records feed intake of each individual animal's visit. Dry matter intake (DMI), feeding duration (DUR), and consumption rate (RATE) were calculated for daytime (06:00 to 18:00 h) and nighttime (18:00 to 06:00 h) feeding behavior. Relative humidity and ambient temperature were recorded every 10 min and an average temperature-humidity index (THI) calculated for the corresponding period. Heat stress was classified according to THI; NO stress (THI < 72), MILD stress (72 < THI < 78), and SEVERE stress (79 < THI < 89). Night DMI was less (P<0.05) than day DMI (528 g vs 700 g) and NO was greater (P<0.05) than MILD or SEVERE (650 g vs 591 and 602 g, respectively). DMI during night was 558, 507, and 520 g and during day was 742, 676, and 684 for NO, MILD, and SEVERE, respectively. DUR was less (P<0.05) during night than day (29 min vs 41 min) and greater (P<0.05) for NO than for MILD or SEVERE (37 min vs 35 and 35, respectively). DUR at night was 32, 28, and 29 min and during day was 42, 41, and 41 min for NO, MILD, and SEVERE, respectively. RATE (20 g/min) was not affected (P>0.05) by time of day or stress level. Generally, time of day and heat stress level significantly affected the feeding behavior of growing meat bucks.

05.08.03
EFFECTIVENESS OF WORMWOODS (ARTIMESIA SPP.) AS AN ANTHELMINTIC IN GOATS

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This study was conducted to investigate the efficacy of two wormwood species against gastrointestinal tract nematodes in goats. A native wormwood (Artimisia ludovisciana) was harvested at the mature stage and whole plants were air dried (B) and fed to Boer goat does. Artimisia annua was cultivated and harvested at the late vegetative stage, air dried, leaves stripped from the stalks, dried at 45 degrees C in a forced air oven, and leaves crushed (L). Does were fed the control diet, 0.45 kg of a grain supplement, and 0.9 kg of low quality hay for a 7 d adaption period. Seven does received on the control diet throughout the study. Four does received 0.34 kg of B, 0.34 kg of grain supplement, and 0.68 kg hay for 4 d and then received the control diet for the remainder of the study. Six does were fed 0.45 kg L, 0.45 kg supplement, and 0.45 kg hay for 6 d and then received the control diet for the rest of the study. Fecal samples were taken for two consecutive days prior to the feeding the treatments and then on alternate days for 14 d. There was a significant time (pretreatment vs post treatment) by treatment interaction (P<0.002). Control animal FEC increased from 1,266 to 1,673, whereas B FEC decreased from 3,998 to 2,979 and treatment L was unchanged (2,510 vs 2,419). The apparent anthelmintic activity of Artimisia ludovisciana merits further investigation, especially at a younger stage of maturity.

05.08.04
EFFECTS OF PROTEIN SUPPLEMENTATION ON H. CONTORUTS INFECTION IN GOATS

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Effects of varied protein intake on immune responses in goats infected with Haemonchus contortus were determined. Thirty-six Boer x Spanish goats were dewormed and allocated to six groups of six animals each. Goats were fed hay-based iso-caloric (ME = 8.0 MJ/kg DM) diets containing 0, 5, or 10% fish meal (FM). The dietary CP was 6.6%, 9.5%, or 12.4%, respectively. Thirty days after being fed the diets, goats allocated to infected groups were...
administered with 10,000 H. contortus infective larvae per animal, and all animals remained on the diets for 4 wk. Worm eggs appeared in feces from the goats fed diets with 0 or 5% FM in wk 3 but were not detectable in goats fed the 10% FM diet until wk 4 post-infection. The infection of H. contortus induced increases (P < 0.01) in blood eosinophil and tissue mast cells. Numbers of mast cells in spleen and mesenteric lymph nodes from the infected goats were lower (P < 0.05) in animals fed the 10% FM diet. The number of eosinophils was not affected (P > 0.05) by protein supplementation. Serum concentration of IgA increased (P < 0.01) after infection but was not affected by dietary protein. Serum IgG in infected goats increased (P < 0.05) with dietary protein 7 d post infection but declined thereafter. Worm burden was not affected by dietary protein. The results suggest that protein supplementation in goats transiently inhibits worm fecundity through enhanced IgG expression.

05.08.05
EFFECTS OF SOMATIC CELL COUNT ON SEMI-HARD CHEESE FROM GOAT MILK

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This study investigated effects of somatic cell count (SCC) in goat milk on yield and sensory quality of semi-hard cheese. Thirty kg of goat milk with SCC levels of 410,000 (Low), 770,000 (Medium), and 1,250,000 cells/ml (High) was obtained from the Alpine herd of the American Institute for Goat Research for the manufacture of semi-hard cheese for two consecutive weeks at three stages of lactation. Cheese milk prior to cheesemaking was analyzed for SCC, total solid (TS), protein, and fat. Cheese yield was recorded on d 1 and cheese samples on d 1, 60 and 120 of aging were analyzed for scores of total sensory, flavor, and body/texture, and contents of moisture, protein, and fat. Results indicated that there were no significant differences (P > 0.05) in cheese yield among milk with different SCC levels. However, goat milk with high SCC resulted in significantly lower (P < 0.05) scores of total sensory and body/texture than milk with low or medium SCC, although no difference was observed in flavor score. A higher (P < 0.05) cheese yield was obtained from goat milk in early lactation (April) than in mid- (July) or late lactation (October) probably because of a higher total solids content in early lactation milk. Aging for 60 days or more improved (P < 0.05) scores of total sensory, flavor, and body/texture in cheese as expected. It is concluded that SCC in goat milk did not affect the yield of semi-hard cheese but high SCC resulted in inferior sensory quality.

05.08.06
GENDER DIFFERENCES IN AN ON-LINE CERTIFICATION PROGRAM FOR GOAT PRODUCERS

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In 2006, a Langston University-led consortium of 11 universities and 5 producer groups unveiled an on-line training and certification program (http://www2.luresext.edu/training/qa.html). Participants take pre- and post-tests and score a minimum of 85% to pass the 16 required and a minimum of 3 elective modules. As of November, 2007, 416 participants had registered for the program and 39 had completed the requirements for certification. For those responding to a question concerning employment, a greater proportion of females than males enrolled in the program were engaged in full- vs part-time farming: 51 and 113 females engaged in full- or in part-time farming vs 36 and 145 males, respectively, (CS=5.73; P<0.02). However, this proportion changed for certified participants as 7 and 6 certified females engaged in full- or in part-time farming vs 4 and 15 certified males, respectively (CS=3.67; P<0.06). Females tended to score higher on pre-tests than males (85.4 vs 80.3%, P<0.06) and a proportionately higher percentage of males than females were required to take post-tests (CS=6.94; P<0.01). There was no difference in post-test scores between genders. Males tended to record a greater difference between pre- and post-test scores than females (11.0 vs 5.2%, P<0.06). Pre-test scores show that the knowledge of women producers was on par or above that of male producers. The similarity in post-test scores is an indicator of the effectiveness of the training modules.
05.08.07
METHANE EMISSION BY GOATS CONSUMING DIFFERENT SOURCES OF HAY

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Dr. James Wells - CLAY CENTER, NE, MEAT ANIMAL RES. CTR., USDA, ARS

Boer x Spanish wethers (24) were used. Treatments were a legume (sericea lespedeza) high in condensed tannins (CT; 15.3%) without (S) or with (P) polyethylene glycol (25 g/d mixed with 50 g/d of ground corn), a legume without appreciable CT (alfalfa, 0.3% CT; A), and also a grass low in CT, 0.2% CT (sorghum-sudangrass; G). The experiment lasted 22 d, with the first 14 d for adaptation. Intake of DM was 849, 937, 732, and 655 g/d for S, P, A, and G, respectively (SE = 55.4). There were differences (P < 0.05) in OM digestibility (54.5, 60.1, 62.6, and 62.7% for S, P, A, and G, respectively; SE = 1.45). Methane emission was 10.26, 13.9, 14.1, and 12.8 g/d for S, P, A, and G, respectively (SE = 0.76), being lowest among treatments for S (P < 0.05). Similarly, methane emission relative to digested OM was lowest (P < 0.05) for S (23.5, 26.3, 34.7, and 34.1 g/kg for S, P, A, and G, respectively; SE = 2.21). Treatment differences also existed (P < 0.05) in in vitro methane release by ruminal fluid incubated for 3 wk with conditions promoting activity by methanogens (7.8, 11.7, 13.1, and 13.5 ml for S, P, A, and G, respectively; SE = 1.23). Findings in a previous experiment with fresh forage were fairly similar (25.1, 32.4, 34.7, and 32.8 g/kg digested OM of methane; 12.9, 21.8, 25.3, and 28.5 ml in vitro methane release for S, P, A, and G, respectively). In summary, effects of CT in S in depressing ruminal methane emission by goats appear similar for dry hay as in fresh forage.

05.08.08
EVALUATION OF VARIABLE RATE DEFOLIATION WITH OPTICAL SENSORS

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Prof Elizabeth Mahan Wallace - ALTUS, OK, MATH AND SCIENCE

Although variable rate technology has been available for some time, most systems are based on a “prescription theory” developed prior to application using soil sampling maps, aerial or satellite imagery, and/or previous year’s yield monitor data. These variables are typically measured well before application time and may not adequately reflect current crop conditions. The ability to utilize real-time information could offer an advantage over traditional methods by using optical sensors (proven effective at providing real-time information) to characterize differences within a field. To explore the potential correlation between optical sensor readings and a maturing cotton crop, a replicated experiment was established with a logarithmic spray system to apply a continuously variable rate of cotton defoliants in a 4 row by 200 ft. strip and reducing the application rate by 50% for every 40 ft. of travel. The initial application rate (standard defoliation recommendation) is gradually reduced by 20% over the course of each 200 ft. strip. Applications made at different maturity timings (40%, 70%, and 100% open bolls) and crop conditions were analyzed with optical sensors at various times post-application at 5 specific locations within each strip. The data is compared to physical measurements and visual observations within plots to identify any correlation. This information will be valuable when developing real-time variable rate defoliation prescriptions in the future.
05.08.09
BASIL, TOMATO, AND ONION: EFFECTS OF ORGANIC PRODUCTION ON PHYTONUTRIENTS

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OKLAHOMA STATE UNIVERSITY
Dr. Warren Roberts - LANE, OK, HORTICULTURE
SOUTHEASTERN OKLAHOMA STATE UNIVERSITY
Dr. Stanley Rice - DURANT, OK, BIOLOGY
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Dr. Angela Davis - LANE, OK, SOUTH CENTRAL AGRICULTURAL RESEARCH LABORATORY
Dr. Penelope Perkins-veazie - LANE, OK, SOUTH CENTRAL AGRICULTURAL RESEARCH LABORATORY

In the second year of this study, vegetables produced organically were studied for storage life and phytonutrients. Sweet onions (‘Candy’) of small to large size produced from The Farm in Atoka, OK were studied for their total phenolic content. Organic cherry tomatoes (Washington Cherry and Baxters Early Bush Cherry) were studied for storage life, sweetness, and lycopene content for potential use in the Oklahoma Farm to School program. Four types of organically grown basil (Genovese, Nahala, Lemon, Ethiopian) were stored at 35, 41, 45, and 50 F to determine the best storage recommendations for growers. Sweet onions had less total phenolics than that reported for storage (pungent) onions, and smaller onions were higher in phenolics than larger ones. ‘Washington’ cherry tomatoes were more uniform in size, higher in lycopene and soluble solids content (sweeter) compared to ‘Baxters Early Bush’ but had more decay after 7 days storage at room temperature. Overall, basil stored at 41 or 45 F had the best appearance after a week. Basil held at 35 F turned brown and had off odor, while that held at 50 F had leaf shatter. Our results show that vegetables grown organically in Oklahoma have good quality and are suitable for several niche markets.

05.08.10
GROWTH OF LAMBS AND MEAT GOAT KIDS GRAZING WARM SEASON GRASSES WITH OR WITH

REDLANDS COMMUNITY COLLEGE
Katlynn Weathers - EL RENO, OK, CENTER FOR EXCELLENCE
Grazing provides most nutrients for normal physiological function in ruminants, however; there are times when nutritional needs of the animal exceeds the nutritional quality of forages. Bermudagrass is an economically important grass grown on pastures throughout the South and Midwest, however; it may be insufficient in crude protein to meet the demands of lambs and meat goat kids, particularly after late June. The objectives of this study is to test the effects of protein supplementation on growth of lambs and kids grazing 1.22 ha Bermudagrass pastures. Subjects were grouped by weight, breed, and sex then assigned to one two treatments: 1) common bermudagrass pasture supplemented with a 21% natural protein block, and 2) common bermudagrass pasture with no supplement. Animals were weighed every two weeks for the duration of the study. Numerically, protein supplementation benefited some of the offspring who had higher growth potential. Therefore, protein supplementation on common bermudagrass may be beneficial for breed groups of goats or sheep with potentially higher growth potential.

05.08.11
THE EFFECT OF NUTRITION ON EMBRYO SURVIVAL FOR EMBRYO TRANSFER IN EQUINE

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Payton Mumford - EL RENO, OK, CENTER OF EXCELLENCE
Ryan Throckmorton - EL RENO, OK, CENTER OF EXCELLENCE
Ellen Underwood - EL RENO, OK, CENTER OF EXCELLENCE
Embryo transfer in equine is a cost effective way to produce quality horses in a relatively brief amount of time. Many factors go into evaluating the effectiveness of this technique in both the donor and the surrogate. Some typical areas of study investigate the effect of the mare’s health and her ability to produce eggs and/or support a growing fetus. Therefore issues such as endocrine function, oviduct and uterine health, and maternal age are always considered when applying embryo transfer technology. One factor that has been overlooked is the effect of nutrition on embryo survival rates. Our paper endeavors to identify the parameters of good nutrition, as well as estimate the impact of nutrition on embryo survival.
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