



CENTER FOR
MARYLAND
**ADVANCED
VENTURES**
FY2025 REPORT



Overview

The Center for Maryland Advanced Ventures (CMAV) facilitates technology transfer for UM Ventures and amplifies the impact of university-based research. Strategic initiatives help identify research projects with strong commercial potential while providing programming that supports the advancement of technology commercialization. The initiatives are designed to integrate and work collaboratively with existing offerings from UM Ventures, TEDCO, and the Maryland Department of Commerce.



James L. Hughes, MBA

CMAV is directed by Jim Hughes, senior vice president and chief enterprise and economic development officer at University of Maryland, Baltimore (UMB).

History

Located on the UMB campus, CMAV was created and funded through the University of Maryland Strategic Partnership Act of 2016 and launched on July 1, 2017. The legislation provides \$6.5 million annually to strengthen the commercialization of high-potential, university-based discoveries.

In Action

CMAV funds entrepreneurial staff, grants to startups and growing companies, program costs for promoting technology commercialization, matching support for faculty projects with high potential, student activities and experiences, outreach to the greater Baltimore scientific community, development of intellectual property, and assistance for small business formation. The following report illustrates the impact of CMAV funding, detailing annual and cumulative achievements of the programs supported by CMAV.

FY2025

PROGRAM ACTIVITIES



MARYLAND MOMENTUM FUND

FY2025 ACCOMPLISHMENTS

\$840K INVESTED

103 COMPANIES
REVIEWED

2 INVESTMENTS IN
NEW COMPANIES

2 INVESTMENTS IN
EXISTING COMPANIES

A collaboration between UM Ventures and the University System of Maryland (USM), the Maryland Momentum Fund (MMF) is an early-stage investment fund that invests in Maryland-based, USM-affiliated startup companies.

The fund is supported by \$16 million from the University System of Maryland; additional investments from USM institutions bring the total size of the MMF to over \$21 million. Exits of four portfolio companies have generated a total of \$1.52 million in returns, which will be used to invest in a mix of new startups and existing companies.

CMAV funds a full-time Managing Director based at UMB and provides additional support and operational expenses. The MMF staff conduct outreach at all USM institutions, soliciting applications for funding and providing advice and support to entrepreneurs across USM.

The Momentum Fund launched the USM Venture Fellows Program in 2023 to provide students with an on-ramp to venture capital as a career path. Since 2023, the program has placed 20 fellows in internships with venture capital firms across the Mid-Atlantic.

LIFETIME PORTFOLIO ACCOMPLISHMENTS

\$14.4M
INVESTED

31 PORTFOLIO
COMPANIES

4 PORTFOLIO
COMPANY EXITS

\$140M MATCHED

245 UNIQUE
CO-INVESTORS

336 NEW JOBS
CREATED

8 USM
INSTITUTIONS

PRESIDENT'S ENTREPRENEURIAL FELLOWSHIP

10th Anniversary

To enhance entrepreneurial education, the President's Entrepreneurial Fellowship program provides UMB and University of Maryland, College Park Robert H. Smith School of Business MBA students the opportunity to learn first-hand the unique challenges of commercializing life science technologies. Mentored by UM Ventures staff, the Fellows work on interdisciplinary teams to commercialize UMB-owned technologies.

This year's cohort was comprised of 11 students, representing the Schools of Law, Medicine, and Pharmacy as well as the Smith School of Business, and included an in-person final presentation of their work to faculty, staff, entrepreneurs and investors.

The five projects the Fellows worked on were:

- Intellectual property issues in CAR-T cells
- CD229 CAR-T cells for autoimmune diseases as follow-on indications
- De-centralized CAR-T cell manufacturing
- Toxicity considerations for CAR-T cell therapies
- Global access to CAR-T cells

GRADUATE RESEARCH INNOVATION DISTRICT

FY2025 ACCOMPLISHMENTS

10 STUDENT TEAMS
FOR GRID PITCH

31 PROGRAMS

704 PARTICIPANTS

The Grid, located in UMB's Health Sciences and Human Services Library (HS/HSL), has continued to expand its programming to provide entrepreneurial resources and education to students, faculty, staff, and the community.

The Grid Pitch showcase welcomed 10 student teams. Thanks to the generous support of the UM School of Graduate Studies and the USM Launch Fund, the students were awarded a total of \$18,000 to advance their ventures.



SMALL BUSINESS DEVELOPMENT CENTER

FY2025 ACCOMPLISHMENTS

182 CLIENTS
COUNSELED

552 JOBS CREATED
OR RETAINED

17 NEW
BUSINESSES
STARTED

\$956K LOANS AND CAPITAL INFUSION
INTO BALTIMORE CITY BUSINESSES

The Small Business Development Center, the Federal small business outreach entity, is supported with funding and space at UMB. The office provides direct assistance to local and University-affiliated entrepreneurs from a wide array of business sectors. The SBDC provided 15 training events in the region with 358 attendees.

INTELLECTUAL PROPERTY LAW AND ENTREPRENEURSHIP CLINIC

FY2025 ACCOMPLISHMENTS

19 STUDENTS
ENGAGED

11 PATENT APPLICATIONS
SUBMITTED

38 TRADEMARK
APPLICATIONS
FILED

11 TRADEMARK
APPLICATIONS

31 PATENT APPLICATION
RESPONSES

The Francis King Carey School of Law Intellectual Property Law and Entrepreneurship Clinic (IPEC) provides second- and third-year law students with valuable work experience. Under the supervision of professors and with the support of two part-time clinical law instructors, students work with clients from UMB and the region to provide general counsel on basic business law, protect trade secrets, prepare nondisclosure agreements, and assist with company formation.

This year, three sections were conducted each semester: Trademarks and Copyright, Patents, and Business Law. Each section worked with businesses in the region to draft critical commercial documents on a pro bono basis. Services provided include trademark clearance searches, counseling and applications; copyright assignments; patentability searches and patent applications; LLC formations; operating agreements; Trade Name Registrations; Website Privacy Policies and Terms of Service drafted; NDAs and other assorted agreements. In addition, the trademark and copyright students assisted with several copyright assignments. They also conducted research on copyright rights associated with use of online design services, including those powered by AI. All of these critical services provided value both to students and emerging companies in the region.

BALTIMORE FUND

The Baltimore Fund stimulates economic growth in Baltimore City through a mix of direct awards and subsidies that encourage University-created or -sponsored technology companies to locate and expand at designated locations within the city. Additionally, the Director of the Baltimore Fund facilitates engagement with Maryland's entrepreneurial ecosystem, including key entities such as TEDCO, the Baltimore Development Corporation, and the Maryland Department of Commerce.

The Baltimore Fund, which is fully funded by CMAV and administered by UMB, is open to companies affiliated with any of Maryland's public higher education institutions.

Direct Company Awards

Since the Baltimore Fund was established, \$9.3 million has supported companies developing a wide array of technologies and affiliated with seven of Maryland's public higher education institutions: UMB, UMCP, University of Maryland Baltimore County, Morgan State University, Towson University, the University of Baltimore, and the University of Maryland Center for Environmental Science. Awards have offset rent at qualified incubator sites, assisted with critical strategic assistance initiatives, and encouraged the relocation and expansion of companies in Baltimore City. **To date, Baltimore Fund portfolio companies have reported the creation of at least 900 jobs in Baltimore City while attracting more than \$75 million in external funding and recording more than \$50 million in sales and grants.**

Baltimore Ecosystem Support

In addition to direct support for individual companies, the Baltimore Fund also provides financial assistance to ecosystem-building entities. In FY2025, ecosystem support included:

- Assistance for the buildout of Connect Labs, a flexible, shared lab and office facility in 4MLK that fills a long-standing gap for early-stage lab facilities in Baltimore City. Connect Labs offers small labs and shared equipment along with facility management to foster the rapid growth and extensive commercialization of emerging life science companies in Baltimore City. By the end of FY2025, more than 12 companies had leased space in Connect Labs and more are expected to take space in FY2026.
- Financial support for the buildout of the new Edward and Jennifer St. John Center for Technology Engineering and Medicine (CTEM), which fosters collaboration between the University of Maryland School of Medicine at UMB and the University of Maryland College of Engineering at UMCP, to advance new innovations and cutting edge research.
- Renewal of on-going support for UMCP's I-Corps program in Baltimore City at Morgan State University, Coppin State University, and the University of Baltimore with three full cohorts of Baltimore-based teams participating and an expansion of programming resources to include 36 participants in a new I-Corp Rolling program in the region.
- Financial support for UpLift Alliance, an organization managed out of UMB that provides fiscal sponsorship services to Baltimore City's non-profit community. In FY2025, UpLift supported 30 non-profit projects and managed over \$1.4 million in cash assets. UpLift fills a critical gap in Baltimore, providing resources in violence prevention, equity and justice, the arts and well-being/sustainability.
- Ecosystem outreach and engagement through grants and collaborations with key organizations, including Conscious Venture Labs, UpSurge Baltimore, and the Greater Baltimore Committee.

FY2025

GRANT ACTIVITIES



GRANT ACTIVITIES

The legislation encourages application for external grants to support and enhance CMAV activities, including the growth of UMB's translational research and of Baltimore's innovation ecosystem. In addition to the direct commercialization grants mentioned in other parts of this report, the following grants directly enhance CMAV funding, programming, and activities.

- **US Economic Administration's EDA Tech Hubs** | Submitted in collaboration with the Greater Baltimore Committee and over 30 other regional partners. The application resulted in a formal designation as a Tech Hub. In addition, the consortium participated in a request for additional funding that **resulted in \$500,000 of funding** and the prospect of additional funding in the future. UMB continues to work with the Tech Hub consortium led by GBC to seek additional funding and opportunities through this program.
- **NIH REACH** | In 2023, UMB received a four-year, \$4 million NIH grant to support UM-BILD. Since that time, UM-BILD has supported the development of 23 technologies, spanning small-molecule and biological therapeutics, medical devices, and digital health solutions. UM-BILD remains committed to establishing Baltimore as a premier hub for life science technology innovation.
 - The UM-BILD accelerator successfully launched eight early-stage technology pilot projects and supported three MII/UM-BILD joint initiative projects in Cohort 1. For Cohort 2, eight new projects and four MII/UM-BILD joint initiative projects were funded.
 - The application cycle for Cohort 3 opened in August 2025, and selected projects will advance to the next stage of the application in fall 2025.
 - The initial "Entrepreneurship in Life Science" training program was developed for Cohort 1 and was expanded for Cohort 2, adding segments focused on key development challenges of biologics, medical-device, and software projects.
 - Two funded technologies have already entered a new phase of commercialization through being license agreements with startup companies (see Accelerator Awardees — University of Maryland — UM-BILD).

MARYLAND DHCD SEED GRANTS

Previously, UMB was awarded nine SEED grants from the Maryland Department of Housing and Community Development (DHCD). These grants supported civic innovation spaces in 4MLK and supported community partners in the vicinity of the UMB campus, including the Southwest Partnership, France Merrick Performing Arts Center, and other small organizations. In FY2025, UMB received four awards totaling \$1.5 million and submitted three applications for FY2026. If received, funding from these grants will directly impact the West Baltimore community. One application would support vibrancy efforts on Lexington Street and two would support development in Mondawmin. These grants provide a vital service to enhance the vibrancy of West Baltimore and UMB's relationship with the community.

ANCHOR VENTURES

FY2025 ACCOMPLISHMENTS

3 PROGRAMMED EVENTS

415 EVENT REGISTRANTS

Anchor Ventures harnesses the collective expertise and influence of local universities, key stakeholders, entrepreneurs, and investors to foster collaboration between and the education of Baltimore's innovation ecosystem. Led by staff from UMB and Johns Hopkins University, Anchor Ventures provided three programmed events in FY2025, including including:

- Resources to Build Your Life Sciences Company in the Baltimore Region
- The Lab to Market Journey: Lessons From Leading Biotech Entrepreneurs
- FDA Modernization: Opportunities for Patient Impact and Economic Development



The Maryland Department of Commerce continued their financial support for Anchor Ventures in FY2025.



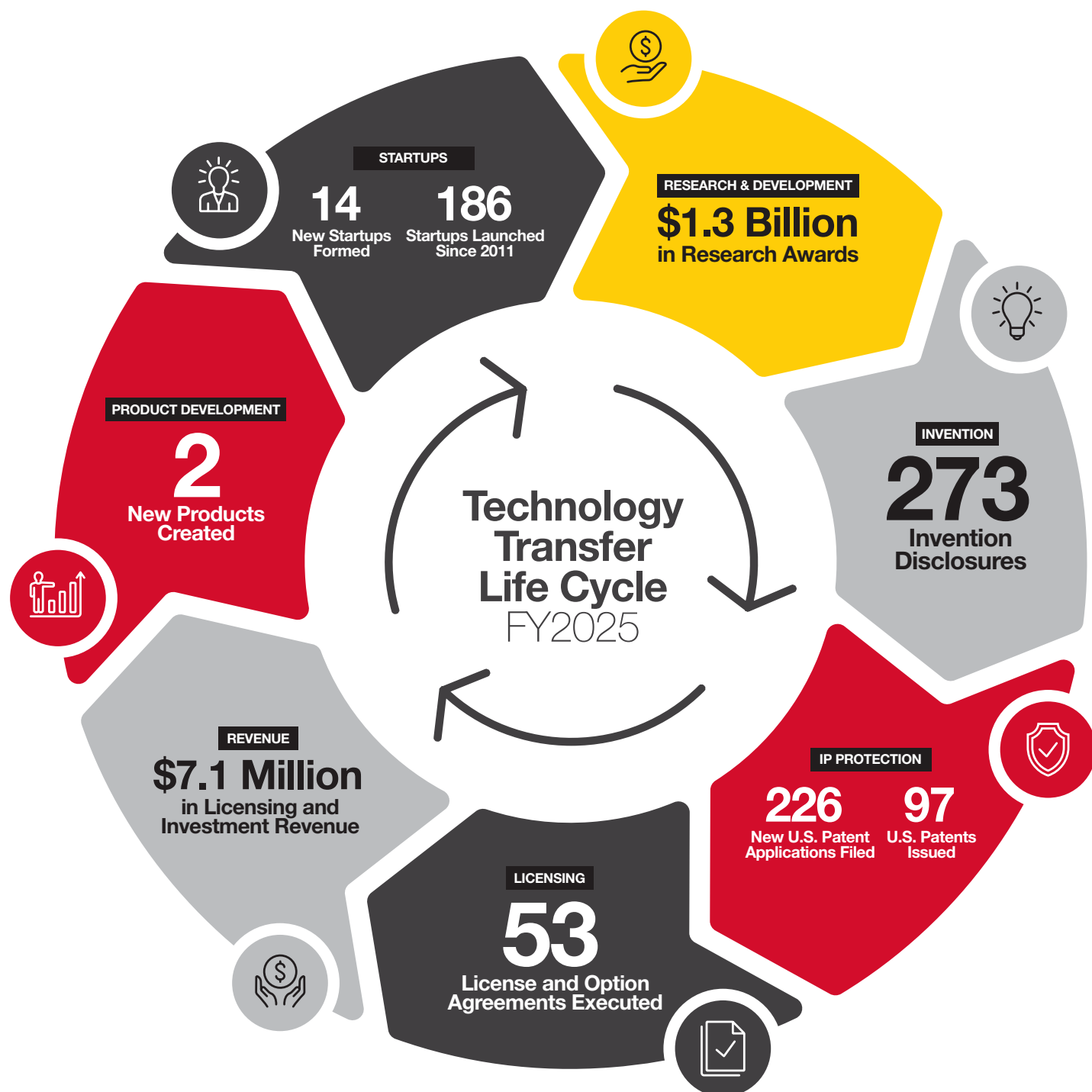
FY2025

TECHNOLOGY COMMERCIALIZATION



UM VENTURES

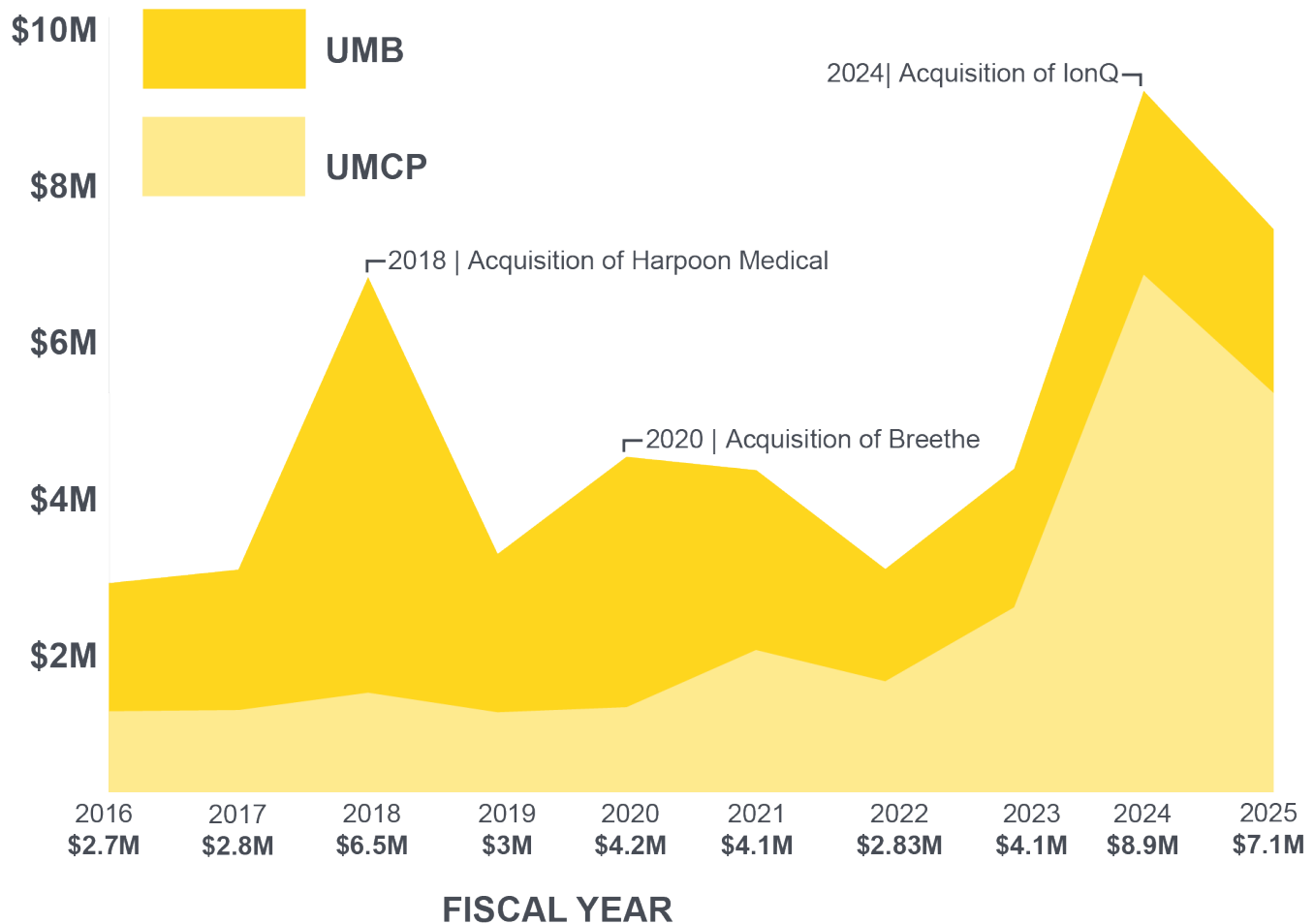
Since the inception of UM Ventures in 2012, technology transfer activities at both UMB and UMCP have strengthened with the number of licenses and startups and the amount of revenue steadily increasing. Through the concerted efforts of UM Ventures staff, strategic industry partnerships have been strengthened and the startup portfolio includes more high-profile startups. We continue to expand educational opportunities and private sector interactions for faculty and staff.



VALUE OF LICENSED TECHNOLOGIES

It is difficult and highly speculative to value technologies when they are first licensed; however, **technology transfer revenues to UM Ventures have demonstrated an upward trend with spikes from large acquisitions.**

10-YEAR REVENUE GROWTH



UMB Investment Portfolio

External investment is a good indicator of the value of our technologies and the strength of our companies. To date, **UMB has invested \$1.8 million** in the most promising UMB startups, and **these investments helped those companies raise an additional \$100 million in follow-on capital investments.**

1 NEW INVESTMENT
IN FY2025

\$100M FOLLOW-ON CAPITAL
INVESTMENT

LIFE SCIENCES IP FUND

The Life Sciences IP Fund (LSIPF), created in February 2018, provides proof-of-concept and external validation funding to accelerate commercialization of technologies at UMB. Supported projects receive project management support along with funding for technology validation and further development. Six projects have resulted in the creation of new UMB startups: Isoprene Pharmaceuticals, Protaryx, GEn1E Lifesciences, E-connect, Lionheart Medical, and Iridian Bio. Protaryx and GEn1E have successfully closed initial financing rounds, and Isoprene has received two \$2 million SBIR grants from the National Cancer Institute (one for \$2 million in 2021 and a second for \$2 million in 2025). Approximately half of LSIPF projects have been medical device technologies, many of which have been prototyped by a newly embedded on-site engineer who is jointly supported through UMB's Office of Technology Transfer and UMCP's Fischell Institute.

LIFETIME ACCOMPLISHMENTS

\$37.5M CATALYZED (3RD PARTY) CAPITAL

14:1 RETURN ON INVESTMENT

42 EARLY-STAGE TECHNOLOGIES ASSISTED

6 STARTUPS FORMED

MEDICAL DEVICE DEVELOPMENT LAB

UMB's Office of Technology Transfer (OTT) team works with leading UMB surgeons to expand the development of novel medical devices and grow UMB's medical device portfolio. The space is located within the University of Maryland School of Medicine (UMSOM) to facilitate easy access for surgeons working in the hospital. UMB's OTT team and the Fischell Institute provide direct support enabling CAD drawings, 3D printing, rapid prototyping, and streamlined patent filing. With the creation of the new Center for Translational Engineering and Medicine, we anticipate more collaboration and increased use of the lab.



LIFETIME ACCOMPLISHMENTS

25 PROJECTS CONDUCTED

6 PATENT APPLICATIONS FILED

3 STARTUPS CREATED

VENTURES WET LAB



A 650 sq. ft. wet laboratory features molecular and cell biology capabilities as well as specialized equipment for technology validation and testing. Located in the UM BioPark, the lab was opened in FY2020 and is staffed by UMB's Office of Technology Transfer (OTT). Demand has grown for this asset. Two part-time lab managers have been hired to help advance a number of promising UMB technologies and support a UMB spin out company.

CONNECT LABS

Connect Labs now augments the UM Ventures wet lab. The shared lab and office concept offers UMB inventors private space with flexible lease terms, allowing them to validate and advance their early-stage technologies in close proximity to their university lab. Programming supporting entrepreneurial activities provides educational and networking opportunities to help inventors as they spin out their technologies.



BLACKBIRD LABORATORIES

The UM Ventures, Baltimore (UMVB) team continues to expand funding opportunities for UMB technologies through its strong partnership with Blackbird Labs (the funding arm of the Bisciotti Institute). A Master Collaboration Agreement and a Blackbird co-funding addendum were executed. The co-funding addendum commits \$250K from Blackbird for UMB translational research projects.

The first joint (UMVB-Blackbird) funding project for a UMB technology was initiated in May 2024. The project is a potential oncology therapeutic founded on an emerging scientific discovery made in the research lab of Alexander Sasha Krupnick, MD, The Peter Angelos Distinguished Professor of Surgery, chief of thoracic surgery, and director of the lung transplant program at the University of Maryland School of Medicine. The project was very successful, resulting in the launch UMB startup aSKY Therapeutics in FY2025.

INNOVATION @ UMB EVENT SERIES

The monthly Innovation @ UMB event series is a resource for entrepreneurs and researchers interested in progressing real-world innovations. Through engaging and interactive sessions with expert guest presenters, UMB's New Ventures team provides opportunities for the UMB community to learn practical strategies for moving their ideas forward and network with potential collaborators.

In FY2025, dozens of translationally focused innovators participated and topics included:

- Building a Successful Business Plan
- I-Corps and Customer Discovery
- 3D Medical Device Prototyping
- Digital Healthcare and Entrepreneurship
- Regulatory Strategies
- Venture Financing

368 **EVENT REGISTRANTS**

UNIVERSITY OF MARYLAND MEDICAL SYSTEM

UMB broadly strengthened its relationship with University of Maryland Medical System (UMMS) around intellectual property (IP). A new joint technology management agreement was executed by UMB and UMMS. This agreement enables enhanced commercial support from both organizations for promising UMMS, UMB, and jointly owned intellectual property, including technologies utilizing patient data.

In addition, UMB provided direct support for the UMMC Innovation Challenge to support exciting new joint UMB/UMMC technologies; the event was co-funded by UMB/UMMC, and UM Ventures team members supported the event as application reviewers, steering committee members, and judges for the final pitch competition. In fall 2024, UMB and UMMC established an inaugural \$200K medical device challenge as part of the Innovation Challenge, with winning projects coming from both the UMB CV surgery and ENT departments. Both of those projects are currently in active development and the 2025 challenge opened in August 2025.

INSTITUTE FOR CLINICAL & TRANSLATIONAL RESEARCH

Institute for Clinical & Translational Research (ICTR), UMB's first Universitywide interdisciplinary hub for clinical translational research and training, operates as part of a consortium with JHU. Since its inception, ICTR-supported technologies have received more than 130 extramural funding awards, totaling \$174.8 million. UMB's OTT team works closely with the UMSOM on ICTR and provides a joint program manager to facilitate identifying promising new technologies. In addition to annual funding, in FY2025, CMAV supported patient-oriented research and Phase II clinical trials through ICTR. This project has shown significant growth and follow-on funding.

A total of 14 projects were funded in FY2025 through the following funding programs:

Accelerated Translation Incubator Pilot (ATIP) Grant Program

ATIP supports innovative, translational research projects

- 22 applications were received and 12 were funded for a total of \$538,367
- Collaborations across the Schools of Medicine, Nursing, Pharmacy, and Dentistry, and with UMCP and UMBC
- Leveraged more than 100 external grants totaling \$156.4M

Community Engaged Research (CEnR) Grant Program

CEnR specifically supports projects addressing health problems through community-engaged implementation.

- 2 applications were received and funded for a total of \$100,000
- Collaborations across the Schools of Medicine, Nursing, Dentistry, and Social Work and with community institution partners.

LIFETIME ACCOMPLISHMENTS

20% PROJECTS HAVE RESULTED
IN IP DISCLOSURES

35% PROJECTS RECEIVED
EXTRAMURAL FUNDS