Research Funding Hits New Record

The university’s outside research awards climbed to a new high of $560 million in fiscal 2016, aided by innovative approaches to funding from the Division of Research.

“Our university’s efforts to grow and diversify its research portfolio and partnerships is manifest in this second year of record-breaking funding,” says Amitabh Varshney, UMD interim vice president and chief research officer. “The creativity, scholarship and innovation of our faculty, staff and students have taken this university to new heights of excellence.”

Among the notable awards was $10 million from the U.S. Department of Agriculture to UMD’s School of Public Health to lead a research consortium—CONSERVE—to develop new sources of recycled water for farmers to safely grow food crops.

UMD’s researchers have garnered tens of millions of dollars from the Department of Energy’s Advanced Research Projects Agency-Energy (ARPA-E) since 2010 for projects aimed at energy efficiencies, including a recent $4.5 million grant to the university’s National Transportation Center to develop technology to deliver personalized, real-time travel information to users and incentivize energy-efficient travel.

Other major awards include a $31 million award from the Intelligence Advanced Research Projects Activity (IARPA) to UMD, Duke University and other researchers to target error correction in quantum computing, and a $3.4 million grant from the National Institute of Mental Health to UMD’s Psychology researchers to explore the catalysts for pathological anxiety and depression, particularly in college students.

UMD Honors Researchers for Communications Excellence

Recognizing that incisive scholarship and cutting-edge research are enhanced when they’re communicated dynamically to the public, the Division of Research announced the winners of the second annual Research Communicator Impact Awards this fall.

A committee of faculty and staff evaluated over 30 popular media submissions representing 10 of UMD’s 12 colleges and schools. The winners were:

- Nicholas Diakopoulos, assistant professor in the Philip Merrill College of Journalism, for an article in Slate entitled “How to Hold Governments Accountable for the Algorithms They Use,” explaining how computer algorithms are behind many decisions vital to the lives of citizens.

- Michele Gelfand, professor of psychology, for a piece in The Conversation entitled “A Warmer Embrace of Muslims Could Stop Homegrown Terrorism,” based on her research on the roots of domestic terror threats.

- Michael Raupp, professor of entomology, for his blog and YouTube channel, “Bug of the Week,” which reaches hundreds of thousands of viewers with fascinating information about insects in Maryland and around the world.

- Rashawn Ray, associate professor of sociology, for his Huffington Post article, “AME Church Massacre and America’s Inability to Acknowledge Structural Racism,” which argued against a “lone wolf” interpretation of the attack by placing it in a larger framework of institutional racism.

Varshney Appointed Interim VPR

Computer Science Professor Amitabh Varshney has been named interim vice president and chief research officer. Varshney, who came to Maryland in 2000 and became director of the UMD Institute for Advanced Computer Studies (UMIACS) in 2010, will oversee the continued growth of the university’s $560 million research enterprise. He succeeds Patrick O’Shea, recently named president of University College Cork in Ireland, and will remain until a permanent successor is chosen.

MPower-backed Center to Focus on Collaboration for Brain Health

• The so-called “Civic” approach, in which sequencing technologies and the power of big data analytics combine with approaches like genomics and metabolomics to diagnose injuries and monitor recovery—an approach that was once unthinkably complex. “It is both large-scale and incredibly fine-grained,” Quinlan says.

• The development of new techniques in neuroimaging, monitoring and biomarkers, allowing imaging of the brain and body at resolutions that range from the molecular to entire organisms.

• New approaches to improve recovery from brain injuries, including combinations of calorlc restriction, exercise programs and cognitive challenges. These techniques could also help stave off cognitive and physical declines associated with aging, some research suggests.

The Center for Sports Medicine, Health and Human Performance will be a signature component of the new Cole Field House. The center will be supported through an initial $3 million investment from the MPowering the State initiative that will fund the study of nervous system injury and neuroscience.

“We’re bringing the clinical scientists from Baltimore together with the academic scientists from College Park,” says Elizabeth Quinlan, UMD professor of biology and the center’s co-director. “The diversity of expertise will allow for unique collaborations to develop, including important interactions between the lab and the clinic.”

Researchers at the new center aim to make quick contributions in three initial priority areas:

• The development of new techniques in neuroimaging, monitoring and biomarkers, allowing imaging of the brain and body at resolutions that range from the molecular to entire organisms.

• New approaches to improve recovery from brain injuries, including combinations of calorlc restriction, exercise programs and cognitive challenges. These techniques could also help stave off cognitive and physical declines associated with aging, some research suggests.

The new Cole, expected to be completed in 2019, will house academics, clinicians and entrepreneurs, along with football operations and athletic training all under one roof. It will have more than 40,000 square feet of research and clinical space, and an orthopedics clinic serving athletes and the local community.

Kevin Plank ’96, founder and CEO of Under Armour, has pledged $25 million to launch the project, calling it an opportunity “to define a new era for Maryland.”

“The breadth and scope of this center is well beyond what currently exists in other sports performance centers,” says Dr. Alan Faden, the David S. Brown Professor in Trauma at the University of Maryland School of Medicine (SOM).

In January 2017, the center will launch a seed grant initiative to develop research collaborations across both campuses. Quinlan says.

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From academic achievement to employment, students with disabilities lag behind their peers in school and beyond. But a new $6.8 million state grant to College of Education researchers aims to close the gap in college and workplace readiness.

The award from the Maryland State Department of Education will fund a study of about 400 high-school-age students who’ll be recruited starting this year in six to eight public school districts.

Half will be randomly assigned to continue existing vocational training activities. The others will enter “enhanced” programs designed by Ellen Fabian, a professor of counseling, higher education and special education, and Richard Luecking, a research professor.

They’ll get work-based learning experiences like internships and job shadowing, and at least one opportunity in a paid work experience, Fabian says. Local teams of educators and disability services officials will oversee training programs.

The five-year award lasts long enough to let researchers start gathering post-school data to measure the programs’ effectiveness in areas like earnings, college success and reliance on welfare, Fabian said. Subsequent funding would allow longer-term monitoring, she says.

The researchers are looking for affordable strategies that can be implemented by cash-strapped states and school districts, she says.

“They’re not saying, ‘Here’s all the money in the world,’” Fabian says. “What I like about this is that it requires people like me and my team, who have been doing this work for a long time, to leverage what’s there, rather than invent something ideal.’’