With a number of proposed revisions to funding, organizational structure, and policy related to federally sponsored research coming from the White House and Capitol Hill, this issue of the newsletter will focus on these potential changes and how, if approved or enacted, they may affect SWOSU. 

**PROPOSED RESTRUCTURING IN STEM EDUCATION**

In the **President’s 2014 Research and Development Budgets**, the Administration proposes a 6.7 percent increase (over 2012 levels) in STEM education along with a 50 percent reduction in STEM programs to “substantially decrease the fragmentation of STEM programs across the Federal government, allowing for easier coordination and improving opportunities for rigorous evaluation of the remaining programs.” (See “Preparing a 21st Century Workforce: Science, Technology, Engineering, and Mathematics (STEM) Education in the 2014 Budget.”) The National Science Foundation also addresses this restructuring in its FY 2014 budget proposal to Congress.

Insofar as undergraduate STEM education is concerned, the President’s goal is to “increase the number of well-prepared graduates with STEM degrees by one million” over the next decade. To further that goal, and informed by the President’s Council of Advisors on Science and Technology, the Administration proposes two government-wide efforts: first, to transform undergraduate teaching and learning with NSF investments, a $120 million investment in a new, integrated program called “CAUSE,” or the Catalyzing Advances in Undergraduate STEM Education; and, second, to improve STEM education at community colleges, a $64 million program, “ATE,” or Advanced Technological Education, which will focus on partnerships between academic institutions and employers.

With respect to CAUSE, the three goals are to:

- Improve STEM learning and learning environments;
- Broaden participation in STEM and increase institutional capacity; and
- Build the STEM workforce of tomorrow.

Through CAUSE, the NSF will invest in foundational research, design-based research, and scale-up and effectiveness studies. “Funding will be available for individual investigators and research teams with expertise cutting across one or more STEM disciplines and STEM education research, including discipline-based education research and the social and behavioral sciences.”

Insofar as how this proposed reorganization may affect grant programs in which SWOSU currently participates, it appears that some EPSCoR programs may be affected, as discussed below.

**BUDGETS**

If the proposed funding levels are enacted, some programs under which SWOSU is awarded (or may...
As a follow-up to our report in the last issue on the White House directive to allow open access ("OA") to results of federally funded research, a bill was introduced in the House and the Senate, titled the “Fair Access to Science and Technology Act of 2013” ("FASTR"). The legislation is similar to the White House initiative but, not unlike its acronym, it shortens the time to six months (from 12) by which published research must be publicly available (at no cost). Other differences between OA and FASTR include: FASTR is said to apply to more federal agencies (it applies to those with $100 million in federal funding for research, versus those with $100 million in research and development with OA); and application of OA is broader — it applies to data in addition to articles, while FASTR only applies to original, published papers. At this time, no action has been taken on either bill beyond being referred to their respective committees. Federal agencies must present their OA plans to the White House Office of Science and Technology Policy by August 22, 2013.

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The 20th Annual Research and Scholarly Activity Fair was a great success, with over 100 students and faculty members presenting their research and other scholarly activity from 10 departments within the university: Biological Sciences; Psychology; Chemistry and Physics; Pharmaceutical Sciences; Education; Accounting, Computer Sciences, and Entrepreneurship; Finance, Management, and Marketing; Art; Music; and Athletic Training.

In celebration of the 20th anniversary of the Fair, President Randy Beutler recognized the founding members of the 1994 Faculty Research Committee, including Dr. Blake Sonobe and Ms. Linda Pye, who were present. President Beutler also officially received and read a Proclamation from Governor Mary Fallin proclaiming April 16, 2013 to be “Southwestern Oklahoma State University Research and Scholarly Activities Day,” and a Citation from the Oklahoma State Legislature, on motion by Representative Harold Wright and Senator Mike Schulz, commending SWOSU for its strong commitment to promoting scholarly research.

Also attending this year’s Fair were guests Dr. Linda Mason, Coordinator of Grant Writing, Oklahoma State Regents for Higher Education; Dr. James Wicksted, Associate Director, Oklahoma EPSCoR; Ms. Valerie Pogue, Assistant Director of Sponsored Programs and Project Administrator, Oklahoma EPSCoR; Mr. Chad Mullen, Programs Officer, Oklahoma Center for the Advancement of Science and Technology; and Ms. Sharron DaVault, Associate Director for Programs, Oklahoma Center for the Advancement of Science and Technology.

We want to thank Dean of Students Cindy Dougherty and the CAB volunteers for their help with the Fair.

More information about the Fair, including the names of all of the students and faculty members who participated, and photos and links to interviews of student-presenters by Dr. Muatasem Ubeidat, are on the OSP website.
OK-EPSCoR RESEARCH DAY AT OKLAHOMA CAPITOL

SWOSU student Terence Tanjong, who was selected by the University Research and Scholarly Activity Committee to represent Southwestern Oklahoma State University at Research Day at the State Capitol, won second place in the regional university and community college category for his anti-malarial drug discovery research poster. Twenty undergraduate students representing 15 Oklahoma colleges and universities presented competitive research posters to the State Legislature and the public during this annual event sponsored by Oklahoma EPSCoR, the Oklahoma State Regents for Higher Education, and the National Science Foundation. Tanjong’s research project, titled “Novel Cyclen-Based Anti-Malarials: Synthesis and In Vitro Metabolism Studies,” was under the mentorship of College of Pharmacy faculty-sponsor Dr. Faruk Khan. Dr. Khan’s project is funded by the National Institutes of Health, Oklahoma IDeA Network of Biomedical Research Excellence (“OK-INBRE”) as part of the Junior Investigator Award program.

SWOSU student Nathan Bernhard, who won the best poster presentation and was named an OK-INBRE scholar at the OK-INBRE summer research symposium held at the University of Oklahoma Health Sciences Center in 2012, represented OUHSC at Research Day. Because he represented OUHSC, he competed against students at other research-intensive universities. He won first place for his presentation.

Bernhardt worked with Dr. Anne Kasus-Jacobi at OUHSC on researching the molecular mechanism of drug transport in the eye with the intention of uncovering the mode of action of therapeutics for macular degeneration, a major cause of vision loss in humans. Bernhard was accepted into the graduate program in Biomedical Sciences at the University of Oklahoma College of Medicine.

GRANTS SUBMITTED

Major kudos to the faculty members and administrators who submitted grants during the previous quarter:


Dr. Andrea Holgado, Biological Sciences, “RUI: Modulation of Synaptic Vesicle Exocytosis in C. elegans,” National Science Foundation, $14,618 (supplemental funding for “Tech Trek Camp”).

Dr. Andrea Holgado and Dr. Lisa Appeddu, Biological Sciences, and Dr. Lori Gwyn, Chemistry and Physics, “Tech Trek Camp,” Oklahoma EPSCoR, $15,000.

Dr. Tim Hubin, Chemistry and Physics, “Dual CXCR4/CCR5 Chemokine Receptor Antagonists,” Oklahoma Center for the Advancement of Science and Technology, $135,000.


Ms. Judy Haught, Sayre Campus, “Much Ado About Words,” Oklahoma Humanities Council, $5,000.

Ms. Xiaomiao Wang and Mr. Todd Parker, Art, “Across the Divide Symposium,” Oklahoma Humanities Council, $5,000.
GRANTS AWARDED

Congratulations to the faculty members and administrators for grants awarded in the previous quarter:


Ms. Madeline Baugher, Accounting, Computer Science, and Entrepreneurship, “Oklahoma Space Grant Consortium – Summer Project Coordinator,” NASA through the University of Oklahoma, $12,654.


Dr. Andrea Holgado, Biological Sciences, “RUI: Modulation of Synaptic Vesicle Exocytosis in C. elegans,” National Science Foundation, $14,618 (supplemental funding for “Tech Trek Camp”).

Dr. Andrea Holgado and Dr. Lisa Appeddu, Biological Sciences, and Dr. Lori Gwyn, Chemistry and Physics, “Tech Trek Camp,” Oklahoma EPSCoR, $15,000.

Dr. Andrea Holgado and Dr. Lisa Appeddu, Biological Sciences, and Dr. Lori Gwyn, Chemistry and Physics, “Tech Trek Camp,” Rotary – Weatherford, $300.

Dr. Tim Hubin, Chemistry and Physics, “OK-INBRE Summer Research Mentor Program: Transition Metal Complex Dual CXCR4/CCR5/Antagonists,” Oklahoma-INBRE, $2,200 (plus $5,000 student stipend).

Dr. Tim Hubin, Chemistry and Physics, “Further Evaluation Metal Complex Dual CXCR4/CCR5 Antagonists,” National Institutes of Health through the University of Oklahoma Health Sciences Center, OK-INBRE Faculty Mini-Grant, $34,598.

Dr. Tim Hubin, Chemistry and Physics, “Bridges to the Baccalaureate Program,” National Institutes of Health through East Central University, $1,000.

Dr. Tim Hubin, Chemistry and Physics, “Novel Topologically Constrained Transition Metal Complex Oxidation Catalysts,” American Chemical Society Petroleum Research Fund, $65,000.

Dr. Jason Johnson, Chemistry and Physics, “Mechanisms of Ammonia Entry, Passage, and Gating within CTP Synthetase,” National Institutes of Health through the University of Oklahoma Health Sciences Center, OK-INBRE Faculty Mini-Grant, $33,085.

Dr. Faruk Khan, Pharmaceutical Sciences, “Cyclen-based Novel Antimalarial Agents,” National Institutes of Health through the University of Oklahoma Health Sciences Center, OK-INBRE Junior Investigator Grant (Year Three), $133,490.

Mr. Doug Misak, Center for Economic and Business Development, “Small Business Development Center,” U.S. Small Business Administration through Southeastern Oklahoma State University, $173,376.

Mr. Doug Misak, Center for Economic and Business Development, “Oklahoma Small Business Development Center Network 2013/Veterans Assistance Service Program,” U.S. Small Business Administration and the Oklahoma Department of Commerce through Southeastern Oklahoma State University and the Oklahoma Small Business Development Center Network, $4,000.


Ms. Jamey Novey, Upward Bound, Oklahoma State Department of Education, “Summer Food Service Program,” $6,100.

Ms. Xiaomiao Wang and Mr. Todd Parker, Art, “Across the Divide Symposium,” Oklahoma Humanities Council, $5,000.
apply for) grants may be affected. Here is a list with the available detail (note that some of the comparisons are to FY 2012 actual budgets; some are to FY 2012 enacted/FY 2013 annualized amounts:

**National Institutes of Health**

- **OK-INBRE:** In 2012, the National Institute of General Medical Sciences became the new “home” for the Institutional Development Award (IDeA) program within NIH. The IDeA program funds the Oklahoma INBRE awards. The mission and research areas for NIGMS can be found in its publication, “Investing In Discovery: An Overview of the National Institute of General Medical Sciences.” The **2014 NIGMS budget request to Congress** includes $225.438 million for the IDeA program, which is $50.519 million, or 19 percent, below the FY 2012 actual budget level (and also 19 percent below the FY 2013 continuing resolution level). NIGMS proposed the reduction in funding in order to “focus the Institution’s resources on other research priorities.” The **NIGMS budget justification** also states that a high priority for FY 2013 and FY 2014 will be to “provide funds to selective institutions that already recruit and admit highly competitive students from underrepresented groups to ensure that more of those students attain Ph.D. degrees.” The OU Health Sciences Center recently submitted their OK-INBRE five-year proposal (for the budget period of May 2014 through April 2019) in which they emphasized the underrepresented groups that are recruited by, and attend, the statewide OK-INBRE network.

- **MARC USTAR:** The NIH proposes a two percent increase in funding for Institutional Awards under the Ruth L. Kirschstein Training Awards program, but a two percent decrease in the number of awards. Note that the President pledges continuing support for these programs – albeit, in specific reference to graduate training programs. These awards fund MARC Undergraduate Student Training in Academic Research programs.

**National Science Foundation**

- **EPSCoR:** The **NSF’s FY 2014 budget request** for EPSCoR is $163.58 million, which is a $12.68 million increase over the FY 2012 enacted level. A few of additional points are worth mentioning. First, note that in the “America Competes Reauthorization Act of 2010,” Congress stated that the EPSCoR program “shall continue to increase as the National Science Foundation funding increases.” Also, note that Congress found that a number of federal agencies (five) have EPSCoR or EPSCoR-like programs; directed the NSF to “coordinate EPSCoR and Federal EPSCoR-like programs to maximize the impact of Federal support for building competitive research infrastructure, and in order to achieve an integrated Federal effort”; and directed the National Academy of Sciences to conduct a study on the effectiveness of each EPSCoR program and report back to Congress. Finally, note that the EPSCoR program within NSF was previously administered in the NSF’s Office of the Director; it was recently moved to the Office of International Science and Engineering, which was combined with the Office of Integrative Activities, and renamed the **Office of International and Integrative Activities**. See the discussion, below, on policy proposals as to why, on its face, this particular change – while, perhaps, keeping with this Congressional mandate to coordinate programs – could potentially affect these programs.

- **RUI:** The **2014 budget proposal** reduces the funding amount for Research in Undergraduate Institute awards by 3.8 percent from the FY 2012 actual level of $41.51 million, to a requested $39.95 million. Funding for RUI is provided by five programs within the NSF directorate – two of which the President proposes consolidating within **CAUSE** (see “Proposed Restructuring,” above).

- **REU:** The total proposal for **Research Experiences for Undergraduates funding** (Supplements and Sites) is reduced slightly, from $79.55 for the FY 2012 actual amount, to $79.18 for the FY 2014 requested amount. This entails a 4.9 percent decrease in the requested amount for REU Sites only, and a one percent increase for REU Supplements. However, the agency points out that this total FY 2014 request is a 20 percent increase over the FY 2012 enacted amount. “REU Supplements allow students to join research projects that are supported by NSF research grants. REU Sites support cohorts of students to conduct research within STEM disciplines or on topics that cut across disciplines.” The **NSF also states** that 10 million of the additional funding requested for FY 2014 will “support enhanced research experiences for students in their first two years of college, as recommended by the President’s Council on Advisors on Science and Technology in their [February 2012] report, *Engage to Excel: Producing One Million Additional College Graduates in Science, Technology, Engineering, and Mathematics*.” Finally, note that funding for REU is provided by six programs within the NSF directorate – three of which the President proposes consolidating within **CAUSE** (see “Proposed Restructuring,” above).

- **LSAMP:** The **NSF request** for the Louis Stokes Alliances for Minority Participation program is the same as the FY 2012 enacted level ($45.62 million) to “provide continuity” in the program.

- **DEB:** For its Division of Environmental Biology, the NSF requested $147.47 million for FY 2014, which is a 4.5 percent increase for the FY 2012 enacted amount. The **NSF states** that 51 percent of the DEB portfolio will be available for new research grants. DEB “supports catalytic and transformative research to inventory and document life on earth, to discover life’s origins and evolutionary history, and to understand the dynamics of ecological and evolutionary systems.”

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U.S. Department of Agriculture

- **Child Nutrition Programs**: The [USDA requested](https://www.usda.gov) $20.487 million for the Child Nutrition Programs for FY 2014, which is a 12 percent increase over the FY 2012 actual budget, and six percent over the estimated FY 2013 budget. “The 2014 Budget funds the Child Nutrition Programs at a level that will support anticipated participation, food cost inflation, and the six-cent performance-based reimbursement rate authorized for lunches when meals meet the science-based nutrition standards that went into effect July 1, 2012.” On June 13, the [U.S. House of Representatives Appropriations Committee approved](https://www.house.gov) the FY 2014 Agriculture Appropriations bill at $1.3 below the FY 2013 enacted level, which is “approximately equal to the current level caused by automatic sequestration spending cuts” and $516 million below the President’s request. Note that the Child Nutrition Programs are part-mandatory, part-discretionary spending.

U.S. Department of Commerce, Economic Development Administration

- **UC**: The EDA oversees the University Center sub-program, which is a technical assistance program located at colleges and universities that “support job creation and economic growth in regions experiencing economic distress.” The [EDA budget request](https://www.eda.gov) for FY 2014 is $12 million, which is the same as the FY 2012 enacted level.

U.S. Small Business Administration

- **SBDC**: The [SBA requested](https://www.sba.gov) $104.680 million for Small Business Development Centers for FY 2014, which is nine percent less than the FY 2012 actual budget. “SBDCs deliver management and technical assistance to small businesses through an extensive business education network comprised of 63 lead centers managing over 900 outreach locations throughout the U.S. and the insular territories. SBDCs deliver professional business advising and training focused on strategic planning, business development, financial planning and cash flow management to approximately 590,000 business clients annually.”

- **VBOC**: For the Veterans Business Outreach Centers, the [SBA requested](https://www.sba.gov) $2.5 million – the same level of funding for FY 2012 (and FY 2013, before sequestration impacted the budget).

U.S. Department of Education

- **Upward Bound**: “The [Administration requests](https://www.ed.gov) $839.9 in discretionary funding for the Federal TRIO Programs, the same as the 2012 appropriation. The TRIO request includes funding for Student Support Services, Upward Bound, Upward Bound Math and Science, Veterans Upward Bound, Talent Search, Educational Opportunity Centers, and McNair Postbaccalaureate Achievement. The TRIO programs are the Administration’s oldest college preparation and student support programs and they have a long history of providing support to low-income students and students whose parents never completed college.”

NASA

- **Space Grant**: [NASA requested](https://www.nasa.gov) $24 million for FY 2014, which is 40 percent less than the FY 2012 actual budget. As described in the President’s budget with respect to restructuring STEM-based educational programs across the federal government, NASA states that its “STEM education efforts will be fundamentally restructured into a consolidated education program within NASA Office of Education, and will coordinate closely with the Department of Education, the National Science Foundation, and the Smithsonian Institution in leading and executing the Administration’s STEM education efforts...” NASA’s expertise, passion and assets play a unique role in the Nation’s STEM education portfolio. In addition to Space Grant, EPSCoR, and MUREP, the STEM Education and Accountability Project will identify functions and assets as critical components that NASA can make available to the National Science Foundation, Smithsonian Institution, and Department of Education as they facilitate federal coordination.”

- **EPSCoR**: [NASA requested](https://www.nasa.gov) $9 million for its EPSCoR program for FY 2014, which is 42 percent less than the FY 2014 actual budget (for reasons set forth above).

National Endowment for the Humanities

The [NEH requested](https://www.neh.gov) $115.817 million in appropriations for FY 2014, including $9 million for its Bridging Cultures program; $13.250 million for its Education Programs; $43.432 million for its Federal/State Partnership; and $15.435 for Research Programs. The total request is seven percent above the FY 2012 appropriation and FY 2013 estimate.

U.S. Department of Justice

- **NU**: The DOJ’s [Office of Justice Programs](https://www.ojp.gov) requested an “increase of $4.5 million... for the National Institute of Justice (NIJ) for a total of $44.5 million. The requested funds will support grants and agreements to build research knowledge and translate it into practice and policy to improve the justice system. NU’s strategic plan for these funds centers on translational research to transform criminal justice practice and policy. NIJ’s strategic plan for translational research

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has four essential components, each of which would be expanded with $4.5 million of the enhancement requested: (1) generating knowledge; (2) building and sustaining the research infrastructure; (3) supporting the adoption of research evidence in practice and policy; and (4) innovative dissemination and communication. Together, they provide the means to reach the strategic goal of Translating Research into Policy and Practice (TRIPP)."

* * *

As for the budget process, June 30 is the normal deadline for the House to complete action on appropriations. The House Appropriations bills, drafts, and reports for FY 2014 can be found here. A summary of the spending allocations approved by the U.S. Senate Appropriations Committee for FY 2014 can be found here. The status of House discretionary appropriations is here, and the status of all appropriations measures is here.

Comparing the OMB Final Sequestration Report to the President and Congress for Fiscal Year 2013, with the CBO’s Fiscal Year 2014 House Current Status of Discretionary Appropriations as of June 18, 2013, it appears:

- Commerce-Justice-Science appropriations for FY 2014 are seven percent below the FY 2013 discretionary budget authority; and, according to another source, four percent below FY 2013 with the sequester and nine percent below the President’s FY 2014 Budget; and
- Labor-HHS-Education appropriations for FY 2014 are 23 percent below FY 2013 discretionary budget authority; and, according to another source, 18.6 percent below FY 2013 with the sequester and 27 percent below the President’s FY 2014 Budget.

**Fiscal Year 2014 Sequester**

If the appropriations measures are not passed for the 2014 fiscal year before Congress adjourns, another across-the-board sequester may take effect; however, going forward, sequestration is of a different sort. While the 2013 sequester was an across-the-board budget-reduction for all programs, with the FY 2014 sequester, mandatory programs will continue to be reduced in the same “automatic” manner but, for discretionary spending, the Congressional subcommittees that would otherwise approve the appropriations will have top-line discretionary caps and the authority to distribute the requisite reductions as they determine, according to the Bipartisan Policy Center.

The OMB’s Sequestration Preview Report for FY 2014 can be found here. Further discussion on the potential impact of a FY 2014 sequester will be in the next issue of this newsletter.

**Policy Proposals**

One enacted, and one draft, proposal establish new criteria on funding for NSF (and, potentially, other agency) research programs:

- On March 26, 2013, the FY 2013 Consolidated and Further Continuing Appropriations Act of 2013 (P.L. 113-6) included a provision that restricts the types of research projects that can be funded through the NSF’s Political Science Program. Specifically, Division B, Title III, Sec. 543 restricted funding of programs unless: (1) the director of NSF certifies that the research projects promote national security or the economic interests of the United States; (2) the director publishes a reason for each such certification; and (3) any unobligated funds, which can be used to fund other research and studies) do not duplicate those being funded by other federal agencies.
- On April 18, 2013, it was reported that draft legislation, titled the “High Quality Research Act,” would require the NSF director to likewise certify that “any contract or grant funding for a scientific research project” meets the following three criteria:
  
  1) [It] is in the interests of the United States to advance the national health, prosperity, or welfare, and to secure the national defense by promotion the progress of science;
  2) [It] is the finest quality, is ground-breaking, and answers questions or solves problems that are of utmost importance to society at large; and
  3) [It] is not duplicative of other research projects being funded by the Foundation or other Federal science agencies.

In addition, the Act requires the director of the White House Office of Science and Technology Policy to report to the respective House and Senate oversight committees as to how these three requirements can be implemented in other federal science agencies. The Act has not been introduced as of this date.