UNIVERSITY of MARYLAND
SCHOOL OF MEDICINE

UNDAUNTED *in* PURPOSE
RESILIENT *in* EXECUTION

2015
STATE *of the* SCHOOL ADDRESS

INTRODUCTION

And Our Celebrated Story Continues...

As I complete my 10th year of delivering the annual State of the School Address, I recall many compelling examples of scientific discoveries and clinical innovations. I remember describing breakthroughs made by our physicians and scientists to prevent, diagnose and treat diseases. I recall cases where we successfully treated patients with rare and complex medical conditions, thanks to the care and commitment of our faculty, staff, trainees and students.

The common thread running through these stories is best captured by the two words we have chosen for this year's State of the School Address: **undaunted** and **resilient.** These words describe the work of everyone in our community — from our faculty and staff; to our fellows, residents and students; to the dedicated health professionals working throughout the University of Maryland Medical System. I could not be more pleased about the remarkable success we have enjoyed and have shared by being **Undaunted in Purpose** and **Resilient in Execution.**

In many ways, the State of the School Address is a celebration of this success, a testimony to all that has been accomplished, and a recognition of the tireless work of our community.

As I stood before the audience during my address, I marveled at their resilience in the face of innumerable challenges over the past year. At the end of each day, each month and each year, we can reflect on the advances we are making in science and medicine and the tremendous impact we are having to help improve health and mitigate pain and suffering around the world.

It has been a successful year across all of our metrics — from continued growth in our research portfolio, to increasing revenue on our clinical practices, and wider recognition of the School's leadership in the community, the nation and the world.

This publication shares some of the memorable highlights from this past year. As you'll see, we have quite a story to tell! I congratulate everyone in our community as we join together in celebration.

In the relentless pursuit of excellence,
I am sincerely yours,

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

OUR MISSION: *The University of Maryland School of Medicine is dedicated to providing excellence in biomedical education, basic and clinical research, quality patient care and service to improve the health of the citizens of Maryland and beyond.*

The School of Medicine is committed to the education and training of MD, MD/PhD, Graduate (MS, MPH, PhD), Physical Therapy and Rehabilitation Science, and Medical and Research Technology students. We recruit and develop faculty to serve as exemplary role models for our students.

HIGHLIGHTS:

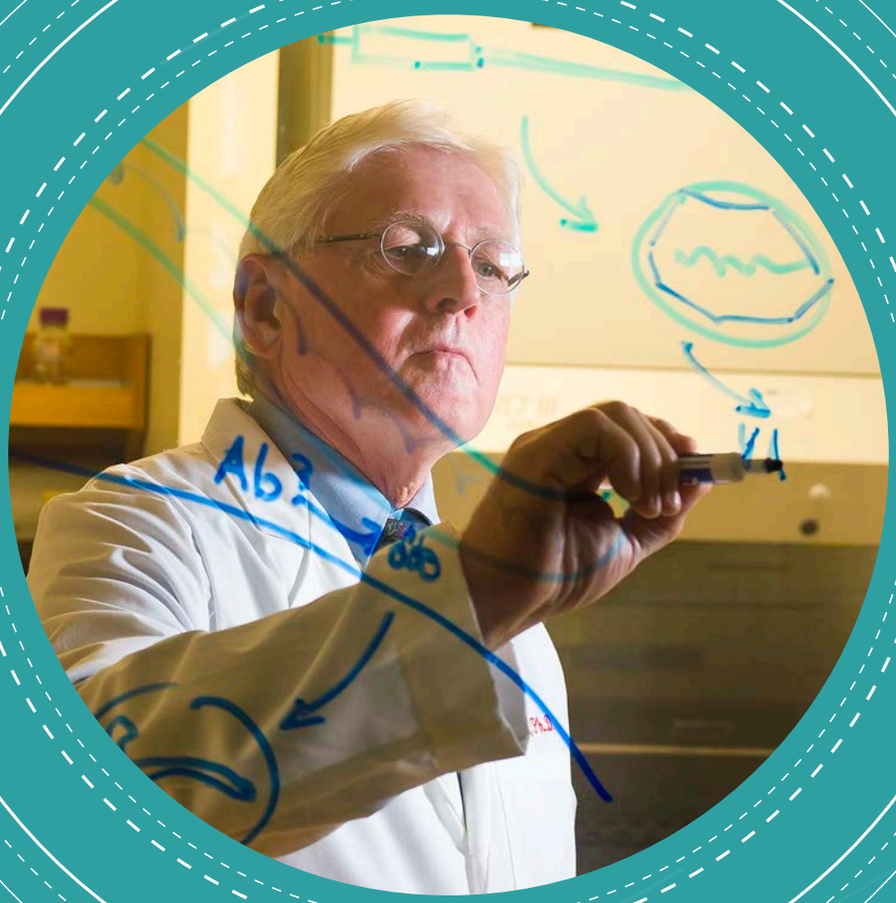
- **Secured research grants and contracts worth $402.4M, up 9 percent since 2013;**
- **Increased clinical revenue by 5.2 percent to $293.3M;**
- **Celebrated our most successful fundraising campaign ever, *Transforming Medicine Beyond Imagination,* with final philanthropic gifts totaling more than $450M;**
- **Completed construction of our new $200M Maryland Proton Treatment Center;**
- **Continued construction of our new 450 square-foot, $305M biomedical research facility.**

CONTENTS

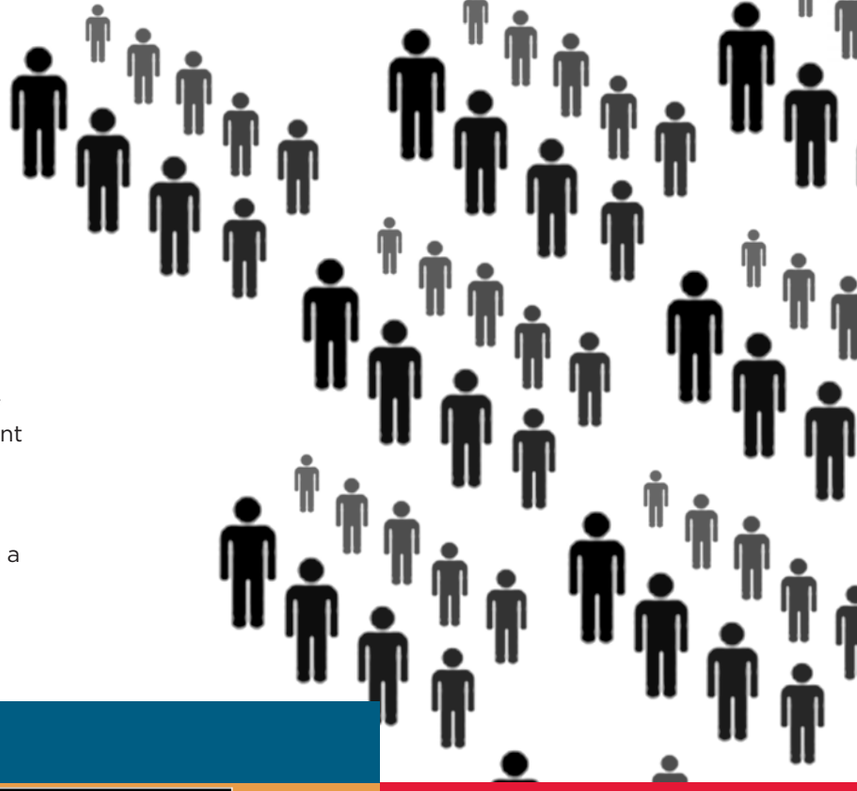
ONLINE VIDEO

View the State of the School Address at
www.medschool.umaryland.edu/SOTS

WORKFORCE



7,454
TOTAL WORKFORCE



BUILDING OUR COMMUNITY

The School of Medicine's total workforce is 7,454 people and includes nearly 3,000 full-time, part-time and adjunct faculty, and more than 3,300 staff members. Of our 1,354 full-time faculty members, 38.3 percent are women and 8.49 percent are under-represented minorities.

Our full-time faculty retention rate is 91.1 percent, reflecting our continued commitment to providing a positive and productive work environment. Our workforce also includes 582 clinical and research fellows and 659 residents (Figure 1).

Figure 1 SOM Community

Total Workforce

	2014	2015	
Full-time Faculty*	1,369	1,354	2,912
Part-time Faculty	288	260	
Adjunct Faculty	1,312	1,298	
Clinical Fellows**	204	202	1,241
Research Fellows	385	380	
Residents**	689	659	
Staff (admin, research & clinical, includes FPI)	2,931	3,301	
Total Individuals	7,178	7,454	

*FT faculty retention rate: 91.1%
** Joint funding with UMMC

Structure

Departments	25	45
Programs	7	
Institutes	4	
Organized Research Centers	9	

Faculty Diversity

	2014	2015
Women	526 (38.4%)	519 (38.3%)
Under-represented Minorities	114 (8.3%)	115 (8.5%)

91.1%
(Full-time Faculty Retention Rate)

VISION 2020

THRIVING IN CHALLENGING TIMES

In 2013, we unveiled Shared Vision 2020 for UM Medicine, the School of Medicine and Medical System's ambitious plan to transform education, research, clinical care, and global and local outreach across the Medical School and Medical System communities. Our goals for each of our four mission areas include:

Mission Area #1 – Clinical Care

- Becoming Maryland's and the region's premier healthcare system
- Redoubling our acclaimed excellence in highest quality care
- Increasing the number of destination clinical programs

Mission Area #2 – Education

- Launching a teaching philosophy focused on training innovators and discoverers
- Obtaining federal funding to train an unparalleled medical and biomedical workforce
- Strengthening our internal mentorship program
- Supporting student-led research projects
- Promoting faculty responsiveness and accessibility to students across all academic units

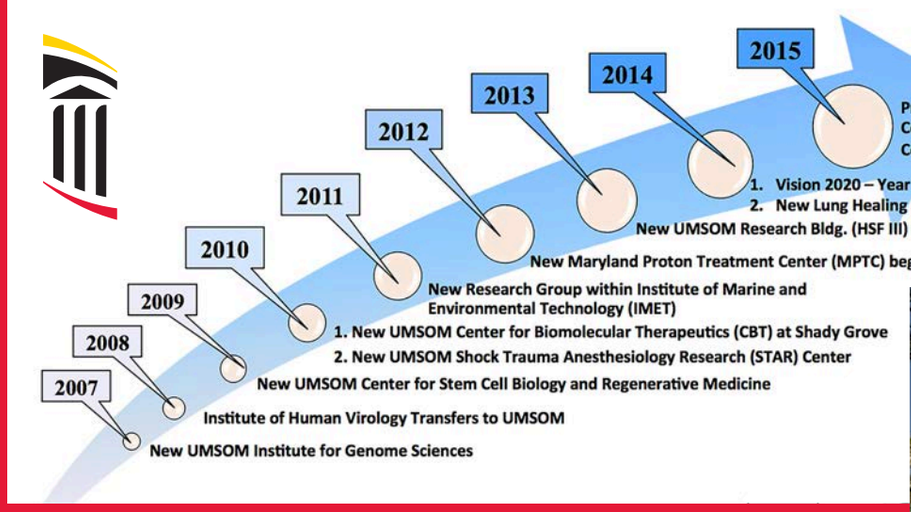
Mission Area #3 – Global & Local Community Health

- Improving the health and wellbeing of all citizens by studying and combating diseases in local and global "hot spots"

Mission Area #4 – Research

- Accelerating the pace and scope of discovery and innovation in biomedical research
- Increasing overall federal funding and faculty engaged in federally funded research

Figure 2 Growth of UM School of Medicine: New Programs and Capital Projects



2015

Proton Center Completed

A SHARED VISION

Vision 2020 is based on the philosophy that we have achieved top-tier status by adopting a goal-oriented, strategic and opportunistic approach to maximize our academic yield.

We realized that we could not merely rest on our laurels, but needed to adapt, modify and allow room for strategic disruptive innovations to continue our trajectory of success.

> Robert A. Chrencik, MBA, CPA, President and Chief Executive Officer, University of Maryland Medical System with Dean E. Albert Reece, MD, PhD, MBA.

RESEARCH

9%

INCREASE IN RESEARCH GRANTS & CONTRACTS SINCE 2013

IMPLEMENTING THE 2020 VISION
With Vision 2020 so clearly laying out where we wish to go, our challenge has been to determine the best actions to take to achieve those goals.

Between late 2014 and the fall of 2015 we made great strides in implementing the vision across our major research programs in a variety of ways, including:

- Creating and/or expanding research magnet programs and funding
- Increasing emphasis on translational research
- Emphasizing collaboration and multi-disciplinary groups
- Seeking out consortia grants and contracts

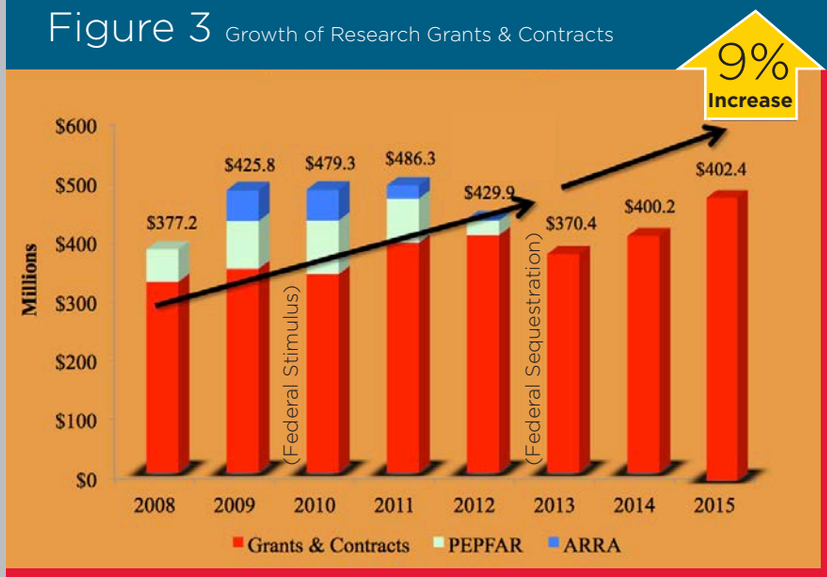
TOP SOM PROGRAMS BASED ON FEDERAL FUNDING

- AIDS/HIV
- Aging
- Bioterrorism Defense
- Cardiovascular Disease
- Cancer
- Community Mental Health
- Diabetes
- Disparities
- Genomics
- Infectious Diseases
- Metabolic Disorders
- Schizophrenia
- Transplant
- Trauma
- Vaccines

HOW DO WE MEASURE OUR SUCCESS?
Our scientists and clinicians received $402.4 million in grants & contracts in FY 15, a nine percent increase since the sequestration in 2013 (Figure 3).

We are now 8th among all 86 public medical schools and 23rd among all 141 medical schools in total grant and contract expenditures (Figure 4).

Figure 3 Growth of Research Grants & Contracts



$402.4M
IN RESEARCH GRANTS & CONTRACTS

Figure 4 National Rankings**

Rank	School	Grants & Contracts*
1.	U Washington	$1,015,855,343
2.	UC San Francisco	$950,279,597
3.	UCLA-Geffen	$639,100,223
4.	UC San Diego	$510,208,686
5.	Colorado	$418,970,835
6.	North Carolina	$410,817,317
7.	Michigan	$406,500,005
8.	Maryland	$342,896,841
9.	Oregon	$310,877,528
10.	UT Southwestern	$298,059,097

Public Medical Schools

Rank	School	Grants & Contracts*
1.	Harvard	$2,551,001,642
5.	Duke	$766,865,152
6.	Johns Hopkins	$695,769,416
9.	Mount Sinai-Icahn	$597,205,477
10.	Stanford	$594,215,043
16.	North Carolina	$410,817,317
20.	Case Western Reserve	$383,282,426
23.	Maryland	$342,896,841
24.	Mayo	$342,590,130
25.	Cornell-Weill	$334,010,129

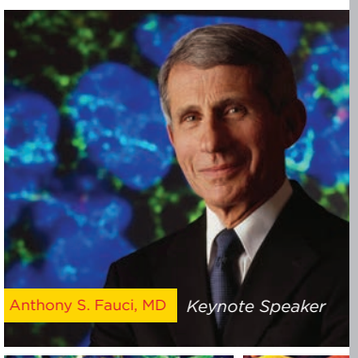
Public & Private Medical Schools

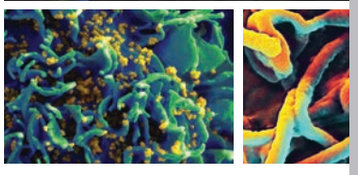
* Total grant and contract expenditures (including directs and indirects)
**AAMC: Medical School Profile System, Institution-level Data Table, as of 8/20/2015.
Institution-level Data Table last updated 8/13/2015.

Collaboration between biomedical research investigators has become increasingly important as the pool of public—and private—funding for research has diminished. Interdisciplinary research teams, especially those that blend clinical and basic science, will have significant advantages when applying for the large federal grants. One of the key priorities for the School of Medicine is **fostering joint projects among the diverse groups of researchers** at the School and across the University System of Maryland (Figure 5).

At our first **ANNUAL FESTIVAL OF SCIENCE IN 2013,** our Scientific Advisory Council recommended the School of Medicine continue its strong focus on collaborative research, and ensure that programs and policies were in place to encourage interdisciplinary research. We have taken that advice, with great success. Our second Festival was held on December 12, 2014. The same Advisory Council convened again, this time to hear presentations on the **latest research and discovery on Infectious and Inflammatory Diseases and Vaccines.**

Dean Reece with Scientific Advisory Council members: Ralph Snyderman, MD; Carol Greider, PhD; Rita Cowell, PhD; and Philip Needleman, PhD, Elias Zerhouni, MD (not shown).





THE DEAN'S CHALLENGE AWARD
This new program offers incentives for senior scientists from different departments, centers, institutes and programs to collaborate.

The Award provided the support needed to generate pilot data for new and ambitious research projects intended to address some of the toughest "big science" questions in medicine today.

The response from the faculty was incredible. **Nineteen interdisciplinary projects** were submitted for funding consideration, but only four could be supported. While the Dean's Challenge Awardees must apply for large NIH grants as part of the program, a number of the other teams have maintained their research collaborations in pursuit of the same goal. They were assisted in finding alternative sources of support for pilot projects by **Terry Rogers, PhD,** Assistant Dean of Research Affairs and Executive Director of the Office of Research Affairs, which oversees the School of Medicine's grants and contracts portfolio.

The four Dean's Challenge Awardees were:

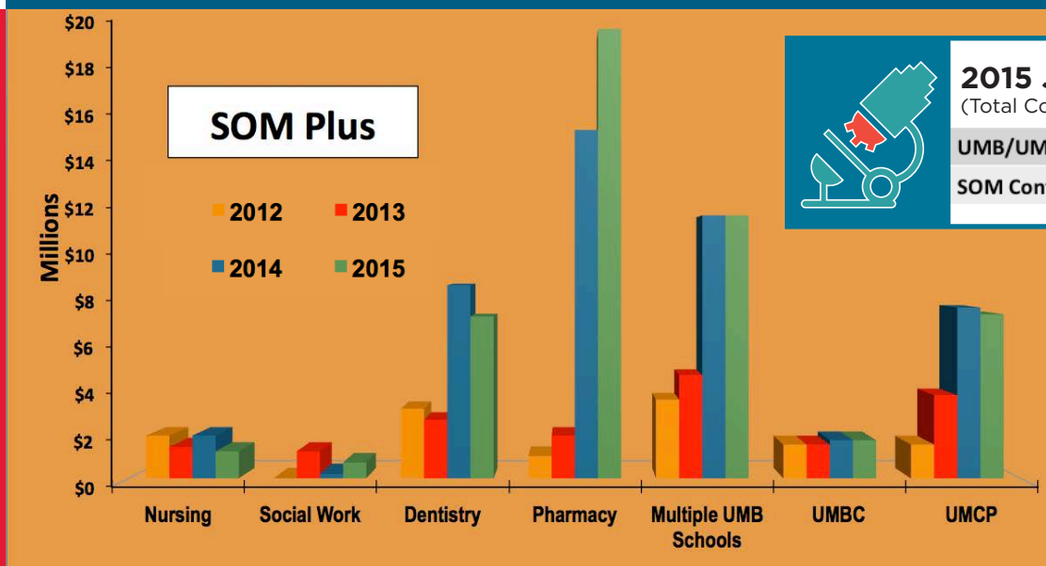
Role of TLR4 in Virus-Induced Allergic Hypersensitivity
- Dr. Achsah Keegan
- Dr. Stefanie Vogel
- Dr. Rose Viscardi
- Dr. Kari Ann Shirey
- Dr. Dayanad Bagdure

Pathogenic Role of HIV-1 p17 Variants in AIDS-Associated Lymphoma
- Dr. Robert Gallo
- Dr. William Blattner
- Dr. Joseph Bryant
- Dr. Alfredo Garzino-Demo
- Dr. Wuyuan Lu
- Dr. Fabio Romerio

A Genomic Vaccinology Approach to Malaria Vaccine Development
- Dr. Christopher Plowe
- Dr. Claire Fraser
- Dr. Joana Carneiro da Silva
- Dr. Mark Travassos

Metabolic Imaging and Sonodynamic Therapy for Invasive Brain Tumors Using 5-Aminolevulinic Acid
- Dr. Rao Gullapalli
- Dr. Dirk Mayer
- Dr. Joseph Kao
- Dr. Jeffrey Winkles
- Dr. Graeme Woodworth
- Dr. Victor Frenkel

Figure 5 Collaborative Research Efforts Across the University System of Maryland



2015 Joint Seed Program
(Total Collaborative Research Funding)

UMB/UMCP Total	$523,557
SOM Contribution	$255,079

TOP GRANT AWARDEES

This section features the outstanding work of many of our investigators, those who were able to secure very large and/or prestigious grants over the last year.

Featured here are investigators who received: the most lucrative NIH and non-NIH grants (>$1.5 million); NIH "P" and "U" awardees; Center grant awardees; NIH Research Cooperative Agreement awardees; NIH R01 awardees; and recipients of three or more "NIH R" awards. We also spotlight young investigators who secured their first NIH R01 grants.

Top NIH Awardees


1)

1) Michael Terrin, MDCM, MPH
Professor, Departments of Epidemiology & Public Health and Medicine
$29.6 Million for ***"Progenitor Cell Biology Consortium Administrative Coordinating Center"***


2)

2) Myron Levine, MD, DTPH
Associate Dean for Global Health, Vaccinology and Infectious Diseases; The Simon and Bessie Grollman Distinguished Professor in Medicine; Professor, Departments of Epidemiology & Public Health, Microbiology & Immunology, and Pediatrics; and Founding Director, Center for Vaccine Development
$25 Million for ***"Immunoprophylactic Strategies to Control Emerging Enteric Infections"***


3)

3) Karen Kotloff, MD
Professor of Pediatrics and Medicine, Center for Vaccine Development and Institute for Global Health
$20.3 Million for ***"Vaccine and Treatment Evaluation Units: Evaluation of Control Measures Against Diseases Other than AIDS"***
$1.6 Million for ***"Phase 1 Challenge Study to Evaluate Safety, Immunogenicity and Efficacy of a Malaria Vaccine"***


4)

4) Claire Fraser, PhD
Professor of Medicine and Microbiology & Immunology and Director, Institute for Genome Sciences;
5) David Rasko, PhD
Associate Professor of Microbiology & Immunology, Institute for Genome Sciences; and
6) Owen White, PhD
Professor of Epidemiology & Public Health, and Director of Bioinformatics, Institute for Genome Sciences
$15.2 Million for ***"Host, Pathogen and the Microbiome: Determinants of Infectious Disease Outcome"***


5)


6)

7) Marcelo Sztein, MD
Professor of Pediatrics, Center for Vaccine Development
$13.5 Million for ***"Mucosal and Systemic Immunity, Vaccines, and Microbiota Interplay in Humans"***
$2.8 Million for ***"Vaccine and Treatment Evaluation Units: Consultation and Testing of Cytokine Levels and Cell Activation in Clinical Samples."***


7)


8)

8) Jacques Ravel, PhD
Professor of Microbiology & Immunology and Associate Director of Genomics, Institute for Genome Sciences and
Patrik Bavoil, PhD
Professor and Chair, Department of Microbial Pathogenesis, UM School of Dentistry
$10.7 Million for ***"Ecopathogenomics of Sexually Transmitted Infections"***


9)

9) Thomas MacVittie, PhD
Professor of Radiation Oncology, Program in Oncology
$10 Million for ***"Radiation/Nuclear Medical Countermeasure Product Development Support Services"***


10)

10) Jay Magaziner, PhD, MSHyg
Professor and Chair, Department of Epidemiology & Public Health
$5.7 Million for ***"The Claude D. Pepper Older Americans Independence Center"***


11)

11) Braxton Mitchell, Jr., PhD, MPH
Professor, Departments of Medicine and Epidemiology & Public Health, and
12) Simeon Taylor, MD, PhD
Professor, Departments of Medicine and Epidemiology & Public Health
$5.7 Million for ***"Mid-Atlantic Nutrition Obesity Research Center"***


12)

13) Terry Watnick, MD
Associate Professor, Department of Medicine
$5.2 Million for ***"Baltimore Polycystic Kidney Disease Research and Clinical Core Center"***


13)

14) L. Elliot Hong, MD
Professor of Psychiatry, Maryland Psychiatric Research Center, and
15) Peter Kochunov, PhD, Associate Professor of Psychiatry, Maryland Psychiatric Research Center
$4.3 Million for ***"Amish Connectome Project on Mental Illness"***


14)

16) Richard Pierson, III, MD
Professor, Department of Surgery
$4.2 Million for ***"Immunomodulation for Heart Allograft Tolerance"***

Owen White, PhD (photo 6)
Professor of Epidemiology & Public Health, and Director of Bioinformatics, Institute for Genome Sciences
$4.0 Million for ***"Support Infrastructure for Next-Gen Sequence Storage Analysis and Management"***


15)


16)

TOP GRANT AWARDEES


17)

17) Toni Pollin, PhD
Associate Professor, Departments of Medicine and Epidemiology & Public Health, and
18) Alan Shuldiner, MD
The John L. Whitehurst Endowed Professor in the Department of Medicine; Professor, Department of Physiology; and Director, Program in Personalized & Genomic Medicine
$3.7 Million for ***"Genomic Diagnosis and Individualized Therapy of Highly Penetrant Genetic Diabetes"***


18)

19) W. Jonathan Lederer, MD, PhD
Professor of Physiology and Director, Center for Biomedical Engineering & Technology (BioMET)
$3.6 Million for ***"Multiscale Spatiotemporal Modeling of Cardiac Mitochondria"***


19)

20) William Blattner, MD
Professor of Medicine and Associate Director, Institute of Human Virology, and
21) Man Charurat, PhD, MS
Associate Professor of Medicine, Institute of Human Virology
$3.3 Million for ***"Building Network-Based Recruitment of MSM for HIV Care"***


20)

22) Deanna Kelly, PharmD, BCPP
Professor of Psychiatry, Maryland Psychiatric Research Center
$3.3 Million for ***"Biomarker and Safety Study of Clozapine in Benign Ethnic Neutropenia"***


21)

Man Charurat, PhD, MS (photo 21)
Associate Professor of Medicine, Institute of Human Virology
$3.1 Million for ***"Microbiome Affects Risk of Growth in HIV-Exposed but Uninfected Infants-Nigeria"***


22)

23) Diana Fishbein, PhD
Adjunct Professor, Department of Psychiatry
$3.1 Million for ***"Mechanisms Underlying the Relationship Between Sleep Problems and Drug Abuse"***


23)

24) Eric Sundberg, PhD
Associate Professor of Medicine, Institute of Human Virology
$2.6 Million for ***"Structure and Function of Clostridium difficile Type IV Pili"***


24)


25)

25) Christopher Plowe, MD, PhD
Professor of Medicine; Howard Hughes Medical Institute Investigator; and Founding Director of the Institute for Global Health
$3.0 Million for ***"Genetic Diversity and Protective Immunity to Malaria Infection and Disease"***
$2.5 Million for ***"Safety and Efficacy of PfSPZ Malaria Vaccine in Malaria-Exposed Adults"***


26)

26) Zeljko Vujaskovic, MD, PhD
Professor, Department of Radiation Oncology, and Director, Division of Translational Radiation Sciences
$2.6 Million for ***"Mitigation of Radiation-Induced Pulmonary Injury with Nrf2 Activator"***


27)

27) Ronna Hertzano, MD, PhD
Assistant Professor of Otorhinolaryngology-Head & Neck Surgery and Anatomy & Neurobiology, Institute for Genome Sciences
$2.4 Million for ***"Cell Type Specific Transcriptional Cascades in Inner Ear Development"***


28)

28) Laurel Kiser, PhD
Associate Professor, Department of Psychiatry
$2.4 Million for ***"The Family-Informed Trauma Treatment (FITT) Center"***


29)

29) Reha Erzurumlu, PhD
Professor, Department of Anatomy & Neurobiology, and
30) Elizabeth Powell, PhD
Associate Professor, Departments of Anatomy & Neurobiology and Psychiatry
$2.3 Million for ***"Thalamocortical Circuit Defects in Developmental Brain Disorders"***


30)

31) Jonathan Bromberg, MD, PhD
Professor, Departments of Surgery and Microbiology & Immunology, and Division Head, Transplant Surgery
$2.3 Million for ***"Lymph Node Structure and Function in Tolerance: Role of Laminins"***
$1.7 Million for ***"Induction and Migration of Regulatory T Cells: Role of Lymphotoxin"***


31)

TOP GRANT AWARDEES


32)

32) Sanjay Rajagopalan, MBBS
The Melvin Sharoky Endowed Professor in Cardiovascular Medicine; Professor, Departments of Medicine, Physiology, Diagnostic Radiology & Nuclear Medicine; and Assistant Chair of Translational Research, Department of Medicine, and


33)

33) Myung H. Park, MD
Associate Professor, Departments of Medicine and Physiology
$2.3 Million for ***"Exercise MRI Evaluation of HIV-PAH Longitudinal Determinants (EXHALTED)"***

Sanjay Rajagopalan, MBBS (photo 32)
$2.2 Million for ***"Air Pollution and Hypertension: Vascular Mechanisms"***


34)

34) Thomas Blanpied, PhD
Associate Professor, Department of Physiology
$2.2 Million for ***"Internal Dynamics of the Postsynaptic Density"***

35) David Gorelick, MD, PhD
Professor of Psychiatry, Maryland Psychiatric Research Center
$2.1 Million for ***"Pharmacogenetic Treatments for Alcoholism"***


35)

36) Thomas Pallone, MD
Professor, Department of Medicine
$2.1 Million for ***"Microvascular Transport in the Renal Medulla"***


36)

37) Sanford Stass, MD
Professor and Chair, Departments of Pathology and Medical & Research Technology and Professor, Department of Medicine
$2.1 Million for ***"University of Maryland, Baltimore Biomarker Reference Laboratory"***


37)

38) Eric Slade, PhD
Associate Professor, Department of Psychiatry, and Director, Division of Psychiatric Services Research
$2 Million for ***"Impact of Payment Reform on Racial Disparities in Hospital Psychiatric Care"***


38)


39)

39) Steven Bernstein, MD, PhD
Professor and Vice Chair of Research, Department of Ophthalmology & Visual Sciences, and Professor, Department of Anatomy & Neurobiology
$1.9 Million for ***"Mechanisms of Optic Nerve Stroke Neuroprotection"***


40)

40) Richard Eckert, PhD
The John F.B. Weaver Distinguished Professor and Chair, Department of Biochemistry & Molecular Biology; Professor, Departments of Dermatology and Obstetrics, Gynecology & Reproductive Sciences; and Associate Director, Basic Sciences, Greenebaum Cancer Center
$1.9 Million for ***"Stem Cells and Skin Cancer Prevention and Angiogenesis"***


41)

41) Marcela Pasetti, PhD
Professor of Pediatrics and Microbiology & Immunology, Center for Vaccine Development, Institute for Global Health
$1.9 Million for ***"Vaccines and Maternally Acquired Immunity to Prevent Shigellosis in Children"***


42)

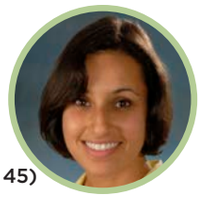
42) Mohammad Sajadi, MD
Associate Professor of Medicine, Institute of Human Virology
$1.9 Million for ***"HIV-1 Acidic Epitope Discovery From Broadly Neutralizing Seroantibodies"***


43)

43) Scott Thompson, PhD
Professor and Chair, Department of Physiology
$1.9 Million for ***"Stress, Depression, and Effects of Novel Antidepressants on Excitatory Synapses"***


44)

44) Xiaofeng Jia, BM, PhD
Associate Professor, Departments of Neurosurgery and Orthopaedics
$1.8 Million for ***"Brain Monitoring and Therapeutic Hypothermia After Cardiac Arrest"***


45)

45) Norann Zaghloul, PhD
Assistant Professor of Medicine, Program for Personalized and Genomic Medicine
$1.7 Million for ***"Basal Body Regulation of Glucose Homeostasis"***


46)

46) Alan Faden, MD
The David S. Brown Professor in Trauma; Professor, Departments of Anesthesiology, Anatomy & Neurobiology, Neurology, and Neurosurgery; and Director, Shock, Trauma and Anesthesiology Research (STAR) Center
$1.7 Million for ***"Role of miR-23a/27a in Secondary Injury After TBI"***

TOP GRANT AWARDEES


47)

Christopher Plowe, MD, PhD (photo 25)
Professor of Medicine; Howard Hughes Medical Institute Investigator; and Founding Director of the Institute for Global Health, and
47) Steven A. Fisher, MD
Professor, Department of Medicine
$1.7 Million for ***"Variant Surface Antigens in Cerebral Malaria Pathogenesis"***


48)

48) E. Albert Reece, MD, PhD, MBA
Vice President for Medical Affairs, University of Maryland; the John Z. and Akiko K. Bowers Distinguished Professor and Dean, University of Maryland School of Medicine; and Professor, Department of Obstetrics, Gynecology & Reproductive Sciences, and
49) Peixin Yang, PhD
Associate Professor, Departments of Obstetrics, Gynecology & Reproductive Sciences and Biochemistry & Molecular Biology
$1.7 Million for ***"Molecular Signaling Pathways and Cellular Stress in Diabetic Embryopathy"***


49)


50)

50) Robert Buchanan, MD
Professor of Psychiatry and Director, Maryland Psychiatric Research Center, and
51) William T. Carpenter, MD
Professor of Psychiatry and Pharmacology and Former Director, Maryland Psychiatric Research Center
$1.7 Million for ***"3/3-Social Processes Initiative in Neurobiology of Schizophrenia(s)"***


51)

52) Sergei Atamas, MD, PhD
Associate Professor, Departments of Medicine and Microbiology & Immunology
$1.5 Million for ***"Mechanisms of Profibrotic Sensitization by IL-33"***


52)


53)

53) Jessica Mong, PhD
Associate Professor, Department of Pharmacology
$1.5 Million for ***"Mechanisms Governing the Estrogenic Modulation of Sleep"***


54)

54) Zhekang Ying, PhD
Assistant Professor, Department of Medicine
$1.5 Million for ***"Hypothalamic Inflammation and PM2.5 Exposure-Induced Insulin Resistance"***

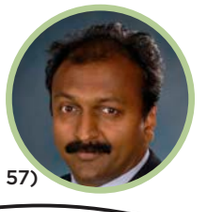
Investigators with 1st R01 Grant


55)

55) Rebecca Brotman Miller, PhD, MPH
Assistant Professor of Epidemiology & Public Health, Institute for Genome Sciences
$3.5 Million for ***"Longitudinal Study of the Vaginal Microbiome Prior to Incident STI"***


56)

56) Fabio Romerio, PhD
Assistant Professor of Medicine and Microbiology & Immunology, Institute of Human Virology
$1.9 Million for ***"Quantification of the HIV-1 Reservoir by Immuno-PCR"***


57)

57) Nevil Singh, PhD
Assistant Professor, Department of Microbiology & Immunology
$1.5 Million for ***"Identification and Characterization of Melanocyte Stem Cells"***

Recipients of 4 "NIH R" Awards

- **Jeffrey Fink, MD, MS**
Professor, Departments of Medicine and Epidemiology & Public Health
- **Alan Faden, MD**
The David S. Brown Professor in Trauma; Professor, Departments of Anesthesiology, Anatomy & Neurobiology, Neurology, and Neurosurgery; and Director, Shock, Trauma and Anesthesiology Research (STAR) Center

Recipients of 3 "NIH R" Awards

- **James Gold, PhD**
Professor of Psychiatry, Maryland Psychiatric Research Center
- **Britta Hahn, PhD**
Associate Professor of Psychiatry, Maryland Psychiatric Research Center
- **Pedro Jose, MD, PhD**
Professor, Departments of Medicine and Physiology
- **Joseph Lakowicz, PhD**
Professor, Department of Biochemistry & Molecular Biology
- **Peixin Yang, PhD**
Associate Professor, Departments of Obstetrics, Gynecology & Reproductive Sciences and Biochemistry & Molecular Biology

Top Non-NIH Grant Awardees


58)

58) Robert Redfield, Jr., MD
Professor of Medicine and Microbiology & Immunology, and Associate Director, Institute of Human Virology
$24.5 Million from the Centers for Disease Control for ***"Partnership for Advanced Clinical Education (PACE) Botsawna"***
$7.6 Million from the Centers for Disease Control for ***"Mentorship for Improved Clinical Care–Namibia"***

Karen Kotloff, MD (photo 3)
Professor of Pediatrics and Medicine, Center for Vaccine Development, Institute for Global Health
$18.4 Million from the Bill & Melinda Gates Foundation for ***"Rotavirus Vaccine Impact Study"***
$4.0 Million from Merck & Co., Inc. for ***"Rotavirus Epidemiology Study in Mali"***

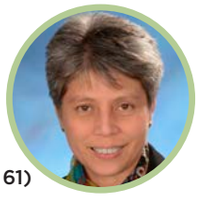

59)

59) Kevin Cullen, MD
The Marlene and Stewart Greenebaum Professor of Oncology, Professor, Departments of Medicine and Pharmacology, and Director, UM Marlene and Stewart Greenebaum Cancer Center
$11.3 Million from Maryland DHMH for ***"FY 15 Cigarette Restitution Fund Statewide Academic Health Centers Research Grant"***

Braxton Mitchell, Jr., PhD, MPH (photo 11)
Professor, Departments of Medicine and Epidemiology & Public Health
$5.0 Million from Regeneron Pharmaceuticals, Inc. for ***"Regeneron Research Collaboration Agreement"***


60)

60) Kathleen Neuzil, MD, MPH
Professor of Medicine; Director, Center for Vaccine Development; and Deputy Director, Institute for Global Health
$4.8 Million from Program for Appropriate Technology in Health (PATH) for ***"Data Management and Analysis and Publication Plan for the Rotavirus Vaccine Impact Studies"***


61)

61) Myaing Nyunt, MD, MPH, PhD
Assistant Professor of Medicine, Institute for Global Health
$4.6 Million from the Bill & Melinda Gates Foundation for ***"Evidence and Action for Targeted Parasite Elimination in Myanmar"***


62)

62) Samba Sow, MD, MS
Adjunct Professor of Medicine, Center for Vaccine Development
$3.7 Million from GlaxoSmithKline for ***"Phase 2, Safety and Immunogenicity Study of GSK Biologicals Investigational Ebola Vaccine"***


63)

63) Sharon Stephan, PhD
Associate Professor, Department of Psychiatry
$3.3 Million from the Department of Health and Mental Hygiene (DHMH) for ***"Maryland Behavioral Health for Adolescents and Young Adults"***


64)

64) Bartley Griffith, MD
The Thomas E. and Alice Marie Hales Distinguished Professor in Transplant Surgery and Professor, Department of Surgery
$2.3 Million from Direct Flow Medical for ***"The Transcatheter Aortic Valve Replacement System Trial"***


65)

65) Mark Ehrenreich, MD
Assistant Professor and Chief of Medical Education, Department of Psychiatry, and Director, UM/Sheppard Pratt Psychiatry Residency Training Program
$2.0 Million from the Maryland DHMH for ***"University of Maryland Psychiatry Residency Training"***

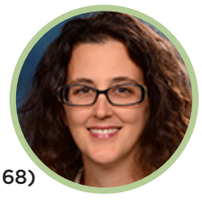

66)

65) Seth Himelhoch, MD, MPH
Professor, Department of Psychiatry, and Director, Division of Consultation-Liaison Psychiatry
$2.0 Million from the Substance Abuse and Mental Health Services Administration for ***"STIRR-IT: Co-located HIV/HCV Prevention and Treatment (BALTIMORE)"***


67)

67) Josephine Feliciano, MD
Assistant Professor of Medicine, Program in Oncology
$1.9 Million from Genentech Incorporated for ***"GCC 1375: A Phase II, Multicenter, Single-Arm Study of Locally Advanced or Metastatic Non-Small Cell Lung Cancer"***

Myron Levine, MD, DTPH (photo 2)
Associate Dean for Global Health, Vaccinology and Infectious Diseases; The Simon and Bessie Grollman Distinguished Professor in Medicine; Professor of Epidemiology & Public Health, Microbiology & Immunology, and Pediatrics; and Founding Director, Center for Vaccine Development
$1.9 Million from Leidos, Inc. for ***"Accelerated Clinical Evaluation of Monovalent and Bivalent Vectored Ebola Vaccines"***


68)

68) Kerri Thom, MD
Associate Professor, Departments of Epidemiology & Public Health and Medicine
$1.8 Million from the Agency for Healthcare Research and Quality for ***"Removing Barriers to Hand Hygiene and Glove Compliance"***


69)

69) Tricia Ting, MD
Associate Professor, Department of Neurology
$1.5 Million from the Food & Drug Administration for ***"Characterization of Epilepsy Patients At-Risk for Adverse Outcomes Related to Switching Anti-epileptic Drug Products"***


70)

70) Howard Goldman, MD, PhD
Professor, Department of Psychiatry, and Director, Behavioral Health Systems Improvement Collaborative
$1.5 Million from the Maryland DHMH for ***"Evidence-Based Practice Center"***

RESEARCH PRODUCTIVITY

Looking at the productivity of our faculty, AAMC data shows that among all medical schools, the mean funding per investigator is about $293,000. At the University of Maryland School of Medicine, **the mean funding per investigator is more than $400,000, making us the 10th most productive medical school in America.** We are quite proud that we have advanced into a top 10 position after ranking 15th place last year (Figure 6).

Helping achieve such productivity are initiatives such as our **Research Career Development Program,** which offers classes in grant writing, identifying funding sources, and professional development, particularly when it comes to scientific leadership. It has helped more than 1,000 participants secure $6 million in increased funding since 2014. Since its inception in 2006, more than $56 million in funding has been awarded to students in the grant writing courses.

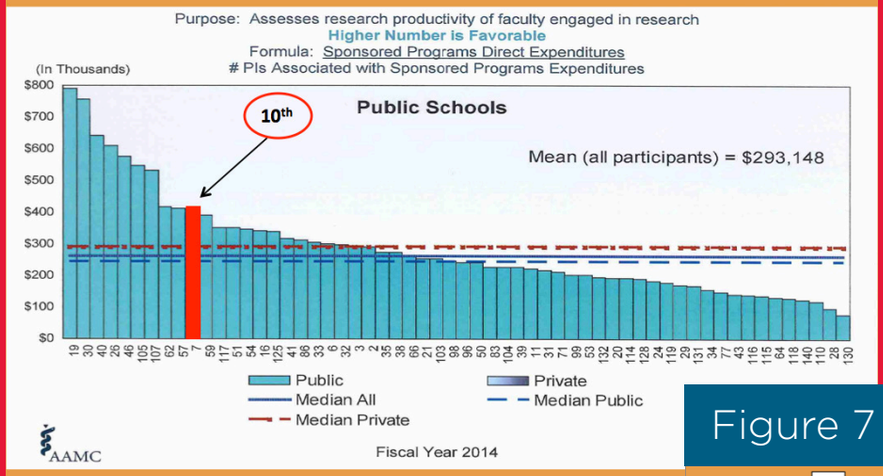
RESEARCH IMPACT

Great research cannot take place in a vacuum. It must make its mark outside of the laboratory to be truly great. We continue to grow in the important area of technology transfer (Figure 7): **securing patents both foreign and domestic; licensing technology that our faculty have invented; and starting companies to market these discoveries.**

One example of this is **Christopher Meehan, BS, MBA,** a research associate in the Department of Diagnostic Radiology & Nuclear Medicine. In 2015, **he was named the UMB Entrepreneur of the Year. He co-founded Analytical Informatics (AI),** a Baltimore-based health informatics company dedicated to improving clinical analytics, and also patented a Scanner Utilization System. So far he has raised more than $2.7 million in funding.

Margaret McCarthy, PhD, Professor and Chair, Department of Pharmacology, **was named the 2015 UMB Researcher of the Year for her world-renowned work studying sex differentiation in the brain.** She currently has a total of $4.9 million in funding for this work, including R01 and R56 grants and a T32 training grant.

Figure 6 Direct Expenditures per Principal Investigator



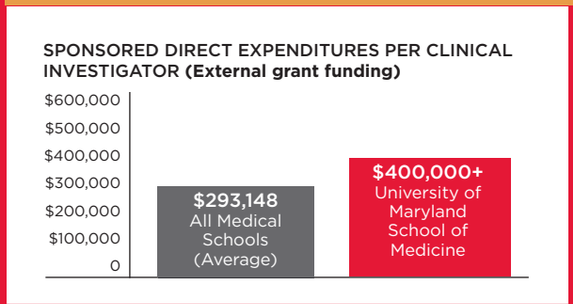
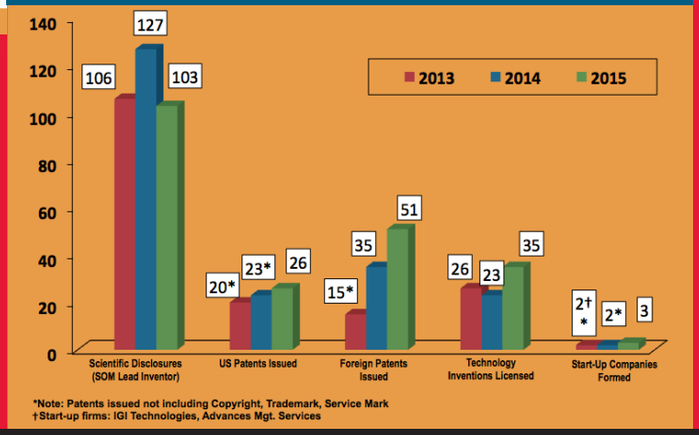


Figure 7 Technology Transfer



RESEARCH ENDEAVORS

With construction of the new SOM Research Building, HSF-III, moving ever closer towards completion, it will soon be time to decide who will get priority consideration to work in this premium space. **The state-of-the-art facility will house the School of Medicine's most promising research teams—with a strong emphasis on teamwork.**

Establishing a research powerhouse may require current faculty to look inside as well as outside the University of Maryland for collaborators. Thus, we have created the **"Special Trans-disciplinary Recruitment Award Program (STRAP) Initiative,"** to recruit promising new faculty.

In line with the goals of Vision 2020, the STRAP Initiative is intended to expand the SOM research portfolio **and funding base by providing incentives to multiple academic units that wish to jointly recruit well-funded new faculty.** All potential recruits must have three or more NIH grants (R01s, PPGs or Center grants), or equivalent level of funding, along with an excellent track record of publishing, teaching, and a history of mentoring students and trainees.

Any possible new hires would work in a key emphasis area, thereby complementing the research of the SOM's already robust portfolio. Preferably, we'd like to see a clinical department and a basic science department, a program, a center, or an institute working together to bring a well-established scientist or physician-scientist on board. These recruitments would not only strengthen existing collaborations between our current senior investigators, but help each academic unit to fulfill their Vision 2020 research goals and metrics.

HSF-III

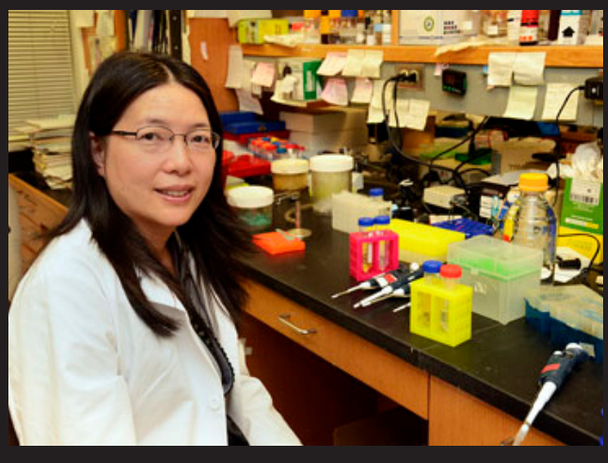
Work is progressing steadily on the new $305M Health Sciences Facility III (HSF-III) School of Medicine research building.

The 10-story, 450,000 square-foot facility will be the largest building on campus and will enable the School of Medicine to retain its position as one of the leading biomedical research institutions in the world.

It will provide both the laboratory space and state-of-the-art technology for the School of Medicine to continue advancing scientific discoveries and breakthroughs in the most critical disease categories.

The building is due to be completed in late 2017.

SOURCE	FUNDING
State	$240M
UMSOM	$ 65M
TOTAL	**$305M**



CLINICAL CARE

10.9%

INCREASE IN OUTPATIENT SURGERIES

THE POWER OF PARTNERSHIP

Our clinical success would not be possible if we did not have such an **outstanding partnership with the University of Maryland Medical System (UMMS), whose leadership shares in our vision of finding innovative ways to positively impact the health of the citizens of Maryland and all those we treat.** Our strategic alliance sets us up for extraordinary success as we strive to provide high-quality, integrated healthcare not only in West Baltimore, but across all of the state of Maryland and the region through the UMMS Statewide Hospital Network and its affiliated clinics.

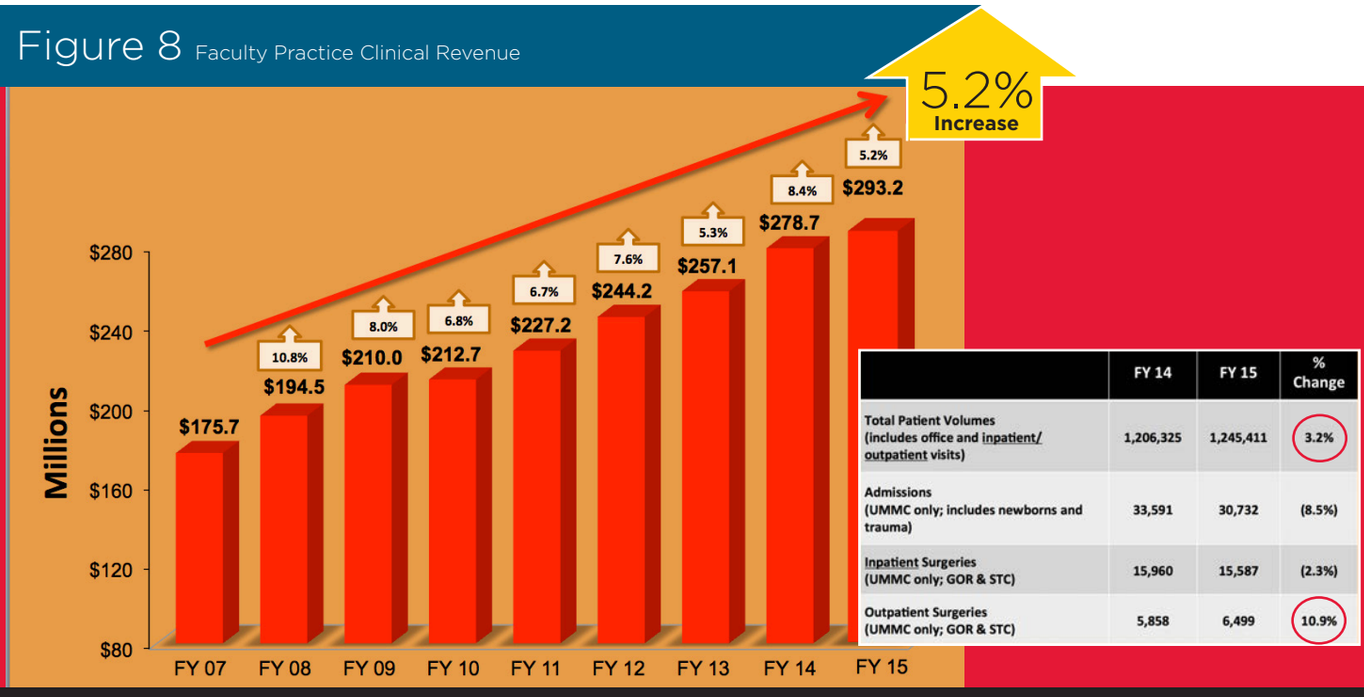
Our faculty members deliver care through **UM Faculty Physicians, Inc. (FPI).** Our faculty practice, which generates clinical dollars to support school salaries and operations, continues to be successful in spite of the ongoing challenge of reduced reimbursements. Total patient volume, including office and inpatient and outpatient visits, **increased 3.2 percent** between FY 14 and FY 15.

Admissions to the University of Maryland Medical Center decreased by 8.5 percent and inpatient surgeries decreased by 2.3 percent. This continued the positive trend of needing to admit fewer patients. Helping to balance this loss of inpatient revenue was a **10.9 percent increase in outpatient surgeries.**

In addition, we had respectable improvements in two key indicators of practice plan performance. **The number of days in accounts receivable went from 39 to 36 days, and the number of accounts delinquent for greater than 90 days fell to 16.7 percent.**

These numbers are important, because in these constrained fiscal times we depend on our financial revenue from the clinical side to not only support the financial enterprise but also, in part, to support our research and educational components. **I'm very pleased to report that this past year we again experienced steady growth, with a 5.2 percent increase in clinical revenue, generating $293.2 million in total revenue in FY 15** (Figure 8).

Figure 8 Faculty Practice Clinical Revenue



	FY 14	FY 15	% Change
Total Patient Volumes (includes office and inpatient/outpatient visits)	1,206,325	1,245,411	3.2%
Admissions (UMMC only; includes newborns and trauma)	33,591	30,732	(8.5%)
Inpatient Surgeries (UMMC only; GOR & STC)	15,960	15,587	(2.3%)
Outpatient Surgeries (UMMC only; GOR & STC)	5,858	6,499	10.9%

The Institute of Human Virology (IHV), directed by Robert Gallo, MD, The Homer & Martha Gudelsky Distinguished Professor in Medicine, reached a patient milestone in 2015, surpassing one million HIV/AIDS patients who have been cared for and treated in their overseas clinics.

Since 2004, IHV has partnered with the governments of Guyana, Haiti, Kenya, Nigeria, Rwanda, South Africa, Tanzania, Uganda, and Zambia to address each country's growing HIV/AIDS epidemics, funded by more than $300 million from the U.S. President's Emergency Plan for AIDS Relief (PEPFAR).

Robert Redfield, MD, Professor of Medicine, IHV Associate Director, and Director of IHV's clinical care and research division, led the implementation of PEPFAR programs in all nine countries.

William Blattner, MD, Professor of Medicine, IHV Associate Director, and Director of the epidemiology and prevention division at IHV, established the affiliated Institute of Human Virology — Nigeria (IHVN) in 2004.

Since then, it has grown to include 315 antiretroviral treatment programs in hospitals, 950 prevention of mother-to-child treatment programs in local clinics, 193 TB centers, and 1,030 HIV testing sites, just in that country alone.

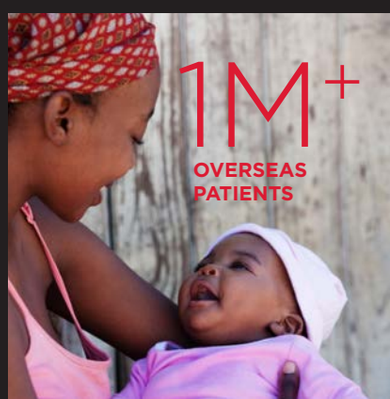
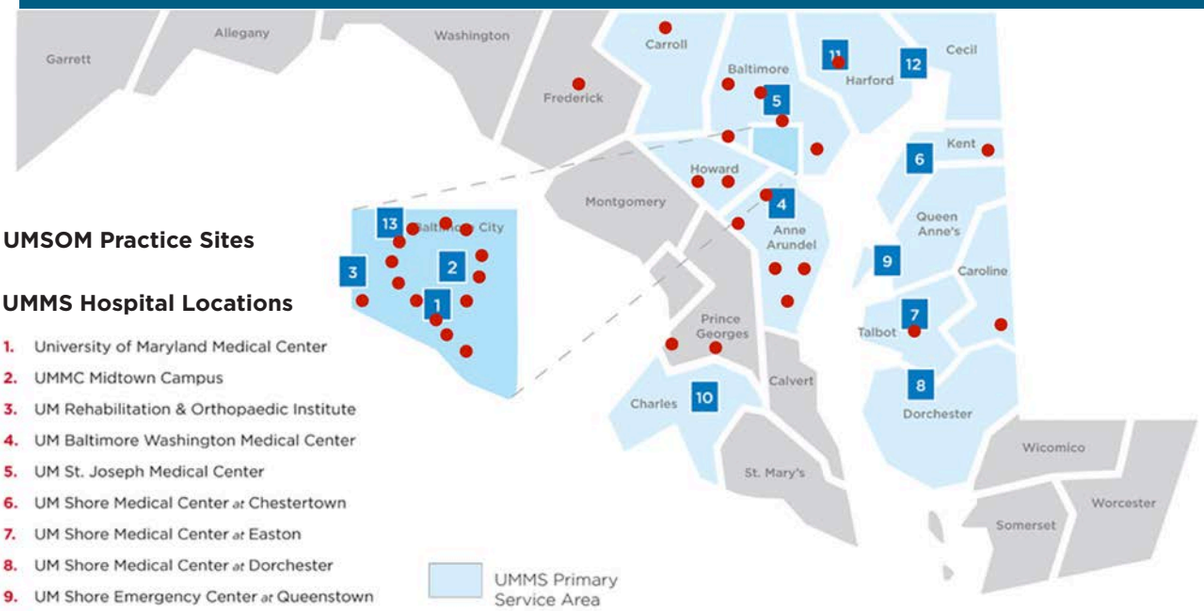


Figure 9 UM Medicine (UMMS and UMSOM) Clinical Enterprise



UMSOM Practice Sites

UMMS Hospital Locations

1. University of Maryland Medical Center
2. UMMC Midtown Campus
3. UM Rehabilitation & Orthopaedic Institute
4. UM Baltimore Washington Medical Center
5. UM St. Joseph Medical Center
6. UM Shore Medical Center *at* Chestertown
7. UM Shore Medical Center *at* Easton
8. UM Shore Medical Center *at* Dorchester
9. UM Shore Emergency Center *at* Queenstown
10. UM Charles Regional Medical Center
11. UM Upper Chesapeake Medical Center
12. UM Harford Memorial Hospital
13. Mt. Washington Pediatric Hospital *(Joint Venture)*

A GROWING ENTERPRISE

UM Medicine, a partnership between UMMS and UM SOM, has a network of system hospitals and practice sites that are working together to provide comprehensive care for Marylanders in every area of the state, (Figure 9).

THE POWER OF PARTNERSHIP IMPACT:

- > $5 Billion Enterprise
- Nearly 40,000 Employees
- Economic Impact Nearly $10 Billion

H. Richard Alexander, MD, Martin Edelman, MD, Minesh Mehta, MBChB, and Joseph Friedberg, MD

NEW

OUTPATIENT PRACTICE FACILITY

UM Faculty Physicians, Inc. further expanded their reach with the opening of a new comprehensive outpatient facility at Waterloo Crossing — a new 35,600 square-foot facility on Waterloo Road in Columbia, MD.

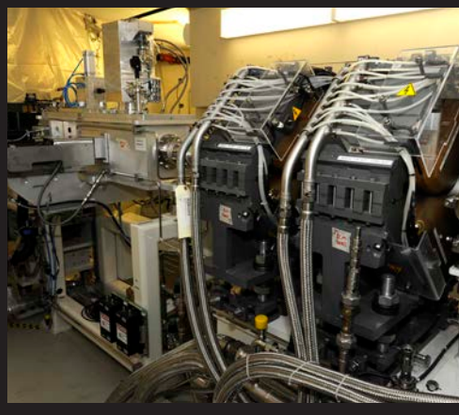
UMSOM and ADVANCED PARTICLE THERAPY JOINT VENTURE

NEW

MPTC

The Maryland Proton Treatment Center (MPTC) prepared to open its doors as 2015 came to an end. The 110,000 square-foot facility houses a 90-ton Cyclotron that will generate the proton particles for treatment.

MPTC will have 170 employees, including physicians, technicians, and support staff. It will treat nearly 2,000 patients per year once at full capacity, offering highly effective precision treatment for a wide a range of tumors.



NEW

NICU

The University of Maryland Children's Hospital and faculty from the School of Medicine opened the new Drs. Rouben and Violet Jiji NICU in 2015. At 37,000 square feet, it is triple the size of the previous unit and one of only two units in Maryland with a Level IV designation.

EDUCATION

356
TOTAL GRADUATES

155	MD
2	MD/PhD
61	Physical Therapy & Rehabilitation Science
7	Genetic Counseling
21	Medical & Research Technology
24	Masters in Public Health
37	MS
49	PhD

ENTERING CLASS

Of the 51,322 applicants attempting to find spots in U.S. medical schools in 2015, **5,240 applied to the University of Maryland School of Medicine, (Figure 10). One hundred and fifty-nine, ranging in age from 21 to 38, matriculated into this year's entering class.** Seventy-five percent of the students are Maryland residents. Nine percent are under-represented minorities in medicine. Fifty-nine percent are female. The Class of 2019 came from 67 different colleges and universities, and had an overall grade point average of 3.76 and an average MCAT score of 32, both well above the national average.

STATISTICS on the Class of 2019

Total MD Program Applications (AMCAS): 5,240
> **2,782** Men
> **2,458** Women
> **1,045** Maryland Residents
> **4,195** Non-Maryland Residents

Entering Class
> **159** Total Students
> **41%** Male **59%** Female
> **75%** Maryland Residents **25%** Non-Residents
> **21-38** Age Range in Years
> **9%** Under-represented in Medicine
> **67** Colleges and Universities Represented

Average GPA
> **3.76** Overall
> **3.72** Science

Average MCAT
> **32**

While our medical students comprise nearly half of the total student enrollment of 1,307, **our student body also includes Allied Health and Physical Therapy students, as well as graduate students and students pursuing combined degrees** (Figure 11). We currently have ten joint degree programs: two doctorate programs (MD/PhD and MD/DDS), seven MD/Master's degree programs, and a DPT/PhD degree program within the Department of Physical Therapy & Rehabilitation Science.

The rate of student diversity within the different programs ranged from four percent to 48 percent (Figure 11). The most diverse was once again the Masters in Public Health program within the Department of Epidemiology & Public Health. Congratulations to them for bringing the opportunity of education to such a variety of students. Diversity is essential to the success of our medical school, as it further enriches the supportive learning environment we strive to provide here for students of all backgrounds.

DEGREES CONFERRED TO GRADUATES

We take great pride in our graduates. **In May 2015, we conferred degrees on 356 students, including 155 new physicians, three of whom received dual degrees (two MD/PhD and one MD/MPH). Philip Needleman, PhD, former President of Searle Research and Development, gave the keynote speech at the hooding ceremony for our MD graduates.** In our other programs, 61 graduated with Doctor of Physical Therapy degrees from our Department of Physical Therapy & Rehabilitation Science; seven completed the Masters in Genetic Counseling degree; 21 earned medical and research technology degrees; 24 earned Masters of Public Health degrees; 37 earned MS degrees, and 49 earned PhDs, up from 341 total graduates in 2014.

Students in our Graduate Program in Life Sciences (GPILS) appeared as authors in 260 publications last year, 71 of which had a GPILS student as first author. They had grants with an annual value of $272,260. Among the 66 new MS and PhD students we welcomed, 61 percent were female and 17 percent were underrepresented minorities.

COMPETITIVE MATCH

Nearly 23 percent of our MD graduates secured residency spots in Maryland on Match Day 2015, when fourth-year medical students around the country learn the programs into which they have been accepted. This is an important statistic, since many young doctors end up setting up practice where they complete their residencies, and we want to keep Maryland talent here in Maryland. With more and more students applying each year for an unchanging number of residency spots, this was the most competitive Match in the history of The National Resident Matching Program (NRMP). Our graduates placed very well though, finding spots at **60 different hospitals in 26 different states.**

Figure 10 U.S. Medical School Applications

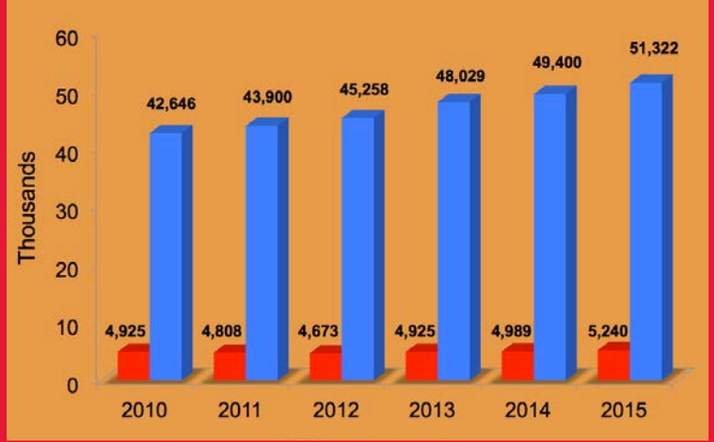


Figure 11 Total Student Enrollment & Percent Diversity

Program	2014	2015	Diversity %
Medical (MD)	626	624	11 %
MD/PhD	44	48	4%
Graduate (MS/PhD)	347	337	17%
Public Health (MPH)	36	42	48%
Physical Therapy (DPT/PhD)	178	182	13%
Genetic Counseling (MS)	13	15	N/A
Medical and Research Technology (BS/MS)	54	53	37%
Clinical Research Certificate	4	6	35%
Total	1,302	1,307	

Source: Office of Institutional Research & Accountability. Includes Native American, African American, Hispanic American and Multi-Racial American.

OUTREACH

35+
COUNTRIES SERVED

MAKING A DIFFERENCE IN OUR OWN BACK YARD

The School of Medicine is firmly committed to community service, as reflected in the variety of initiatives we offer in response to the medical and social needs of our local community. **These include our two Mini-Med School programs, one for children (based at the Franklin Square Boys & Girls Club in West Baltimore), and one for adults (based here on campus), both of which have offered free classes by our faculty members to more than 7,000 attendees on how to prevent or live a better life with diseases** such as diabetes, asthma and high blood pressure that are common in our local patient population.

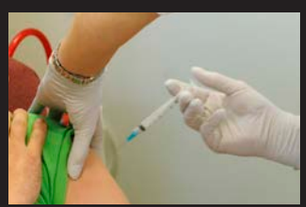
In 2015, the School of Medicine expanded the Mini-Med School franchise with the Seniors Medical Institute, a six-week program for seniors held at Community College of Baltimore County in Owings Mills. The once-a-week sessions included discussions by top SOM faculty on the latest discoveries in cancer, genomics, brain science, depression and infectious disease.

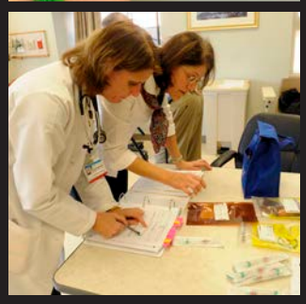
In addition to assisting with campus and community partner initiatives such as Promise Heights, B'More for Healthy Babies, and Healthcare for the Homeless, each Thanksgiving a team of our first- and second-year medical students coordinate **nearly 100 volunteers for Project Feast, which provides a hot holiday meal and health screenings to 400+ people in West Baltimore each year.**

BRINGING HEALTHIER OUTCOMES TO THE WORLD'S MOST NEEDY

The Institute for Global Health (IGH), established in 2015 at the University of Maryland School of Medicine, is dedicated to improving global health by conducting innovative, world-leading research in Baltimore and around the world.

Led by Founding Director Christopher Plowe, MD, MPH, the Institute develops new and improved ways of diagnosing, preventing, treating, controlling, and eradicating diseases of global impact. Currently, these diseases include malaria, Ebola, and vaccine-preventable infectious diseases such as measles. The IGH plans to expand to relevant non-communicable diseases as well.





Currently, the Institute includes the Center for Vaccine Development (CVD) — directed by Kathleen Neuzil, MD, MPH, FIDSA, who also serves as Deputy Director of IGH — and the Division of Malaria Research, directed by Dr. Plowe. Under the Institute umbrella, CVD continues its 40-year mission to develop, test and deploy vaccines against infectious diseases that will aid the world's underserved population. Former CVD Director Myron Levine, MD, DTPH, The Simon and Bessie Grollman Distinguished Professor in Medicine, is a senior advisor to the IGH, and Associate Dean for Global Health, Vaccinology and Infectious Diseases at the School.

In August 2015, Dr. Plowe and Myaing Nyunt, MD, MPH, PhD, Assistant Professor of Medicine, and Director of IGH's efforts in Myanmar, brought together a diverse array of opposing factions from Myanmar as part of an unprecedented unified effort to eliminate the country's most fatal disease: malaria.

The meeting brought together both civilian and military government officials; the main opposition party; and the Shan, Karenni, and Kayin ethnic minorities. The dissident groups pursued an agreement on a concerted, long-term plan to eliminate malaria in Myanmar, formerly known as Burma, where about 300,000 people suffer from malaria every year; in some parts of the country, a quarter or more of the population is infected.

Dr. Nyunt

RECOGNITION & VISIBILITY

Media COVERAGE

STORIES = 1,825

TOTAL AUDIENCE = 173 Million+

NET INCREASE = +19%

VACCINE DEVELOPMENT
The role the University of Maryland School of Medicine played in developing and testing an Ebola vaccine continued to dominate headlines well into 2015.

News of another potential vaccine — one that might protect from HIV — was this year's top media story. **Robert Gallo, MD,** The Homer and Martha Gudelsky Distinguished Professor in Medicine and Director of the **Institute of Human Virology, was featured on ABC News, MSNBC, WBAL-TV, and in newspapers both local and international when the Institute of Human Virology at the School of Medicine announced that it was launching Phase I clinical trials of a novel HIV vaccine candidate developed by a research team co-led by Dr. Gallo,** who is widely known for his discovery of the first human retroviruses (including one which causes a specific kind of leukemia), co-discovery of HIV as the cause of AIDS, and the development of the HIV blood test.

Dr. Gallo's team included his IHV colleagues, co-leader, **George Lewis, PhD,** Professor of Microbiology & Immunology and Director of the Division of Vaccine Research, and **Anthony DeVico, PhD,** Professor of Medicine and Microbiology & Immunology, as well as **Tim Fouts, PhD,** of Baltimore-based Profectus Biosciences, Inc., a spinoff company from IHV.

Enrollment for the clinical trials began October 1, 2015. The candidate immunogen, denoted as the Full-Length Single Chain (FLSC), is designed to elicit strongly protective antibody responses across the spectrum of HIV-1 strains.

NBC THE HUFFINGTON POST The Washington Post The Atlantic MONTHLY abc NEWS

INCREDIBLE RESULTS FOLLOWING NEW PARKINSON TREATMENT
Extensive media coverage also highlighted the success of **a clinical trial of an innovative treatment for Parkinson's called focused ultrasound that has the potential to replace surgery as first-line treatment for the essential tremor associated with the disease.** The trial was done on a patient of **Paul Fishman, MD,** Professor, Department of Neurology. Other members of the research and clinical team included **Howard Eisenberg, MD,** The Raymond K. Johnson Chair In Neurosurgery, **Elias R. Melhem, MD,** Professor and Chair, Department of Diagnostic Radiology & Nuclear Medicine, and **Graeme Woodworth, MD,** Associate Professor, Department of Neurosurgery.

In focused ultrasound, ultrasonic waves are directed through the skull, much like a magnifying glass aims sunlight at a certain spot. The waves provide energy that is low enough that they don't damage the brain as they pass through. As they meet at a single point the energy adds up, creating enough heat to kill the cells. A metal frame tightens around the patient's head to keep it in place, but no holes are made in the skull and no needles are involved, as is the case with other treatments. So far the procedure has shown incredible results.

The news media reported widely on a patient (center) with severe leg tremor who is able to walk — even run — shortly after MRI-guided ultrsound treatment performed by Drs. Eisenberg (left) and Fishman.

Dr. Melham

NBC 4 WASHINGTON, D.C. THE BALTIMORE SUN

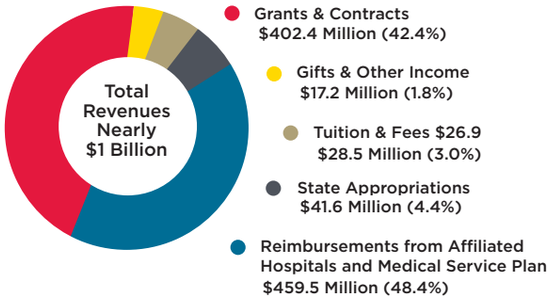
FINANCE & PHILANTHROPY

17,000 DONORS

$450M RAISED

THE POWER OF GIVING

Of our nearly $1 billion in operating expenses, only $41.6 million comes from the state. Of course we value that very much, and we are always grateful for the support that they give us. However, these funds do not provide all of the resources required to operate, so we have to find other means of support. Tuition and fees only contribute $28.5 million. As for the rest, $402.4 million comes from competitively securing grants; $293.2 million comes from physician services and $166.3 million comes from hospital contracts.



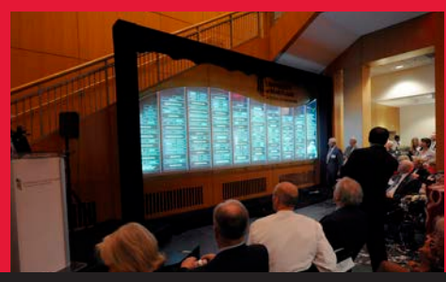
The additional funds needed must come to us from philanthropy. These private gifts are very important, because they provide critical resources to sustain and expand our outstanding programs. Our philanthropy dollars are typically a combination of private, individual gifts and foundation grants. **We are very pleased to report that between 2014 and 2015, our revenue from philanthropy grew from $14.7 million to $17.2 million.**

We're particularly grateful for our top donors, whom you can see listed on this page, (Figure 12). Many of these gifts were for the establishment of endowed professorships, which allow us to attract and retain top talent.

With a dramatic unveiling of an illuminated "Wall of Honor" in October, University of Maryland School of Medicine **Dean E. Albert Reece** announced the **completion of the School's seven-year campaign "Transforming Medicine Beyond Imagination." The campaign, which raised more than $450 million from 17,000 donors, will support scholarships, global health and biomedical research.** It was the largest and most successful capital campaign in the School's history, raising 89 percent more than the previous campaign. Thirty new endowed professorships and chairs were added during the campaign, a 75 percent increase. Fifty-two new scholarships, totalling more than $11 million, were also created.

Figure 12 Top Philanthropic Gifts

Donor	Amount	Recipient
United Therapeutics Corporation	$2,050,000	Department of Surgery
Maryland Emergency Medicine Network	$1,664,166	Department of Emergency Medicine
Anonymous	$1,569,085	Dean's Office/Surgery
Robert E. Fischell, ScD, and Susan Fischell	$1,002,000	Dean's Office
J. Laurance Hill, MD Mrs. Charlotte P. Hill	$1,000,000	Department of Surgery
Anonymous	$1,000,000	Institute of Human Virology
Richard F. Welty	$761,748	Department of Pediatrics
Independent Dialysis Foundation, Inc.	$468,463	Department of Medicine
Orokawa Foundation	$350,000	Departments of Radiation Oncology/ Otorhinolaryngology/ Program in Oncology
The Zanvyl & Isabelle Krieger Fund	$279,830	Departments of Epidemiology & Public Health/Psychiatry/Dean's Office
TOTAL	$10,145,292	



INVESTITURES

Robert O'Toole, MD, was named the inaugural Hansjörg Wyss Medical Foundation Endowed Professor in Orthopaedic Trauma in the Department of Orthopaedics on March 9, 2015.

Steve Schwartz (Synthes USA) and Robert O'Toole, MD

Dr. O'Toole with Drs. Scalea, Pollak and Dean Reece

Barney Stern, MD, was named the inaugural Stewart J. Greenebaum Endowed Professor in Stroke Neurology in the Department of Neurology on October 9, 2014. Dr. Stern is also Interim Chair of the Department.

Dean E. Albert Reece, Barney Stern, MD, and Michael Greenebaum (SOM Board Member)

TRANSITIONS

Claudia Baquet, MD, MPH, Professor, Department of Medicine and Associate Dean for Policy and Planning, who retired in February 2015 after 20 years of service, was chosen as the 2015 recipient of the Dean's Faculty Award for Diversity and Inclusion.

Richard Colgan, MD, Professor, Department of Family & Community Medicine, who is a longtime expert on the practice and teaching of family medicine, was appointed director of the University of Maryland School of Medicine's Area Health Education Center (AHEC) Program after the retirement of Dr. Claudia Baquet. AHEC places medical students with community physicians and other clinicians who are providing healthcare to underserved populations throughout the state, giving these students a taste of what it's like to work in these communities.

William "Brit" Kirwan, PhD, who retired in 2015 after 13 years as University System of Maryland (USM) Chancellor, joined the School of Medicine's Board of Visitors on July 1.

Myron Levine, MD, The Simon and Bessie Grollman Distinguished Professor of Medicine in the Institute for Global Health, and Associate Dean for Global Health, Vaccinology and Infectious Diseases, was awarded the American College of Physicians (ACP) Award for Science for "Outstanding Work in Science as Related to Medicine" on April 30, 2015. Established in 1958, the award honors recipients for exceptional contributions to medicine.

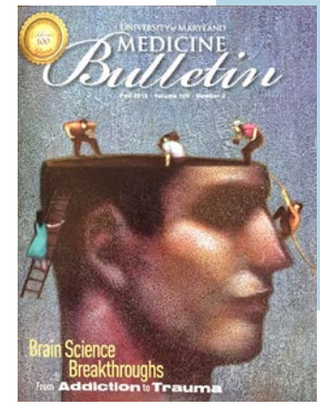
Gregory Robinson, DMin, MDiv, MA, stepped down from his position as Associate Dean for Academic Administration and Resource Management on July 1, retiring after 41 years of service. As part of the succession process, **Louisa Peartree, MBA,** Associate Dean for Finance and Business Affairs, was promoted to Senior Associate Dean, Finance & Resource Management; **David Ingle, MBA,** director of academic administration, was promoted to Assistant Dean, Academic Administration & Human Resources; and architect **Robert Cook, MBA,** was named Executive Director of Facilities & Operations.

Mark W. Rogers, PT, PhD, Professor, was appointed Chair of the Department of Physical Therapy & Rehabilitation Science in February 2015. Dr. Rogers had served as the Department's Interim Chair since August of 2013, when **Mary Rodgers, PT, PhD, FAPTA, FASB,** The George R. Hepburn Dynasplint Professor in Physical Therapy & Rehabilitation Science, stepped down following a successful 15-year tenure as Chair.

Terry Rogers, PhD, Professor, Department of Biochemistry & Molecular Biology and Executive Director of the Office of Research Affairs, was promoted to Assistant Dean of Research Affairs. Dr. Rogers will continue to oversee all matters related to research administration, with expanded responsibilities for research development activities, including large, complex grant submissions, and will work collaboratively with faculty research teams.

100th ANNIVERSARY

The Medicine Bulletin, the magazine of the Medical Alumni Association of the University of Maryland, and its editor, Larry Pitrof, celebrated the magazine's 100th anniversary in 2015. It is the oldest medical alumni magazine in the United States. The Medical Alumni Association has been in continuous operation since 1875.




University of Maryland School of Medicine

SADLY, WE LOST THREE MEMBERS OF OUR SCHOOL OF MEDICINE CIRCLE.

MORTON DAVID BOGDONOFF, MD

UMSOM Board Member

December 8, 1925 – March 1, 2015

Dr. Bogdonoff was a Charter member and first Chair of the UMSOM Board of Visitors when it was established in 1992. A graduate of Weill Cornell Medical College, he was a Professor of Medicine at Cornell for 40 years.

ANITA HAWKINS, MD

Faculty

September 12, 1966 – November 25, 2014

Dr. Hawkins had been a faculty member in the Department of Diagnostic Radiology & Nuclear Medicine since 1988. She earned her MD from the University of Miami Miller School of Medicine. Her major interests were providing first-class clinical service to her patients and resident education.

ELIJAH B. SAUNDERS, MD '60

Faculty

December 9, 1934 – April 6, 2015

Dr. Saunders was a UMSOM physician for 55 years. In 1965 he became the first African American cardiologist in the State of Maryland. He was an internationally renowned expert on hypertension in African Americans and devoted his career to exploring new treatment options; developing innovative programs to reach African American patients; and educating at-risk members of this population.

They will be greatly missed.

LOOKING AHEAD

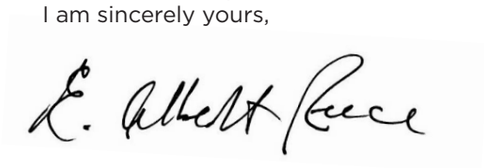
Where will our story lead us next?

Although the future is not guaranteed, we have scripted for ourselves a solid foundation on which to build. As we move with undaunted purpose to reach new milestones in research, education and clinical care, **I challenge our community to collaborate to achieve these shared goals…**

- **We must strengthen the analytical skills of our students,** and expose them, increasingly, to the diversity of opportunities awaiting them, including clinical medicine, biomedical research and entrepreneurial initiatives;
- **We must further expand our destination clinical programs,** and rededicate ourselves to excellence in patient care, patient safety and service excellence;
- **We must redouble our efforts to increase the number of NIH-funded faculty,** AND the overall funding per full-time faculty, across all departments, programs, centers and institutes;
- **We must be aggressive in the recruitment and cultivation of well-funded NIH investigators** through our Special Trans-Disciplinary Recruitment Award Program (STRAP) initiative. This will allow us to populate our new Research Building with well-funded, trans-disciplinary and collaborative scientists.

It is because we are undaunted in our purpose and resilient in our execution that I am optimistic and confident. Each year we soar higher than the year before. There are no limits to our imaginations, our wonder and our discovery, and thus our celebrated story continues!

In the relentless pursuit of excellence,
I am sincerely yours,



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

UNIVERSITY of MARYLAND
SCHOOL OF MEDICINE

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