Scholarship

Sapientia Press has published *The Church and the Usurers: Unprofitable Lending for the Modern Economy* by Brian McCall (Law) (April, 2013).

Norman Research Report Now Available Online

The Office of the Vice President for Research is proud to present the 2013 University of Oklahoma Research Report, which highlights research activities in six areas of inquiry pursued by Norman and Tulsa campus researchers – biofuels, weather radar, bioengineering, nanotechnology, weather preparedness, and elementary education programs. Versions for the report include an interactive web-viewable download, a PDF, and an iPad application. The web and PDF versions are available at the VPR Publications page (http://vpr-norman.ou.edu/2013-ou-norman-research-report-now-available-online). The iPad app is available on the Apple App Store. For questions regarding the report, please contact either Jana Smith (405-325-1322) or Ernest Abrogar (405-325-3932).

John Simon Guggenheim Memorial Foundation Fellowship

Kyle Harper (Classics and Letters) is a recipient of a John Simon Guggenheim Memorial Foundation Fellowship, a national award honoring scholars, artists and scientists who are selected on the basis of prior achievement and exceptional promise. Guggenheim Fellows represent a wide variety of backgrounds, fields of study and accomplishments. Harper, who also serves as director of OU’s Institute for the American Constitutional Heritage and senior vice provost for OU’s Norman campus, was selected in the field of European and American History based on his current research project, *The Fall of the Roman Empire: A Biohistory*.

Harper created and introduced freedom.ou.edu, an OU website featuring a weekly series of short lectures on constitutional law and constitutional history, making civic education available to anyone anytime. The website provides content produced by the Institute for the American Constitutional Heritage, a program founded in 2009 to emphasize the teaching of constitutional foundations as part of the college curriculum. With more than 30 faculty from across the university, the Institute for the American Constitutional Heritage offers an unparalleled range of courses on constitutional history. The program is designed to enhance civic education – on campus and beyond. Freedom.ou.edu was conceived as a way to share the resources of OU with the public.
President’s Monthly Research and Development Highlights

American Academy of Microbiology’s Newly Elected Fellow

Tyrell Conway (Botany and Microbiology) is among a national group of 87 newly elected fellows in the American Academy of Microbiology. Conway serves as co-director of OU’s Advanced Center for Genome Technology. His research is focused on understanding how bacterial cells work, from genome to transcriptome to metabolome, their genetic circuitry and metabolic networks, the physiology of the colonized *E. coli* cell, how it controls its growth and competes for nutrients in the gut microbial community.

Conway’s group published the first *E. coli* microarray experiment in 1999 and now is focused on computational aspects of high-throughput gene expression data. The research group is also exploring and characterizing the symbiotic relationship in which *E. coli* scavenges oxygen to generate anaerobic conditions in the intestine, which stimulates growth of anaerobes that degrade complex polysaccharides in turn releasing simple sugars that cross-feed *E. coli*.

The American Academy of Microbiology is the honorific leadership group of the American Society for Microbiology. The mission of the Academy is to recognize scientific excellence, as well as foster knowledge and understanding in the microbiological sciences. More information on the Academy can be found at [http://academy.asm.org](http://academy.asm.org).

Professor Receives Grant from the Simons Foundation

Kimball Milton (Physics) is the recipient of a grant from the Simons Foundation Fellows Program in Theoretical Physics for research. As a Simons Fellow, Milton will spend the 2013-14 academic year at the Laboratoire Kastler Brossel, Universite Pierre et Marie Curie, Paris, working with noted physicists Astrid Lambrecht and Serge Reynaud and other members of their research group.

Milton will explore the physics and applications of the quantum vacuum, which is anything but empty with particles popping in and out of existence on very short time scales. This gives rise to the famous Casimir effect, in which there is an attraction between uncharged metal plates. Practical applications of this are becoming more important as nanoscale machines are developed.

The Simons Foundation is a private foundation based in New York City, incorporated in 1994 by Jim and Marilyn Simons. The mission of the foundation is to advance the frontiers of research in mathematics and the basic sciences through sponsorship of a range of programs that aim to promote a deeper understanding of the world.
Faculty Recognition

- Teresa R. Bell (Modern Languages, Literatures, and Linguistics) was elected to the Board of Directors of the Central States Council on the Teaching of Foreign Languages for a four-year term beginning July 1, 2013. She also received the Award for Teaching Excellence by the Oklahoma Foreign Language Teachers Association on April 20, 2013.

- Lori L. Jervis (Anthropology and Center for Applied Research) gave an invited presentation to the Institute of Medicine of the National Academies on Native elder mistreatment on April 18, 2013 at a forum on global violence prevention in Washington, D.C.

- Amy McGovern (Computer Science) was interviewed for the article Professor: Encouragement and Practical Instruction Can Bridge Gender Gap in Computer Science for the University of Tennessee Knoxville in the National Institute for Computational Sciences. The article can be found online at http://www.nics.tennessee.edu/professor.

- Kristina Navarro (Adult and Higher Education/Director of the Intercollegiate Athletics Administration Graduate Program) has won the 2013 National Association of Academic Advisors for Athletics (N4A) Research Award. This is the primary association for intercollegiate athletics practitioners in academic support and student-athlete development. The recipient will receive this award at the 2013 N4A National Convention to be held June 6-9, 2013 in Jacksonville, FL.

- Yang Hong (Advanced Radar Research Center/Civil Engineering & Environmental Science and Director, HyDROS Lab at the National Weather Center) has been selected as Chair-elect of the International Professionals for the Advancement of Chinese Earth Sciences (IPACES). Established in 1999, IPACES is a nonprofit organization whose mission is to advance earth sciences research and education in China, and to promote scientific collaborations between China and the rest of the world. Membership in IPACES is by invitation only with current members either tenured professors at U.S. universities or senior scientists at national laboratories. IPACES is among the largest Chinese overseas think tanks currently advising the Chinese government and universities on science, education, research and development.
Summer
The Office of the Vice President for Research will take a break from producing the President’s R&D Highlights this summer. We hope you have a wonderful summer and look forward to hearing from you in the fall.

Data Collected from Atmospheric Imaging Radar
On May 9th, 2013, the Advanced Radar Research Center’s Atmospheric Imaging Radar (AIR) and graduate students Jim Kurdzo, David Bodine and Feng Nai collected over 20 minutes of volumetric data on a rotating supercell 5 miles east of Snyder, Oklahoma. Data were collected at ranges of 4-15 km, while a mature rotating wall cloud was evident visually. The AIR recorded data over a 140 (horizontal) by 20 (vertical) degree sector, receiving a full volume of the storm every 10 seconds. Such high temporal resolution allows for analysis of very detailed storm evolutions which are difficult to observe with more traditional radar platforms.

AERA Special Interest Group
The University of Oklahoma’s Intercollegiate Athletics Administration Graduate Program, housed within the Jeannine Rainbolt College of Education, co-sponsored the annual AERA Special Interest Group (SIG) Research Focus on Education and Sport Business Meeting, Reception and Expert Panel with the University of Washington’s Center For Leadership in Athletics. Scholar practitioners who study the nexus of intercollegiate athletics and sport gathered for an evening reception and expert panel featuring Ramogi Huma of the National College Player’s Association (NPCA) and Dr. Emmett Gill, Assistant Professor of Social Work at North Carolina State University/ Director of the Student-Athletes Human Rights Project (SAHRP). The Research Focus on Education and Sport SIG reached an unprecedented level of participation at this year’s conference featuring 10 scholarly papers, 3 posters and 3 roundtables. OU IAA Graduate Program Director Dr. Kristina Navarro presented her work on the Career Construction patterns of NCAA Division I student-athletes.
### April New Awards

<table>
<thead>
<tr>
<th>Name</th>
<th>Department/Institution</th>
<th>Project Description</th>
<th>Funding Agency</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mohammad Al-Masri</td>
<td>Department of Modern Languages, and Linguistics</td>
<td>“University of Oklahoma’s Arabic Flagship Partner Program - 2013-2014 Renewal (Year 6)”</td>
<td>NP-IIE</td>
<td>$50,000</td>
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<tr>
<td>Howard Bluestein</td>
<td>School of Meteorology</td>
<td>“Analysis of Mobile Doppler Radar and Lidar Data of Severe Convective Storms”</td>
<td>NSF</td>
<td>$654,934</td>
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<td>Amy Callaghan</td>
<td>Department of Microbiology &amp; Plant Biology</td>
<td>“Effect of Photochemistry on Biotransformation of Crude Oil”</td>
<td>UN-UNO</td>
<td>$425,174</td>
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<tr>
<td>Adam Clark</td>
<td>Cooperative Institute for Mesoscale Meteorological Studies</td>
<td>“Object-based Time-domain Diagnostics for High-resolution Ensemble Forecasting and Evaluation in the NOAA/HWT Spring Forecasting Experiments”</td>
<td>UCAR</td>
<td>$11,858</td>
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<td>Clyidia Forehand</td>
<td>Tulsa-East Asia Institute</td>
<td>“Chinese Face to Face: Learning Chinese through Stories from Peking Opera (Tulsa Campus)”</td>
<td>DOD-NSA</td>
<td>$71,277</td>
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<tr>
<td>Yang Hong</td>
<td>Advanced Radar Research Center</td>
<td>“Real-time Global Flood Analyses and Forecasts Using Satellite Rainfall and Hydrological Models”</td>
<td>UN-MARY</td>
<td>$20,000</td>
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<tr>
<td>Hank Jenkins-Smith</td>
<td>Center for Applied Social Research</td>
<td>“Nuclear Facility Siting Survey Research”</td>
<td>SANDIA</td>
<td>$190,000</td>
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<tr>
<td>Kurt Marfurt</td>
<td>School of Geology &amp; Geophysics</td>
<td>“3D Seismic Data Processing using AASPI, Year 2”</td>
<td>IN-KIGAM</td>
<td>$35,000</td>
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<td>Kenneth Nicholas</td>
<td>Department of Chemistry &amp; Biochemistry</td>
<td>“REU - Development of Robust Catalysts for Biomass Polyol Conversion to Value-Added Olefins”</td>
<td>OSU</td>
<td>$4,000</td>
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<td>Dimitrios Papavassiliou</td>
<td>School of Chemical, Biological &amp; Materials Engineering</td>
<td>“Assignment of Dr. Papavassiliou as NSF Program Director for the Fluid Dynamics Program (ENG/CBET Division)”</td>
<td>NSF</td>
<td>$102,518</td>
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<td>Randy Peppler</td>
<td>Cooperative Institute for Mesoscale Meteorological Studies</td>
<td>“Data Quality Manager for the ARM Program”</td>
<td>BATTELLPNL</td>
<td>$280,088</td>
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<td>Mrinal Saha</td>
<td>School of Aerospace &amp; Mechanical Engineering</td>
<td>“Nanofibers for Advanced Materials Composites”</td>
<td>HFMTKCP</td>
<td>$60,019</td>
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<td>David Schmidtke</td>
<td>School of Chemical, Biological &amp; Materials Engineering</td>
<td>“Development of a Miniature RVAD”</td>
<td>VADovations</td>
<td>$346,974</td>
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<td>Hjalti Sigmarsson</td>
<td>Advanced Radar Research Center</td>
<td>“Miniaturized, Power Efficient C-band Telemetry”</td>
<td>IndianaMicro</td>
<td>$55,000</td>
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</tbody>
</table>
April New Awards

- Paul Spicer
  Center for Applied Social Research
  “Technical Assistance for Tribal Project LAUNCH Evaluation”
  NP-ABT
  $44,694

- Yun Wang
  Department of Physics & Astronomy
  “Travel to Attend Euclid Consortium Meeting”
  JET
  $5,000

- Xiangming Xiao
  Department of Microbiology & Plant Biology
  “Resilience and Vulnerability of Beef Cattle Production in the Southern Great Plains Under Changing Climate, Land Use and Markets”
  OSU
  $369,718

- Md Zaman
  Engineering Dean
  “Summer Internship”
  OSU
  $37,757