



UNIVERSITY OF MARYLAND
STRATEGIC PARTNERSHIP
MPOWERING THE STATE

2021



Del. Keith Haynes (Baltimore City) experiences firsthand the innovative research from the strategic partnership at MPower Day in Annapolis in January 2020.

COLLABORATION. INNOVATION. IMPACT.

The University of Maryland Strategic Partnership: *MPowering the State (MPower)* combines the extraordinary resources of the state's largest public research engines — the University of Maryland, Baltimore (UMB) and the University of Maryland, College Park (UMCP) — to strengthen and serve the state of Maryland and its citizens.

Since its creation in 2012, *MPower* has fostered **hundreds of collaborations** that are growing Maryland's innovation economy, advancing interdisciplinary research, increasing educational benefits, and addressing the state's most critical issues.



25
JOINT PROGRAMS
AND CENTERS

9
YEARS
OF PARTNERSHIP

To learn more about our impact, and our future, please visit mpower.maryland.edu.

ADVANCING RESEARCH AND ADDRESSING REAL-WORLD PROBLEMS

The University of Maryland Strategic Partnership: *MPowering the State* creates and supports complementary, multidisciplinary research collaborations that ignite innovation and high-impact discoveries. UMB and UMCP cultivate scores of partnerships with governments and businesses, creating jobs and underscoring Maryland's distinction as a top research innovator in the nation.

Every day, researchers at UMB and UMCP address the most challenging issues of the 21st century and impact global change. Now, national recognition of these achievements places the University of Maryland among the top research universities in the United States — both public and private.



MARYLAND: A NATIONALLY RECOGNIZED RESEARCH POWERHOUSE

No. 8

AMONG ALL PUBLIC
U.S. RESEARCH UNIVERSITIES
for research and development spending

No. 14

IN THE NATION
National Science Foundation,
Higher Education Research and Development Survey,
FY 2019, Released January 2021



\$1.2 BILLION +

FY 20 UMB AND UMCP COMBINED AWARDS FROM
FEDERAL, STATE, AND LOCAL RESEARCH GRANTS
AND CONTRACTS

**95
SEED GRANTS**
AWARDED TO FACULTY FOR JOINT
RESEARCH COLLABORATIONS



1 VICE PRESIDENT FOR RESEARCH

JOINTLY APPOINTED BY THE UMB
AND UMCP PRESIDENTS IN 2018

TAKING AIM AT COVID-19

COVID-19 challenged and changed the way we work, learn, and live. The University of Maryland Strategic Partnership: *MPowering the State* moved quickly to bring together its top thinkers to address this complex medical and human crisis.



Mobilizing quickly in spring 2020, *MPower* challenged its world-class researchers to bring solutions that offer immediate action to address the pandemic and prepare for future pandemics.

- ▶ In one challenge, 50 teams submitted projects that would capitalize on the vast research expertise across UMB and UMCP and showcase collaboration from multiple schools and colleges. Teams represented strengths in a wide range of disciplines, including medicine, public health, and pharmaceutical sciences, as well as computer, mathematical and natural sciences, and arts and humanities. Five teams received funding of \$500,000, including:
 - Two projects to support vaccine development
 - One to develop a rapid testing method
 - One to study the factors that impact vaccine acceptance among minority communities
 - One to explore the use of an artificial intelligence tool for delivery of child behavioral health services via telemedicine in rural Maryland communities
- ▶ A second challenge funds research that contributes to commercialization of evidence-based medical devices that will lead to better detection, prevention, and control of COVID-19 and other pathogens. Four collaborative teams were awarded \$200,000 for research related to testing, personal protection, treatment, and prevention.

\$700,000
FOR PANDEMIC RESEARCH AWARDS MADE
TO NINE MULTIDISCIPLINARY RESEARCH TEAMS

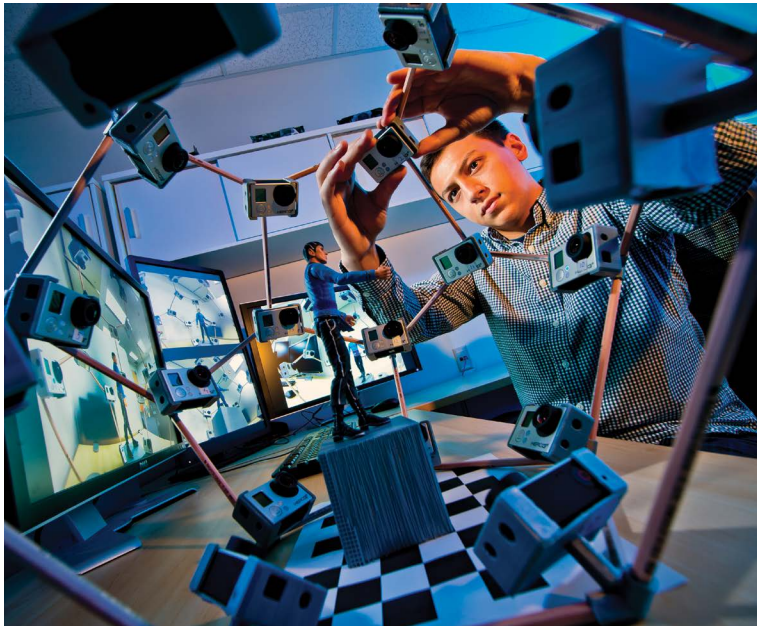
SELECTED RESEARCH PARTNERSHIPS

OPIOID USE DISORDERS RESEARCH COLLABORATION:
Developing treatments to address the opioid epidemic in Maryland and nationwide.

UMB's School of Medicine, UMCP's Center for Substance Abuse Research, and two dozen other schools and departments are researching solutions to address the opioid epidemic that kills thousands of Marylanders each year. Results from this multiyear work are impacting training, outreach, and policy while sparking new collaborations and grants.

MARYLAND BLENDED REALITY CENTER:
Developing innovative applications for visual computing technology in research, health care, and training.

UMCP computer scientists and UMB medical professionals are researching the use of augmented and virtual reality technology in medical and health care applications such as critical care patient diagnostic tools, nonopioid pain management, and next-generation medical education tools. This immersive technology also is being used to train police to identify and combat implicit bias.



Maryland Blended Reality Center

Selected Research Partnerships

CENTER FOR BRAIN HEALTH AND HUMAN PERFORMANCE AT COLE FIELD HOUSE:

Cutting-edge center focusing on the advanced study of the brain and nervous system. New research collaborations will explore the neurobiology of aging and age-related neurodegeneration.

The new center at the renovated Cole Field House in College Park — the first shared research facility created by the Strategic Partnership — brings together leading researchers in neuroscience, genomics, biomechanics, and other fields. An adjacent orthopaedic center will bring leading-edge medical facilities to UMCP, allowing for the rapid translation of research into practice.

INSTITUTE FOR BIOSCIENCE AND BIOTECHNOLOGY RESEARCH (IBBR):

Developing solutions to address major health and scientific challenges that benefit patients while creating economic development in Maryland.

Located in Montgomery County, in the heart of Maryland's biotechnology corridor, IBBR is a partnership among UMB, UMCP, and the National Institute of Standards and Technology (NIST). It forms key alliances with biopharmaceutical companies and federal agencies to develop biomedical and health care solutions and accelerate commercialization. Among dozens of projects, researchers are developing vaccines for hepatitis C and other infectious agents. IBBR also provides infrastructure support to the biopharmaceutical industry through a nationwide public-private partnership.

MARYLAND COCHLEAR IMPLANT CENTER OF EXCELLENCE:

Delivering advanced care to people with hearing loss.

Collaborators are combining the research and educational strengths of UMCP in audiology and speech-language pathology with the surgical and clinical expertise from School of Medicine faculty at UMB to deliver cutting-edge care for people with hearing loss. The goal is to make Maryland the premier location for educational training, clinical services, and basic and translational biomedical research on cochlear implants.



Center for Brain Health and Human Performance at Cole Field House

MARYLAND CENTER FOR ADVANCED MOLECULAR ANALYSIS (M-CAMA):

Advancing the research and development of new drugs and medical treatments for disease.

Located within IBBR in Rockville, the new center positions the University of Maryland to become a national leader in the use of cryo-electron microscopy (cryo-EM) technology to drive scientific innovation and discovery. Recognized as a breakthrough tool in developing drugs and medical treatments, cryo-EM impacts biomedical research through its ability to deliver imaging that transforms the understanding of biology and drug interactions in the human body. Working in partnership with NIST, the center houses cutting-edge instruments — as well as scientific leadership that has deep expertise with this technology — to guide and assist users from any University System of Maryland institution, as well as industry partners.

ROBERT E. FISHELL INSTITUTE FOR BIOMEDICAL DEVICES:
Bringing together skilled scientists, medical doctors, health practitioners, and bioengineers to research, design, and build lifesaving biomedical devices and train the next generation of innovators.

The institute catalyzes the transformation of basic research into clinical practice and commercial success. The staff and a network of experts facilitate prototyping and manufacturing, as well as venture creation, intellectual property creation, and successful passage of a product through various clinical, regulatory, and reimbursement hurdles. The institute has a UMCP innovation space for students, entrepreneurs, faculty, and staff, and will offer a location at UMB in 2021.



Camp for children with hearing loss | Maryland Cochlear Implant Center of Excellence



Robert E. Fischell Institute for Biomedical Devices

GROWING MARYLAND'S ECONOMY

The University of Maryland Strategic Partnership: *MPowering the State* fuels the state's reputation as an international, intellectual, and commercialization leader by consistently bringing scientific discoveries and inventions to market.

The UM Ventures collaboration combines the entrepreneurial resources at UMB and UMCP to help researchers and inventors license, patent, and commercialize their university-invented creations, and launch university startups. Faculty-invented products and services include agriculture products, software, clean technology, nanotechnology, sensors, medical devices, diagnostics, and therapeutics. In Fiscal Year 2020, UM Ventures tallied 333 potential inventions from faculty with 48 licensed to companies, generating more than \$4 million in licensing revenue to UMB and UMCP.

	FY20	Growth FY11 to FY20
Invention Disclosures	333	61%
Licenses	48	71%
Startups	13	160%

116

STARTUPS LAUNCHED SINCE 2011

48

INVENTIONS LICENSED TO COMPANIES IN FISCAL YEAR 20

400+

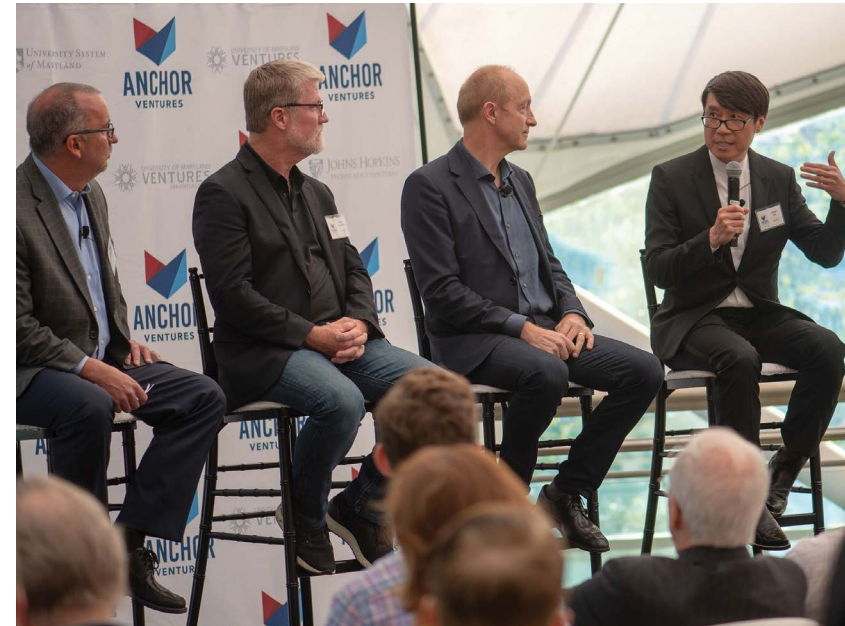
JOBS CREATED OR RETAINED IN BALTIMORE BY THE CENTER FOR MARYLAND ADVANCED VENTURES SINCE 2017

UM Ventures manages the **Center for Maryland Advanced Ventures (CMAV)**, created by law in 2016 to strengthen the commercialization of high-potential, university-based discoveries, and to create jobs in Baltimore City by encouraging university-created or -sponsored technology companies to locate in the city. ***CMAV funds have been committed to 18 university-affiliated or -sponsored technology entities, creating or retaining more than 400 jobs in Baltimore City.*** CMAV initiatives also provide mentorship to UMB and UMCP students on the unique challenges of commercialization in the life sciences industry, while offering creative, collaborative support and funding to entrepreneurs.

CMAV also staffs the **Maryland Momentum Fund (MMF)**, a USM, \$10 million early-stage investment fund that invests in Maryland-based, USM-affiliated startup companies. CMAV funds a full-time director of MMF, based at UMB, and partially funds additional staff based at UMCP. In Fiscal Year 2020, MMF reviewed 21 companies seeking investments, and it invested in nine companies. ***The MMF investment helps companies bridge from early success to the next stage of growth, which is often a large investment, commercial launch, or commercial expansion.***



UM Ventures/Center for Maryland Advanced Ventures



RECENT UM VENTURES SUCCESSES

Airgility, a UMCP startup that employs 20 people in College Park, is developing cutting-edge artificial intelligence and autonomy solutions for unmanned systems in a variety of areas, including COVID-19-fighting robots and medical delivery/logistics to remote parts of the globe. Airgility was selected to be part of a pilot project in an inaugural U.S. Air Force Labs-sponsored program, and it recently closed a \$1 million seed round.

Breethe, a UMB startup developing a portable artificial lung, was acquired by Abiomed in late spring 2020. UM Ventures was an early investor in the company, and Breethe marks the fourth UM Ventures-backed startup to have a successful exit via acquisition. Breethe's headquarters remains in Baltimore City.

Decision Point Analytics, a UMCP cybersecurity risk management startup, partnered with Information Systems Audit and Control Association, a leading professional certification and credentialing body, to extend cyber-maturity and risk assessment services to their customer base, leveraging the startup's Tapestry application.

GENE Lifesciences, a UMB startup based in San Francisco, licensed UM Ventures-backed technology to help address acute respiratory distress syndrome and raised \$3 million. Led by Ritu Lal, PhD, MS, a graduate of the University of Maryland School of Pharmacy, GENE is working to develop cures for inflammatory and age-related diseases.

GlycoT Therapeutics, a joint UMB and UMCP startup, sublicensed intellectual property to Daiichi Sankyo. The enzymatic glycoengineering technology provides a platform to precisely change and modify the sugars on antibodies. Daiichi Sankyo plans to use this cutting-edge technology to prepare new drug candidates.

Hazel Analytics, a UMCP-born technology company, is the proven market leader in health department data analytics, serving nearly half of the 100 largest food service and retail brands. Hazel's award-winning products transform diffuse and disparate local health department data into actionable intelligence. Hazel's 200-plus customers — including Amazon, Cheesecake Factory, Starbucks, and Uber Eats — rely on its technology to proactively monitor food safety and regulatory compliance at over 300,000 locations that serve millions of meals every day in the United States and Canada.

IonQ, a UMCP startup and a leader in the quantum computing field, recently unveiled the world's most powerful quantum computer — a next-generation system featuring 32 perfect atomic qubits with low gate errors and an expected quantum volume greater than 4 million. In fall 2020, the company opened a 23,000-square-foot quantum data center in UMCP's Discovery District, which houses the firm's state-of-the-art quantum computers, and will significantly expedite the development of even more powerful quantum computers for commercial use. IonQ has raised \$84 million in funding to date from investors that include Samsung Electronics, Mubadala Capital, GV (formerly Google Ventures), Amazon, Lockheed Martin, and New Enterprise Associates.

Isoprene Pharmaceuticals, a UMB startup developing novel small molecules for the treatment of cancer, sublicensed its technology to Hoth Therapeutics. Isoprene received an investment from UM Ventures and is under management by UM Ventures staff.

RECENT UM VENTURES SUCCESSES

KaloCyte, a startup developing a dried bio-inspired artificial red blood cell, relocated from St. Louis to UMB when its co-founders, Allan Doctor, MD, and Dipanjan Pan, MS, PhD, were recruited to establish the University of Maryland School of Medicine's new Center for Blood Oxygen Transport and Hemostasis and its Nanofabrication Core. Pan holds a joint appointment at the University of Maryland, Baltimore County. Since moving to Baltimore, KaloCyte has received UM Ventures support, raised \$950,000 in bridge funding, which included investment from the Maryland Momentum Fund (MMF), and is making progress on three active federal grants.

Medcura, a startup founded on technology from UMCP that infused field expertise from UMB, has developed an advanced materials platform, including Food and Drug Administration (FDA)-approved textile and flowable hemostatic and wound treatment products. Exploiting the FDA's "Breakthrough Device" designation, the company raised \$10 million to support an initial launch of Rapid-Seal™ in CVS stores in 2021, and is seeking the go-ahead from the FDA to begin testing its first implantable surgical product. Medcura has additional products for severe/traumatic bleeding in the development pipeline, such as LifeFoam™

and LifeDust™. A recent move into the company's new corporate headquarters in UMCP's Discovery District has enabled the establishment of Current Good Manufacturing Practice compliance to support commercial sales and all other product development and evaluation.

N5 Sensors, a UMCP startup, is a Maryland-based semiconductor sensor company leading the development of ultra low-power, selective microscale environmental sensors. These sensors are used in a variety of applications such as environmental monitoring, toxic chemical detection, industrial safety, and first-response use. The company has received eight Small Business Innovation Research (SBIR) awards and raised over \$2 million in capital from MMF and Blu Venture Investors. It has partnered with NASA, the Department of Homeland Security (DHS), and the Department of Defense, and was selected for the DHS "Smart City Internet of Things Innovation" pilot program for early detection of wildfires.

pathOtrak, a UMCP startup, developed a portable and easy-to-use device that shortens the time to test for pathogens in a food supply from 24 hours to four hours. It's on course to disrupt the \$10 billion food safety market with rapid, award-winning testing technology that

uses a microfluidic chip to bypass time-consuming processing steps to separate and test food-borne pathogens from unprocessed samples. pathOtrak recently completed a \$1.2 million seed funding round and was awarded a \$225,000 SBIR phase I grant from the National Science Foundation.

Protaryx, a UMB startup developing a device to access the left atrium during transcatheter cardiac procedures, launched with \$8.3 million in funding, including investment from UM Ventures. Protaryx was co-founded by James S. Gammie, MD, professor and chief of cardiac surgery at the University of Maryland School of Medicine and co-founder of Harpoon Medical, which was acquired by Edwards Lifesciences in 2017.

SurgiGYN, a UMB startup developing a uterine electrosurgical device to improve the safety and ease of total laparoscopic hysterectomy, was acquired by a leading global medical device firm in late winter 2020. UM Ventures provided early-stage investment and management, ultimately building the company to a point where it could be sold.

DELIVERING ENHANCED ACADEMICS AND MOVING MARYLAND FORWARD

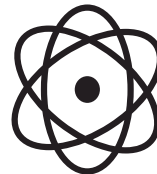
The University of Maryland Strategic Partnership: *MPowering the State's* joint educational offerings fuse the strengths and complementary missions of UMB and UMCP to attract talented students, create a pipeline for student advancement, and meet workforce demands and students' needs for flexible training.



20+

JOINT ACADEMIC

COLLABORATIONS AT UMB AND UMCP, INCLUDING DUAL-DEGREE OFFERINGS, NEW DEGREES AND CERTIFICATES, GUARANTEED PATHWAYS TO ADMISSION, AND STUDENT ENRICHMENT PROGRAMS



700

BIOENGINEERING

UNDERGRADUATES HAVE WORKED WITH UMB MEDICAL FACULTY IN CAPSTONE AND CLINICAL EXPERIENCES COURSES.



900

UMCP STUDENTS HAVE PARTICIPATED IN THE **MLAW: UNDERGRADUATE PROGRAMS IN LAW**, TAUGHT BY FACULTY AT UMCP AND THE UMB FRANCIS KING CAREY SCHOOL OF LAW.

160

UMCP AND UMB STUDENTS HAVE CONDUCTED RESEARCH AT THE OPPOSITE CAMPUS THROUGH THE **UM SCHOLARS** PROGRAM.



149

MASTER OF SCIENCE IN LAW DEGREES HAVE BEEN CONFERRED IN SPECIALTIES, INCLUDING CYBERSECURITY LAW AND HEALTH CARE LAW.



2

NEW UNDERGRADUATE MAJORS IN **NEUROSCIENCE AND IMMERSIVE MEDIA DESIGN** HAVE LAUNCHED OR WILL LAUNCH AT UMCP IN 2020-2021.



At MPower Day 2020, students speak to legislators about the benefits of MPower's joint educational offerings.

2

NEW GRADUATE DEGREE PROGRAMS WERE CREATED: **JOINT PHD PROGRAM IN BIOENGINEERING** LAUNCHED IN FALL 2019; AND **MASTER OF PROFESSIONAL STUDIES IN PUBLIC SAFETY LEADERSHIP AND ADMINISTRATION** LAUNCHED IN FALL 2020

SELECTED EDUCATIONAL COLLABORATIONS

Bioengineering Joint Academic Programs

- ▶ UMB and UMCP's leadership in bioengineering and medicine creates tremendous opportunity for learning for students and faculty at both institutions.
- ▶ UMCP undergraduates team with faculty physicians at UMB to experience firsthand the robust link between engineering and human health.
- ▶ Students are exposed to the medical field and clinical settings, see the direct application of medical devices in a hospital setting, and then imagine and create their own engineering designs from concept to product.
- ▶ A joint PhD program in Bioengineering — the MPower Graduate Fellowship — spans both institutions and offers students an opportunity to create and deliver engineering solutions to challenging, clinical problems related to medicine, pharmacy, or dentistry.

MLAW: Undergraduate Programs in Law

- ▶ The MLAW programs offered at College Park give students early exposure to ideas, mentors, and professional opportunities in law not normally available to undergraduates.
- ▶ Faculty from the UMCP College of Behavioral and Social Sciences and the College of Arts and Humanities as well as the UMB Carey School of Law teach a variety of subjects such as immigration and crime, global environmental law, health law, and structural racism and housing.

Master of Science in Law (MSL)

- ▶ Designed for working professionals, the MSL is a master's-level education in law, policy, and regulations, taught by UMB Carey School of Law faculty.
- ▶ The 5-year-old program offers specializations in health law, environmental law, cybersecurity law, and homeland security and crisis management law.
- ▶ The program targets those in highly regulated fields as seen in state and federal agencies, corporations, and not-for-profit organizations.

Policing and Public Safety Administration

- ▶ Launched in fall 2020, this new master's degree and certificate program in public safety leadership and administration targets personnel in law enforcement, first response, social services, and other public safety professions.
- ▶ Developed by faculty from UMCP's College of Behavioral and Social Sciences' departments of sociology and criminology and criminal justice, and UMB's Carey School of Law, this program responds to an increasing need for advanced training in leadership, policy, and law for police and public safety officials and other public servants.

University of Maryland Center for Economic and Entrepreneurship Development (UMCEED)

- ▶ Established by law in 2016, UMCEED increases workforce readiness by creating educational degree programs in high-impact fields such as neuroscience, virtual and augmented reality, biomedical devices, data analytics, and cybersecurity.

- ▶ In 2020, the Visiting Fellows in Neuroscience Program launched to offer cross-campus training in neuroscience. Graduate students at UMB and UMCP are working with research groups at the opposite campus to acquire new techniques and broaden their training.
- ▶ The Colleges of Behavioral and Social Sciences and Computer, Mathematical and Natural Sciences (CMNS) launched a new, undergraduate neuroscience major at UMCP in fall 2020 to train students interested in health care, allied health careers, biomedical industries, and clinical psychology. This is the first intra-college major offered at UMCP.
- ▶ A new bachelor of science and bachelor of arts degree in immersive media design offered by UMCP's Colleges of Arts and Humanities and CMNS is on track to launch in 2021. A unique collaboration between science, technology, engineering, and math (STEM) fields and the arts and humanities, the degree prepares students to be leaders in the

production of augmented reality, virtual reality, and immersive media design disciplines.

UM Scholars

- ▶ This dynamic 10-week research program connects students from UMB and UMCP to faculty mentors at the opposite institution to work on projects designed to expand students' knowledge and open their eyes to other fields.
- ▶ Summer 2020 programs included a new interdisciplinary research program on health literacy and student placements with the Maryland Department of Health.
- ▶ More than 160 students have reaped the benefits of tailored faculty mentoring in topics such as health science, public health, law, and social work.



Bioengineering Clinical Experiences Course



Bioengineering Capstone Design Competition



UM Scholars

COVID-19 restricted in-person research during the 2020 UM Scholars program, but it didn't diminish the impact the experience had on students.



Throughout the summer, **I was surprised how much I learned about myself and how it has influenced my future career plans.** Prior to this internship, it felt like I had many career interests and yet had no clear choice. ”

— Alexandra Wilson, School of Pharmacy, expected graduation 2023



UM Scholars and faculty mentors catch up in Annapolis at MPower Day 2020.



Being part of UM Scholars helped me reinforce my research skills and gave me the chance to acquire new ones. **I even found a new passion for applying computer science concepts to answering the biggest biomedical questions.** ”

— Rodrigo Sandon, College of Computer, Mathematical, and Natural Sciences, expected graduation 2021



This program has allowed me to pursue research, which has been incredibly fulfilling, and to create connections with community partners and professors that I would never have been able to meet otherwise. ”

— Jace Huber, School of Social Work, expected graduation 2021



My experience in the UM Scholars program has been a very memorable one that **not only exposed me to clinical research** but also **allowed me to advance my knowledge in research** through participating in workshops and attending seminars. As a result of the program, I am even more strongly pursuing a career in medicine that involves clinical research as a key component. ”

— Jayna John, College of Agriculture and Natural Resources, expected graduation 2021



I had planned to pursue a career in dentistry and was interested in microbiological research. Through the guidance of my mentor and UM Scholars seminar programming, **I discovered new interests in infectious diseases and immunology.** I have now shifted my desired career path to a MD/PhD track, through which I can combine my passion for both patient care and research. ”

— Madison Tewey, College of Computer, Mathematical, and Natural Sciences, expected graduation 2021



The program solidified my growing interest in social science research. **It made me start to think about different career paths available to me to incorporate research into my future plans** as a social worker. ”

— Sakiera Malone, School of Social Work, expected graduation 2021

SERVING MARYLAND — AND BEYOND

The University of Maryland Strategic Partnership: *MPowering the State* brings together top thinkers from multiple branches of expertise in health, science, law, and social science to redefine challenges and devise solutions that make a positive impact in Maryland and on society at large.

AGRICULTURE LAW EDUCATION INITIATIVE (ALEI):
Educating and serving Maryland family farmers through expert information and training to help navigate complex legal issues such as estates and trusts, regulatory compliance, farm food safety, and other aspects of agriculture law.

ALEI reaches the state's agricultural community through publications, social media, trainings, and formal classroom education. ALEI hosts a popular annual conference on agriculture and environmental law that addresses current legal issues impacting Delmarva's communities. In 2020, the event moved online and was able to reach an even larger audience. Undergraduate students at UMCP and law school students at UMB benefit from classes taught by legal specialists on agriculture and law. At the onset of COVID-19, ALEI quickly mobilized to provide answers to farmers grappling with rapidly changing regulations and the effects on agricultural operations. Subjects included labor issues and managing contracts canceled due to COVID-19.



ALEI provided farmers like Laura Beth Resnick of Butterbee Farm with specialized assistance to navigate COVID-19 and its impact on farm operations.

SUPPORT, ADVOCACY, FREEDOM, AND EMPOWERMENT (SAFE) CENTER FOR HUMAN TRAFFICKING SURVIVORS:

Combating human trafficking through direct services, research, advocacy, and training.

The SAFE Center is the first systematic, university-based program to serve victims of human trafficking with comprehensive legal, social, economic empowerment, mental health, and medical services. Since its founding in 2016, it has served 165 survivors of human trafficking plus families of victims. The SAFE Center has attracted substantial public and private grant funding. It received a joint \$1.3 million U.S. Department of Justice grant with the Prince George’s County Police Department, and two Maryland Governor’s Office of Crime Control and Prevention grants totaling almost \$1.2 million to provide services to survivors of sex and labor trafficking in Maryland. The center also received several large grants of up to \$100,000 from private foundations. Nine UMB and UMCP schools and colleges are engaged, and 70 students have served internships at the center, helping to deliver client services, develop programs and curriculum, conduct outreach, and provide research. The SAFE Center has leadership roles on state and county human trafficking task forces and is an essential partner to Maryland government agencies, law enforcement, private industry, and nonprofit organizations.



Maryland Attorney General Brian Frosh delivers the keynote address at a SAFE Center symposium on labor trafficking in January 2020.



UNIVERSITY OF MARYLAND
 STRATEGIC PARTNERSHIP
MPOWERING THE STATE

ARTS & HUMANITIES **SOCIAL WORK**

INFORMATION STUDIES Computer Science

EDUCATION Anatomy and Neuroscience **LAW** Chemistry and Biochemistry

Orthopaedics **AGRICULTURE** **ENGINEERING**

Biochemistry and Molecular Biology **BUSINESS** **JOURNALISM** Psychiatry

DENTISTRY Sociology **PUBLIC POLICY** Pathology

Program in Trauma **BEHAVIORAL AND SOCIAL SCIENCES**

Science of Pain **MEDICINE** Program in Cancer Bioengineering

NURSING Biology Geographical Sciences Kinesiology

Criminology and Criminal Justice **PUBLIC HEALTH**

Epidemiology **PHARMACY** Psychology Government and Politics

Cell Biology and Molecular Genetics **COMPUTER, MATHEMATICAL, AND NATURAL SCIENCES**

Hearing and Speech Science Diagnostic Radiology and Nuclear Medicine

MPOWER AT A GLANCE

LEADERSHIP

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Ann G. Wylie, PhD
INTERIM SENIOR VICE PRESIDENT FOR ACADEMIC
AFFAIRS AND PROVOST, UMCP

CURRENT PROGRAMS AND INITIATIVES

Agriculture Law Education Initiative (ALEI)

Bioengineering Capstone Design Course

Bioengineering Clinical Experiences for
Undergraduates

Bioengineering Joint PhD

Center for Brain Health and Human
Performance at Cole Field House

Center for Health-Related Informatics and
Bioimaging (CHIB)

Collaborative, Cross-Institution Academic
Degree Pathways to Multiple Schools and
Colleges

Collaborative Research Proposals

COVID-19 Pandemic: Research and Medical
Device Challenges

Institute for Bioscience and Biotechnology
Research (IBBR)

Joint Research and Innovation Seed Grant
Program

Maryland Blended Reality Center (MBRC)

Maryland Center for Advanced Molecular
Analysis (M-CAMA)

Maryland Center of Excellence in Regulatory
Science and Innovation (M-CERSI)

Maryland Cochlear Implant Center of Excellence
(MCICE)

Master of Science in Law (MSL)

MLAW: Undergraduate Programs in Law

National Institute for Innovation in
Manufacturing Biopharmaceuticals (NIIMBL)

Opioid Use Disorders Research Collaboration

Policing Partnership: Master of Professional
Studies in Public Safety Leadership and
Administration

Robert E. Fischell Institute for Biomedical
Devices

SAFE Center for Human Trafficking Survivors

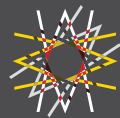
Social Work Program Expansion at Shady Grove

Visiting Fellows in Neuroscience

University of Maryland Center for Economic and
Entrepreneurship Development (UMCEED)

UM Scholars

UM Ventures/Center for Maryland Advanced
Ventures (CMAV)



UNIVERSITY OF MARYLAND
STRATEGIC PARTNERSHIP
MPOWERING THE STATE

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