

# UMB News

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## Face to Face: The Challenges Facing Research at UMB

**April 11, 2025** | By [Alex Likowski](#)

“An infinity of these little animals desolates our plants, our trees, and our fruits...they devour the grain in our storehouse, they pierce all our woodwork. They do not spare us, even ourselves.” Those were the words of Maryland College of Medicine faculty member Dr. John Crawford. In that 1811 paper he proposed that insects and worms could be at the heart of many human diseases. And he argued that discovery of such truths would require more than conjecture and adherence to previously accepted views. No, finding the truth would require observation and investigation. Research. Crawford’s ideas were rejected by his contemporaries, but he was later vindicated of course — by research.

Ever since then, and long before the University of Maryland, Baltimore (UMB) mission statement identified it as one of the four avenues by which we improve the human condition, research has played a pivotal role at UMB and UMB has played a pivotal role in research.

From developing the use of aromatase inhibitors to treat breast cancer in the 1970s and ‘80s to conducting the first mRNA COVID-19 vaccine trials and the first successful xenotransplantations of genetically modified pig hearts into human patients in this decade, UMB research has led and is leading to some pretty spectacular improvements to the human condition.

At the same time, our research enterprise has also grown immensely, with new and promising additions like the Division of Artificial Intelligence Research at the University of Maryland School of Dentistry, the Bio- and Nano-Technology Center at the University of Maryland School of Pharmacy, the University of Maryland Medicine Institute for Neuroscience Discovery, and joint ventures with the University of Maryland, College Park (UMCP) under the University of Maryland Strategic Partnership: *MPowering the State* banner like the University of Maryland Institute for Health Computing just to name a few.

The University received \$638 million in grants and contracts in Fiscal Year 2024. Taken together with UMCP, our collective enterprise now ranks 18th among all U.S. research institutions and 11th among public institutions. But the impact of all of that isn’t just what happens inside our proverbial walls, it’s what happens because of UMB — like the University of Maryland BioPark.

“The BioPark isn’t just a hub for discovering new, breakthrough treatments and cures — it’s also a key piece of our state’s economic engine,” Gov. Wes Moore declared during a 2023 tour of the BioPark. “The biotech industry contributes \$20 billion to our state’s economy each year. ... The biotech sector is going to create jobs, drive growth, and build an economy fit for the 21st century.”

The 14-acre BioPark with more than three dozen tenants and 1,000 employees is the largest biotech cluster in Baltimore and getting bigger. The 250,000 square foot 4MLK building, which opened in January, provides up to another 160,000 square feet of wet lab space and will ultimately bring another 1,000 jobs. Even before the building opened, UMB and developer Wexford Scientific announced a high-profile tenant — the Edward and Jennifer St. John Center for Translational Engineering and Medicine, where UMB physicians and UMCP engineers will work together to solve medical challenges neither discipline alone could tackle.

And it isn't just the jobs. Much of the work at the BioPark brings discoveries and treatments — many of them the brainchildren of UMB faculty — out of the lab and into the market where they can do some real good for real people. There are headline-grabbers like ErythroMer, a shelf-stable synthetic blood substitute that might soon save countless trauma patients from bleeding out before they can get to a hospital; Cirara, a treatment for ischemic stroke showing positive results in Phase 3 trials; and Vaxchora, the only Food and Drug Administration-approved cholera vaccine in the U.S. And for every headline invention or therapy coming out of the BioPark there are dozens of lesser known but just as important new drugs, diagnostics, and devices moving, as they say, from the bench to the bedside.

Over the last 11 weeks, though, that march of progress has turned into a stumble toward a very uncertain future for all university-based research.

In January, the new administration slammed the brakes on foreign aid, freezing billions in funding for things like the President's Emergency Plan For AIDS Relief (PEPFAR), global health and research funding addressing the HIV/AIDS epidemic, primarily in sub-Saharan Africa.

In February, the National Institutes of Health (NIH) announced it would limit all so-called "indirect costs" for things like laboratory facilities and maintenance to just 15 percent of research grants, far below already-negotiated rates.

Science organizations quickly hit the alarm. In a letter to then-NIH acting director Matt Memoli, the American Medical Association and 40 other groups wrote, "The collateral damage of this policy, if implemented, will be profound and generational, reshaping the future of scientific progress in ways that cannot be easily undone."

Grant renewals and new grant approvals have also dramatically slowed, and hundreds of research grants awarded to universities are being terminated. Although grants are very competitive, they are rarely canceled without some wrongdoing, such as a compliance issue or researcher misconduct, until now. The five words used most often to terminate grants are "no longer effectuates agency priorities."

Some cancellation notices regarding grants thought to involve diversity, equity, and inclusion issues or gender studies also include language like this: "Research programs based primarily on artificial and non-scientific categories, including amorphous equity objectives, are antithetical to the scientific inquiry, do nothing to expand our knowledge of living systems, provide low returns on investment, and ultimately do not enhance health, lengthen life, or reduce illness."

Ongoing terminations and delays prompted another protest letter, this one an open letter signed by more than 2,000 top scientists from around the country, including dozens of Nobel Prize winners. "A climate of fear has descended on the research community," the letter said. "If our country's research enterprise is dismantled, we will lose our scientific edge. Other countries will lead the development of novel disease treatments, clean energy sources, and the new technologies of the future. Their populations will be healthier, and their economies will surpass us in business, defense, intelligence gathering, and monitoring our planet's health. The damage to our nation's scientific enterprise could take decades to reverse."

The changes and challenges facing academic research and UMB's response were the topic of *Virtual Face to Face* on April 10 hosted by **James Hughes, MBA**, chief enterprise and economic development officer and senior vice president. Hughes was joined by University of Maryland School of Medicine Professor and Executive Vice Dean **Chris O'Donnell, PhD**, and **E. Albert Reece, MD, PhD, MBA**, director of the Center for Advanced Research Training and Innovation.

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