Dear Colleagues,

As the academic year draws to an end, I’d like to highlight some of our significant achievements.

The enterprise is making an impact in research and innovation through efforts by faculty, students and researchers. For example, several papers have appeared in premier publications such as the Nature journals, PLOS ONE and Psychological Science.

Our research volume continues to grow, reaching $405 million in research expenditures in FY13. We now rank 15th in the nation for total research expenditures among universities without a medical school. I am delighted to report that we also rank 8th for social sciences and 13th for humanities total research expenditures.

We have been very successful in the NSF’s pre-proposal competition for the elite Engineering Research Center. Out of hundreds of pre-proposals, the NSF extended only 18 invitations nationally to submit full proposals. ASU received three of these invitations, and is a partner on another.

ASU’s intellectual property output continues to grow, with faculty submitting 250 invention disclosures, receiving 48 patents, and executing 88 licenses and options in FY13. ASU now ranks 4th in the world among universities without a medical school for U.S. patents issued, just behind MIT, CalTech and Georgia Tech.

Our student entrepreneurs are also garnering success for their efforts. Entrepreneurial ventures led by Herberger Institute students, faculty and alumni swept the top prizes at Art Tank East and Art Tank West, initiatives of the Arizona Commission on the Arts. In March, ASU brought home the territorial cup in the Arizona Collegiate Venture Competition, with our startup Force Impact Technologies winning the grand prize.

Please support our students’ continued success by encouraging them to participate in ASU’s Innovation Challenge in fall 2014. This competition provides winners with resources to help make an innovative project, prototype, business or community partnership idea a reality. This year, the challenge was redesigned to be led by the academic units, with a goal of engaging at least 10 percent of the student body in 2014.

I am delighted to welcome new members of OKED’s leadership team. Dr. Mitzi Montoya has been appointed OKED’s vice president for entrepreneurship and innovation and university dean of entrepreneurship and innovation. Dr. George Justice, dean of humanities, will also serve as associate vice president for humanities and arts. Dr. Alexandra Brewis Slade will serve as associate vice president for social sciences in addition to her role as director of SHESC.

I wish you all a wonderful and productive summer. Thank you for all your efforts to advance research, entrepreneurship and economic development activity at ASU.

Sincerely,

Sethuraman “Panch” Panchanathan
Senior Vice President of OKED
Advancing Research, Entrepreneurship & Economic Development
panch@asu.edu
Amino acid fingerprints revealed
A research team in the Biodesign Institute has demonstrated the accurate identification of amino acids by briefly pinning each in a narrow junction between a pair of electrodes and measuring a characteristic chain of current spikes passing through the molecules. The study, led by Dr. Stuart Lindsay, was published in Nature Nanotech.

Learn more

Advancing salmonella vaccines
A team of researchers in the Biodesign Institute, led by Dr. Karen Brenneman, has developed a new way of screening salmonella vaccines in small animal studies. The new vaccine technology improves the ability of reengineered salmonella to survive the highly acidic human stomach and to deliver immunity. The results were published in the journal PLOS ONE.

Learn more

Artificial leaf makes a leap
ASU researchers teamed up with scientists at Argonne National Laboratory to advance artificial leaf technology. Using nature as a template, the team improved the efficiency of the two-step reaction where light energy is used to convert water into hydrogen and oxygen. The ASU side of the team was made up of Drs. Thomas Moore, Devens Gust, Ana Moore and Vladimirio Mujica from the Department of Chemistry and Biochemistry. Their results were published in an online edition of Nature Chemistry.

Learn more

Austen’s influence on feminism
Dr. Devoney Looser, in the Department of English, has brought to light new information about Jane Austen. The late 18th-early 19th-century author’s work was first brought to both the amateur and professional stage by early feminist activists. The discovery was published in an exploration of Austen as a feminist icon in the Los Angeles Review of Books.

Learn more
**Modern-day David and Goliath**

ASU researchers have found that disadvantaged groups are more likely to engage in conflict with stronger groups if they are religiously infused. The project was led by Dr. Steve Neuberg in the Department of Psychology and Dr. Carolyn Warner in the School of Politics and Global Studies. Results were published in the journal Psychological Science. [Learn more](#)

**Climate change to reduce crop yields**

A new study co-authored by Dr. Netra Chhetri in the Consortium for Science, Policy and Outcomes shows that global warming of only 2 degrees Celsius will be detrimental to three essential food crops in temperate and tropical regions. Beginning in the 2030s, yields from those crops will start to decline significantly. The results were published in the journal Nature Climate Change. [Learn more](#)

**Using tobacco to thwart West Nile virus**

An international team of scientists developed a method of using tobacco plants to manufacture monoclonal antibodies that combat West Nile virus. Additionally, the team improved the effectiveness of the therapeutic’s design, making it possible to neutralize the virus even after infection has occurred. The team was led by Dr. Qiang “Shawn” Chen of ASU’s Biodesign Institute. The findings were published in the online edition of the journal PLOS ONE. [Learn more](#)

**New books from English faculty**

HONORS AND RECOGNITION

Dr. Roy Curtiss III, a scientist at the Biodesign Institute, was selected as the 2014 recipient of the Lifetime Achievement Award from the American Society for Microbiology. Dr. Curtiss is one of only 20 people to have received the award. Learn more

Three faculty members have received prestigious Faculty Early Career Development Awards, also known as CAREER Awards, from the National Science Foundation.

Dr. Georgios Fainekos is an assistant professor in the School of Computing, Informatics and Decision Systems Engineering. His award supports work on making cyber-physical systems operate more safely, reliably and economically. Learn more

Dr. Ming-Hung (Jason) Kao is an assistant professor in the School of Mathematical and Statistical Sciences. His award supports research on designing functional brain imaging experiments that are crucially important for understanding the inner workings of the brain. Learn more

Dr. Lalitha Sankar is an assistant professor in the School of Electrical, Computer and Energy Engineering. Her award provides funding for developing information-sharing protocols between distributed, and often competitive, entities in critical infrastructure networks such as the electric grid. Learn more

Dr. Matthew Garcia, director of the School of Historical, Philosophical and Religious Studies, has been elected a member of the Society of American Historians. The honor recognizes the literary and scholarly distinction of Dr. Garcia’s historical writing. Learn more

Two ASU faculty members have been awarded 2014 Guggenheim Memorial Foundation Fellowships. The fellowship is awarded to men and women who have demonstrated exceptional capacity for productive scholarship or exceptional creative ability in the arts.

Dr. Cecilia Menjivar is a professor in the T. Denny Sanford School of Social and Family Dynamics. Learn more

Dr. Emily Talen is a professor in the School of Geographical Sciences and Urban Planning. Learn more

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Dr. Kelin Whipple, professor in the School of Earth and Space Exploration, is the recipient of the G.K. Warren Prize from the National Academy of Sciences. Dr. Whipple was recognized for his studies on the role of fluvial incision as the key process linking climate, tectonics and landscape evolution. Learn more

Dr. John S. Gilkeson, a professor in the School of Humanities, Arts and Cultural Studies, received the 2014 Excellence in Humanities Research Award based on his 2010 monograph, Anthropologists and the Rediscovery of America, 1886 to 1965 (Cambridge University Press, 2010).

Dr. Yasin Silva, an assistant professor in the School of Mathematical and Natural Sciences, and two undergraduate students, Spencer Pearson and Jason Cheney, received a Best Paper award at the 6th International Conference on Similarity Search and Applications. The paper, “Database Similarity Join for Metric Spaces,” proposes an efficient database operator to identify similar objects in multi-dimensional spaces.

The Academy of Criminal Justice Sciences presented the 2014 Donal MacNamara Award for Outstanding Journal Publication to ASU criminologist Dr. Kevin Wright and co-authors for an article that focused on two different approaches to explaining why ex-offenders re-offend. The award is given to scholarship that provides thoughtful analysis and novel treatment of a topic published in Justice Quarterly, Journal of Criminal Justice Education or ACJS Today. Learn more

Dr. Janet Franklin, a professor in the School of Geographical Sciences and Urban Planning, has been elected to the National Academy of Sciences (NAS). The NAS is an honorific society of distinguished scholars engaged in scientific and engineering research, dedicated to the advancement of science and technology, and to their use for the general welfare of society. Dr. Franklin was selected for her research on the impacts of human-caused landscape change on the environment. Learn more
Expand your reach with SciVal

ASU launched SciVal Experts (experts.scival.com/asu) to help our researchers form partnerships and to demonstrate our expertise to the global research community. SciVal Experts is a powerful search engine that can help you identify other ASU researchers with specific areas of expertise based on their publications and grants. The researcher profiles in SciVal Experts are comprised of scientific and technical publications indexed in Elsevier’s Scopus database as well as funded grant information. You can find more information about this tool, including resources to assist you in enhancing your profile, at researchadmin.asu.edu/scival.

ERA update

The next module of ASU’s Enterprise Research Administration system (ERA), the proposal development and submission module, was launched on April 9. All proposals due on or after this date will be submitted through the ERA Grants module. ERA Grants combines proposal development functions as well as proposal routing and approval in one system. It is fully integrated with both the ERA Conflict of Interest and ERA Institutional Review Board modules. You will still work closely with your RA on proposal development and will be able to view the entire proposal in ERA Grants.

You can find additional information about ERA Grants at: http://researchadmin.asu.edu/era. If you have any questions, contact Tamara Deuser, tamara.deuser@asu.edu, 480-727-7962 or Lisa Mosley, lisa.mosley@asu.edu, 480-727-9754.

Funding opportunities

The new, improved funding.asu.edu site brings together a suite of resources to assist faculty in identifying and developing proposals for sponsored research. You’ll find limited submissions, the Resources for Research Development and Discovery (R2D2) blog, and upcoming research forums. Sign up for email and RSS feed notifications to keep up with the latest information.

Funding workshop videos online

Did you miss our NSF Day event in December? Have our Funding Success Skills Series workshops passed you by? You can watch videos of OKED research forums and access presentation documents at funding.asu.edu/research-forums. Click on a past event of interest to see what’s available.
ENTREPRENEURSHIP AND INNOVATION

Startup Accelerator now accepting applications

ASU offers services for Arizona-based companies, including faculty spinouts, alumni ventures and non-ASU startups, through the ASU Startup Accelerator, a joint venture between OKED and Arizona Technology Enterprises. Apply by May 31 for entry into the next accelerator cycle.

Learn more

ASU Edson companies innovate future in medicine, public health

Two teams from ASU’s College of Liberal Arts and Sciences are developing ways to prevent fogging on surgical lenses and producing a tablet that will immediately test for contaminated water. The teams, consisting of students, researchers and faculty, are seeing their globally impactful and innovative ideas come to life through the university’s Edson Student Entrepreneur Initiative which provides seed funding, mentorship and office space to help students launch viable businesses.

Learn more

ASU receives grant to create tech transfer center

ASU has been awarded a $1 million grant from the U.S. Department of Defense (DoD) to create a new Pracademic Center of Excellence in Technology Transfer (PACE/T2). PACE/T2 leverages ASU’s proven method and record of success to support technology transfer and commercialization from DoD laboratories. The center is led by ASU’s Entrepreneurship and Innovation Group in collaboration with Arizona Technology Enterprises, the Security and Defense Systems Initiative and the W. P. Carey School of Business.

Learn more

Crowdfunding resource available for research

The ASU Foundation has announced open enrollment in PitchFunder, a custom resource that allows members of the ASU community to safely and successfully raise funds for their own projects. Enrollment in PitchFunder opened March 17 for student groups and student projects, faculty members, researchers, schools and colleges.

Learn more

Rapid Startup School

ASU’s Rapid Startup School offers free classes on a wide range of entrepreneurship-related topics. The classes, which are taught by leading practitioners and experts from across the Valley, are held at ASU SkySong and at Alexandria Co-working Network collaboration spaces in public libraries across Arizona.

Learn more

ASU Foundation awarded $1 million for ASU-accelerated companies

The Maricopa County Industrial Development Authority (MCIDA) has awarded a $1 million grant to the ASU Foundation to create a venture capital fund. The fund will be invested in companies that benefit from ASU-supported accelerator programs, helping them take the next step in their development with early-stage manufacturing startup support.

Learn more

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Future Tense is a partnership between Slate, the New America Foundation and Arizona State University that explores the technologies that will change the way we live our lives and the policy challenges they present. Future Tense examines these topics through live events and through daily content published on Slate. ASU faculty contribute to Future Tense by writing articles and blog posts, as well as participating in events to express their ideas, share their research findings, and engage with audiences. To join this network and discover how you can contribute as an author, contact Joey Eschrich at 480-727-8621 or futuretense@asu.edu.

**Stories and videos from Research Matters**

**Magnetic messengers from space**

ASU’s Center for Meteorite Studies is the largest university-based meteorite collection in the world. Researchers talk about what these space missives can tell us about the makeup of our solar system.

**Students solve industry challenges through iProjects**

This video introduces several of the student teams helping industry partners address real-world challenges.

**Changing climate in your own backyard**

Microclimate models can help individuals and communities influence climate on a small scale—from a neighborhood down to a yard or garden.

Visit [Research Matters](#) for more stories and videos about discovery and innovation at ASU.

**Build a better bulletin**

Do you have suggestions for how we can make the OKED Bulletin more useful to you?

Contact Diane Boudreau at dianeb@asu.edu with your comments and suggestions.
RECENT GRANTS AND CONTRACTS

Following is a sampling of our recent grants.

Dr. Paul Westerhoff, in the School of Sustainable Engineering and the Built Environment, was awarded $5 million from the U.S. Environmental Protection Agency to lead a multi-university network that explores the impacts of nanomaterials throughout their life cycle.

Dr. Lawrence Mandarino, in the School of Life Sciences, was awarded $2.8 million to study the role of muscle mitochondrial dysfunction in diabetes.

Dr. Stephen Goldinger, in the Department of Psychology, was awarded $2.5 million from the National Institutes of Health for the project “Cognitive Load in the Bilingual Brain: Insights from Decoupled Reading.”

Dr. Rosalind Sadleir, in the School of Biological and Health Systems Engineering, was awarded $1.8 million from the National Institutes of Health to study direct functional imaging of electrical brain stimulation.

Dr. Arunabha Sen, in the School of Computing, Informatics, and Decision Systems Engineering, was awarded $1.7 million from the Department of Defense, Defense Threat Reduction Agency (DTRA) for the project “A Network Planning and Management Tool for Design of Robust and Resilient Networks to withstand WMD.”

Dr. William Riley, in the School of the Science of Health Care Delivery, was awarded over $1 million from the United States Agency for International Development to conduct a health insurance feasibility study for Afghanistan.

Dr. Nongjian (NJ) Tao, in the School of Electrical, Computer and Energy Engineering, was awarded $1 million from the Department of Defense to study electrochemical imaging and mechanistic studies on the nanometer scale.

Dr. Meg Breuning, in the School of Nutrition and Health Promotion, was awarded a $1.25 million High Risk-High Reward grant from the National Institutes of Health to study how friendship networks impact and predict eating, physical activity and weight among diverse youth in a college environment.

Dr. Jill Messing, in the School of Social Work, was awarded $575,000 from the Laura and John Arnold Foundation to develop a comprehensive plan for implementing a new domestic assault risk assessment in U.S. police departments.