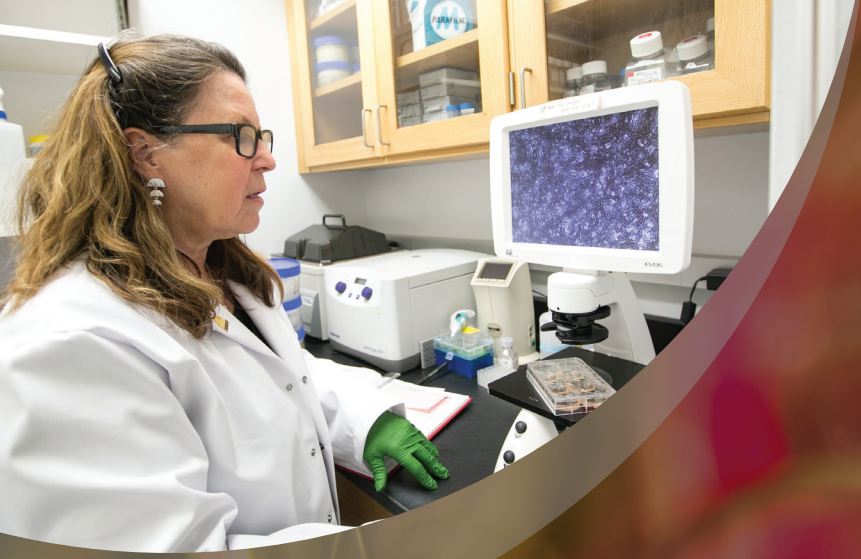


A Case to Support

CARTI

Center *for* Advanced Research Training & Innovation

UNIVERSITY *of* MARYLAND
SCHOOL OF MEDICINE

Biomedical research progresses along an innovation continuum — from discoveries in basic science laboratories to historic and transformational clinical outcomes.

Fundamental research underpins the care our physicians provide to patients: **life-saving** organ transplants, **life-protecting** vaccines, and **life-changing** treatments for essential tremor and cancer. The University of Maryland **Center for Advanced Research Training and Innovation (CARTI)** is the embodiment of our enduring commitment to advance novel discovery paths that will improve human health.

CARTI: A CENTER TO PROPEL DISCOVERIES

As one of the nation's pre-eminent public research universities, University of Maryland, Baltimore's (UMB) investigators are driving medical, life-science, societal, and legal advancements. UMB strives to promote the educational environment, training, and workforce that will invigorate and accelerate clinical translational research to improve patient and community health. To this end, **President Bruce E. Jarrell, MD, FACS**, has established CARTI as the pinnacle of UMB's commitment to provide an educational environment that nurtures intellectual curiosity and innovation.

The advancement of research, innovative discovery, and entrepreneurship is the catalyst for transforming medicine.

President Jarrell has established CARTI within the University of Maryland School of Medicine (UMSOM) in recognition of these transformational advancements. The focus is to nurture and grow biomedical and clinician-scientists in all stages of academic medicine who are engaged in highly innovative patient-focused research designed to address some of today's most pressing medical challenges. Through the identification and increased access to advanced research training and career development, the overall research output of UMSOM will generate significant intellectual capital and economic benefits for the city, state, and nation while fulfilling UMB's mission of improving the human condition and serving the public good.

The major goals of CARTI are to **transition the most promising postdoctoral research and clinical fellows to junior faculty, grow the UMSOM's pool of biomedical and clinician-scientists, mentor junior faculty to research independence, and enrich the portfolios of mid-career faculty.** There will be a significant component dedicated to **supporting the career development of underrepresented minorities (URM) and women** to sustain and contribute to lasting institutional transformation. Additionally, CARTI will help to strengthen and facilitate collaboration among UMB schools and University System of Maryland (USM) campuses, in keeping with UMB's long-standing commitment to partnership and its core values of knowledge, collaboration, diversity, leadership, and excellence.

"I am pleased to establish CARTI here at UMB to help prepare our researchers and clinician-scientists to optimize productivity and collaboration on translational research. CARTI will propel discoveries to address major health and scientific challenges, create economic development, and serve the greater good."

Bruce E. Jarrell, MD, FACS

President, University of Maryland, Baltimore

A WORLD-RENOWNED TEAM

President Jarrell has selected internationally recognized physican-scientist and visionary leader in academic medicine, **E. Albert Reece, MD, PhD, MBA,** as the inaugural director of CARTI. Dr. Reece is supported by a leadership team composed of faculty and staff with significant experience and expertise in research training, faculty development, and medical/scientific communications, as well as an operations director.

CARTI will serve as a major research, education, and training core offering an array of mechanisms, including didactic courses to establish foundational knowledge, mentored experiential learning opportunities, writing and communications, skill-building workshops, funding consultations, mentor and collaborator matching services, and specialized training and development opportunities outside of UMB. In addition, CARTI Counselors will serve as primary points of contact for faculty who seek information about programs and services available for research career training.

"Many challenges exist for early-stage investigators establishing their research career. CARTI will provide training and resources to support the success of early-stage researchers, increasing the pool of skilled investigators conducting translational research over the span of their career."

Marey R. Shriver, PhD
Assistant Professor, Biochemistry and Molecular Biology
Executive Director for Faculty Development, CARTI

CARTI COUNSELOR

CARTI TRAINING TRACKS

1
- Basic/Translational
- Clinic/Translational
- Community, Health, Health Equity, & Public Health

INDIVIDUAL RESEARCH CAREER DEVELOPMENT INITIATIVES

2
- Courses/Workshop Seminars
- Collaborator Matching
- Media Training
- Sabbaticals/Visiting Professorships

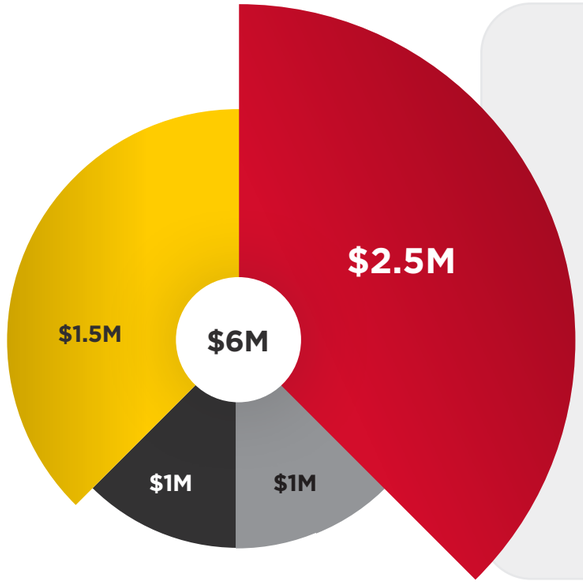
WRITING & COMMUNICATIONS INSTRUCTION

3
- Scientific Audiences
- General Audiences

FELLOWS-TO-FACULTY (F2F) PROGRAM

4
- Individual Development Plans
- Centralized Mentoring Program
- Managing Your Research Program

CARTI FUNDING: $6 MILLION



FACULTY TRAINING SUPPORT

Endowment to support protected faculty time for:
- Exploration of innovative research
- Application of new technologies
- Development of novel teaching methods
- Mentorship of junior faculty

ENDOWED PROFESSORSHIP
- Immediate investment in resources for CARTI
- Accelerates the research, educational, and administrative capacities of the CARTI Director

UNDERREPRESENTED MINORITIES & WOMEN

Supports career development initiatives for women and URM faculty

INNOVATION SEED GRANT PROGRAM
- Gather research data to secure larger federal grants
- Incentive pursuit of cutting-edge research concepts
- Create opportunities for early investigators

"Developing a career as an independently funded clinician-scientist is one of the most rewarding and impactful paths in academic medicine. These paths are unique to each person and quite challenging to navigate. CARTI will serve as a beacon for early-stage clinician-scientists, clarifying and accelerating the path to success."

Graeme F. Woodworth, MD, FACS
Professor and Chair, Department of Neurosurgery
Director, Brain Tumor Treatment and Research Center
Co-director, Translational Therapeutics Research Group

A BEACON FOR EARLY-STAGE RESEARCHERS

The mission of CARTI is to nurture rising biomedical and clinician-scientists engaged in well-funded and **highly innovative patient-focused research**. This investment in faculty research can yield pioneering discovery-driven treatments that provide **new hope for patients**. For example, our faculty research in brain science has led to the use of MRI-guided Focused Ultrasound (FUS) to effectively treat essential tremor and Parkinson's disease, and we initiated the first clinical trial in the United States to use FUS technology to open the blood-brain barrier for therapeutic drug delivery to combat deadly brain tumors.

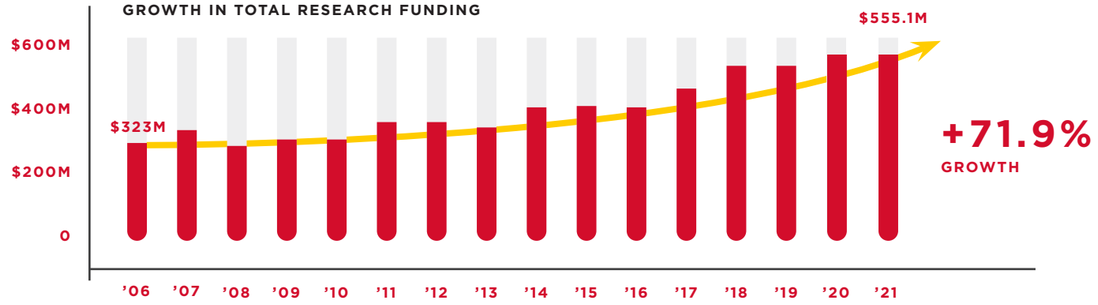
A HUB FOR INSPIRING BIG IDEAS

CARTI is a centralized hub for robust formal advanced biomedical research training, mentorship, and professional development — **inspiring, growing and developing the next generation of scientists** who will advance high-impact research and discovery.

The **Fellows-to-Faculty (F2F) Program** will help **transition the most promising senior fellows to junior faculty,** with a special emphasis on URM and women to **foster a diverse, equitable and inclusive biomedical research workforce.** By leveraging existing relationships within and outside of USM, the F2F Program will complement the outstanding pipeline programs that support URM students pursuing STEM education through graduate and medical training. The F2F Program will bridge an existing gap in the recruitment and retention of talented fellows by providing mentoring, development plans, and seminars that enable them to seamlessly and successfully achieve research independence.

"Researchers train on science, but communication skills are essential to funding big ideas. The courses taught me those key skills."

Gloria M. Reeves, MD
Associate Professor, Psychiatry
Vice Chair of Research Services



HONORING A LEGACY

Dr. Reece's unyielding commitment to advancing translational medical research has **significantly elevated discovery, prestige, and the overall ranking of the UMSOM during his tenure as dean.** CARTI will serve to continue this growth by enhancing training and support for faculty in every aspect of their scientific discovery endeavors.

Your philanthropic commitment will enable us to continue our ascent within the ranks of academic medicine.

This dedication to research has resulted in the rise of UMSOM as one of the fastest growing, top-tier biomedical research enterprises in the nation — ranking as #9 among all public medical schools (*U.S. News & World Report*) and the 8th-highest public medical school in research productivity (*Association of American Medical Colleges**).

Under Dr. Reece's leadership, UMSOM has seen a 71.9% growth in total research grants and contracts.

"We have advanced dramatically into the upper echelon of medical schools. This parallels our tremendous growth in total research funding during this period. It is the collective effort of chairs and directors, faculty, and staff that has enabled our relentless focus on the mission of discovery-based medicine."

E. Albert Reece, MD, PhD, MBA
Executive Vice President for Medical Affairs, UM Baltimore
John Z. and Akiko K. Bowers Distinguished Professor and Dean, University of Maryland School of Medicine

AAMC*: Medical School Profile System, Institutional Data Table, as of 6/25/2021. Institutional Data Table last updated 6/25/2021.

BE A CATALYST FOR DISCOVERY & INNOVATION

The advanced medical care that saves patient lives and improves the quality of life is built upon years of research investigating the causes of and potential treatments for disease. At each crucial juncture, our faculty have pioneered and persevered, largely due to a strong foundation in scientific methodologies, critical evaluation of data, and connection with a community of researchers deeply committed to improving health and wellbeing. The tireless effort of these research professionals has made many once life-threatening diseases and conditions just a memory. Not only are our faculty physicians trained in the latest technology and therapies, they are also developing them.

Our steadfast commitment to the continued growth of the research enterprise through CARTI will enhance our ability to continue to attract and retain outstanding biomedical researchers and physician-scientists in all stages of their academic careers, while continuing the upward trajectory of discovery and innovation.

medschool.umaryland.edu/Catalyst/Support-CARTI

Your gift to support CARTI will help change the future of medicine. Learn more about our innovation and discoveries.

You can be a catalyst.

To find out how your philanthropic investment can support CARTI, contact:

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