Dear Colleagues,

Welcome back to a new semester. I hope you had a wonderful holiday!

The past year was exciting and productive for research and entrepreneurship at ASU, thanks to your ideas and efforts. Our impactful activities have garnered significant honors and recognition, a sampling of which is profiled in this bulletin.

ASU has joined seven other universities to establish a new Science and Technology Center based at the University of Buffalo. The National Science Foundation BioXFEL center will focus on developing a new bio-imaging technique to analyze a variety of molecules that could be potential drug targets. ASU brings the largest concentration of researchers to the center, with Dr. John Spence, an ASU Regents’ Professor of physics, serving as its director of science.

We are expanding our global reach through innovative partnerships around the world. In September, ASU and Dublin City University announced the establishment of a comprehensive Transatlantic Higher Education Partnership. ASU also hosted a delegation of senior Vietnamese government and industry officials, signing an agreement for a partnership to support sustainable economic growth in Vinh Phuc Province in Vietnam.

ASU’s Institute for Humanities Research launched its Nexus Laboratory for Digital Humanities and Transdisciplinary Informatics in November. The lab, directed by Dr. Michael Simeone, will drive digital humanities research at ASU and foster partnerships between departments, schools and colleges. I encourage you to visit ihr.asu.edu and explore how you can get involved.

Faculty, students and alumni continue to excel in entrepreneurial efforts. The ASU entrepreneurial community is making a positive impact in fields such as health care, sustainability, education and more. Spinout companies based on technologies developed at ASU attracted $68 million in venture capital funding during the 2013 fiscal year.

The university also plays a pivotal role in helping with the expansion of existing companies and attracting new businesses to Arizona. For example, GoDaddy plans to open its new Global Technology Center at the ASU Research Park this year. Apple recently announced that it will open a new plant in Mesa, creating up to 2,000 jobs.

ASU has just entered a collaborative research agreement with Motorola Mobility, a Google subsidiary, with eight other universities including MIT, CalTech and Harvard. The partnership will streamline generation of joint research projects and enable close collaboration on the development of new technologies.

Thank you all for your efforts in making ASU such a vibrant intellectual environment.

Sincerely,

Sethuraman “Panch” Panchanathan
Senior Vice President of OKED
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CONTENTS

Welcome p.2  Research impact p.3  Research tools & training p.5  Outreach & communications p.8
Honors & recognition p.4  Entrepreneurship & innovation p.6-7  Recent grants & contracts p.9
The following are a few examples of recent discoveries, inventions and contributions made by ASU faculty researchers.

**Device sorts good germs from bad**

ASU researchers have developed a microfluidic chip that can sort good germs from bad, potentially speeding up the identification process for harmful bacteria and other microorganisms. The scientists, led by Dr. Mark A. Hayes in the Department of Chemistry and Biochemistry, published their work in the journal Analytical and Bioanalytical Chemistry. Learn more

**New molecules found in meteorite**

Scientists led by Dr. Sandra Pizzarello in the Department of Chemistry and Biochemistry found that the Sutter’s Mill Meteorite, which exploded in a blazing fireball over California in 2012, contains organic molecules not previously found in any other meteorites. Their work was published in the Proceedings of the National Academy of Sciences. Learn more

**Climate change impacts**

A group of more than 60 ecologists and environmental practitioners conducted the first climate change assessment of the U.S. to examine impacts on ecosystems and the benefits that people derive from ecosystems. Dr. Nancy Grimm of the School of Life Sciences guest edited a special issue of the journal Frontiers in Ecology & the Environment reporting the results. SOLS ecologist Dr. John Sabo co-authored one of the papers. Learn more

**Cultural responses to disasters**

Researchers in the School of Politics and Global Studies and the School of International Letters and Cultures have published five papers on their work investigating cultural responses to natural catastrophes. Two of the articles, written by Dr. Thomas Puleo, will appear in Progress in Human Geography and Environment and Planning A in 2014. The other three, authored by Drs. Puleo, Henry Sivak and Mark Cruse, appeared in a special volume of Geographical Review in October 2013. Learn more

**New clues about colon cancer**

An ASU research team led by Biodesign Institute executive director Dr. Ray DuBois has shown that a key genetic culprit, called CXCR2, is implicated in tumor formation, growth and progression in a mouse model of colon cancer. The results, published in the Nov. 11 issue of Cancer Cell, provide new clues about the link between inflammation and colon cancer. Learn more

**Designing for disabilities**

Faculty and students at InnovationSpace are designing new products and services for individuals with disabilities. InnovationSpace is an entrepreneurial joint venture between the Herberger Institute for Design and the Arts, Ira A. Fulton Schools of Engineering, and W.P. Carey School of Business. Led by Prasad Boradkar, an associate professor of design, the program also works with Disney Consumer Products and the Center for Nanotechnology in Society to foster new design research that will address the health and wellbeing of children. Learn more

**Rhetoric in Rome**

Dr. Kathleen S. Lamp, in the Department of English, studies the art and architecture of Classical Rome in the belief that they can inform about the culture’s communication values. In her book, “A City of Marble: The Rhetoric of Augustan Rome” (University of South Carolina Press, 2013), she argues that classical rhetorical theory shaped the Augustan cultural campaigns and that the campaigns in turn functioned rhetorically to help Augustus gain and maintain power and to influence civic identity and participation. Learn more
Herkert named to AAAS
Dr. Joseph Herkert, Lincoln Associate Professor of Ethics and Technology in the School of Letters and Sciences, has been named a fellow of the American Association for the Advancement of Science. The association selected Dr. Herkert for his distinguished scholarship, teaching, and interdisciplinary research in the ethics of engineering and technology, and in the relationships among science, technology and society. Learn more

Best paper award to Lim
Dr. Merlyna Lim, in the School of Social Transformation, co-authored a paper that was named “Best Publication of 2012” by the Association for Information Systems. The paper, titled “Raising and Rising Voices in Social Media: A Novel Methodological Approach in Studying Cyber-Collective Movements,” appeared in Business & Information Systems Engineering. The award was presented at the International Conference on Information Systems in Milan in December, 2013.

Essig named to Entrepreneurship Research Society
Linda Essig, a professor in the School of Film, Dance and Theatre, has been named a Founding Scholar of the Entrepreneurship Research Society (ERS). The ERS fosters the development of entrepreneurship study and entrepreneurship as a social science. Essig is the director of the Pave Program in Arts Entrepreneurship at ASU.

Attorney general appoints Brown to task force
U.S. Attorney General Eric Holder has appointed Dr. Eddie Brown, executive director of ASU’s American Indian Policy Institute, to a new task force examining the impact of exposure to violence on American Indian and Alaska Native children. Brown is a professor of American Indian studies and a former director of the Arizona Department of Economic Security, where he worked with states and counties to implement the Indian Child Welfare Act. Learn more

ASU and NASA explore the solar system
Dr. Kip Hodges, Foundation Professor in the School of Earth and Space Exploration, is co-investigator and ASU principal investigator for a node of the new NASA Solar System Exploration Research Virtual Institute (SSERVI). SSERVI brings nine teams of researchers from NASA laboratories, universities, research institutions and commercial enterprises together in a collaborative virtual setting to focus on questions concerning planetary science and human space exploration in the inner solar system. Through Hodges, ASU is affiliated with the “Field Investigations to Enable Solar System Science and Exploration” team. Learn more

Criminology society honors Spohn
Dr. Cassia Spohn, of the School of Criminology and Criminal Justice, was named a fellow of the American Society of Criminology. The award recognizes her contributions to research on criminal sentencing, particularly the study of racial disparities in criminal case proceedings. Learn more
Funding Success Skills Series (FS³)

OKED’s Funding Success Skills Series (FS³), co-sponsored by the Faculty Women’s Association, will expose faculty and research administration professionals to best practices, improve awareness of opportunity development resources, and cultivate an extended community interested in expanding skill sets to compete successfully for more complex, larger value opportunities available from the federal government. RSVP required.

Some (sum) of its parts: Creating a persuasive and distinctive proposal narrative
Thursday, Jan. 30, 11:30 a.m. to 1:00 p.m.
University Club, Tempe Campus

Five out of five stars: Writing to the reviewer
Friday, March 28, 11:30 a.m. to 1:00 p.m.
Union Building, Cooley Ballroom A/B, ASU Polytechnic Campus

Learn more and RSVP at https://rsg.asu.edu/research-forums

New PAPPG released by NSF

The National Science Foundation has released its new PAPPG – effective for all proposals submitted, or due, on or after February 24, 2014. The guide may be found at Proposal & Award Policies & Procedures Guide (PAPPG), (NSF 14-1)

NSF Day a big success

On December 5, ASU hosted a daylong “NSF Day” event on the Tempe Campus. Visitors from NSF shared their knowledge and expertise with more than 250 participants including faculty from ASU, U of A and NAU as well as individuals from community colleges, local technical schools, private universities and the business sector.

NSF program representatives and their colleagues shared important background on the agency as well as information about how proposals are evaluated and decisions made. Many PIs had the opportunity to interact in small groups and one-on-one meetings with the NSF representatives for discussions about their specific areas of interest. Feedback from the participants praised the significant knowledge of the presenters and the honest discussions during sessions and audience Q&A.
Connect with executives through Idea Enterprise

Do you have a big idea with the potential to address societal challenges? ASU’s Idea Enterprise connects faculty and staff with high-level business leaders in low-risk discussions to help advance ideas to action, generate broad market appeal and create societal impact.

The next available Idea Enterprise session will be held May 8-9, with applications due by February 25. For more information on the Idea Enterprise or how to apply, contact Chelsea Chamberlain at Chelsea.chamberlain@asu.edu

Student startup helps athletes minimize risk of head injuries

ASU graduate student Anthony Gonzales and alumnus Bob Merriman founded Force Impact Technologies (FIT) earlier this year to help athletes minimize the risk of head injuries. The company’s innovative new FIT Guard, which embeds force-detection technology into a mouth guard, provides athletes, coaches and trainers with an effective tool to help assess whether a player has sustained a concussion.

ASU receives grant for advanced manufacturing

ASU and the Greater Phoenix Economic Council have been awarded a $170,000 grant from the U.S. Department of Commerce for the Investing in Manufacturing Communities Partnership, which seeks to accelerate manufacturing sectors and job creation in cities across the country. The funds will be used to develop a plan to implement an Innovation and Commercialization Center for Advanced Manufacturing in Greater Phoenix.

Learn more
Walton to drive industry engagement

Keith Walton has joined OKED as vice president for strategic industry collaborations. He will focus on strategic corporate engagement to increase the university’s accessibility to business collaborations.

Walton’s distinguished career extends from academia to industry and government posts. He most recently served as vice president of Global Government Affairs at Alcoa and before that as principal and chief administrative officer at Global Infrastructure Partners. He also served as executive vice president and secretary of the university at Columbia University in New York City for 10 years. From 1993 to 1996, he served the U.S. Department of the Treasury as deputy chief of staff and chief of staff to the Undersecretary for Enforcement, the Treasury’s chief law enforcement official. Walton will also serve as a senior advisor to President Crow.

Student startup programs expand at ASU

ASU is expanding its support for student startup companies with the launch of the Great Little Companies Network. The campus-based program will support up to 30 student startups each year that apply for but are not accepted into the Edson Student Entrepreneur Initiative – ASU’s student startup accelerator, which supports the top 20 student startups each year. Each startup invited to participate in the network will receive $3,000 in grant funding as well as direct mentoring through the Changemaker Central locations on each of ASU’s four campuses.

Entrepreneur Office Hours available for faculty startups

Faculty entrepreneurs can get one-on-one guidance from experienced entrepreneurs and business professionals at the Entrepreneurship and Innovation Group’s Entrepreneur Office Hours.

Learn more
Forum explores future of space exploration

Space industry experts from NASA, commercial spaceflight companies and academia gathered for a forum on Nov. 15 to discuss the roles of public and private institutions in the future of space exploration. Dr. Ariel Anbar of ASU’s School of Earth and Space Exploration was a member of the panel, which was moderated by Dr. Jim Bell, also of SESE.

The forum, held at the National Press Club in Washington, D.C., was part of a series called “The Challenges Before Us Forums.” It was created by ASU to open a dialogue between experts, practitioners and the community at large. Other topics have included immigration, higher education and healthcare reform. forum.asu.edu

Join the conversation

OKED uses social media to build a community of people interested in research and innovation within ASU and beyond. Please help us spread the word about the value of research by adding us to your accounts.

www.facebook.com/ASUresearchmatters
@ASUResearch
www.pinterest.com/okedcomm
instagram.com/asuresearch

Quanta connects researchers and high school students

Are you interested in building research challenges for a new generation of researchers? Quanta connects ASU faculty and students with motivated high school students to involve them in new or existing research projects. This massive open online research platform (MOOR) serves as a portal into university research. If you would like to participate in the spring 2014 cohort or incorporate Quanta into a proposal effort, please contact Kathryn Scheckel at Kathryn.Scheckel@asu.edu.
quanta.asu.edu

Crowdfunding pilot for advancing research

ASU has launched a new, official crowdfunding program, managed by the ASU Foundation. Several student ventures have already launched campaigns through the program. Now OKED is managing a new effort for faculty research, kicking off a rolling pilot period in December and into the new year.

Crowdfunding is a means of securing financial support by helping individuals tap into their networks through the Internet. By running their campaigns through ASU’s platform, researchers receive training on effective fundraising and coaching throughout the campaign, can use the ASU logo and branding, and can allow donors to claim their contributions as a charitable donation. You can see all of ASU’s crowdfunding campaigns, powered by the USEED platform, at asu.useed.net. If you are interested in raising money through USEED, contact Kathryn Scheckel, assistant director of special projects for OKED, 480-965-9293.

The following are a sampling of some recent notable awards.

Dr. Cody Friesen, in the School for Engineering of Matter, Transport and Energy, was awarded $2.1 million from the Department of Energy to study advanced cells for transportation via integrated vehicle energy.

Dr. Meredith Bruening, in the School of Nutrition and Health Promotion, was awarded $1.9 million from the National Institutes of Health to study the role of friendship networks on BMI and behaviors among college freshmen.

Dr. Arthur Glenberg, in the Learning Sciences Institute, was awarded $1.3 million from the National Science Foundation for using technology to help English language learners.

Dr. Christopher Campisano, in the School of Human Evolution and Social Change, was awarded $1.2 million from the NSF-Frontiers in Earth Systems Dynamics program. His work is part of a multinational research effort, led by the University of Arizona, examining the relationship between Earth history and human evolution.

Dr. Stephen Elliott, in the Sanford School of Social and Family Dynamics, was awarded $500,000 from the Department of Education for using technology tools for optimizing instruction and assessment results for students with disabilities.

Dr. Deborah Clarke, in the Department of English, was awarded $1 million from the U.S. Department of State for globalizing research and teaching of American literature.

Dr. Jon Harrison, in the School of Life Sciences, was awarded $1 million to lead a multi-institutional team to study how human behavior, market forces and ecological systems interact to affect the outcomes of locust swarms.

Dr. Alfredo Artiles, in the Mary Lou Fulton Teachers College, was awarded $1 million from the Department of Education for preparing special education faculty in high-need schools using evidence-based interventions.

Dr. Jon Harrison, in the School of Life Sciences, was awarded $1 million to lead a multi-institutional team to study how human behavior, market forces and ecological systems interact to affect the outcomes of locust swarms.

Researchers in the School of Electrical, Computer and Energy Engineering have received two awards from the Department of Energy’s SunShot Initiative. Dr. Stuart Bowden was awarded $3.5 million to develop new ultra-thin silicon solar cells designed to increase the amount of electricity that can be produced through direct conversion of sunlight. Dr. Dragica Vasileska was awarded $1.8 million to make photovoltaics more durable by addressing the problem of metastabilities in cadmium telluride solar cells.

Dr. Cody Friesen, in the School for Engineering of Matter, Transport and Energy, was awarded $2.1 million from the Department of Energy to study advanced cells for transportation via integrated vehicle energy.