Dear Colleagues,

Welcome back to a new semester. We kicked off 2017 with some exciting news. NASA selected ASU to lead a $450 million Discovery mission to explore the asteroid Psyche. Dr. Lindy Elkins-Tanton in the School of Earth and Space Exploration leads the mission, which is targeted to launch in 2023 and arrive in 2030. ASU faculty will also play key roles on the Southwest Research Institute’s Lucy mission, which will investigate a swarm of primitive asteroids near Jupiter. Launching in 2021, Lucy will carry an instrument designed and built by Dr. Philip Christensen in SESE.

The Department of Transportation selected ASU to lead a Tier 1 University Transportation Center. Led by Dr. Ram Pendyala, the center will focus on improving the mobility of people and goods in collaboration with the Georgia Institute of Technology, the University of South Florida and the University of Washington.

ASU's Nexus Lab for Digital Humanities and Computational Informatics was chosen as the new institutional partner for the Humanities, Arts, Science and Technology Alliance and Collaboratory (HASTAC). In July, ASU will join the Graduate Center, City University of New York in leading and administering the world’s first and oldest academic social network. Dr. Jacqueline Wernimont, interim director of the Nexus Lab, will serve as co-director.

These projects are just a sampling of the incredible success of our faculty researchers. Your hard work and dedication is reflected in the latest NSF HERD rankings. Some highlights include:

- #10 for total research expenditures among institutions without a medical school
- #3 for earth sciences expenditures
- #5 for social sciences expenditures
- #8 for electrical engineering expenditures
- #12 for humanities expenditures
- #10 for HHS (including NIH) funding among institutions without a medical school
- #11 for NASA funding

You can see more rankings and how we compare to other leading universities here.

As you know, at ASU we conduct our research with impact as an imperative. In November, the Association of Public and Land-grant Universities recognized ASU’s contributions to the community with an Innovation and Economic Prosperity University award. ASU won the Connections category for our many successful initiatives in partnership with local cities and businesses.

Thank you for all of your hard work, which has paved the way for our phenomenal success. Please don’t hesitate to let me know if we can assist you further in advancing your research and entrepreneurship endeavors.

Sincerely,

Sethuraman “Panch” Panchanathan
Executive Vice President and Chief Research and Innovation Officer
Knowledge Enterprise Development
panch@asu.edu
RESEARCH IMPACT

A sampling of discovery and innovation from ASU researchers

**Controlling robots with the human mind**

Dr. Panagiotis Artemiadis, director of the Human-Oriented Robotics and Control Lab, has demonstrated a way to control multiple robotic drones using the human brain. A skull cap outfitted with electrodes records electrical brain activity as a user pictures the drones performing tasks. The electrodes are wired to a computer that sends commands wirelessly to the drones.

[Learn more](#)

**Software scrapes big data for big danger**

Carolyn Forbes in the Center for the Study of Religion and Conflict and Dr. Hasan Davulcu in the School of Computing, Informatics, and Decision Systems Engineering are developing a tool called Looking Glass that mines online data and then maps out what’s trending. It’s being used to counter violent extremism in part by identifying groups that promote peace. Currently, ASU is partnering with the international development company Chemonics to test the tool in Libya.

[Learn more](#)

**Scientists ‘re-engineer’ behavior in ants**

Certain threats turn on genes in carpenter ants that change their behavior in ways that help their colony survive. A research team led by Dr. Juergen Liebig in the School of Life Sciences found that compounds known to block the action of a group of enzymes, histone deacetylases, activated genes that made one kind of carpenter ant worker behave like another, without changing the instructions encoded in their genes. The results were published in the journal Science.

[Learn more](#)

**Researchers uncover ancient Catholic texts**

An international research team led by Dr. Corine Schleif in the Herberger Institute for Design and the Arts discovered a trove of Catholic texts dating back to the 15th century on the final stop of a tour of German monasteries. The books detail ancient rituals and devotional images that promise to expand our knowledge about spiritual life for medieval women.

[Learn more](#)
Early pressure over grades not helpful

New research from Dr. Suniya Luthar in the Department of Psychology suggests parents shouldn’t obsess over grades and extracurricular activities for young schoolchildren, especially if such ambitions come at the expense of social skills and kindness. Doing so can work against helping kids become well-adjusted and successful later in life, according to the study, published online in the Journal of Youth and Adolescence.

Learn more

Making fracking safer

Injecting wastewater deep underground as a byproduct of oil and gas extraction techniques, including fracking, causes man-made earthquakes. However, the risk can be reduced through monitoring pressure as it increases underground. The findings, from Dr. Manoochehr Shirzaei in the School of Earth and Space Exploration, were published in the journal Science.

Learn more

Hacking the hackers

Using a machine learning system, Dr. Paulo Shakarian of ASU’s School of Computing, Informatics, and Decision Systems Engineering developed a method to monitor computer networks with restricted access for traffic related to potential hacks. The technology can give software developers a heads-up so they know what kind of hacking to look for and protect against. The findings were presented at the Institute of Electrical and Electronics Engineers (IEEE) International Conference on Intelligence and Security Informatics.

Learn more

Improving 3-D printing of metals

Dr. Owen Hildreth in the School for the Engineering of Matter, Transport and Energy has overcome a major obstacle in the 3-D printing of metal objects. The new method allows for simultaneous printing of two types of metal, one of which is used as a support structure to prevent warping. Later, the support structure can be dissolved away through electrochemical etching. The technique was published in the journal 3-D Printing and Additive Manufacturing.

Learn more
In industrialized societies, carriers of the apolipoprotein E (ApoE4) gene face a higher risk for Alzheimer's disease and other age-related cognitive disorders. But in a community of Amazonian forager-horticulturalists called the Tsimane, individuals who both carried ApoE4 and had a high parasitic burden displayed steadier or improved cognitive function than those who did not carry the gene but had similar levels of parasitic exposure. The study, authored by Dr. Ben Trumble in the School of Human Evolution and Social Change, was published in the FASEB Journal.

Ancient DNA can diminish and defend modern minds

In industrialized societies, carriers of the apolipoprotein E (ApoE4) gene face a higher risk for Alzheimer's disease and other age-related cognitive disorders. But in a community of Amazonian forager-horticulturalists called the Tsimane, individuals who both carried ApoE4 and had a high parasitic burden displayed steadier or improved cognitive function than those who did not carry the gene but had similar levels of parasitic exposure. The study, authored by Dr. Ben Trumble in the School of Human Evolution and Social Change, was published in the FASEB Journal.

Moon’s surface younger than previously thought

The moon’s surface is being churned by small impacts more than 100 times faster than scientists previously thought. This means that surface features believed to be young are perhaps even younger than assumed. It also means that any structures placed on the moon as part of human expeditions will need better protection. This new discovery, published in Nature, comes from more than seven years of high-resolution lunar images studied by a team of scientists from ASU and Cornell University, led by ASU’s Emerson Speyerer.

Don’t follow the leader

Research from Drs. Peter Hom and Wei Shen in the W. P. Carey School of Business suggests that companies with strong organizational-development climates create strong relationships between employees and their peers, lower-level employees and leaders. Such relationships encourage subordinates to keep their current jobs even when good leaders move on, according to a paper published in the Academy of Management Review.

Desert discovery may redirect rover

Drs. Steve Ruff and Jack Farmer in the School of Earth and Space Exploration found silica deposits with structures influenced by living organisms in hot springs in the Atacama Desert. The deposits appear nearly identical to those found eight years ago by the Mars rover Spirit in Gusev Crater, and may spur scientists to revisit the Martian location. The report was published by Nature Communications.

School environment affects school behavior

Certain environmental factors in a neighborhood, such as adequate lighting and access to green space, can affect the happiness of its residents. A study led by Dr. Sarah Lindstrom Johnson, in the T. Denny School of Social and Family Dynamics, found that some of the same characteristics that make neighborhoods better places to live in can be applied to schools, to make them better places to learn. The findings were published in the journal Psychology of Violence.
Public health measures can increase gender equity

Reducing the prevalence of infectious diseases can be linked to an increase in gender equality, according to research by Dr. Michael Varnum in the Department of Psychology. When levels of infectious disease are low, people are more likely to adopt slower life history strategies. For women, this might mean delaying reproduction in favor of pursuing education and careers. The research was published in the journal Nature Human Behavior.

Learn more

Cities have grown at the same rate throughout history

A group of interdisciplinary scientists, including Dr. Michael Smith in the School of Human Evolution and Social Change, analyzed census records, maps and archaeological studies of medieval cities across western Europe to show that their populations grew at the same rate as modern cities and prehistoric New World settlements. It’s the first study to document these patterns using historical records, and was published in the journal PLOS ONE.

Learn more

Xeriscaped yards have higher nitrogen levels

A recent study by Hannah Heavenrich and Dr. Sharon Hall in the School of Life Sciences revealed that xeriscaped yards contain higher levels of nitrate than turf yards. Runoff from those yards could affect water quality, leading to algal blooms and wreaking havoc with aquatic ecosystems. The study was published in the journal Environmental Research Letters.

Learn more

Job insecurity is bad for business

Research by Dr. Ned Wellman in the W. P. Carey School of Business found that workers who felt job insecurity reported a higher likelihood of “deviant” behaviors, such as taking company property. The paper was published in the Journal of Applied Psychology.

Learn more

Contrary to popular belief, suburban dwellers are not isolated

A study in the Journal of Planning Education and Research, co-authored by Dr. Deirdre Pfeiffer in the School of Geographical Sciences and Urban Planning, takes a critical look at the assertion that suburbanization causes Americans to become more isolated and socialize less with neighbors than their urban counterparts. She found that when controlling for factors such as age, education, marriage, race and employment, the urban-suburban differences in socialization disappear.

Learn more
Dr. Bruce Rittmann, Regents' Professor in the School of Sustainable Engineering and the Built Environment and director of the Swette Center for Environmental Biotechnology, was elected a 2016 Fellow of the National Academy of Inventors. The honor recognizes Rittman’s patented method for using bacteria to clean up contaminants in wastewater.

Adriana Sanford J.D., an ASU alumna and clinical associate professor of management in the W. P. Carey School of Business, was elected to the Amnesty International USA board of directors. In addition to teaching, Sanford is an author, international corporate lawyer and media personality.

Dr. James Blasingame received the 2017 Humanities Public Scholar Award from Arizona Humanities. Each year three recipients are recognized for their significant contributions to Arizona’s civic and cultural life through the humanities. Dr. Blasingame, an associate professor in the Department of English, focuses on young adult literature, indigenous curriculum, censorship, secondary reading and writing pedagogy, preparing pre-service teachers, and cowboy literature.

Popular Mechanics awarded its 2016 Breakthrough Award in the space category to the ASU team that created the SunCube FemtoSat satellite. The satellite has set records for its small size and low cost to launch. The ASU team, led by Dr. Jekan Thanga, beat stiff competition for the award from MIT, Stanford and Princeton.

Researchers at ASU and Harvard developed a low-cost Zika virus test that has won the Popular Science 2016 Best of What’s New award in the health category. Using just a small strip of paper, each test costs less than $1 and holds potential for diagnosing a broad range of diseases. ASU’s team was led by Dr. Alexander Green.
Dr. Neal Lester, Foundation Professor of English and founding director of Project Humanities, received the 2017 MLK Diversity Award from the City of Tempe. The city bestows the award on groups or individuals who best exemplify the spirit of Dr. Martin Luther King Jr.’s spirit. Dr. Lester was recognized for his work in race relations, empathy, and workplace training towards creating a more welcoming and inclusive environment, both at ASU and in Tempe.

Learn more

Norman Dubie, Regents’ Professor in the Department of English, was awarded the international Griffin Poetry Prize for his collection, “The Quotations of Bone,” an exploration of viciousness and humanity.

Learn more

Dr. Shawn Jordan, assistant professor in the Polytechnic School, has been honored by the White House with a Presidential Early Career Award. Dr. Jordan has developed curriculum that integrates teaching engineering design with Navajo culture to show students opportunities in STEM fields.

Learn more

Robert Greenes, M.D., the Ira A. Fulton Chair in Biomedical Informatics and ASU professor of biomedical informatics at Mayo Clinic, has been appointed chairman of the Board of Regents of the National Library of Medicine. Greenes hopes to help make medical information accessible to all providers involved in an individual’s care by building capabilities to integrate electronic health care record systems and also connect the patient more directly to the health care system.

Learn more
Empowering women entrepreneurs

ASU secured a $5 million grant from the U.S. Department of State for Women & Entrepreneurship in the Americas. Through the WE Americas Accelerator, experts from ASU’s Thunderbird School of Global Management will provide mentorship, leadership training and business skills development to more than 75 female Latin American entrepreneurs.

Learn more

Award-winning innovation

ASU’s entrepreneurial spirit was recognized through two prestigious awards in 2016: the Outstanding Achievement as an Entrepreneurial University at the Deshpande Symposium on Innovation and Entrepreneurship in Higher Education, and the Outstanding Contribution to Venture Creation award from the Global Consortium of Entrepreneurship Centers.

ASU, Samsung tackle cybersecurity

ASU’s Center for Cybersecurity and Digital Forensics is helping Samsung Electronics address digital security challenges and advance research, education and entrepreneurship in the field of cybersecurity.

Learn more

Alumni win Rise of the Rest

NeoLight, a company founded by former ASU students, won the Rise of the Rest – Phoenix startup pitch competition, receiving $100,000 from AOL co-founder Steve Case. NeoLight is a medical device company that designs phototherapy technologies to treat jaundice in newborns.

Learn more
What’s happening in D.C.?

ASU is developing important ties in Washington so that you have every opportunity to understand and access the ecosystem of federal R&D funding available. It is not only our intention to engage but to shape the future of federal science and engineering funding.

Sign up for our Friday R&D Update to get the latest information about the federal budget, agency leadership, regulations, and national priorities for research in defense, cybersecurity, manufacturing, space, energy, the environment and more. To subscribe, contact Amanda Arnold at aarnold@asu.edu.

Launching InfoReady for Limited Submissions competitions

Limited Submissions (LS) is now using InfoReady Review (https://asu.infoready4.com/) to manage all of our Limited Submission and internal competitions. This system allows us to expediently and effectively manage submissions and any subsequent review processes.

Interested investigators should submit their internal applications no later than 5:00 p.m. on the internal application due date. Internal applications should include items indicated in the Internal Application Requirements.

To ensure your application is submitted on time, you must notify LS of your intent to submit for an opportunity at least two days (48 hours) prior to the LS deadline.

Both ASU PIs and RAs can access the system via ASUrite. Your proposal will only be viewable by the Limited Submissions Office and subsequently by the assigned reviewers who can only review what has been submitted onto the system. Your proposal will also receive the same internal review that has been performed in the past. The only difference is that instead of submitting your proposal by emailing Limited Submissions, we ask that you please submit your proposal via the specified opportunity link provided to you after notifying LS of your intent to submit for a particular opportunity.

If you have questions about the system, please contact Fernando Reyes at Fernando.Reyes.1@asu.edu.

Instrument design and fabrication cores

The Instrument Design and Fabrication (IDF) Core facilities are now part of Knowledge Enterprise Development. These facilities, which include the machine shop, electronics shop and glassblowing facility, are available to any faculty who need equipment designed, built and/or repaired. Contact idfcore@asu.edu or call 480-965-3300 for more information.
Simplifying effort reporting

Given the regulatory changes that are now in effect under Uniform Guidance (2 CFR Part 200) administrative requirements, cost principles and audit requirements for federal awards, OKED has been leading an initiative to implement an alternative to traditional effort reporting. The alternative is designed to provide researchers with a simplified account statement for each of their research projects. We are hoping to implement in early 2017. If you are interested in participating in the faculty focus group, or to learn more about this initiative, please contact Lisa Mosley at lisa.mosley@asu.edu or 480-727-9754.

Biomedical workshops and conferences

ASU, with funding from the Arizona Biomedical Research Commission (ABRC) Research Education Program, is pleased to host a series of Arizona-wide workshops and conferences in 2017 that leverage ASU’s depth and breadth of experience and deliver a significant level of benefit to the biomedical community of Arizona. These statewide, multi-stakeholder, high-impact events are designed to promote biomedical research across Arizona.

- Entrepreneurship + Innovation will lead three intensive workshops connecting biomedical stakeholders and practitioners with Lean Startup principles including basic business formation, customer discovery and product development strategies – spurring biomedical research to market.

- The Ira A. Fulton Schools of Engineering will host a multidisciplinary symposium dedicated to molecular, cellular and tissue bioengineering (MCTB) to showcase the impactful research conducted across Arizona’s ecosystem of universities, clinical institutions and bioindustry. Registration will open by the beginning of February for the April 1 event.

- The Center for Indian Education will host a conference that seeks to create a non-exploitive, inclusive opportunity for working alongside tribal community members, increasing the pipeline and network of students involved in all aspects of research and scholarship, and improving the current and future academic workforce who conduct this research.

For more information, contact ResearchDevelopment@asu.edu.
PARTNERSHIPS

ASU joins network to combat cancer

ASU was selected to lead a Specialized Center in the National Cancer Institute’s Chemical Biology Consortium, which brings together leading chemical biologists and molecular oncologists to address unmet needs in therapeutic oncology. ASU’s Center for Membrane Protein Drug Discovery, led by Dr. Petra Fromme, aims to determine the structure and dynamics of major cancer drug target membrane proteins.

ASU teams up with Facebook for research

ASU has signed a Sponsored Academic Research Agreement (SARA) with social media giant Facebook in a mission to improve communication worldwide. The agreement, which is still in its early stages, is likely to operate on an RFP-based approach. We will ensure that for each RFP we are invited to join, all of our expertise is engaged. We will also invite their team to visit ASU in the future to profile all of our assets and expertise.

Alliance with Mayo Clinic to advance health care

Mayo Clinic, the world leader in patient care, education and research, and ASU, the nation’s most innovative university, are bringing together the brightest minds to improve patient care, transform medical education and accelerate cutting-edge research through the Mayo Clinic and Arizona State University Alliance for Health Care. The Mayo Clinic School of Medicine and ASU have developed a novel curriculum in the science of health care delivery. This will be available to students at the new Arizona Campus opening in 2017.

COMMUNICATIONS

What are your colleagues up to? ASU researchers share their expertise and what drives their exploration through ASU KEDtalks videos. Check out these conversations for the curious at research.asu.edu/kedtalks

Get all of our latest articles, videos and podcasts delivered to your inbox every month, along with a little something extra. Email kelsey.wharton@asu.edu to subscribe to the Research Matters newsletter.

By now you should have received a copy of our book, “A New American University: Designed for Discovery," which illustrates ASU’s uniquely successful approach to discovery and innovation with real, impactful research projects. Now you can share the stories widely through our e-book, and see videos about several of the projects, at research.asu.edu/book.

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The following are a sampling of recent research grants

Dr. Aryn Baxter, in the Mary Lou Fulton Teachers College, was awarded $22 million from the MasterCard Foundation for the MasterCard Foundation Scholars Program at ASU.

Nicholas Colaneri, in the Flexible Electronics and Display Center, was awarded $17 million from the Department of Defense to transition flexible detectors from the prototype stage into low-volume manufacturing.

Dr. David Coon, in the College of Nursing and Health Innovation, was awarded $3.6 million from the Department of Health and Human Services for the EPIC program to assist people with Alzheimer's disease and their caregivers.

Dr. Rosa Krajmalnik-Brown, in the Swette Center for Environmental Biotechnology, was awarded $3.6 million from the National Institute of Diabetes and Digestive and Kidney Diseases to study the microbiome's contribution to energy balance.

Dr. Carlo Maley, in the Virginia G. Piper Center for Personalized Diagnostics, was awarded $3.3 million from the Department of Defense to study genomic diversity and the microenvironment as drivers of progression in breast cancer.

Dr. Ying-Cheng Lai, in the School of Electrical, Computer and Energy Engineering, was awarded $3 million from the Department of Defense to study relativistic quantum nonlinear dynamics and chaos.

Dr. Ross Maciejewski, in the School of Computing, Informatics, and Decision Systems Engineering, was awarded $3 million from the National Science Foundation for modeling and visualizing planning and policy decisions related to food-water-energy systems.

Dr. Jeremy Babendure, in the School of Molecular Sciences, was awarded $3 million from the National Science Foundation to study informal STEM education in rural communities.

Dr. Mary Davis, in the Department of Psychology, was awarded $3 million from the Department of Health and Human Services to study the genetic and environmental origins of the development of pain in children.

Dr. Jianming Liang, in the Department of Biomedical Informatics, was awarded $2.5 million from the Department of Health and Human Services to study computer-aided diagnosis of pulmonary embolism.

Dr. Rebecca Lee, in the College of Nursing and Health Innovation, was awarded $2.4 million from the Department of Health and Human Services for using community gardens as a tool for promoting healthy behaviors in early childhood.

Dr. Cady Berkel, in the Department of Psychology, was awarded $2.2 million from the Department of Health and Human Services for an individually tailored family-centered intervention for childhood obesity.

Dan O’Neill, in the Julie Ann Wrigley Global Institute of Sustainability, was awarded $2 million from the City of Phoenix for the project “Resource Innovation and Solutions Network.”

Dr. Carlos Velez-Ibanez, in the School of Transborder Studies, was awarded $2 million from the Department of Education for “Achieving Excellence in a University: A Program Designed for Migrant Student Success.”

Dr. Salvatore Oddo, in the Neurodegenerative Disease Research Center, was awarded $2 million from the Department of Human and Health Services for “Molecular interplay between A tau and mTOR: Mechanisms of neurodegeneration.”

Dr. Maria Grando, in the Department of Biomedical Informatics, was awarded $2 million from the Department of Health and Human Services for evaluation of effective consent strategies for patients with behavioral health conditions.

Dr. Richard Rushforth, in the Julie Ann Wrigley Global Institute of Sustainability, was awarded $1.9 million from U.S. Agency for International Development for the Middle East Water Security Initiative.

Dr. Michael Foster Olive, in the Department of Psychology, was awarded $1.8 million from the National Institutes of Health to study brain endorphin targets of low-dose alcohol.

Dr. Willem Vermaas, in the School of Life Sciences, was awarded $1.8 million from the Department of Energy to study cyanobacteria’s ability to produce biodiesel.

Eric Reiman, M.D., in the Neurodegenerative Disease Research Center, was awarded $1.8 million from the Department of Health and Human Services for the Arizona Alzheimer's Disease Core Center.
Dr. Michael Sierks, in the School for the Engineering of Matter, Transport and Energy, was awarded $1.8 million from the National Institute on Aging to research how protein variants could be used as blood-based biomarkers to diagnose and stage Alzheimer’s disease.

Dr. Jason Newbern, in the School of Life Sciences, was awarded $1.7 million from the Department of Health and Human Services for “Functions of ERKMAPK Signaling in GABAergic Circuit Development.”

Dr. Joshua LaBaer, in the Virginia G. Piper Center for Personalized Diagnostics, was awarded $1.7 million from the Department of Health and Human Services for the DNASU Plasmid Materials Repository.

Dr. William Yost, in the Department of Speech and Hearing Science, was awarded $1.6 million from the Department of Health and Human Services for “Dynamic Sound Source Localization” project.

Dr. John Fricks, in the School of Mathematics and Statistical Sciences, was awarded $1.6 million from the National Institute of General Medical Sciences to study motor-cargo transport from artificial to cellular systems.

Dr. Marco Mangone, in the Virginia G. Piper Center for Personalized Diagnostics, was awarded $1.5 million from the Department of Health and Human Services for the “Genetics and Genomics of Alternative Polyadenylation and miRNA Regulation in C e” project.

Dr. Joshua Abbott, in the Julie Ann Wrigley Global Institute of Sustainability, was awarded $1.5 million from the National Science Foundation to study the dynamics of adaptation to climate-driven variability in California Current fisheries and fishing communities.

Dr. J. Rene Villalobos, in the School of Computing, Informatics, and Decision Systems Engineering, was awarded $1.5 million from the Department of Energy to establish an Industrial Assessment Center at ASU. This will allow ASU to conduct energy audits and identify ways to be more energy efficient.

Dr. Oliver Beckstein, in the Department of Physics, was awarded $1.5 million from the Department of Health and Human Services to study molecular mechanisms of secondary active transporters.

Dr. Stuart Lindsay, in the Center for Single Molecule Biophysics, was awarded $1.3 million from the National Institutes of Health for “Recognition Tunneling for Single Molecule RNA Sequencing.”

Dr. Sau Kwan, in the Department of Psychology, was awarded $1.3 million from the Department of Energy for the “Strengthening Present-Future Self-Continuity Improves College Persistence” project.

Dr. Christopher Buneo, in the School of Biological and Health Systems Engineering, was awarded $1.3 million from the National Science Foundation to study how our brains build a physical sense of self by merging information from the skin, joints, muscles and eyes.

Dr. James Adams, in the School for the Engineering of Matter, Transport and Energy, was awarded $1.3 million from the Department of Defense to study Microbiota Transfer Therapy to treat gastrointestinal and autism symptoms in adults with autism.

Dr. Quan Qing, in the Department of Physics, was awarded $1 million from the Department of Defense for understanding and controlling the coupled electrical chemical mechanical excitable networks of living systems.

Dr. Michael Barton, in the Center for Social Dynamics and Complexity, was awarded $1 million from the National Science Foundation for accelerating and catalyzing reproducibility in scientific computation and data synthesis.

Julia Fromholz, J.D., in the Sandra Day O’Connor College of Law, was awarded $1 million from the Bureau of International Narcotics and Law Enforcement Affairs for the Legal Education Support for Pakistan Program.

Dr. Crista Johnson, in the Center for International Translational Intervention Research, was awarded $1 million from the Department of Health and Human Services for enhancing culturally-informed health care services for women affected by genital cutting in Arizona.

Dr. Cindy Miller, in the T. Denny Sanford School of Social and Family Dynamics, was awarded $900,000 from the National Science Foundation to evaluate and promote elementary school children’s knowledge of and motivation to engage in engineering.

Dr. Steven Tepper, in the Herberger Institute for Design and the Arts, was awarded $610,000 from the Kresge Foundation for “Higher Education and Creative Placemaking: Opportunities and Challenges in Building and Sustaining a New Field.”

Dr. Jonathan Pettigrew of Hugh Downs School of Human Communication was awarded $600,000 from the Bureau of International Narcotics and Law Enforcement Affairs to expand the reach of the “Dale se REAL” drug resistance and violence reduction curriculum.