The Source Newsletter
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Research Fair set for April 14

The 22nd Annual Research and Scholarly Activity Fair is scheduled for Tuesday, April 14, 2015, at Southwestern Oklahoma State University. The fair will be from noon to 3 p.m. at SWOSU’s Memori­al Student Center Ballroom.

For more information, contact Dr. Jason Johnson, Chair, University Research and Scholarly Activity Committee (URSAC), at jason.johnson@swosu.edu or 580-774-3110.

Students, faculty present research

Research projects were presented by more than three dozen faculty and students March 13 at Oklahoma Research Day, held at Northeastern Oklahoma State University campus in Tahlequah. Among the student presenters were (photo, right) Canisia Tatah, who is discussing her research with Dr. Blake Sonobe, Vice Chancellor for Academic Affairs at the Oklahoma State Regents for Higher Education; (photo, below left) Mike Morrison; and (photo, above left) Mohammad Faisal Hossain, Apoorva Rudraraju, Prabhjyot Saluja, Anjuli Shrestha, and Alina Shrestha. More on Oklahoma Research Day is on pages 5-7.

Cothran, Peters chosen for Proposal Development Awards

Two faculty members at Southwestern Oklahoma State University have been awarded Proposal Development Awards. The purpose of the award is to provide faculty with financial resources to draft proposals for external funding.

Dr. Rickey Cothran, Department of Biological Sciences, and Dr. Siriporn Peters, Department of Art, Communication, and Theatre, will each receive $6,000 each to assist in the development of a proposal. The awards require the recipients to prepare their proposals for submission to an external agency by early next year. Cothran is working on a proposal on “Putting Sexual Conflict in an Ecological Context: How Phosphorous Supply Shapes Sexual Conflict in Hyalella and Amphipods.”

Peters is preparing a proposal on “Communication Design for Cultural Heritage Preservation with Cheyenne and Arapaho Tribes of Oklahoma.”
AWARDS

The following grants and contracts were awarded to Southwestern Oklahoma State University faculty since the last report:

Madeline Baugher, Accounting, Computer Science, and Entrepreneurship. Psychology. Oklahoma NASA EPSCoR Research Implementation Grant Year 3. The University of Oklahoma Board of Regents. $5,515.


Dr. Lori Gwyn, Biological Sciences. Equipment for Synthetic Biology Lab Module. The National Science Foundation, through Davidson College. $12,000.

Dr. William Kelly, Chemistry and Physics. 2014 Oklahoma INBRE Carryforward Equipment Funds Support. The National Institutes of Health through the University of Oklahoma Health Sciences Center. $25,000.

Dr. Henrietta Mann, Cheyenne and Arapaho Tribal College. Cheyenne and Arapaho Tribal College Cooperative Agreement. Cheyenne and Arapaho Tribal Board. $234,909.

Dr. Richard Tirk, Music. 45th Annual SWOSU Jazz Festival. The City of Weatherford, Hotel-Motel Tax Advisory Committee. $2,000.

Dr. John Woods, Mathematics. 2015 KESAM Statewide Mathematics Initiative. The U.S. Department of Education through the Oklahoma State Regents for Higher Education. $135,000.

PROPOSALS SUBMITTED

The following proposals were submitted by Southwestern Oklahoma State University faculty since the last report:

Dr. Lisa Appeddu and Dr. Les Ramos. Pharmaceutical Sciences. Antioxidant Activity of the Oklahoma Sand Plumo, Prunus angustifolia Marsh. SA EPSCoR -- FY15 Research Implementation Grant. $48,821.


Madeline Baugher, Accounting, Computer Science, and Entrepreneurship. Space Grant College and Fellowship Program. Oklahoma Space Grant Consortium. $52,116.


Dr. Lori Gwyn, Biological Sciences. Equipment Travel to Ames Research Center. Oklahoma NASA EPSCoR. $3,000.


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**PROPOSALS SUBMITTED, continued**

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Dr. Andrea Holgado, Biological Sciences. *Analysis of autophagy on the developing nervous system*. OK-INBRE Mini-Grant. $34,158.

Dr. Tim Hubin, Chemistry and Physics. *INBRE Summer Student*. Oklahoma IDeA Network of Biomedical Research Excellence (OK-INBRE). $2,200.

Dr. E.K. Jeong, Art. *The Visiting Artist Program*. Oklahoma Arts Council. $5,000.


Dr. Doug Linder, Chemistry and Physics. *Zinc Active-Site Geometry Influences on the Activation and Inhibition of MMPs*. OK-INBRE Mini-Grant. $33,305.

Faculty interested in pursuing grant opportunities can contact the Office of Sponsored Programs about conducting a funding opportunity search. The process can be started by completing the Research/Scholarly Activity Interest Profile at the Office of Sponsored Programs website at [www.swosu.edu/administration/osp/osp_interest_survey.aspx](http://www.swosu.edu/administration/osp/osp_interest_survey.aspx)

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**RESEARCH NEWS**

Two SWOSU students win research awards

Two Southwestern Oklahoma State University students have won prestigious research awards.

Matthew Abbott of Anadarko has won first place in the regional university/community college competition at the 20th annual Research Day at the Capitol.

Also, Jake Gregston of Duncan has been named one of 12 Sir Alexander Fleming Scholars by the Oklahoma Medical Research Foundation (OMRF).

Abbott represented SWOSU at the annual event March 31 at the state capitol in Oklahoma City. Abbott, a senior majoring in biology and chemistry, won for his research on neuronal development that was completed under the direction of Dr. Andrea Holgado in the SWOSU Neuroscience Research Lab. He won a $500 cash prize.

The event showcases research being conducted by students at Oklahoma’s colleges and universities. Posters were competitively judged by an independent panel.

Research Day at the Capitol is sponsored by the Oklahoma Experimental Program to Stimulate Competitive Research (EPSCoR).

Gregston will spend eight weeks this summer working with OMRF scientist Dr. Holly Van Remmen on a project concerning free radicals biology and aging.

Gregston is majoring in biological sciences at SWOSU and is also doing neuroscience research under the mentorship of Dr. Holgado. He is a member of the SWOSU President’s Leadership Class.

The Fleming Program offers students a “hands-on” biomedical research experience in state-of-the-art facilities for eight university and four high school students. Scholars will complete research projects on topics such as autoimmune disease, cancer and heart disease.

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Matt Abbott, right, with Chancellor Glen Johnson of the State System for Higher Education. Gregston
The Office of Sponsored Programs has been notified of the following Scholarly and Academic Activities since the last newsletter:


**Phillip Fitzsimmons**, SWOSU Libraries, has won honorable mention in the scholar category for “Shared Ideas Among Friends: The Common Ground of Owen Barfield, J.R.R. Tolkien, and C.S. Lewis,” to be presented at the 18th Annual Conference of the C. S. Lewis and Inklings Society at Grove City College in Grove City, Penn. He also was a panel member at the “Open Access for All” workshop at the University of Oklahoma, Norman. The Oklahoma Library Association sponsored the workshop.


**Mark Gales**, Pharmacy Practice, published a review article titled, “Acetaminophen for Patent Ductus Arteriosus,” in *The Annals of Pharmacotherapy*. He also served as reviewer for “Use of Angiotensin Receptor Blockers Following Angiotensin Converting Enzyme Inhibitor-Induced Angioedema,” and “The Impact of Computerized Provider Order Entry (CPOE) on Dosing Errors in Pediatric Patients” for the *Oklahoma Society of Health-System Pharmacists Newsletter*.

**Howard Kurtz**, Sociology and Criminal Justice, recently presented a paper titled, “Botched Executions: Killing by any other name” at the Academy of Criminal Justice Sciences national meeting in Orlando, Fla. Other recent activities include serving as workshop facilitator for the Southwestern Association of Criminal Justice convention; signing a book contract with BVT Publishing to write an introductory text book titled “Introductory Sociology through Utopian Thought;” publishing a compact disc of original music; and performing at the Trail Dance Film Festival in Duncan, Okla., and at a fund-raiser at Fort Sill for the Patriots Spouses Club.

**Dennis Thompson**, Dean of the College of Pharmacy, is serving as reviewer for several presentations at the 2015 American College of Clinical Pharmacy Global Conference on Clinical Pharmacy in October in San Francisco. They include:

- “OR 36247: Evaluation of Insulin Pump Therapy in the Hospital Setting.”
- “OR 36201: Assessment of Self-Foot Care Activities in Diabetic Patients at Community Pharmacy Setting.”
- “OR 36200: A National Survey of Drug Information Resource use Among Pharmacists.”
- “OR 35960: Incidence of genital mycotic infections decreases over time in older patients with type 2 diabetes mellitus treated with canagliflozin.”
- “OR 35768: Pharmacist’s impact on medication reconciliation process of hospitalized patients: before-after study.”
- “OR 35744: Reduce Medication Errors by Doing Early Medication Reconciliation in the Emergency Department.”
- “OR 35665: Evaluation of medication errors during transition from intensive care units to a general surgical floor.”
- “OR 35582: Emotional Distress in relation to Treatment Satisfaction and Glycemic Control among Patients with Uncontrolled Type 2 Diabetes.”
- “OR 35434: Glycemic Outcome in Patients with Type 2 Diabetes Mellitus Receiving Insulin via Pens versus Vials and Syringes in an Integrated Health Care Delivery System.”
- “OR 35170: Comparison of the time interval between entry in PubMed and indexing with Medical Subject Headings between biomedical journals.”

He also served as reviewer for “Enhancing efficacy of antimicrobials with Medicinal 3 synthetic Aluminum-magnesium silicate, for prevention 4 and treatment of resistant infections” for the *British Journal of Medicine and Medical Research*. 
The following faculty and students from Southwestern Oklahoma State University presented research projects at the 2015 Oklahoma Research Day:

**A Comparison of Arguments for and against Agriculture Subsidies in the Context of the 2014 U.S. Farm Bill**
Marisa Molnar, Student

**Autophagy Plays an Essential Role in Neuronal Development and Maintenance**
Dr. Andrea Holgado, Faculty
Ashley Powers, Student
Matt Abbott, Student

**Challenges That Saudi Students Face in Higher Education in the United States**
Rachel Hurt, Faculty
Lama Alsharif, Student
Safa Alshareef, Student

**Chaos in Capital Punishment**
Mary Iliff, Student

**Comparative analysis of Dictyostelium discoideum and Myxococcus xanthus**
Dr. Muatasem Ubeidat, Faculty
Canisia Tatah, Student

**Crisis in Corrections -- The Impact of the “Truth in Sentencing Act” of 1999 on the Oklahoma Corrections System**
Dan Brown, Faculty

**Cu-Bicyclen as a DNA Cleavage Component for use in Artificial Nucleases**
Dr. Tim Hubin, Faculty
Dr. Lori Gwyn, Faculty
Sequojah O’Neal-Johnson, Student

**Current and Desired School Psychological Services: Perceptions by Education Professionals**
Dr. Amy Barnett, Faculty
Dr. Robin Sobansky, Faculty

**Determining the Toxic Effects of Silver Nanoparticles Using C. elegans**
Dr. Andrea Holgado, Faculty
Jake Gregston, Student
Abby Mckisson, Student
Tony Sanchez, Student

**Doing is Believing: Increasing Student Buy-in for Introductory Statistics**
Kristin Woods, Faculty

**Effect of Profanity on Perception of Pain in Those Being Bullied**
Dr. Stephen Burgess, Faculty
Christopher Stevens, Student

**Effects of Sugar Mixtures on Feeding Preferences of Field-Collected Fruit Flies (Drosophila melanogaster)**
Dr. Jimena Aracena, Faculty
Maryanne Dantzler-Kyer, Student
Jessica Huffman, Student
Evaluation of the Physicochemical Properties of a Novel Antimalarial Drug Lead, Cyclen Bisquinoline
  Dr. Hardeep Saluja, Faculty
  Dr. Faruk Khan, Faculty
  Mohammad Faisal Hossain, Student
  Anjuli Shrestha, Student
  Apoorva Rudraraju, Student

5 Years in the Life of Cyclanthera dissecta
  Dr. Lisa Castle, Faculty
  Allison Statton, Student

How Fatherly Involvement Relates to Teenage Pregnancy and Perception of Sexual Behaviors
  Kristin Woods, Faculty
  Alexis Schroeder, Student

Lanthionine Ketimine is a Neurotrophic Agent that Promotes Axonal Elongation and Autophagy
  Dr. Andrea Holgado, Faculty
  Elizabeth Jansing, Student
  Ashley Rodriguez, Student
  Lyl Van, Student

Microbial Pathogenesis of Pseudomonas aeruginosa in Microgravity
  Dr. Eric Paul, Faculty
  Alina Shrestha, Student
  Jesse Jahn, Student

Mobile Device Analysis Corpus
  Mike Morrison, Student

Research Work on a Possible Setup for Microprocessors & Embedded Controls classes
  Dr. Jack Li, Faculty

Sexual Conflict in an Ecological Context
  Dr. Rickey Cothran, Faculty

The Expression and Purification of the Recombinant Magnetosome Associated Protein Mad2 from Desulfovibrio magneticus Strain RS-1 In Escherichia coli
  Dr. Denis Trubitsyn, Faculty
  Bradley Burke, Student
  Emily Kessler, Student

The Metal chelate Cobalt Bicyclen as a Potential DNA Cleavage Agent for Artificial Nucleases
  Dr. Tim Hubin, Faculty
  Dr. Lori Gwyn, Faculty
  Megan Oertel, Student

The Relationship Between Interpersonal Functioning and Anxiety within Adolescent Delinquent Males
  Dr. Randy Barnett, Faculty
  Gwendolyn Burgess, Student
The Relationship between Stress, Sexualization, and Salivary Hormones
Dr. Lisa Appeddu, Faculty
Dr. Melinda Burgess, Faculty
Laura Burleigh, Student
Gwendolyn Burgess, Student
Patra Kositchaiwat, Student

To Drive or Be Driven
Rachel Hurt, Faculty
Madeline Baugher, Faculty
Cindi Albrightson, Faculty
Amanda Adney, Student
Ingrid Law, Student

Towards the Synthesis of N402-Type Metal Complexes of Antimalarial Macrocyclic Polyamine Ligands
Dr. Faruk Khan, Faculty
Mohammad Faisal Hossain, Student
Apoorva Rudraraju, Student
Prabhjyot Saluja, Student

Use of Deadly Force; Justifiable Homicide or Injustice
Claudia Parker, Student

UV-Metric, pH-Metric and RP-HPLC Methods to Evaluate the Multiple pKa Values of A Polyprotic Basic Novel Antimalarial Drug Lead, Cyclen Bisquinoline
Dr. Faruk Khan, Faculty
Mohammad Faisal Hossain, Student
Cassandra Obi, Student
Anjuli Shrestha, Student

Vehicle Tracking Via Mobile Apps
Mary Ann Phillips, Student
INSERVICE EDUCATION GRANTS FOR MATHEMATICS TEACHERS

Deadline Date(s): May 4, 2015
Funding Agency: National Council of Teachers of Math
Program Title: Inservice Education of Teachers
Web site: http://www.nctm.org/
Synopsis: The purpose of this grant is to provide financial assistance to secondary schools for in-service education in mathematics. Grants will be awarded to secondary schools. Costs may include honoraria and expenses for consultants, materials, and substitute time, and conference or workshop registrations. No funds may be used for staff travel or equipment. While this grant does not fund the purchase of technology, proposals including professional development involving the use of technology to enhance student learning are encouraged. Proposals must address the following: need, mathematics content, scope of the plan, other contributing sources of funding, number of teachers and students impacted, distribution of costs, urban-rural isolation, and multi-ethnic student body and its impact on performance.
Funding Range: Up to $4,000

SUMMER INSTITUTE FOR RESEARCH EDUCATION IN BIOSTATISTICS

Deadline Date(s): June 1, 2015
Funding Agency: National Institutes of Health
Program Title: Summer Institute for Research Education in Biostatistics (R25)
Synopsis: The NIH Research Education Program (R25) supports research educational activities that complement other formal training programs in the mission areas of the NIH Institutes and Centers. The over-arching goals of the NIH R25 program are to: (1) complement and/or enhance the training of a workforce to meet the nation’s biomedical, behavioral and clinical research needs; (2) enhance the diversity of the biomedical, behavioral and clinical research workforce; (3) help recruit individuals with specific specialty or disciplinary backgrounds to research careers in biomedical, behavioral and clinical sciences; and (4) foster a better understanding of biomedical, behavioral and clinical research and its implications.

The over-arching goal of this NHLBI R25 program is to support educational activities that complement and/or enhance the training of a workforce to meet the nation’s biomedical, behavioral and clinical research needs. Specifically, this FOA will enhance the training of quantitatively oriented students to encourage them to pursue advanced degrees in biostatistics-related fields for a career in biomedical and biostatistical research. To accomplish the stated goal, this FOA will support the following integrated educational activities with a primary focus on:

Courses for Skills Development in the principles and methods of contemporary biostatistics as employed in biomedical research today, incorporating hands-on research experiences and mentoring activities to introduce the participants to careers in biostatistical research.

Funding Range: Up to $235,000 per year
HEALTH LITERACY PROMOTION RESEARCH GRANTS

Deadline Date(s): R01 Due Dates: June 5, October 5
R03 and R21 Due Dates: June 16, October 16
AIDS Due Dates: May 7, September 7

Funding Agency: National Institutes of Health
Program Title: Understanding and Promoting Health Literacy

Synopsis: The goal of this program announcement is to encourage methodological, intervention and dissemination research for understanding and promoting health literacy. Health literacy is defined as the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions (Ratzan and Parker, 2000). Although this funding opportunity uses the R01 grant mechanism, it runs in parallel with two program announcements of identical scientific scope, PAR-13-131, for Small Grants (R03), and PAR-13-132, which uses the exploratory/developmental (R21) grant mechanism.

Multilevel, multidisciplinary, interdisciplinary, and transdisciplinary research is encouraged. Studies that incorporate state-of-the-science health communication theory and knowledge are particularly encouraged.

Funding Range: No fixed dollar amount

RESEARCH GRANTS FOR PRESERVING HUMANITIES COLLECTIONS

Deadline Date(s): June 23, 2015

Funding Agency: National Endowment of the Humanities
Program Title: Research and Development

Synopsis: The Research and Development program supports projects that address major challenges in preserving or providing access to humanities collections and resources. These challenges include the need to find better ways to preserve materials of critical importance to the nation’s cultural heritage—from fragile artifacts and manuscripts to analog recordings and digital assets subject to technological obsolescence—and to develop advanced modes of organizing, searching, discovering, and using such materials.

This program recognizes that finding solutions to complex problems often requires forming interdisciplinary project teams, bringing together participants with expertise in the humanities; in preservation; and in information, computer, and natural science. All projects must demonstrate how advances in preservation and access would benefit the cultural heritage community in supporting humanities research, teaching, or public programming.

Funding Range: Up to $75,000 to $350,000 based on Tier I or Tier II.
SWOSU Journal extends deadline to June 1

The SWOSU Journal of Undergraduate Research has extended the deadline for submissions to Volume 2 through **June 1, 2015**.

The journal is an interdisciplinary, peer-reviewed journal that serves to showcase scholarly work performed by students at SWOSU while promoting intellectual curiosity and exploration across campus. Submissions from all academic disciplines are welcomed. Eligibility is restricted to undergraduate and graduate students at SWOSU. Manuscripts must reflect work conducted under the direction of a SWOSU faculty member.

Complete guidelines are available by visiting [http://www.swosu.edu/academics/jur/submission-guidelines.aspx](http://www.swosu.edu/academics/jur/submission-guidelines.aspx). Questions can be directed to undergraduateresearch@swosu.edu.

Conference set on undergraduate research

The Council on Undergraduate Research will sponsor a three-day conference **June 23-25, 2015**, at the University of Oklahoma, Norman.

The focus will be on helping faculty and academic professionals interested in the improvement, management, and promotion of undergraduate research and creative activities. Faculty, undergraduate research program directors, and administrators will share ideas, strategies, and best practices.

Registration and other details are available by at [http://www.cur.org/conferences_and_events/urpd_conference_2015/](http://www.cur.org/conferences_and_events/urpd_conference_2015/).

Meeting to focus on promoting research

The sixth annual Promoting Undergraduate Research Conference and Workshop will be held **September 17-18, 2015**, at the Presbyterian Health Foundation Conference Center, 655 Research Parkway, in Oklahoma City.

Sponsors are the Oklahoma State Regents for Higher Education, Oklahoma IDeA Network for Biomedical Research Excellence (OK INBRE), and Oklahoma Experimental Program to Stimulate Competitive Research (OK EPSCoR).

One highlight of the event will be the presentation of the Spotlight Award for an Undergraduate Program of Excellence. The 2014 award was given to Southwestern Oklahoma State University’s Research and Scholarly Activity Committee (URSAC).

The workshop is scheduled for 1 to 4 p.m. September 17. The registration fee is $150.

The workshop topic will be “How to Develop Inquiry-Based Learning Activities.” Presenter will be Professor Mick Healey, Higher Education Consultant and Emeritus Professor at the University of Gloucestershire, United Kingdom.

The conference will follow on September 18, from 8 a.m. to 4p.m. The registration fee is $50 for faculty, $75 for administrators, and free for student panelists. A continental breakfast and lunch will be provided.

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