

UMD, UMB Partnership to Fuel New Knowledge, Innovation

A strategic partnership between the state's top public research institutions is expected to significantly increase scientific knowledge, while also spurring basic research and new ideas that can readily transfer from the laboratory to the marketplace.

Officially known as MPowering the State, the agreement announced on March 1 connects the University of Maryland and the University of Maryland, Baltimore in interdisciplinary research and scholarship involving bioinformatics, biomedical devices, public health and more. It eases the paperwork for faculty submitting cross-institutional research proposals and provides incentives for increasing entrepreneurial activity on both campuses.

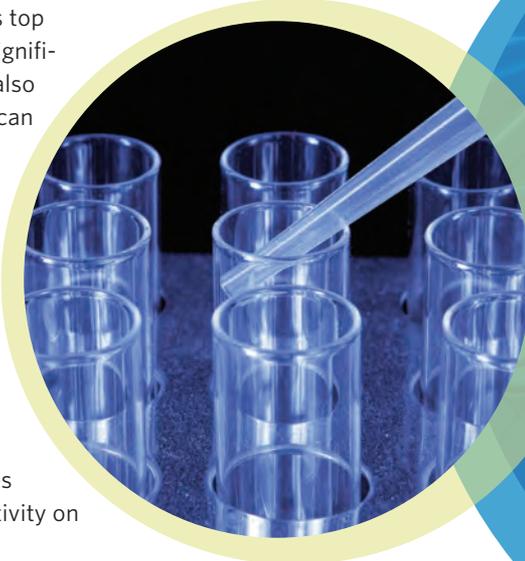
"Together, we're going to magnify the scale of our educational training, research and commercialization of ideas that will have a broad impact across this state and beyond," says UMD President **Wallace Loh**.

Senior administrators from each campus have been meeting regularly to identify and refine strategic objectives. This includes combining the master's of public health programs at both institutions and offering new courses in science, technology, engineering and mathematics (STEM) at the Universities at Shady Grove.

"This will bring a wealth of new educational, research and outreach opportunities for faculty and students at both campuses," says **Ann Wylie**, UMD's senior vice president and provost.

Other plans call for improving the face-to-face interaction between clinicians in Baltimore and faculty researchers in College Park, says **Patrick O'Shea**, UMD's vice president for research and chief research officer.

"Our bioengineers and others may go on grand [medical] rounds in Baltimore," O'Shea says. "They'll see firsthand the problems that physicians face, further motivating them to innovate new solutions



in health care and design the next generation of biomedical devices."

One research thrust will involve biomedical informatics and imaging, applying advanced computer science capabilities at UMD to patient information gathered by UMB physicians.

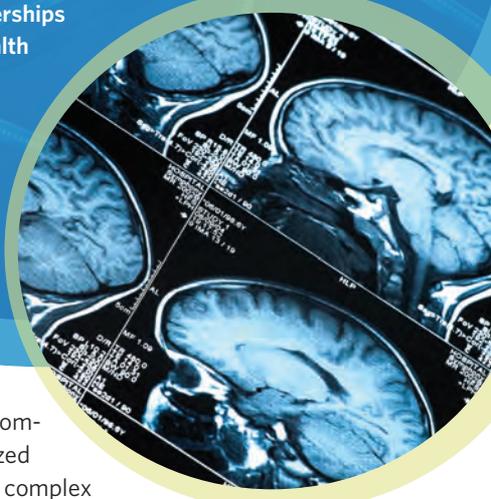
"There's been a surge of new data related to genomics and proteins," says **Amitabh Varshney**, director of the Institute for Advanced Computer Studies at UMD. "We hope our computing resources can identify specific disease markers to address serious health concerns like cancer, diabetes or autism."

The agreement establishes University of Maryland Ventures, which combines the resources of the two institutions' existing offices that promote technology transfer and commercialization. There are also plans to improve the management of joint grants, officials say, and enhance the established seed grant program between UMD and UMB.

The Institute for Bioscience and Biotechnology Research (IBBR) in Shady Grove is also part of the strategic partnership. Officials foresee broader collaboration between UMD, UMB and IBBR in key

Highlights of New Agreement

- Formation of University of Maryland Ventures to expand technology transfer and university-based startups
- Streamlined administration of joint appointments and joint grant submissions
- A Collaborative School of Public Health, joining the master's in public health programs at both institutions
- Increased research partnerships in bioengineering and the health sciences
- A new center in biomedical informatics and imaging



areas like genomics, personalized medicine and complex therapeutics.

These cross-institutional partnerships are imperative for securing large federal research grants, many of which require team-based proposals that include both scientists and clinicians, says **Ken Gertz**, UMD's associate vice president for research development.

"The federal agencies recognize, just as we do, that transformational discoveries demand a dedicated, multifaceted approach," Gertz says. "We'll continue to provide increased resources for our faculty researchers to seek out, apply for and win these competitive grants that can ultimately impact some major scientific and societal challenges."

From Ideas, to Innovation, to Impact

Patrick O'Shea, vice president for research and chief research officer, recently sat down to discuss the new strategic partnership between the University of Maryland and the University of Maryland, Baltimore.

Q: Why is it important to have a permanent, structured partnership between the two institutions?

O'Shea: We already have successful partnerships with UMB, as evidenced by our seed grant program. This new agreement will harmonize much of the administrative processes that will allow for a much deeper collaboration. Researchers at both universities want to focus on their scientific work, and not get bogged down in institutional bureaucracies.

Q: What new opportunities do you see for UMD faculty, including those not in the hard sciences or in public health?

O'Shea: I've always said that what's important in research is what's important to people. It comes down to water, health, energy, the environment, information, security and metaphysical and philosophical questions like "Why are we here?" In today's world,

all of these challenges will involve technology and the hard sciences, but we also need experts to address the economic, behavioral, cultural, social, political and environmental aspects. So I strongly believe that MPowering the State will involve almost every discipline on this campus.

Q: How will combining the research and entrepreneurial expertise of both institutions benefit the state of Maryland, and more broadly, innovation as a whole?

O'Shea: Working with our colleagues in Baltimore, we plan to rapidly move from ideas, to innovation, to impact. This will be an important component of diversifying the region's economy. We want to create an ecosystem of companies—many of which will initially come from research at this university—making it attractive for other companies to come into the region.



Patrick O'Shea

Q: What new initiatives and concepts can incentivize faculty to bring their research to market?

O'Shea: The University System of Maryland Board of Regents has recently added innovation and entrepreneurship to the considerations in promotion and tenure policies. Practical applications of a faculty member's work could be anything from assessing how children learn syntax and semantics to a startup company that makes wearable energy storage systems. We want a culture where researchers and scholars in College Park and Baltimore are not just patenting their ideas, but are actively thinking about how to get those innovations out into society.

More information about the initiative is available at www.umresearch.umd.edu.

We introduce you to new faculty and research scientists in the Maryland research community.



Perla Guerrero is an assistant professor of American studies. She researches comparative race and ethnicity, immigration, space and place, labor and 20th century U.S. history.



Jeremy Munday is an assistant professor of electrical and computer engineering. He researches solar energy conversion processes, with an emphasis on optics, photonics and thermodynamics.



Naomi Feldman is an assistant professor of linguistics. She uses tools from statistics and machine learning to formalize questions about how people learn and represent the structure of their language.



Yi Ting Huang is an assistant professor of hearing and speech sciences. She researches language acquisition, psycholinguistics and cross-linguistic comparisons.



Hanna Lee is an assistant professor of accounting and information assurance. She studies debt markets, default prediction, disclosure and financial reporting quality.

Assessing Financial Strain in Older Adults

Can a healthy wallet lead to a better medical checkup?

A university sociologist, working with a public health expert in Baltimore, wants to better understand the association between financial strain and health, particularly among older adults.



Joan Kahn

Associate professor of sociology **Joan Kahn** is collaborating with **Dawn Alley**, an epidemiologist in UMB's School of Medicine, to crunch data from a National Institute on Aging-funded study of adults ages 50 and over. They are looking at the relationship between financial stress and health outcomes like chronic diseases and physical functioning, taking into account an individual's monetary "comfort" level.

"We believe that it's not always about the actual state of a person's finances," says Kahn. "It's often how people *perceive* how they're doing financially, whether they're satisfied or constantly worried."

For adults over the age of 50, Kahn says, worrying about paying the bills might lead to behaviors like not taking costly medications or eating unhealthy foods. This can result in serious health concerns like depression, hypertension or diabetes.

The research was initially funded by a seed grant program between UMD and UMB, with the researchers seeking additional federal funding this year.

A long-term goal of the project, Kahn says, is to develop a model that can predict which older adults are more susceptible to negative outcomes from financial strain, allowing for appropriate intervention strategies.

FACULTY AWARDS & HONORS



ROBERT LEVINE, a professor of English, has received a Guggenheim Fellowship, awarded annually by the John Simon Guggenheim Memorial Foundation based on "prior achievement and exceptional promise." He joins 180 other scholars, artists and scientists selected from more than 3,000 applicants.

Levine plans to use the award to complete his latest book, "The Lives of Frederick Douglass," which will offer a cultural history of one of the most significant African-American leaders of the 19th century.

"It gives me time to thoroughly research archived material and better determine how it is that we've come to understand Douglass over the past 170 years," Levine says.



KARIN MELNICK, an assistant professor of mathematics, has received a Fellowship from the American Mathematics Society. The award, which includes a significant stipend and covers travel expenses for one year, is presented annually to outstanding, early-career mathematicians who have shown excellence in their research. Melnick was noted for her work on differential-geometric aspects of rigidity.

OTC Invention Gala Celebrates Milestone

A novel time stamp to protect the integrity of audio and visual recordings. A new mechanism to neutralize the influenza virus. A low-cost chemical sensor for detection of explosives and pollutants.

These three innovations were recently recognized as the best in their category at the annual Invention of the Year awards, sponsored by the university's Office of Technology Commercialization (OTC).

This year's event marked the 25th anniversary of the awards, with two former OTC directors joining current executive director **Gayatri Varma** at the gala reception in April.

For complete descriptions of the winning technologies and more photos of the event, visit www.otc.umd.edu.



OTC executive director **Gayatri Varma**, former director **James Poulos**, chancellor **Brit Kirwan**, UMD president **Wallace Loh**, vice president for research **Patrick O'Shea** and OTC founding director **Wayne Swann** at the 25th Invention of the Year ceremony on April 17.



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