Review of University Strategic Organization (USO) Program Completed

An ad hoc task force of faculty members recently completed a nearly year-long review of the University Strategic Organization (USO) program (see https://vpr-norman.ou.edu/centers-institutes/university-strategic-organizations-usos), the first since its inception in 2008. Chaired by Professor George Richter-Addo (Chemistry and Biochemistry), the task force was charged with undertaking a critical analysis of, and making policy recommendations to the Norman campus Vice President for Research regarding, the purpose, expectations, structure, benefits, assessment mechanisms, expected outcomes, and overall relevance and value to the University of the USO Program. The task force was asked to address a number of questions as well as come up with those of its own, and in the course of its work, the task force met with deans and also gathered information from a variety of other sources internal and external to the University. The final report was delivered to the Vice President for Research on January 29, and its recommendations are now being evaluated and will be discussed with the University community before any actions are taken.

Members of the task force included the following, in alphabetical order: Professors Frances Ayres (Accounting), Scott Gronlund (Psychology), Chan Hellman (Human Relations), Jennifer Holland (History), David Parsons (Meteorology), Michael Santos (Physics and Astronomy), Randa Shehab (Industrial Engineering), Cameron Siler (Biology), Katerina Tsetsura (Journalism/Mass Communication), and Ann West (Chemistry and Biochemistry).

Publication Awards

Assistant Professor Raphael Folsom’s (History) book, *The Yaquis & the Empire*, (Yale, 2014) has now won three nationally competitive prizes: The LASA Social Science Book Award, conferred by the Lasa Mexico Section, The Charles Redd Center/Phi Alpha Theta biennial award for the best book on the history of the American West, The Border Regional Library Association’s Southwest Book Award and was runner up for The David J. Weber/Clements Center Book Prize.

Associate Professor James Zeigler (English) contributed the article “A Secret History of Miscegenation: Jimmy Corrigan and the Columbian Exposition of 1893” to the anthology *The Blacker the Ink: Constructions of Black Identity in Comics and Sequential Art* (Rutgers University Press) (July 16, 2015.) The book has been awarded the Popular Culture Association’s Ray & Pat Browne Award for Best Edited Collection of 2015.

Bingman Announces Appointment of Cynthia Rogers to Incentive Evaluation Commission

Senate President Pro Tempore Brian Bingman has announced the appointment of University of Oklahoma economist Cynthia Rogers (Professor, Economics) to the Incentive Evaluation Commission. Rogers has been appointed to a term that will expire in June 2020.

Bingman said he was confident Rogers would provide exceptional leadership as a member of the Commission. Rogers has had a long and distinguished career in academia, with extensive work on economic development, and state and local tax policy research.

“It thoroughly evaluating economic incentives is a critical part of our overall effort to promote fiscally sound management of taxpayer dollars,” said Bingman, R-Sapulpa. “As our budget situation has made clear, we are at a point where we must carefully examine all state spending, and economic incentives will continue to be a part of that discussion. We provide more than $1.7 billion in economic incentives, and to protect taxpayers we need to ensure they are effective.”
Student Recognition

- Graduate student John Lake (Advanced Radar Research Center (ARRC)/Electrical and Computer Engineering (ECE)) on being selected as the third place winner in the poster presentation category of the American Meteorological Society and Environmental Information Processing Technologies (EIPT) Conference Student Competition. John’s poster was titled “Improving Radio Frequency Interference Mitigation Strategies at the National Weather Radar Testbed.”

- Ph.D. student Rahnuma Ahmed (Advertising) is first author on a competitive paper accepted for presentation at the 2016 The American Academy of Advertising (AAA) conference in Seattle, WA. Her paper, which is co-authored with Gaylord College faculty members Dr. Fred Beard and Dr. Doyle Yoon, is titled “Examining and Extending Advertising’s Dual Mediation Hypothesis to a Branded App in a Mobile Phone Context.” She will also present two papers in the upcoming AEJMC Midwinter conference to be held at Gaylord College, OU. The titles of the competitively selected papers are “Forming Implicit and Explicit Brand Attitudes toward Viral Video Advertising: Effect of Perceived Source Credibility and Message Content” and “A Theoretical Explanation of Psychological Reactance toward Anti-e-cigarette Messages on Health Websites: Effect of Perceived Message Sensation Value (PMSV) and Number of Threat to Freedom.” Both of these papers are co-authored with Gaylord College faculty member Dr. Doyle Yoon and Gaylord College Ph.D. student Md. Nazmul Rony.

- Second-year Ph.D. student Ying Xiong (Strategic Communication/Public Relations) will present a competitively selected research paper titled “Motivations and Reservations in Self-presentation in Social Media: Implications for Public Relations” at the International Communication Association annual conference in June 9–13, 2016 in Fukuoka, Japan.

- Undergraduate student David Thomas (Microbiology and Plant Biology) presented his recent undergraduate research “Visualizing Cell Wall Compositional Change during Rice Lateral Root Development with Fluorescence Microscopy” at the Fall 2015 meeting of the Oklahoma Academy of Sciences. David received three awards for his talk: Best paper of the Academy, Outstanding undergraduate paper in biological sciences and the Paul Buck Botany award.

- Ph.D. student Christina Childs DeWalt (Journalism and Mass Communications) is first author on a paper accepted to the Information System Division of the 2016 International Communication Association (ICA) conference in Fukuoka, Japan. Her paper, which is co-authored by communication faculty member Claude Miller, is titled “Influencing Organ and Tissue Donation: A Replication and Extension.”

- Second-year Ph.D. student, Kevin Curran (Journalism and Mass Communications) has been selected to present a paper on “North American Transnational Radio” at The Radio Conference 2016: Transnational Radio Encounters in July at Utrecht University in The Netherlands. His paper explores cross-border radio audiences in the United States, Canada and Mexico from the “Border Blasters” of the 1930s through situations in San Diego and Vancouver today.

- Second-year Master student Juliana Gutierrez (Strategic Communication) will present her solo-authored competitively selected research paper titled “Public relations in Venezuela: an analysis of the country’s context and how the profession could help build a promising future” at the 18th annual International Public Relations Research Conference March 2–6, 2016, in Miami, FL.
New Appreciation for the Human Microbiome Leads To Greater Understanding and Impact on Human Health

University of Oklahoma anthropologists are studying the ancient and modern human microbiome and the role it plays in human health and disease. By applying genomic and proteomic sequencing technologies to ancient human microbiomes, such as coprolites and dental calculus, as well as to contemporary microbiomes in traditional and industrialized societies, OU researchers are advancing the understanding of the evolutionary history of our microbial self and its impact on human health today.

Christina Warinner, Professor in the Department of Anthropology, OU College of Arts and Sciences, presented, “The Evolution and Ecology of Our Microbial Self,” during the American Association for the Advancement of Science panel on Evolutionary Biology Impacts on Medicine and Public Health, at 1:30 pm, Sunday, February 14th in Washington, DC. Warinner discussed how major events, such as the invention of agriculture and the advent of industrialization, have affected the human microbiome.

“We don’t have a complete picture of the microbiome,” Warinner said. “OU research indicates human behavior over the past 2000 years has impacted the gut microbiome. Microbial communities have become disturbed, but before we can improve our health, we have to understand our ancestral microbiome. We cannot make targeted or informed interventions until we know that. Ancient samples allow us to directly measure changes in the human microbiome at specific times and places in the past.”

Warinner and colleague, Cecil M. Lewis, Jr., co-direct OU’s Laboratories of Molecular Anthropology and Microbiome Research and the research focused on reconstructing the ancestral human oral and gut microbiome, addressing questions concerning how the relationship between humans and microbes has changed through time and how our microbiomes influence health and disease in diverse populations, both today and in the past. Warinner and Lewis are leaders in the field of paleogenomics, and the OU laboratories house the largest ancient DNA laboratory in the United States.

For more information on Warinner’s AAAS presentation on the “Evolution and the Ecology of the Microbial Self,” please contact Christina Warinner at christina.warinner@ou.edu.
Professor Prepares For First-Of-Kind Helical Pile Shake Table Test In Seismic Conditions At UC San Diego Facility

HOW WELL DO HELICAL PILES SHAKE?
University of Oklahoma Professor Amy Cerato is conducting a first-of-a-kind shake test designed to benefit people living in seismic zones by educating engineers with full-scale helical pile experimental data so that they better understand how to design a building system that is safer, more resilient and sustainable for everyone.

Cerato is Rapp Foundation Presidential Professor and recipient of the 2009 Presidential Early Career Award for Scientists and Engineers in the Gallogly College of Engineering’s School of Civil Engineering and Environmental Science. She conducted the test on helical piles in seismic conditions at the UCSD Shake Table site on February 8th.

Media can watch the test on a live video feed from the site at http://nees.ucsd.edu/video/. A timeline of the testing schedule and more information about the project is available on Cerato’s blog at http://cerato.ou.edu/category/blog.

“Large-Scale Shake Table Test to Quantify Seismic Response of Helical Piles in Dry Sands,” is a critical, first-of-its-kind study at a time when earthquake prone areas of the United States are now requiring seismic retrofits of existing buildings. Helical piles are deep foundation elements that look like and are installed like a large steel soil screw to support the structure they hold. Helical piles are used in seismic areas, such as New Zealand and Japan, but they have not been widely used in the United States.

For more information, contact Amy Cerato at acerato@ou.edu or contact Jana Smith at 405.325.1322 or jana.smith@ou.edu.

New Publications

Oxford University Press (1 edition) published Literary Territories: Cartographical Thinking in Late Antiquity by Scott Fitzgerald Johnson (Assistant Professor, Classics and Letters) (January 4, 2016.)

LSU Press published Brown vs. Board and the Transformation of American Culture: Education and the South in the Age of Desegregation by Ben Keppel (Associate Professor, History) (January 11, 2016.)

University of California Press published Farewell to the God of Plague: Chairman Mao’s Campaign to Deworm China by Miriam Gross (Assistant Professor, History) (January 19, 2016.)
Faculty Recognition

- Professor Sesh Commuri (Electrical and Computer Engineering) was selected as one of the Engineering News-Record’s (ENR) Top 25 Newsmakers of 2015 for his work on intelligent compaction systems.

- Farzaneh Family Chair Professor Afshin Marashi (Iranian Studies/Associate Professor of International and Area Studies) has been elected to serve on the Council of the International Society for Iranian Studies for a two year term (2016-2018). He has also been appointed to the Editorial Board of the International Journal of Middle East Studies.

- Professor Bin Zheng was elected to the College of Fellows of the American Institute for Medical and Biological Engineering (AIMBE.) This is an exceptional achievement and a terrific recognition of his professional accomplishments.

- Dr. Leland Bement (Oklahoma Archeological Survey) received a National Geographic Society Committee for Research and Exploration grant to fund continued interdisciplinary work at the Bull Creek site in the Oklahoma panhandle. Inter-institution collaboration between Dr. Bement, Dr. Brian Carter (soils scientist, OSU), and Dr. Kristen Carlson (archaeologist, Augustana University) continue excavation of the late Paleoindian (9000-10,000 year old) camp containing stratified deposits of a winter bison hunting base camp and a summer extended-stay occupation. Previous work at this site to reconstruct the environment from 14,000 years ago to the present, and also document a spike in nanodiamonds (a marker for a late Pleistocene comet strike) has been funded by the National Science Foundation and private donations.

- The College of Arts and Sciences held its 2nd annual Research Celebration Reception on Tuesday, February 9 showcasing the research efforts of faculty in the College’s 26 departments and programs. Brief remarks were made by Dean Kelly Damphousse, Vice President and Provost Kyle Harper and VPR Kelvin Droegemeier on the importance of the contributions of scholarly research to the world, and the University’s commitment to supporting these efforts.

- Cooperative Institute for Mesoscale Meteorological Studies (CIMMS) Acting Director Randy Peppler moderated a town hall meeting to address “Tribal Resilience in an Age of Sea Level Rise.” The conference also included a special symposium on “Helping Africa to Help Itself” that honored the legacy of former CIMMS Director Peter J. Lamb.

- A team of OU researchers, led by Ke Zhang (Cooperative Institute for Mesoscale Meteorological Studies (CIMMS)), Yang Hong (Civil Engineering and Environmental Science (CEES) and Advanced Radar Research Center (ARRC)), and Jonathan Gourley (National Severe Storms Laboratory/CIMMS), recently discovered that global vegetation greening, combined with climate change, promote multi-decadal rises of global land evapotranspiration, accelerating global water cycles and potential regional drought risks. The findings were published on Nature Publishing Group Scientific Report magazine’s website http://www.nature.com/articles/srep15956/. The research team first generated a long-term global satellite record of land evapotranspiration using remote sensing satellite data since 1982. They investigated multi-decadal changes looking at trends between 1982 and 2013. In addition to global evapotranspiration trends, they examined vegetation greenness and general climate data including

Figure: (a) Annual anomalies of global land ET, global land air temperature and vegetation index NDVI from 1982 to 2013. A multivariate ENSO index, MCI, is shown with vertical color shading intensity. (b) Multi-decade spatial pattern of global land ET trends from 1982 to 2013.
Faculty Recognition (continued)

- Professor David Wrobel (History) was awarded the College of Arts and Sciences Holden Award for outstanding undergraduate teaching. The award is given to distinguished research professors who are also committed undergraduate teachers.

- Postdoctoral Fellow Shahrokh Saeedi (Advanced Radar Research Center (ARRC)) received second place for his paper titled “Active Tunable Substrate Integrated Evanescent-mode Cavity Resonator Using Negative Resistance” at the 2016 IEEE Radio and Wireless Symposium held recently in Austin, Texas.

Researchers Indicate Nocturnal Migrating Songbirds Drift with Crosswinds; Compensate Near Coastal Areas

Using novel, recently developed techniques for analysis of Doppler polarimetric weather surveillance radar data, a University of Oklahoma team examined impediments (crosswinds and oceans) of nocturnally migrating songbirds in Eastern North America. Migrants in flight drifted sideways on crosswinds, but most strongly compensated for drift near the Atlantic coast. Coastal migrants’ tendency to compensate for wind drift increased through the night, while no strong differences were observed at inlands sites. This behavior suggests birds adapt in flight and compensate for wind drift near coastal areas.

“The research has taken an innovative and exciting approach in showing how existing weather radar systems can be used to investigate the behavior of migrating birds,” said Liz Blood, Program Director in the National Science Foundation’s Division of Environmental Biology, which funded this research. “The ability to use U.S. weather radar network to track migrating birds opens exciting new opportunities to study in real-time billions of birds during their migrations,” Blood said.

Kyle Horton, Doctoral student in the Department of Biology, OU College of Arts and Sciences; and Phillip M. Stepanian, former Meteorology and Electrical Engineering Doctoral student in the Advanced Radar Research Center and OU School of Meteorology, developed the application used in this study for observing migrant birds during nighttime flight. Jeffrey Kelly, Professor in the Oklahoma Biological Survey, assisted with the research and served as faculty advisor. Benjamin M. Van Doren, Wesley M. Hochachka and Andrew Farnsworth, Cornell University, assisted with the research.

“Until now, no studies have captured the large-scale phenomena documented using weather radars,” said Horton. “Analyses are based on the detection of millions of migrating birds, as many as 5 million on a single night.”

The researchers examined strategies of nocturnally migrating birds using Doppler polarimetric radars at three coastal and
Migrating Songbirds (continued)

three inland sites in the Eastern United States during autumn of 2013 and 2014. Radars collected data every five to ten minutes, yielding approximately 1.6 million samples from 55 nights. Data collected indicated a greater propensity of birds to drift sideways at inland sites; birds flying near the Atlantic coast increasingly oriented and tracked westward away from the coast. The prediction that migrants compensate more for drift when encountering a migration barrier is consistent with these results.

The researchers show for the first time at a regional scale, in a regularly and heavily traveled airspace of the Nearctic-Neotropic migration system, that birds routinely migrate under crosswind conditions and compensate in a context specific manner. This result is consistent with migrants knowing their location relative to migration barriers while in flight and actively assessing the degree to which they need to compensate for wind.

The National Science Foundation funded this research, and a paper was published in Scientific Reports, an online, open access journal from the publishers of Nature at www.nature.com/scientificreports/. For more information about this research, contact Kyle Horton, University of Oklahoma, hortonkg@ou.edu.

January New Awards

<table>
<thead>
<tr>
<th>Name</th>
<th>Dept./Center</th>
<th>Funding Agency</th>
<th>Project Title</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gary Gress</td>
<td>Geography &amp; Environmental Sustainability</td>
<td>National Geographic Society Education Foundation</td>
<td>Network of Alliances for Geographic Education - Oklahoma</td>
<td>$86,369</td>
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<tr>
<td>Amy Goodin</td>
<td>OU Public Opinion Learning Lab</td>
<td>Oklahoma State Bureau of Investigation</td>
<td>OSBI Crime Victimization Study</td>
<td>$25,080</td>
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<tr>
<td>Robert Cichewicz</td>
<td>Chemistry/Biochemistry</td>
<td>Leidos, Inc.</td>
<td>Natural Products Repository Microbial Collection Expansion Support to the DCTD/ Natural Products Branch</td>
<td>$100,000</td>
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<tr>
<td>Ronald Barnes &amp; Joseph Havlicek</td>
<td>Electrical &amp; Computer Engineering</td>
<td>State of Oklahoma, Department of Transportation</td>
<td>Intelligent Transportation System Engineering and Design</td>
<td>$668,819</td>
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<tr>
<td>Andrea Vincent</td>
<td>Arts &amp; Sciences</td>
<td>U.S. Department of Veterans Affairs, OKC VA Medical Center</td>
<td>Stroke and Coated-Platelets - A Translational Research Initiative</td>
<td>$6,209</td>
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<tr>
<td>Robert Cichewicz</td>
<td>Chemistry/Biochemistry</td>
<td>University of Texas Health Sciences Center at San Antonio</td>
<td>TACCALONOLIDES: MECHANISMS OF ACTION AND CELLULAR RESISTANCE</td>
<td>$45,000</td>
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<td>Sesh Commuri</td>
<td>Electrical &amp; Computer Engineering</td>
<td>OU Health Sciences Center</td>
<td>Work Performance in Men with Transfemoral Amputation</td>
<td>$6,500</td>
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<tr>
<td>Charles Nicholson</td>
<td>Industrial &amp; Systems Engineering</td>
<td>Nerd Kingdom</td>
<td>NERDKINGDOM</td>
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OFFICE OF THE THE VICE PRESIDENT FOR RESEARCH, NORMAN CAMPUS
# January New Awards (continued)

<table>
<thead>
<tr>
<th>Name</th>
<th>Dept./Center</th>
<th>Funding Agency</th>
<th>Project Title</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Lei Ding, Joseph Havlicek, &amp; David Liu</td>
<td>Electrical &amp; Computer Engineering/Psychology</td>
<td>University of Rhode Island</td>
<td>RII Track-2 FEC: Innovative, Broadly Accessible Tools for Brain Imaging, Decoding and Modulation</td>
<td>$716,910</td>
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<td>Xingru Wu</td>
<td>Petroleum &amp; Geological Engineering</td>
<td>China University of Petroleum</td>
<td>Chemical Conformance Technology to Improve Vertical Sweep Using New Polymer</td>
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<td>Laura Bartley</td>
<td>Microbiology &amp; Plant Biology</td>
<td>University of Texas, Austin</td>
<td>Climate adaptation and sustainability in switchgrass: exploring plant-microbe-soil interactions across continental scale environmental gradients</td>
<td>$84,014</td>
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<td>John Wisniewski</td>
<td>Physics &amp; Astronomy</td>
<td>Research Corporation</td>
<td>Transformational Technologies and Techniques for High Precision Photometric and Spectroscopic Stellar TDA</td>
<td>$25,000</td>
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<td>Robert Cichewicz</td>
<td>Chemistry/Biochemistry</td>
<td>CFD Research Corporation</td>
<td>Exploiting Mammalian Microbiome-Based Natural Products and In Silico Drug Repurposing to Discover Aflatoxin Countermeasures</td>
<td>$27,500</td>
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<td>Richard Broughton</td>
<td>Biology</td>
<td>State of Oklahoma, Wildlife Conservation Dept.</td>
<td>Distribution, Abundance and Genetic Variation of the Prairie Specked Chub (Macrhybopsis australis)</td>
<td>$7,767</td>
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<td>Deven Carlson</td>
<td>Political Science</td>
<td>University of Wisconsin</td>
<td>Improving the Educational Performance of Children in Low-Income Families</td>
<td>$7,500</td>
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<td>Chris Fiebrich</td>
<td>Oklahoma Climate Survey</td>
<td>Oklahoma State University</td>
<td>Upgrade of the Mesonet Dataloggers in the EPSCoR Research Watersheds</td>
<td>$160,800</td>
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<td>Eugene Enrico</td>
<td>Music</td>
<td>Oklahoma Humanities Council</td>
<td>A Musical Offering: A One-Hour Special Program for Public Television</td>
<td>$12,000</td>
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<td>Ameya Pitale</td>
<td>Mathematics</td>
<td>National Science Foundation</td>
<td>Collaborative Research: Texas-Oklahoma Representations and Automorphic Forms (TORA)</td>
<td>$13,000</td>
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<tr>
<td>James Shaffer</td>
<td>Physics &amp; Astronomy</td>
<td>ColdQuanta, Inc.</td>
<td>Broadband Self-calibrated Rydberg-based RF Electric Field and Power Sensor</td>
<td>$15,000</td>
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</tbody>
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*Number of new awards for the month: 19
Dollar amount of proposals funded: $2,111,953*