Dear Colleagues,

It is that time of year—the National Science Foundation (NSF) has released its latest university rankings based on research expenditures. I am pleased to share with you some of ASU’s rankings nationwide:

- 17th in total research expenditures for institutions without a medical school
- 19th in non-science and engineering total research expenditures
- 8th in social sciences total research expenditures
- 14th in humanities total research expenditures

This is indeed a reflection of your commitment and hard work, which is also being recognized in other ways. For example:

- ASU chemists and physicists were recently lauded by the journal Science, which cited their groundbreaking research on protein structures as one of the top 10 breakthroughs of 2012.
- U.S. Secretary of State Hillary Clinton awarded Intel Corporation the 2012 Award for Corporate Excellence for a project involving ASU’s Higher Engineering Education Alliance Program and USAID. The project enhances engineering education in Vietnam.
- Dr. Josh LaBaer of the Biodesign Institute has been featured in several media outlets including Nature Methods, Phoenix New Times and the Tecan Journal.
- In 2012, ASU innovators disclosed 239 new inventions, applied for 105 patents, received 26 patents and licensed 80 technologies. This represents significant increases in all areas over the previous year.

You can find other examples of our research growth and achievements in the FY12 Annual Research Report to the Arizona Board of Regents. This report is prepared each fiscal year and includes research metrics and highlights from Arizona's three public universities.


We hope you take advantage of events at ASU that can help you further increase your success and impact. For example, in April, the Education Innovation Summit will bring together entrepreneurs, investors, educators and others who influence the state of global education. Our Research Strategy Group is also launching a new Funding Success Skills series to help you submit more winning proposals. Learn more about these and other opportunities in this bulletin.

OKED is happy to support your research and innovation efforts. If you have suggestions for improving our service, please do not hesitate to let me know.

Sincerely,

Sethuraman “Panch” Panchanathan
Senior Vice President of OKED

Advancing Research, Innovation, Entrepreneurship & Economic Development

panch@asu.edu
RECENT AWARDS

Since our last bulletin in early December, ASU researchers have won more than 35 new grants. Some notable examples include:

Prevention through parenting

The National Institutes of Health has awarded a $3.3 million grant to Dr. Emily Beth Winslow in the Department of Psychology to study the effectiveness of a parenting skills intervention program that could help prevent substance abuse and mental health disorders in children. The study will examine the influence of sociocultural variables and baseline child behavioral problems on participation.

Re-entry after incarceration

The U.S. Department of Education has awarded $1.5 million to Dr. Sarup Mathur in the Mary Lou Fulton Teachers College. The grant supports Project RISE, a program to facilitate the successful transition of youths being released from correctional facilities.

Department of Defense funds engineering research

The U.S. Department of Defense has provided more than $2 million to fund three projects within the Ira A. Fulton Schools of Engineering. The Defense Threat Reduction Agency has awarded $1.23 million over 5 years to Dr. Junshan Zhang to examine and improve network resilience in the face of potential WMD attacks. The Office of Naval Research awarded $485,000 to Drs. Marco Saraniti and Stephen Goodnick for the nonlinear modeling of mm-wave power amplifiers through particle-based simulation. The ONR granted an additional $450,000 to Dr. Subbarao Kambhampati to develop a comprehensive framework for automated planning in the face of incomplete information.
Solar collaborations with Australia

ASU researchers are taking part in three new solar energy projects funded by the Australian and U.S. governments. The funding includes $68 million for two eight-year research programs and $15.5 million for 11 collaborative projects. ASU is involved in both of the eight-year programs and one of the research collaborations. ASU professors Christiana Honsberg and Liping Wang, and Dr. Ellen Stechel, deputy director of ASU LightWorks, lead the three ASU projects.

Humanities and sustainability

The Mellon Foundation has awarded $600,000 to an international team of researchers to study humanities and sustainability. ASU’s Institute for Humanities Research is the lead U.S. institution on the project, with institute director Dr. Sally Kitch as co-PI. Other lead institutions include the University of Sydney and Trinity College, Dublin. The project will examine the social and cultural changes that are necessary to address sustainability problems and to implement technological solutions.
HONORS AND RECOGNITION

Dr. Edward Kavazanjian has been elected to the National Academy of Engineering. Kavazanjian is a professor in the School of Sustainable Engineering and the Built Environment and a senior scientist in the Global Institute of Sustainability. The academy selected him for his outstanding achievements in geotechnical engineering.

ASU President Dr. Michael Crow and ASU professor Dr. Stuart J. Newfeld have been elected American Association for the Advancement of Science (AAAS) Fellows. Dr. Crow is recognized by the AAAS for “provocative contributions to public discourse on the appropriate role of government in setting priorities in funding science and willingness to challenge dogma.” Dr. Newfeld, a professor in the School of Life Sciences, is recognized for his distinguished contributions in the field of molecular genetics via the discovery of Smad tumor suppressors and the elucidation of their function in development and cancer.

The work of Dr. Josh LaBaer, Virginia G. Piper Chair in Personalized Medicine and director of Personalized Diagnostics at ASU’s Biodesign Institute, has been featured in a wide variety of media recently.

- Nature Methods announced that their 2012 method of the year is targeted proteomics. LaBaer is quoted in the article explaining how targeted proteomics helps simplify the task of measuring the number of proteins produced by genes.
- The Tecan Journal featured LaBaer and his staff for their innovative use of technology in forming microarrays to identify biomarkers for several diseases.
- The Phoenix New Times featured the DNASU Plasmid Repository, housed in the LaBaer Lab, in the article, “Best Supplies For Your Genetic Experiment.”

Dr. John Sabo, director of research development at ASU’s Global Institute of Sustainability and associate professor in the School of Life Sciences, has been selected as a 2012 Leopold Leadership Fellow. Sabo earned this honor based on exceptional scientific qualifications and demonstrated leadership ability, and specifically for his research on limited freshwater resources and people as a cause of ecosystem disturbance.
ASU’S GOLDEN DECADE

In 2012, ASU celebrated the 10-year anniversary of the New American University led by President Michael Crow. To commemorate this milestone, ASU has chronicled the university’s growth and success over this “golden decade.” Did you know…

• that ASU’s research enterprise has more than tripled over the past decade, from $123 million in 2002 to $385 million in 2012?
• that ASU’s Mary Lou Fulton Teachers College has partnered with AZ school districts since 1998 to prepare teachers in the districts using on-site faculty, satellite video conferencing, mentoring and internships through the iTeach program?
• that ABC News chose the Walter Cronkite School of Journalism and Mass Communication as one of its partners in ABC News on Campus? Students in the program produce stories that air on ABCNews.com and on television news programs including “World News” and “Nightline.”
• that ASU has increased the number of degrees awarded, the six-year graduation rate, retention after freshman year, and the diversity of the student body over the past 10 years?
• that since 2002, ASU has added more than 1.5 million square feet of space in new research buildings?

Learn more and watch a video on the rise of a New American University: https://asunews.asu.edu/20121115_naustory
INSTITUTES AND INITIATIVES

Raupp to lead MTW

Dr. Gregory Raupp, the founder and former director of ASU’s Flexible Display Center, has rejoined ASU as the new director of MacroTechnology Works (MTW). In this role, Dr. Raupp will support existing efforts within MTW and also pursue new funding opportunities. Dr. Raupp returns to ASU from the City University of Hong Kong (CityU), where he served as vice president (research and technology). In his roles at ASU and CityU, Dr. Raupp helped develop a partnership between the two universities that leverages each institution’s expertise to advance flexible electronics.

Dr. Raupp will present a lecture on March 11, titled “High Performance Flexible Electronics for Revolutionary Human-scale Systems: Thinking Outside the Box.” The event will be held from 4:00 to 5:00 p.m. in ISTB 4 Marston Exploration Theater.

ARPA-E Energy Innovation Summit

ASU featured several energy-related projects and programs at the Technology Showcase in this year’s ARPA-E Energy Innovation Summit, Feb. 25-27 in Washington, D.C. The summit, sponsored by the Department of Energy, brings together thought leaders from academia, business and government to discuss energy issues and help move technologies into the marketplace. This year ASU showcased its LightWorks initiative as well as three ARPA-E-funded projects focusing on cyanobacteria, carbon capture and battery storage. Learn more.

CAS at ASU

Complex Adaptive Systems at Arizona State University (CAS at ASU) held a half-day forum in January on focusing the university’s interdisciplinary strengths on large-scale problems, where an integrated effort is essential. Nearly 100 people attended to hear a panel discussion as well as introductory remarks from President Crow. http://casi.asu.edu

ASU Global joins fight against human trafficking

Did you know that more than 20 million men, women and children are enslaved around the world today? In January, “Campus Challenge: A call to action about human trafficking” was held at ASU to encourage students to help combat this problem. The event, co-sponsored by ASU Global, the College of Public Programs and Changemaker Central, raised awareness about USAID’s Counter Trafficking in Persons Campus Challenge. The challenge invited students to submit ideas about how to use technology to fight human trafficking and help victims. Winners will be announced in March.

Humanities and heroes

Project Humanities kicked off its spring season with a series of events from February 11-16. This season’s theme is “heroes, superheroes & superhumans.” The events included discussions of comic book heroes; a screening and discussion of “Waiting for Superman,” a conference on beasts, humans and transhumans in the Middle Ages and Renaissance; and a science café called “Evolving in the Nano City” at the Arizona Science Center.

https://humanities.asu.edu
ENTREPRENEURSHIP AND ECONOMIC DEVELOPMENT

Patent law changes

The America Invents Act (AIA) was signed into law by President Obama on September 16, 2011. The AIA switches the U.S. patent system from a “first to invent” to a “first inventor to file” system on March 16, 2013. In February, the USPTO published final rules and guidance implementing the new provision: http://www.uspto.gov/aia_implementation/index.jsp

To take advantage of the First to Invent rules, a patent application describing the invention will need to be filed by March 16, 2013. We anticipate that there will be a large increase in the number of patent applications filed in the coming weeks. If you have created an invention, please disclose that invention to AzTE as soon as possible. You can submit an invention through AzTE’s inventor portal: http://www.azte.com/index.php/inventors. If you need assistance, please contact Phil Dowd (physical sciences), pdowd@azte.com; or John Schneider (life sciences), john.schneider@azte.com

SkySong launches Student Startup Bowl

ASU Venture Catalyst, part of ASU SkySong, recently launched the Student Startup Bowl challenge to foster a sense of competition and encourage record participation in the Edson Student Entrepreneur Initiative. ASU colleges and schools will compete to be “most entrepreneurial” by generating the highest percentage, per capita, of Edson proposal submissions by April 1. The Edson Initiative provides up to $20K in seed funding to about 20 student ventures annually, as well as office space and mentorship.

We encourage faculty to incorporate this challenge into their curriculum when appropriate. The proposal’s solutions-based format fits well within applied learning majors and classes. The proposal “assignment” can be added to existing spring class syllabi or offered as extra credit prior to the April 1st deadline. Additionally, Venture Catalyst has provided a turn-key, in-class module (with team-based activity) to aid in the delivery of the Edson proposal component.

Learn more at: https://studentventures.asu.edu/startup-bowl

AzTE opens Santa Monica office

Arizona Technology Enterprises (AzTE), the exclusive intellectual property management and technology transfer organization of Arizona State University, has opened a new office in Santa Monica, CA, which will strengthen its connections to the Southern California innovation ecosystem. An official opening will be held on March 20. ASU will also use the office as a base to partner with other major Los Angeles area research universities including USC, UCLA, Caltech, UCSB, and UC Irvine. ASU will join efforts with these universities in the First Look LA event, which will showcase the top spinout companies from each university at an investor conference to be held in June.
World’s first portable metabolism tracker

Breezing, a new startup based on technology developed by ASU researchers, is offering the world’s first portable device that can track an individual’s metabolism and use the information to provide diet and exercise recommendations for maintaining or reaching a healthy weight. Breezing is a pocket-sized device that analyzes exhalations and transmits that information to an integrated app on a cell phone or tablet via Bluetooth.

The device is being launched through a crowdsourcing campaign on Indiegogo, the largest global crowdfunding platform. The core technology of Breezing was created at ASU, and further perfected by the ASU spin-off company. Drs. NJ Tao, Erica Forzani, Francis Tsow and Xiaojun Xian have been working to make Breezing accurate, robust, and user-friendly. You can help support their campaign at:

http://www.indiegogo.com/metabolism

Education Innovation Summit

ASU is partnering with Global Silicon Valley to present the 2013 Education Innovation Summit from April 15-17. The summit brings together industry leaders, entrepreneurs, investors, educators, activists and others who are passionate about education and advancing the knowledge economy. On April 16, ASU SkySong will host a dinner, talk and Tech Showcase. Three ASU-based startups will also participate in the event’s pitch competition. http://edinnovation.gsvadvisors.com

Alexandria Network helps small businesses

ASU Venture Catalyst is partnering with the Scottsdale Public Library system to help inventors, problem-solvers, social enterprises, entrepreneurs and small businesses. The Alexandria Network is designed to provide support for the innovation economy within designated libraries, eventually creating a network of locations across the greater Phoenix area and then across the state of Arizona. These locations will offer co-working spaces, expert library fact-finding services and ASU startup resources at one designated place.

AREA48 to support entrepreneurs

ASU Venture Catalyst has won a grant from the Blackstone Charitable Foundation in New York to pilot a new concept for creating entrepreneurial teams. Applied Regional Economic Action 48 (AREA48—named for Arizona’s position as the 48th state admitted to the union) is a new model for educating and supporting early-stage entrepreneurs that uses a hands-on, “pracademic” approach in order to create new markets, products, startups and jobs in Arizona.
COMMUNITY ENGAGEMENT

Celebrating science

Arizona Governor Jan Bewer proclaimed February “Arizona Science and Technology Month,” coinciding with the launch of the state’s second annual Arizona SciTech Festival. ASU is a foundational partner in the festival, which runs from Feb. 6 to March 17 in different venues throughout the state. The festival features more than 300 workshops, discussions and debates, exhibitions, concerts, tours and events suitable for all ages. [http://azscitechfest.org](http://azscitechfest.org)

ASU’s Night of the Open Door on March 2 is a signature event of the festival, celebrating science, engineering, and the humanities and arts. Last year, the event was rated one of the top three events for 2012 and drew more than 2,500 people. This year the event features more than 100 interactive activities hosted by ASU students, faculty and staff. [http://opendoor.asu.edu](http://opendoor.asu.edu)

Improving emergency response

ASU’s Applied Psychology Unit and the Mesa Community College Virtual Incident Command Center (VICC) are partnering to develop research opportunities that will lead to improved outcomes for major critical incidents. The research will center on emergency response for industry, military, first responders, fire and police departments, educational institutions, hospitals, power plants, railroads and airports. Responses to incidents caused by natural disasters and acts of terrorism will be studied as well. [Learn more](http://opendoor.asu.edu).

The future of energy

ASU and the Arizona Science Center hosted a public event on the future of energy at the Science Center’s IMAX Theater on Jan. 24. The standing-room-only crowd of more than 330 people included representatives from renewable energy businesses and NGOs, students, researchers, and government agencies on local and state levels.

Eve Troeh of American Public Media moderated a discussion between former Shell Oil president John Hofmeister; Dr. Mark Jacobson, a climate scientist at Stanford University; and environmental filmmaker Peter Byck. Learn more about the partnership between ASU and the Science Center at: [http://inspireazscience.org](http://inspireazscience.org)
COMMUNICATIONS

Water in-depth

Did you know that less than one percent of all the water on Earth is available for human consumption? ASU scientists in fields from biology to engineering to law and more are examining how our actions affect this precious resource and how we can conserve it for future generations. Learn about their work at: http://researchmatters.asu.edu/water

Latest stories and videos

Expressing love can improve your health
Core questions about human evolution
Professors challenge beliefs about learning to write
BooGud: Bamboo Bicycles (video)

RESEARCH TOOLS AND TRAINING

Write winning proposals

The Funding Success Skills Series (FS3) will help faculty learn skills needed to be a successful grant writer from other ASU researchers with extensive track records of producing winning proposals. These monthly lunchtime discussions will address the full spectrum of activities for preparing a successful proposal, from identifying funding sources to post-proposal evaluation. Find collaborators, be inspired and learn from the experts!

The first event, “Is it rocket science? Understanding your sponsor”, will take place on March 1 from 11:30am – 1pm at Old Main on the Tempe Campus. Lunch will be provided. Space is limited and RSVP is required. https://rsg.asu.edu/research-forums

Navigating the NIH

Navigating the NIH, an all-day event on May 1, will prepare first-time principal investigators for application to the NIH and provide current awardees the tools to help ensure follow-on funding. Attendees will learn effective techniques for successful and meaningful interaction with program officers; learn how to navigate across and within NIH's institutes and centers; discover ins and outs of the various mechanisms for funding; and receive real-time training on how to craft a competitive proposal. Learn more and RSVP at: https://rsg.asu.edu/research-forums
Faculty Toolbox

The Faculty Toolbox provides useful resources to facilitate and support research activities. If there are specific topics or resources that you would like to see added, please contact Lisa Mosley at lisa.mosley@asu.edu. [http://researchadmin.asu.edu/faculty-toolbox](http://researchadmin.asu.edu/faculty-toolbox)

Research.gov for NSF reporting

Research.gov is the NSF’s new grants management system. ASU has been piloting Research.gov since December and has not been using Fastlane for project report submission. The NSF will be implementing the final phase of Research.gov to all NSF awardees and organizations on March 18, 2013. ASU has already fully transitioned to Research.gov so the next phase will not impact how project reports are submitted. For more information about using Research.gov, visit the Project Report Informational Page. If you would like to share your experience using Research.gov, please contact Lisa Mosley (lisa.mosley@asu.edu).

RSP manual change

RSP 605-03, “Investigator Incentive Awards,” has been deleted. This removes OKED’s restrictions on the use of IIA funds and treats them in the same manner as RID funds – no restrictions on the use of the funds, provided the expenditures comply with ASU’s policies on local funds. This change allows for more efficient funding and management of IIA accounts. The [RSP Manual](http://researchadmin.asu.edu/faculty-toolbox) has been updated accordingly.

Shared resources

Do you know about OKED’s shared resources site? You can find tools and services available through more than 100 core facilities, labs, shops, clinics, museums and collections that support ASU research. Online scheduling is available for many of the resources on the site. [http://sharedresources.asu.edu](http://sharedresources.asu.edu)