$1 Million Awarded for Study of Bio Compound Eyes

The Air Force Office of Scientific Research (AFOSR) has recently awarded $1 million to Zhisheng Shi (Electrical & Computer Engineering). Inspired by the bio compound eyes, the opto-electronic group at OU led by Shi is developing a technology to emulate the insect compound-eyes by using semiconductor micro-size crystal arrays. There is a great advantage to the compound eye system. Image processing is much more efficient than is the case with, for example, a human's eye. The compound eyes offer a much greater flicker fusion rate and also have a wide field-of-view. Compound eyes with night vision capability is even more desirable. This unique approach by Shi's group could lead to a breakthrough in this field and open doors for many new applications.

OU Writing Center Consultants to Present at Conference

Undergraduate students Kristine Davis (English), Laurel Cunningham (English), and Nana “Maggie” Williford (Secondary Education) and Ph.D. student Carrie Miller-DeBoer (Secondary Education) have been accepted to present a panel at the 2012 National Conference on Peer Tutoring in Writing, held November 2-4, 2012 in Chicago, Illinois. Their panel presentation, titled “Synthesizing Lived Experience with Writing Center Ideology,” will discuss how experiences in different contexts and fields of study – science education, health care, campus organizing and professional editing – impact their perspectives as writing center consultants. By analyzing modes of communication, disciplinary writing differences, issues of power, and their impact on interactions among writers, they aim to bring a better understanding to ways that writing center consultants can communicate with and support writers across disciplines in every stage of the writing process.

Other OU writing consultants chosen to attend the conference include Lindsey Allgood (graduate, Film & Media Studies), Lena Erickson (undergraduate, Math), Michael Mohon (graduate, English), Muntanga Muhyila (undergraduate, Architectural Engineering), Kevin Pickard (undergraduate, English), and Devin Siaosi (undergraduate, English).
Economics

Paul A. Lawson (Botany & Microbiology) has been unanimously elected as the Editor-in-Chief of the Bulletin for the Bergey’s International Society for Microbial Systematics (BISMiS) and elected to the Editorial Board of the International Journal of Systematic and Evolutionary Microbiology as an Associate Editor.

OU WaTER Center

The OU WaTER Center announced that Ms. Ada Oko-Williams, WaSH practitioner in West Africa, has been named the third winner of the OU International Water Prize. The prize is a biennial award sponsored by the WaTER Center and is one of the first and largest prizes dedicated to the field of water supply and sanitation in remote areas of emerging regions. Ms. Oko-Williams will give the plenary lecture at the OU International WaTER Conference in September 2013.

IARPA’s SIRIUS Program

A University of Oklahoma team, led by Norah Dunbar, was awarded a $10.7 million contract in 2011 from the Air Force Research Laboratory in support of the Intelligence Advanced Research Projects Activity, a project known as IARPA’s SIRIUS program. The purpose of the project is to develop an educational video game or “serious game” to train intelligence analysts and measure their proficiency in recognizing and mitigating the cognitive biases that affect intelligence analysis. The contract is awarded on a year-by-year basis and the OU team was approved to proceed to the next phase of the project. OU is one of only two University-led teams; the remaining teams are led by large companies.

Council of Graduate Schools Award

The Graduate College and the Center for Applied Social Research have received one of five awards nationwide from the Council of Graduate Schools to integrate research ethics education into international collaborations in Science, Technology, Engineering and Mathematics fields. The awards are designed to prepare future scientists and engineers for the ethical challenges that often arise in global research. The OU research project will focus on international students entering a U.S. university. Michael D. Mumford (Director, Center for Applied Social Research) will lead the project, “Effects of Viable Ethics Instruction on International Students.” The prevalence of international collaborations in the science, engineering and social sciences is a concern when preparing students for ethical conduct in a cross-cultural context. International students receiving stipends at OU will complete a two-day ethics education program.
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President’s Monthly Research
and Development Highlights

NSF National Robotics Initiative Award

Andrew H. Fagg (Computer Science), David P. Miller (Aerospace & Mechanical Engineering), Lei Ding (Electrical & Computer Engineering) and Thubi H. A. Kolobe (OUHSC/Rehabilitation Science) have received a three-year, $1.135 million NSF National Robotics Initiative award entitled "Robot Assistants for Promoting Crawling and Walking in Children at Risk of Cerebral Palsy." This project seeks to analyze and positively influence the developmental processes of children at risk of Cerebral Palsy as they are learning to crawl and walk.

College of Earth & Energy Research

Randy Keller’s research group (College of Earth And Energy) has been investigating the origin of the large volcanic provinces in the northwestern U.S. as part of a large cooperative National Science Foundation project since 2006. What is notably absent, but is critical for resolving the true cause of magmatism in this area, is information on the crustal and upper mantle structure that underlies the extensive veneer of late Cenozoic volcanic rocks that completely covers most of Oregon east of the Cascade Range. This group headed up a very large (2732 instruments, 67 people) seismic survey in 2008, and this summer they went back to conduct an ambitious gravity survey. The field crews involved 11 students from 4 universities and equipped with 4 gravity meters and high-precision GPS units. This large effort resulted in more than 1000 gravity measurements being made and will be used in a portion of a Ph.D. dissertation. This effort also featured the first deployment of a new magnetotelluric instrument that has been purchased by the national instrument pool at Oregon State University for NSF’s EarthScope project.

Scholarship

Fairleigh Dickinson (August 31, 2012) has published Coarseness in U.S. Public Communication by Eric Kramer (Communication) and his coauthor Philip Dalton.

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President’s Monthly Research and Development Highlights

Student Achievements

- Nicole Grams (Interdisciplinary M.S student), studying geoinformatics and hydrology, was recently recognized by the United States Geospatial Intelligence Foundation (USGIF). Grams was one of five M.S. students nationwide to win a competitive scholarship worth $5,000 and registration to the annual Geospatial Intelligence (GEOINT) Symposium this October in Orlando, FL. She was also chosen to represent the University of Oklahoma as a student assistant and, along with 14 other students from various universities, will volunteer roughly 20 hours during the week to help keep the symposium running smoothly. In exchange for their work, student assistants are awarded registration, lodging and transportation for the event.

- Doctoral students Dorothy Nkhata, Moira Ozias, and Erin Simpson in the Adult and Higher Education program of the Jeannine Rainbolt College of Education will be presenting papers at the upcoming meeting of the Association for the Study of Higher Education (ASHE) in Las Vegas, Nevada on November 17, 2012. All three students work closely with Penny Pasque (Associate Professor of Adult and Higher Education).

Nonprofits as Pathways of Hope

The OU-Tulsa Center for Applied Research for Nonprofit Organizations hosted a conference funded by the Charles and Lynn Schusterman Family Foundation called "Nonprofits as Pathways of Hope" on October 16, 2012. The theme of the conference was a common language for collective impact. The basis of the conference is the research conducted by the Center of Applied Research for Nonprofit Organizations. This work is focused on the impact of nonprofit organizations on the hope they help clients develop.

Hope is a positive motivational state that is based on a sense of successful willpower (agency), and waypower (pathways) toward a goal. Both agency and pathway thinking are needed to be a high hope person. The research conducted by the Center has included parents at risk for child abuse and neglect, homelessness, domestic violence, emergency shelter, soup kitchens, and nonprofit staff burnout prevention. Currently, there are over 200 nonprofit professionals registered for the conference that connects the research from OU to improving the local nonprofit community. All research projects are led by graduate students (who serve as the primary investigator with faculty supervision). Participants will receive CEU credit and attend at no cost.
Faculty Recognition and Honors

- Mohammed Atiquzzaman (Computer Science) will give a keynote talk on Power Aware Mobile Computing at the Second International Conference on Cloud and Green Computing in Xiantan, Hunan, China on November 2, 2012. The focus of the talk is on making the atmosphere green as well as cost saving and convenience because cloud computing accommodates IT infrastructures in the cloud. The talk will help disseminate and increase the visibility of research on Mobile Computing carried out at University of Oklahoma, and will also help recruit top quality graduate students from China.

- Alan Atkinson (Art & Art History) is serving as the exhibition curator and part of the initial selection committee for the 2012 National Weather Center Biennale, which opens on Earth Day, April 2013.

- Mary Sue Backus (Law) is in China as a Fulbright Scholar lecturing in law at Guangdong University of Foreign Studies. She and her family will be there for the academic year. Backus is teaching courses in American Evidence Law and the American Jury Trial to Chinese undergraduate and graduate law students.

- Pete Froslie (Art & Art History) traveled to China in June for research at the Red Gate Residency Program. Froslie had a solo exhibition in 798 District during his visit and also has work in an exhibition traveling between Beijing and Moscow (includes 11 cities.)

- Larry Hammett (Music) taught at the "Unlimited Music & Arts Academy" in Vizitsa, Greece. Hammett also performed several concerts during the 10-day festival and has been invited to be a permanent member of the annual event.

- Curtis Jones (Art & Art History) traveled to Estonia in July to participate in the 2012 Printmaking in International Printmaking Festival. Jones had a solo exhibition at the Parnu Town Hall Gallery – one of six venues at the festival. Jones was also featured in an article printed in an Estonian newspaper.

- S. Lakshmivarahan (Computer Science) has received the honor of Life Fellow from the Institute of Electrical and Electronic Engineers (IEEE), the largest of the professional engineering societies in the world today.
September New Awards

- Cengiz Altan
  School of Aerospace & Mechanical Engineering
  “Intermodal Container Estimating Tool (ICE-T) Support”
  SERCO
  $27,500

- Peter Attar
  School of Aerospace & Mechanical Engineering
  “Numerical Simulation of a Membrane Micro Air Vehicle in a Gust Field”
  NP-OAI
  $35,400

- Deborah Binkley-Jackson
  Project Threshold
  “Student Support Services”
  US-EDUC
  $433,481

- Eli Bridge
  Center for Spatial Analysis
  “Collaborative Research: IDBR: Enhancing and Disseminating Miniaturized Tracking Technology for Widespread Use on Small Migratory Songbirds”
  NSF
  $302,603

- Sherri Castle
  Tulsa-Education Instruction
  “Oklahoma Early Childhood Program Evaluation: Program Quality and Model Variation”
  NP-TCCAP
  $406,808

- Joao Cruz
  School of Electrical & Computer Engineering
  “Conference Administration Support II”
  NP-IEEE
  $110,000

- Joao Cruz
  School of Electrical & Computer Engineering
  “CIF: Small: Two-Dimensional Channel Modeling, Detection and Coding for Shingled Magnetic Recording”
  NSF
  $418,565

- Andrew Fagg
  School of Computer Science
  “NRI-Small: Robot Assistants for Teaching Children at Risk of Cerebral Palsy to Crawl and Walk”
  NSF
  $1,135,000

- Joe Foote
  Gaylord College of Journalism & Mass Communication
  “Bangladeshi Professional Fellows Media Program”
  OF-BECA
  $364,634

- Joe Foote
  Gaylord College of Journalism & Mass Communication
  “University Partnership with University of Gujrat in Pakistan”
  $997,879

- Amy Goodin
  Department of Political Science
  “FY13 Oklahoma Tobacco Helpline Program Evaluation Study”
  HSC-OK
  $75,000

- Jeffrey Harwell
  School of Chemical, Biological & Materials Engineering
  “EAGER: Effects of Thermodynamic Phase Changes at Reservoir Conditions on the Interfacial Properties of Chemicals Used in Hydraulic Fracturing”
  NSF
  $95,183

- Bruce Hoagland
  Oklahoma Biological Survey
  “Natural Resources Technician, Tinker Air Force Base”
  DOD-AMRAA
  $71,810

- Lisa Holliday
  Department of Construction Science
  “Comparing the Sustainability of a Compressed Earth Block House to a Conventionally Framed House Built to National Green Building Standards”
  EPA
  $89,721
September New Awards

- **Robert Huck**  
  School of Electrical & Computer Engineering  
  “Support of Wind Sensing Demonstration”  
  InfoSciTex  
  $10,202

- **George Keller**  
  School of Geology & Geophysics  
  “Collaborative Research: Geophysical Investigation of the Mid-Continent Rift System”  
  NSF  
  $82,348

- **Jeffrey Kelly**  
  Oklahoma Biological Survey  
  “Ecology and Evolutionary Biology”  
  US-EDUC  
  $133,266

- **Fanyou Kong**  
  Center for Analysis & Prediction of Storms  
  “Establishment of an Improved Numerical Weather Forecasting System for Chongqing Meteorological Service”  
  IN-CIGITCAS  
  $281,192

- **Hong Liu**  
  School of Electrical & Computer Engineering  
  “Advanced Cancer Imaging Facility”  
  HSC  
  $250,000

- **Chuanbin Mao**  
  Department of Chemistry & Biochemistry  
  “Anti-Cocaine Brain-Homing Virus-Like Nanoparticles”  
  DOD-CDMRP  
  $185,868

- **Paula McWhirter**  
  Department of Educational Psychology  
  “Practicum Placement Program”  
  NP-Chickasaw  
  $18,169

- **Farrokh Mistree**  
  School of Aerospace & Mechanical Engineering  
  “EAGER: Identifying Challenges in the Integrated Design of Materials and Products”  
  NSF  
  $87,499

- **Berrien Moore**  
  College of Atmospheric & Geographic Sciences  
  Dean’s Office  
  “South-Central Climate Science Center - Supplement for Internal Funding”  
  DOI-USG  
  $55,407

- **Jeffrey Moore**  
  Center for the Creation of Economic Wealth  
  “CCEW Student Project to Learn iOS Development While Creating an iPad Application Prototype with IceDot”  
  ICEDOT  
  $12,500

- **Sophia Morren**  
  Center for Student Life  
  “OU McNair Scholars Program, Your Roadmap to Graduate School”  
  US-EDUC  
  $224,800

- **David Parsons**  
  School of Meteorology  
  “Improved Characterization and Prediction of Antarctic Weather and Climate Through Utilization of CONCORDIASI Data Set”  
  NSF  
  $273,473

- **David Parsons**  
  School of Meteorology  
  “Investigation into the Mechanisms for the Maintenance of Nocturnal Convective Systems”  
  NSF  
  $465,585
September New Awards

- David Parsons
  School of Meteorology
  “MRI: Development of a Mobile Thermodynamic and Dynamic Profiling Facility for the Atmospheric Boundary Layer”
  NSF
  $663,267

- Michael Patten
  Oklahoma Biological Survey
  “Population Ecology and Conservation of the Rare and Declining Lesser Prairie Chicken and its Ecosystem”
  OK-WILD
  $3,572

- Lindsay Robertson
  College of Law
  “Student Exchange Program on Indigenous Law”
  US-DOS
  $50,750

- David Sabatini
  School of Civil Engineering & Environmental Science
  “Fundamental Processes Influencing Environmentally Benign Aqueous Microemulsion-Based Methods for Bio-Oil Extraction”
  NSF
  $255,242

- Michael Santos
  Department of Physics & Astronomy
  “Acquisition of a Molecular Beam Epitaxy (MBE) Chamber for Quantum-Engineered Structures and Devices”
  NSF
  $812,894

- Neil Shafer-Ray
  Department of Physics & Astronomy
  “A Guided-Beam Measurement of the Electron’s Electric Dipole Moment”
  NSF
  $25,000

- Carol Silva
  Department of Political Science
  “Utilization of Real-Time Social Media Data in Severe Weather Event: A Proposal to Evaluate the Prospects of Social Media Data Use for Severe Weather Forecasting, Communication, and Post-Event Assessments”
  DOC-NOA
  $124,953

- Gerilyn Soreghan
  School of Geology & Geophysics
  “Assessing Weathering as a Function of Climate in Proximal Alluvial Sediments”
  NSF
  $229,000

- David Stensrud
  Cooperative Institute for Mesoscale Meteorological Studies
  “Collaborative Research: Improved Understanding of Convective-storm Predictability and Environment Feedbacks from Observations during the Mesoscale Predictability Experiment (MPEX)”
  NSF
  $132,317

- Alberto Striolo
  School of Chemical, Biological & Materials Engineering
  “Financial Support to Participate to the CBET Grantees Conference”
  NSF
  $1,995

- David Turner
  Cooperative Institute for Mesoscale Meteorological Studies
  “Increased Understanding of Atmospheric Processes from ARM Spectral Radiation Measurements”
  US-DOE
  $43,564
September New Awards

- Caryn Vaughn  
  Oklahoma Biological Survey  
  “Large-Scale Assessment of Mussel Habitat Condition and Connections in the Kiamichi River to Protect Arkansia Wheeleri”  
  AEP  
  $150,000

- John Wisniewski  
  Department of Physics & Astronomy  
  “Debris Disk Chemistry from Spatially Resolved Spectroscopy”  
  NP-STSCI  
  $18,755

- John Wisniewski  
  Department of Physics & Astronomy  
  “HST/FGS Astrometric Search for Young Planets Around Beta Pic and AU Mic”  
  NP-STSCI  
  $54,014

- John Wisniewski  
  Department of Physics & Astronomy  
  “Probing for Exoplanets Hiding in Dusty Debris Disks: Inner Disk Imaging, Characterization, and Exploration”  
  NP-STSCI  
  $28,447

- John Wisniewski  
  Department of Physics & Astronomy  
  “Collaborative Research: Diagnosing the SEEDS of Planet Formation”  
  UN-WASH  
  $58,688

- Bing Zhang  
  Department of Biology  
  “Examining the Role of VSM-1 at Fruit Flies Neuromuscular Synapses”  
  OK-SOSU  
  $40,500

- Guifu Zhang  
  School of Meteorology  
  “Combining Communication Signals and Radar Measurements to Better Monitor Communication and Weather Conditions”  
  ATT  
  $25,000