

# PHYSICS ALUMNI NEWSLETTER

Spring 2011

<http://swosu.edu/academics/physics> ♦ [physics@swosu.edu](mailto:physics@swosu.edu) ♦ Terry Goforth, Editor

## BOUNTIFUL BANQUET



Join us on Saturday, April 16, 2011, at 7 pm in the Student Union

Ballroom for our annual victuals and victories celebration. Scrumptious sustenance will be followed by awards and accolades as we honor and pay homage to many deserving and worthy scholars. The evening will be capped off with a journey through time as **Dr. Ken Duerksen** ('66) shares his experiences and some hard-earned knowledge. Tickets are \$15 and may be paid for at the door, but we do need a headcount for the caterers by Wednesday, April 13. You can let us know how many will be in your party by phone (580/774-3109), email ([physics@swosu.edu](mailto:physics@swosu.edu)), FAX (580/774-3115), snail mail (100 Campus Dr., Weatherford, OK 73096), or just come by for a visit!

## FROM FARM BOY TO VENUS AND COMPUTER CHIPS – THROUGH

## SWOSU: DR. KENNETH DUERKSEN ('66)

Ken Duerksen grew up near Corn, OK, where he helped his father farm. He graduated from Corn High School in 1962 and began his physics study at



Southwestern State College (now SWOSU) that fall. Following graduation in 1966 with his B.S. in physics, he participated in a summer internship at Oak Ridge National Laboratory working in the Health Physics Division. After some graduate study at the University of Arkansas, Ken taught two years at Westark Community College in Fort Smith, Arkansas, developing the school's physics curriculum. In the following years Ken pursued a graduate degree in physics at Oklahoma State University. He was granted a M.S. degree for work begun at Southwestern and eventually earned a Ph.D. in physics in 1974.

Following graduate studies, Ken utilized his SWOSU and OSU experience on the NASA Pioneer Venus program, a project in the physics department at the University of Texas at Dallas. In 1979, he entered the semiconductor industry at Honeywell Optoelectronics in Dallas, Texas. There he was a Lead Engineer on a FLIR Calibration system for the U.S. Navy and then became the Front End Engineering Manager. In 1981, Ken joined the Varian Associates Semiconductor Equipment Division as an account manager. In 1988, he started his own company,

ETATEC SALES, representing various semiconductor equipment companies and high vacuum equipment. In 1994, Ken joined TOKYO ELECTRON LIMITED (TEL) where he developed semiconductor processes. In 2007, he was granted a U.S. Patent for this work. Forty-three years after graduation from SWOSU, both Ken and his wife Nikki retired from their respective careers. They live on their ranchette near Buda, Texas, south of Austin.

Save the whales. Collect the whole set.

## CROWDER CHOWDER



If you can't make the banquet (or even if you can), why not join us for the physics shish-kebab on Saturday, April 30, at the classroom building at Crowder Lake. This annual event is held in the middle of final exams to give the students and faculty a chance to relax and get away from the books for a few hours. It's always fun-filled, and no one goes away hungry! It's all the fare you remember-kababs of steak, chicken, and veggies along with all the trimmings and desserts to die for. And don't forget the not-quite-right-for-banquet awards

which are always good for a few laughs. We'll start serving food around 6 pm, but come earlier to visit, walk the nature trails, play some volleyball, and just enjoy the western Oklahoma setting. Hope to see you there!

### AND THEY'RE ON THEIR WAY!

It's always with a sense of pride and a little pang of sadness that we watch our graduates cross the stage to receive their hard-earned diplomas. In 2010, five students completed their studies at SWOSU and picked up their B.S. Engineering Physics on the way to rewarding careers. We wish well to **Wessley Lamoreaux** (El Reno), **Justin Silkwood** (Norman), **Sean Wright** (OKC), **Daniel Lundy** (Cordell), and **Chase Parker** (Mangum). (Check out the photos at the [SWOSU Physics and Engineering Group](#) on Facebook.) Way to go, guys!



42.7 percent of all statistics are made up on the spot.



### DINNER AND DIFFRACTION

On a pleasant spring Oklahoma evening, about 50 alumni, students, faculty, administrators, family, and friends gathered in the SWOSU Student Union Ballroom to visit with old friends, enjoy a good meal, celebrate

past accomplishments, and encourage future ones. (Check out the photos on [Facebook](#).)

Dr. L. Dean Chapman ('75) entertained us with stories of his time at SWOSU and some of his experiences since then that led him to his current position as Canada Research Chair in X-Ray Imaging and Professor of Anatomy and Cell Biology at the University of Saskatchewan. We learned a little about using x-rays from synchrotron radiation to image soft tissue by looking at the diffraction of the x-rays as they pass through tissue. The images produced by diffraction are of much higher quality than the silhouette images produced by absorption. Diffraction images have the added advantage of being less damaging to the tissue being targeted because the x-rays pass through without depositing their energy in the tissue.

Of course, several students were honored for their hard work and achievements. Michela (Alexander) Brooks (So, Newalla) and Cal Humphrey (So, Rocky) were inducted into the SWOSU Chapter of SPS. The Outstanding Midclassman in Physics honor was awarded to Cal Humphrey. Seniors who would be Graduating with Honors, Wessley Lamoreaux (El Reno), Justin Silkwood

(Norman), and Sean Wright (OKC), were presented with medallions to wear at convocation. The ultimate award granted by the SWOSU Division of Physics, the J.R. Pratt Outstanding Student in Physics, was given to two seniors whose hard work and academic achievement were worthy of such accolades. We were pleased to present this honor to Wessley Lamoreaux and Justin Silkwood.

### PAYING IT FORWARD

Through the generosity of alumni and friends, we are pleased to be able to support and encourage students in their studies at SWOSU. A big part of this comes in the form of scholarships that defray some of the growing expense of earning a college degree. With your help, we were able to hand out \$6,500 in financial aid to six very deserving and appreciative students.



Chesapeake Energy continues to support two \$1,000-scholarships for Engineering Physics students. At the 2010 Physics Alumni Banquet, these were granted to **Michela (Alexander) Brooks** and **Micah Webb** (Fr, Altus). Donations from alumni and friends of the physics program supplied even more much-needed assistance. **Michael Moore** (Jr, OKC) received a \$1,000

Physics Alumni Scholarship. The Arthur McClelland Memorial Scholarship in the amount of \$1,000 was presented to **Wil Markus** (Fr, Kingfisher). Receiving the \$1,000 Ray C. Jones memorial Scholarship was **Jonathan Brooks** (Fr, Weatherford), and **Cal Humprey** was awarded \$1,500 for the J.R. Pratt Scholarship.

Why do psychics have to ask you for your name?



## NOTE — THANKS TO YOU!

A note from Terry Goforth  
It is only through the continued support of our alumni and friends that we are able to offer a small amount of financial assistance to worthy students. The cost of a college education continues to climb at a rate much higher than inflation (even faster than the cost of gas!). Tuition is now about \$150 per credit hour at SWOSU, and other fees are tacked onto that, so a \$1,000 scholarship barely covers six credit hours—not even half of one semester's tuition and fees! (I may be showing my age, but that would equate to about a \$150 award back in my day.) Many of our students work both on and off campus to help pay for their education. Of

course, time spent working takes away from study time. I cannot begin to tell you how much every bit of financial assistance we can offer our students helps. At minimum wage (typical for students), \$1,000 equates to 138 hours (before taking out taxes) that a student can put toward studies instead of work. That's more than four hours per week (a quantum mechanics assignment?) over the course of the academic year! To you who contribute regularly or when you can, I want to say thank you on behalf of the students and the program. If you haven't donated recently, I encourage you to consider it. Contributions are tax deductible, and many employers will make matching contributions effectively doubling your money. And you don't have to sponsor an entire scholarship yourself. This newsletter goes out to about 250 alumni and friends. Just \$20 from each of you would cover our scholarships most years. \$50 apiece would allow us to grow our scholarship funds so the interest from them keeps up with rising tuition costs. So as you prepare your taxes this year, please consider adding a small deduction for next year's claim. You'll have our gratitude and the knowledge that you've helped

another student along the path toward a rewarding and productive career. THANK YOU!

## MIXING IT UP

**Micah Webb** (So, Altus) received a grant of \$800 for mixing research. He is currently working under the supervision of Dr. Stein to determine how well objects of different sizes and densities mix in hopes of plotting a phase diagram based on those two parameters. This grant is part of a NASA grant administered by Madeline Baugher that disperses money to about a dozen qualified student researchers at SWOSU each year. Micah will present his results this April at SWOSU's research day.



## SHOCKING STUDIES



Last April, seniors **Justin Silkwood** and **Wessley Lamoreaux**

presented results from their work on a lightening research project. This year, SWOSU engineering physics **Michael Moore** (Sr, OKC) is continuing the research program under Dr. Stein by improving the electric field antennae circuit and by using it to record the electric field waveforms of several lightning strikes. Unfortunately, the weather has not cooperated since. We are gearing up for the coming season of storms, though.

## SWOSU SPECTROSCOPY RESEARCH

All of the information we have about objects beyond our solar system, and many objects in it, has been obtained by studying light from those objects. In spectroscopy we take the light from an object and break it down by wavelength. (Do you remember using the diffraction gratings in physics lab to look at the spectra of hydrogen, helium, and neon in plasma discharge tubes?) The spectrum of a star reveals, among other things, its radial velocity, its spectral type, the chemical composition of surrounding gases, its rotation rate, and more. A little over a year ago, Drs. Stein and Trail began a research program with the goal of studying stellar spectra. We wrote a small proposal that was funded and bought a spectrograph which could be attached to our 16" telescope at the SWOSU Observatory.

In the first year we did a lot of learning without taking a single spectrum. In order to take the spectrum of a star, light must pass through the telescope and illuminate a slit on the spectrograph for an extended period of time (minutes for bright stars, hours for dim stars). A digital camera,



attached to the spectrograph, records the image and sends it to a computer. As you might imagine, tracking a star for hours requires a level of precision in motion beyond the normal specifications of the telescope mount. The solution is to use a second camera, also looking through the telescope, but not looking through the spectrograph. This second camera is connected to a computer and to the "autoguiding" port on the telescope mount. Software on the computer uses information in the images from the guiding camera to make tiny adjustments to the altitude and azimuth of the telescope keeping the star of interest positioned as desired.

Several students have worked on the spectroscopy project: **Jonathan Brooks**, **Michela (Alexander) Brooks**, and **Kenneth Franke** were involved in the spring of 2010 and presented results at the SWOSU Research Fair in April of 2010. For the last year **Wil Markus** (So, Kingfisher) has spearheaded the effort. In the course of our testing, Wil has taken several impressive images of such objects as the Orion Nebula, the Crab Nebula, and the Andromeda Galaxy. Last week we finally (hooray!) took a (partial) spectrum of our first star (Mekbuda). Images from our work can be seen on Facebook in the group

["SWOSU Spectroscopy Research."](#) Please join us there.

Everyone has a photographic memory. Some just don't have film.

## FUN AT THE LAKE



On a windy spring day last May (is there any other kind in Oklahoma?), a group of students, faculty, friends, family, and a few administrators gather at Crowder Lake for a meal that can only be described as delectable. New SWOSU President **Randy Beutler** was in attendance along with Provost **Blake Sonobe** and Chairman **Bill Kelly**. Many of the student's parents and siblings joined us for canoeing and hiking while the food was being prepared. Others chose to visit and enjoy the spectacular scenery. After a delicious meal, the new officers for the Physics and Engineering Club were inducted, a few "ignoble awards" (Iggies?) were presented, and the graduating seniors were given some advice and a few "useful" items for their upcoming lives in the "real" world. After the ceremonies, a rocking volleyball game lasted until sundown made it difficult to follow the ball.

When everything is coming your way, you're in the wrong lane.



## PHYSICS AND ENGINEERING CLUB OFFICERS, 2010-2011

Pres: Michela (Alexander) Brooks

VP: Jonathan Brooks

Sec: Micah Webb

Treas: Cal Humphrey

Hard work pays off in the future. Laziness pays off now.

## PHYSICS CLUB NAMED OUTSTANDING SPS CHAPTER FOR 2009-2010



The national Society of Physics Students has designated the SWOSU Physics and Engineering Club as an Outstanding SPS

Chapter for 2009-2010. This is the fourth straight year (and the n'th out of n+6 years) that the club has been recognized with this award and is a well-deserved honor for our students.

Some of the highlights of the year such as Physics Day for 2009 and assisting with the Star Party at the Stafford Aeronautical and Space Museum were covered in last year's newsletter. Other highlights such as our spring trip to Pittsburg, KS, for the Society of Physics Students regional meeting are covered elsewhere in this newsletter.

What happens if you get scared half to death, twice?

## ACTIVITIES GALORE

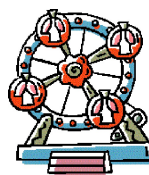


The Physics and Engineering Club continues to be an active and important part of our students' development. Highlights include a spring trip to the Society of Physics Student's regional meeting, Physics Day, updating the constitution and by-laws, the Spring Banquet, and many other social and professional meetings.

The club's spring trip last year was to the regional SPS meeting in Pittsburg, KS. On the first evening, the students had fun playing physics Jeopardy. (Congratulations to SWOSU's **Jonathan Brooks and Michela (Alexander) Brooks** for taking first and second place respectively.) The next day the main talk was about cyclic mass extinctions. Jonathan and Michela then presented a poster covering their experimental work with astrophotography and stellar spectroscopy at SWOSU.

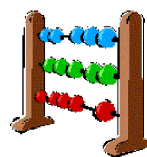
We had a particularly successful Physics Day this year.

Despite cutbacks in funding, twelve high schools brought their physics classes to visit SWOSU and experience three hours of pure physics mayhem and fun. We even snuck in a little learning. Around 120 high school students partook in the experience. As normal, the Physics and Engineering Club was a vital



part; members guided students from station to station and ran a station of their own. Drs. Go-forth, Rogers, Stein, and Trail ran the other stations that demonstrated almost every area of physics.

The club president, **Michela Brooks**, spearheaded the update of our constitution and by-laws. The number of officers was reduced and their roles updated to fit with current practice, rules for the paying of dues and for the attendance of officers at meetings were clarified, *etc.*



The professional and social role of the club was not neglected. The president held a "super-secret" engineering contest that was well-attended. The contest was to create the strongest support structure possible with a limited number of paper sheets and less than a meter of scotch tape, but the rules were not revealed until the beginning of the meeting. **Micah Webb** (So, Altus) won with an extremely simple design of a single (quite strong) pillar. It was able to handle more weight than the 300 pounds of books we brought to test it.

In addition to the traditional social meetings such as the Hamburger Fry, Halloween party (with a screening of *Young Frankenstein*), the annual Christmas Party (hosted by Dr. and Mrs. Stein), and the always mem-

orable shish-kebab, this year we challenged the Math Club to bowling. We won (of course!) on the strength of a solid middle.

How many of you believe in telekinesis? Raise my hand...

## SCIENCE IN THE SUN



We had another great year with the ExxonMobil Bernard Harris Summer

Science (EMBHSS) Camp. The camp, sponsored by ExxonMobil, is a two-week overnight academic camp with a focus on science, engineering, technology and mathematics. The purpose of the camp is to provide opportunities for rising 6<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> graders from economically disadvantaged and culturally underrepresented groups. We had over 120 applicants and 48 students who finished the camp. ExxonMobil sponsors thirty EMBHSS camps at universities across the country. The theme for the 2010 camp was *The Search For Life*, in which the students wrote a proposal to NASA to create a mission to search for life somewhere beyond Earth.

We had two physics and engineering students act as camp counselors this year: **Cal Humphrey** (Jr, Rocky) and **Michela (Alexander) Brooks** (Jr, Newalla). Cal and Michela did a great job

showing the students how fun and interesting science can be.

Nearly all the courses are labs in which the students are building and exploring while working individually or in groups of 2 to 4. Some of the curriculum is: **biology**, exploring plant and animal cells; **engineering**, the students build solar cars, windmills, and model rockets, all of which work; and **robotics**, one of the centerpieces of the camp, in which the students design, build, and program LEGO robots and engage in several competitions. In **astronomy**, we take the students, in four separate groups, out to the SWOSU Observatory where they look through our 16" Meade RCX400 telescope. Many of these students were looking through a telescope for the first time. We also teach classes in nutrition, writing, research, and mathematics.

New to our curriculum this year was our *Satellites* course. Marie Pool, a high school science teacher from Clinton and our program director, applied last spring to NASA to have our camp participate in a program in which the students send instructions to one of the cameras on the U.S. Space Station and tell it to take a photograph of some part of Earth. NASA accepted our camp in its program. The students, via the web, took photo-

graphs of places along the path.

We took three field trips: The Thomas P. Stafford Air and Space Museum in Weatherford, the Crowder Lake Ropes Course, and the Science Museum Oklahoma (formerly known as the Omniplex). While they do take evening classes, the students also have time to go to the Wellness Center, and some outside evening play-time.

We work the students pretty hard, but they have a great time. Nearly all of them ask "Can I come back next year?" Please feel free to peruse pictures on our camp website at [www.swosusciencecamp.org](http://www.swosusciencecamp.org).

SOME THINGS I HAVE LEARNED ABOUT EARTHQUAKES THAT I COULDN'T USE IN THE ARTICLE I'M WORKING ON  
Charles Rogers



The Richter scale was developed by Charles Richter in 1935 to separate all of the tiny quakes in California from the few larger quakes. It was intended to indicate the energy released by the quake, but if the distance to the hypocenter (quake location) is greater than 600 km, the Richter scale becomes increasingly inaccurate. The Richter scale has been replaced by the moment magni-

tude scale (MMS). The moment of the quake equals the rigidity of the Earth times the average amount of slip on the fault and the size of the area that slipped. (If that is unclear, catch a geologist and ask them. They are required by their oath to answer.) The MMS has been adjusted so that quakes with magnitudes between 3 and 7 are the same on both scales. Both scales are logarithmic so that an increase by 1, say from 5 to 6, is a factor of 32 times the energy released. An increase by 2, say from 5 to 7, is a factor of  $32^2 = 1000$  times more energy released by the quake.

Zhang Heng (78–139) is credited with the invention of a Chinese earthquake detector consisting of a large, nearly spherical vessel with eight dragon heads symmetrically placed and projecting outward from its circumference. A brass ball is loosely held in each dragon's mouth. A spherical pendulum is suspended inside the vessel so that if an earthquake sets it swinging, it will strike a dragon from the rear causing the ball to fall from its mouth and into the waiting mouth of a toad figure. The sound of the ball striking the metal toad alerts the operator that an earthquake has occurred, and which

toad has the ball indicates the direction to the epicenter.

The largest recorded earthquake was a magnitude 9.5 in Valdivia, Chile, on 22 May, 1960. The largest quake to hit the United States was the 9.2 magnitude Alaska earthquake on 27 March, 1964. It lasted a full 4 minutes, an eternity to those experiencing it. It happened that a lady in Anchorage, Alaska, was trying to open bottle of fruit just before the quake hit. The lid was stuck tight, so she tapped the lid against the corner of the kitchen counter to loosen the lid. With exquisite timing the quake hit at the exact instant she hit the counter, and the counter along with the whole house started to move. For a fleeting moment she had the impression that she had caused the quake!

The deadliest known earthquake hit on 23 January, 1556, in Shaanxi, China. It was a magnitude 8.0 and killed an estimated 830,000 people. Seismologists love to point out that earthquakes don't kill people, but falling debris does. On the day after Christmas in 2003, a magnitude 6.6 quake hit the city of Bam, Iran. Over 26,000 people were killed, another 30,000 injured, and 100,000 were left homeless. An estimated 85 to

90% of the buildings were damaged or destroyed, including some new hospitals that were given funds to make them quake proof. The Citadel, a 2,500-year-old adobe-brick marvel was largely destroyed. According to Iranian expatriates the money that should have been spent to make the hospitals earthquake proof went to bribes and embezzlement. Corruption may be the greatest preventable cause of earthquake fatalities.

**OK, so what's the speed of dark?**

## ALUMNI DOINGS



**Sean Wright ('10)** is a graduate student in music at the University of Oklahoma in Norman, OK.

**Moin Khan ('06)** graduated from OU with an M.S. in Petroleum Engineering. He is now working as a Reservoir Engineer for BP in Houston.

**Daniel Lundey ('10)** is a Nuclear Technologist and Mechanical Design Engineer at the Comanche Peak Nuclear Power Plant in Glen Rose, TX. His job is to research and propose new technology that would increase efficiency or improve reliability of existing reactor plant systems.

**Justin Whipple** ('01) is an Evaluation Engineer for National Oilwell Varco (NOV) in OKC. He does field engineering for NOV Downhole, concentrating on increasing drill bit market share for the company and improving design.

**Wessley Lamoreaux** ('10) is employed by Chesapeake Energy in Oklahoma City as a Petrophysical Tech.

**Edwin and Cari Farrar** ('89) are living in Guthrie. Edwin works as a Data Systems Analyst for American Fidelity Assurance in OKC.

**Chase Parker** ('10) is working for Halliburton in Liberal, KS.

**Darrell Davis** ('86) is an Aeronautical Engineer (Thermal Analyst) at NASA's Marshall Space Flight Center in Huntsville, AL. His primary duties involve analysis and testing of material used to insulate the Space Shuttle Solid Rocket Booster.

**Justin Silkwood** ('10) is a graduate student in the Department of Physics and Astronomy at LSU in Baton Rouge, LA.

#### OBITUARY

**Charley Morris** ('59) passed away in his sleep on September 3, 2009, at the age of 76. Charley graduated from Dill City HS. He then joined the army, and later attended

Southwestern where he received a degree in math and physics. During his career he taught school at Rocky, worked as letter carrier for the US Postal Service, and worked in the clothing business. After finishing an MS in Psychology and Counseling he taught at Cordell Public Schools and served as a traveling counselor for special education in western Oklahoma. He then worked for the State Insurance Fund before retiring in 1996. He was a member of the many civic and service organizations. He is survived by his wife Sherrill, a son, his mother, and many other relatives.

Evening news is where they begin with "Good Evening," and then proceed to tell you why it isn't.

### TALK TO US



We love hearing from you and finding out what you're up to. We're interested in your accomplishments, and we like getting to share them with your friends and classmates. It's also good for our current students to learn what other folks with a degree from SWOSU have achieved. So keep us informed! Stay in touch! We'll keep sending you newsletters and emails to let you know what we're doing, too. Just be sure we know how to contact you. If you change your address (snail or email), let us know. It's easy. You can send us a note by email to [physics@swosu.edu](mailto:physics@swosu.edu), drop a line to us at 100 Campus Dr., Weatherford, OK, give us a call at 580/774-3109, send a FAX to 580/774-3115, or fill out the Alumni Update Form at [www.swosu.edu/academics/physics/alumni/alumni-update.asp](http://www.swosu.edu/academics/physics/alumni/alumni-update.asp). You can also connect with us on [Facebook](#) or at [LinkedIn](#). (Terry Goforth has accounts on both sites, and we have a SWOSU Engineering and Physics Group established in both places).

Knowledge is knowing a tomato is a fruit. Wisdom is not putting it in a fruit salad.

**YOU CAN FIND US HERE ANYTIME!**

You can send mail to us at 100 Campus Drive, Weatherford, OK 73096-3098, send a FAX to (580) 774-3115, or call or e-mail us at

|                    |                |                                                                        |
|--------------------|----------------|------------------------------------------------------------------------|
| Dr. Terry Goforth  | (580) 774-3109 | <a href="mailto:terry.goforth@swosu.edu">terry.goforth@swosu.edu</a>   |
| Dr. Charles Rogers | (580) 774-3108 | <a href="mailto:charles.rogers@swosu.edu">charles.rogers@swosu.edu</a> |
| Dr. Tony Stein     | (580) 774-3107 | <a href="mailto:tony.stein@swosu.edu">tony.stein@swosu.edu</a>         |
| Dr. Wayne Trail    | (580) 774-3124 | <a href="mailto:wayne.trail@swosu.edu">wayne.trail@swosu.edu</a>       |

You can also send your e-mail to [physics@swosu.edu](mailto:physics@swosu.edu). We'll see that it gets to the right person.

**YES, WE'RE ONLINE, TOO**

You can find us at [www.swosu.edu/academics/physics](http://www.swosu.edu/academics/physics). Click on the Alumni link for newsletters past and present, announcements, or to update your information.

In Richard Rhodes' book "The Making of the Atomic Bomb," there is an amusing incident recalled by Oppenheimer:

"Very shortly before the test of the first atomic bomb, people at Los Alamos were naturally in a state of some tension. I remember one morning when almost the whole project was out of doors staring at a bright orange object in the sky through glasses, binoculars and whatever else they could find; and nearby Kirtland Field reported to us that they had no interceptors which had enabled them to come within range of the object. Our director of personnel was an astronomer and a man of some human wisdom; and he finally came to my office and asked whether we would stop trying to shoot down the planet Venus. I tell this story only to indicate that even a group of scientists is not proof against the errors of suggestion and hysteria."

## ALUMNI EMAIL ADDRESSES

If you are a SWOSU Physics Alumnus, drop us an e-mail at [physics@swosu.edu](mailto:physics@swosu.edu) and we'll send you the complete list of physics alumni e-mail addresses that we have on file.

*If your address is incorrect or if you prefer to use a different address, please let us know and we'll correct it.*

*If your address isn't on our list (you haven't received any e-mail from us in the last year) and you'd like for us to add it, let us know! We'll gladly include you.*

## ALUMNI POSTAL ADDRESSES

Did you receive a "hard" copy of this newsletter by traditional mail? If not, there's a good chance we don't have your current address. Let us know where you are and what you're up to these days. We love to stay in touch!



## PHYSICS ALUMNI BANQUET 2011

Saturday, April 16, 2011

7:00 p.m.

SWOSU Student Union Ballroom

\$15/person

Name \_\_\_\_\_ No. Persons Attending \_\_\_\_\_

Address \_\_\_\_\_ Phone \_\_\_\_\_

\_\_\_\_\_ Email \_\_\_\_\_

*Please return to:* Dr. Tony Stein ✧ 100 Campus Drive ✧ Weatherford, OK 73096

*We need to provide a head-count to the caterers by April 13, 2011*

## SHISH KEBAB 2011

Saturday, April 30, 2011

6:00 p.m.

Crowder Lake University Park

Name \_\_\_\_\_ No. Persons Attending \_\_\_\_\_

Address \_\_\_\_\_ Phone \_\_\_\_\_

\_\_\_\_\_ Email \_\_\_\_\_

*Please return to:* Dr. Tony Stein ✧ 100 Campus Drive ✧ Weatherford, OK 73096

*If you plan to attend, letting us know will help us in planning the food, but feel free to drop in!*

**Or...** just give us a call or [e-mail](#) us to confirm for either/both event(s).