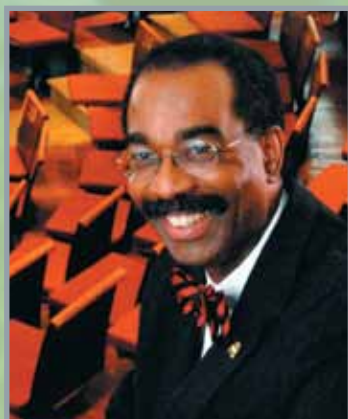




## DEAN'S MESSAGE: What's On My Mind



“THE GOAL IS TO ACCELERATE THE PACE OF DISCOVERY, COLLABORATION, AND INNOVATION, AND TO PROVIDE THE HIGHEST-QUALITY, PATIENT-CENTERED CARE.”

What's on my mind this month is the public launch of the School of Medicine's **Accelerating Innovation and Discovery in Medicine (ACCEL-MED) Initiative**, which forms the cornerstone of the research component of Shared Vision 2020.

Shared Vision 2020 is our strategic plan for the near term, and has been implemented in partnership by the School of Medicine and Medical System. The goal is to accelerate the pace of discovery, collaboration, and innovation, and to provide the highest-quality, patient-centered care. Shared Vision 2020 is a roadmap for success in challenging times, addressing all of our key mission areas: education, clinical care, finance and philanthropy, and research. The emphasis of the research area is our new **ACCEL-MED Initiative**.

Multiple components comprise the **ACCEL-MED Initiative**, and each will be highlighted in this and subsequent editions of the SOMnews. Listed below, with brief summaries, are the elements of our new School of Medicine initiative:

- **Annual Festival of Science.** This day-long symposium highlights the groundbreaking work conducted in basic, translational and clinical research across our departments, programs, institutes and centers. The inaugural Festival of Science was held on November 22, 2013, with a keynote address by NIH Director, **Francis S. Collins, MD, PhD**.
- **Scientific Advisory Council.** This panel of internationally-renowned scientific experts will visit us each year during the Festival of Science, and provide feedback on our research portfolio, programs, projects, and guidance to faculty presenters. After joining us at the first Festival of Science, the Council members recommended building on our strength in interdisciplinary science.
- **Interdisciplinary research initiatives.** Recognizing the unique opportunity here at the School of Medicine to conduct collaborative research, and in response to recommendations from the Scientific Advisory Council, numerous programs have begun to promote a culture of interdisciplinary research. These include:
  - **Research Consortium Units (RCUs)** that include senior basic and clinical faculty with a common goal to answer “big science” research questions in key disease areas, as well as improve alignment of research ongoing in the basic and clinical departments.

- **Thematic Research Retreats** that will bring together the leaders in discrete research areas, and will allow us to coordinate tactics, set funding goals and measure progress, while providing high-level oversight and some degree of specificity.
- **Dean's Challenge Award**, a new seed funding program that is meant to encourage senior School of Medicine scientists to bring together their respective expertise, and work collaboratively across departments, centers, institutes and programs in order to tackle the toughest issues in medicine today.
- **Center for Innovative Biomedical Resources (CIBR) Program.** The CIBR Program brings together most of our core and resource technologies into a single, centralized facility, giving our faculty, students, fellows and staff broad access to essential tools which directly support basic, translational and clinical research in a number of areas. The Center was dedicated in a ceremony held on November 22, 2013.
- **Foundations of Research and Critical Thinking (FRCT) course**, which is part of a collaborative research continuum that includes students, trainees, and faculty.
- **New funding goals**, including an annual growth in federal funding of 5%, with the ultimate purpose of having 90% of basic science department faculty and 25% of clinical department faculty supported by federal resources.

I strongly encourage you to participate in the projects and programs outlined here, which are inclusive of all faculty, staff, students, trainees and fellows. Working together, we have a unique opportunity to think and act boldly and strategically to advance our goal of becoming known for **discovery-based medicine**, not just here in Maryland, but across the region, the nation, and throughout the world.

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

## Spotlight on Science: ACCEL-Med

Since the official launch of the new School of Medicine initiative **Accelerating Innovation and Discovery in Medicine (ACCEL-Med)** at last year's inaugural Festival of Science, efforts have been underway to measurably increase the pace and scope of biomedical research. On a regular basis, we will provide updates on the various components of **ACCEL-Med**, and share information on how you can participate in this endeavor.

Earlier this year, Dean Reece gave an interview that provided an overview of all the planned **ACCEL-Med** activities. If you haven't viewed it already, we encourage you to take a look at the video on the School of Medicine website or YouTube channel to hear what the Dean has to say about this new initiative.

We also announced the establishment of a new **Brain Science Research Consortium Unit**, led by Professor Bankole Johnson, which brings together faculty, students, trainees and staff from multiple disciplines—neurology, neurobiology, neurosurgery, psychiatry, the STAR center and MPRC—to tackle the most compelling research questions about the body's most complex organ. See more on this consortium on the next page.

Proposals for the Dean's Challenge Award, intended to foster collaboration between senior investigators interested in addressing “big science” projects using a team approach, are currently under review. In the next **Spotlight on Science**, we'll announce the winning projects.

Be on the lookout for announcements about upcoming thematic retreats, which will be small meetings of investigators from basic, translational and clinical academic units whose work addresses a similar

area of research such as cancer biology, cardiovascular science or regenerative medicine. The retreats will be organized through the Office of Research Affairs (ORA), and more information from ORA will be forthcoming.

Looking ahead, we are excited to announce that **Dr. Anthony S. Fauci**, Director of the NIH's National Institute of Allergy and Infectious Diseases, will give the keynote address at the **2nd Annual School of Medicine Festival of Science on December 12, 2014**. This year's Festival will focus on the topic of “**Infections, Inflammation and Vaccines**,” and will feature the work of investigators conducting cutting-edge research in these areas. Under the guidance of a faculty planning committee and the leadership of **James Kaper, PhD**, the agenda for the Festival is coming together. Check the upcoming **ACCEL-Med** website later this spring for real-time updates, and remember to save December 12th on your calendars—this is an event that you will not want to miss!

# ACCEL-Med Accelerating

## New Brain Science Research Consortium Established

THE PROGRAM WAS ESTABLISHED TO REVOLUTIONIZE HOW WE UNDERSTAND THE HUMAN BRAIN AND MIND, AND TO FIND NEW WAYS TO IDENTIFY AND TREAT DISORDERS SUCH AS PARKINSON'S DISEASE, SCHIZOPHRENIA, ALZHEIMER'S DISEASE, AUTISM, STROKE, AND BRAIN INJURY.



Brain Science Research Consortium Unit harnesses power of key research faculty from multiple disciplines to propel understanding of brain function and develop novel new therapies offering hope for those living with neurological disorders

University of Maryland School of Medicine Dean E. Albert Reece, MD, PhD, MBA, announced in February the establishment of a new brain science research unit that will bring together faculty from multiple disciplines to probe the inner workings of the brain and to develop therapies for a wide range of neurological disorders. The new Brain Science Research Consortium Unit (RCU) will conduct large-scale, multidisciplinary studies on brain function (and dysfunction). Physician-scientists, laboratory scientists and other translational and clinical investigators across the university will collaborate in this important undertaking.

"Tackling an area of research with as much intricacies as brain science requires significant collaboration from investigators across many disciplines, because no single person will

have all the answers," said Dean Reece, who is also Vice President for Medical Affairs, University of Maryland, and the John Z. and Akiko K. Bowers Distinguished Professor, University of Maryland School of Medicine. "The School of Medicine's Brain Science RCU breaks through the traditional silos, where basic research is separated from clinical work, and brings together a team of experts from multiple fields to understand the body's most important organ. We anticipate unprecedented discoveries that will measurably and dramatically impact the area of brain research."

The Brain Science RCU will set out to answer challenges presented by the NIH's BRAIN (Brain Research through Advancing Innovative Neurotechnologies) project, also referred to as the Brain Activity Map Project, a national research program announced by President Obama last year. The program was established to revolutionize how we understand the human brain and mind, and to find new ways to identify and treat disorders such as Parkinson's disease, schizophrenia, Alzheimer's disease, autism, stroke, and brain injury.

SOM researchers will be well-poised to align their expertise with the BRAIN Initiative's goals, forming interdisciplinary groups to form large research projects on:

- Tracing the vast system of brain networks, nerve-cell activation, and connectivity.
- Understanding the molecular basis of diseases, and understand-

ing common mechanisms of brain disorders such as inflammation of nerve cells, neurogenesis and the adaptive responses of cells in the brain.

- Developing preventive measures and treatments for brain disorders.
- Advancing new technologies such as molecular imaging, silicon-based modeling of brain circuitry, and use of pharmacological probes, implants and magnets to train disease.
- Breaking new ground by creating new physiological models of brain disease.

The Brain Science RCU will be led by Bankole A. Johnson, DSc, MD, MB, ChB, MPhil, Professor and Chair of the Department of Psychiatry and Behavioral Science. His primary area of research expertise is the psychopharmacology of medications for treating addictions, and he is the author of more than 200 research publications. He is the principal investigator on National Institutes of Health (NIH)-funded studies utilizing neuroimaging, neuropharmacology, and molecular genetics techniques. Professor Johnson is a neuroscientist and neuropsychopharmacologist whose work spans basic, translational and the clinical sciences, including the use of molecular genetics and neuroimaging to develop medicines for the treatment of addictions.

Professor Johnson will lead a steering committee of School of Medicine faculty that will determine research areas for the Brain Science RCU to follow, develop multidisciplinary centers of excellence to submit research grants, conduct large-scale studies, and make joint discoveries in how the brain works and what causes brain disorders. The Brain Science RCU will bolster research ties with other parts of the School of Medicine, the University and the Medical Center, including the departments of neurology, neurosurgery, neurobiology, and psychiatry, SOM's Center for Shock Trauma and Anesthesiology Research (STAR), the Maryland Psychiatric Research Center (MPRC), and the University of Maryland Medical System.

"The human brain is arguably the most complex entity in the universe that we know of," said Dr. Johnson. "We do not understand all that the brain is capable of, nor how everything functions. The Brain Science RCU will allow us to develop revolutionary techniques, methods and knowledge to help our understanding of brain function that only a large, interdisciplinary enterprise can do."

The Brain Research RCU is one of a number of RCUs the School of Medicine will establish as part of the ACCEL-Med (Accelerating Innovation and Discovery in Medicine) Initiative, which will explore "Big Science" questions in a number of areas, including heart and vascular science; cancer biology, transplantation, etc. These RCU's will complement SOM's robust research enterprise, which currently includes 25 departments and 20 centers, institutes and programs.



Bankole A. Johnson, DSc, MD, MB, ChB, MPhil

## Joint Recruitment Strengthens Collaboration

Between  
Basic  
and  
Clinical  
Departments

The School of Medicine has a tradition of interdepartmental collaboration that will be magnified even further through ACCEL-Med initiatives. For example, two years ago, Richard Eckert, PhD, Chair of the Department of Biochemistry and Molecular Biology, and Scott Strome, MD, Chair of the

Department of Otorhinolaryngology-Head & Neck Surgery, began a partnership to yield new insights and treatments for cancers of the head, neck, skin and mouth. Recognizing that the best way to advance their project was to have a faculty member whose research interests fit the missions of both departments, Drs. Eckert and Strome jointly recruited Michal Zalzman, PhD, from the National Institutes of Health (NIH) in 2012.

Dr. Strome first identified Dr. Zalzman as an excellent candidate for the joint appointment when his group collaborated with her on a cancer-related project. "Michal's talent and potential to become an incredible senior investigator shone through while she was still a postdoctoral fellow at the NIH, and immediately I knew that we could greatly benefit from having her as a permanent member of our team," says Dr. Strome.

During her tenure at NIH, Dr. Zalzman studied a gene called Zscan4, which appears to regulate survival of stem cells and could play a major role in the prolonged life of cancer cells. "Her expertise in stem-cell research,

and the implications that her work has for cancer biology, made her an outstanding prospective faculty member who could straddle the basic science work with clinical studies," says Dr. Eckert.

Dr. Zalzman's primary appointment is in Biochemistry & Molecular Biology, with a secondary appointment in Otorhinolaryngology-Head & Neck Surgery. Both departments contribute in unique and important ways to her development: Biochemistry & Molecular Biology provides a basic science environment and mentoring, and Otorhinolaryngology provides a venue for studying important clinically relevant issues and providing fundamental insights into disease. Her appointment also has further strengthened the partnership between the two departments, which now have regular meetings to help foster additional collaborations that could lead to new arenas for grant submission.

"Building these types of basic and clinical investigative teams will lead to new science, hopefully new treatments, and may generate new sources of financing," says Dr. Strome. "This is a major mission of ACCEL-Med, and we hope that our success story encourages others to consider working with their colleagues across departments in the future."

Another bonus of the joint recruitment is that it has increased the rapport between the two department chairs. Comments Dr. Eckert, "Dr. Strome and I have developed a strong friendship and working relationship as we look to develop and expand this effort. We have a lot of fun doing this!"



Michal Zalzman, PhD

# Innovation and Discovery in Medicine

## Rockin' Out About Research:

### New SOM Research Communications Network Will Help Advance ACCEL-Med

Everyone at the School of Medicine (SOM) has a role in the Dean's Accelerating Innovation and Discovery in Medicine (ACCEL-Med) initiative, especially the Office of Public Affairs and Communication (OPAC). Just as the faculty is working diligently to increase the pace of their research, OPAC is working to expand its capacity to share these incredible, groundbreaking science stories. Raising public awareness of the work ongoing at the SOM is no small task, and, similar to the cross-cutting research on campus, requires collaboration and teamwork. Drawing from the existing group of communications liaisons, who faithfully send information to *SOMnews* and *The Buzz* on a regular basis, OPAC has refreshed its pool of contacts in each department, center, institute, and program to create a new "Research Communications Network," known better as the RCN (or the Rockin' group).

The kickoff meeting of the RCN group was held on February 25, 2014. Representatives from each SOM academic unit, assigned to the group by their chair or director, were charged with keeping OPAC informed of new publications, speaking engagements, op-eds, or media appearances that members of their respective department, center, institute or program are doing.

Christopher Hardwick, MA, Assistant Dean for Public Affairs, offered up examples of research publications that have transitioned into national news



RCN representatives work with Public Affairs to get attention for your research from a variety of media outlets.

headlines, impressing upon the RCN group the importance of informing OPAC of everything and anything. In addition to submitting story ideas to *SOMnews* and items for *The Buzz*, attendees were encouraged to ask faculty for updates and tap into existing research meetings as sources of information.

"We're just as excited about your research as you are, but we can't spread the word about it unless you tell us what's happening," said Public Relations Manager Caelie Haines, MS.

Ideally, Hardwick and Haines hope the RCN group can send information before it goes public. Longer lead times will allow OPAC to more fully develop a research story beyond simply a press release—possibly producing a short video, creating a social media package, or even pitching ideas to the national media. The RCN was reminded that

"sharing a paper that has been accepted for publication with OPAC does not in any way break a journal embargo," said Hardwick. "We work closely with the journals, so if we know in advance about a study being published, we have a greater opportunity to collaborate on getting media coverage."

The newly formed liaison group is now over 40 members strong. A complete list of RCN contacts can be found at the end of this month's *What's the Buzz?* Although faculty should not hesitate to contact OPAC directly if they know that something important is about to happen, keeping both the RCN rep and the OPAC in the loop will ensure the whole communications team is informed.

## Update on Vision 2020 for Research: Progress of the Research Resource Advisory Group

DEAN REECE HAS APPOINTED a small group of senior faculty to develop specific strategies to achieve the goals for **Shared Vision 2020 for Research**. This oversight resource advisory group began meeting last year to discuss how they could use "strategic disruptive innovation," defined as a product or service that takes root initially in simple applications and then relentlessly advances, eventually displacing established competitors, to advance **Shared Vision 2020**.

Margaret McCarthy, PhD, leads the Research & Resources Oversight Advisory Committee (RROAC), which includes Thomas Blanpied, PhD; Jonathan Bromberg, MD, PhD; Scott Devine, PhD; Asaf Keller, PhD; Elias Melhem, MD; J. Marc Simard, MD, PhD; J. Kathleen Tracy, PhD; Stefanie Vogel, PhD; and David Weber, PhD. At their first planning meeting, the RROAC identified current products and services unique to the School of Medicine which could potentially be used to displace the challenges to securing research funding, notably federal support. The RROAC focused in on three areas of excellence: technologies, diseases and patient care, and applications for military medicine.

**Technological strengths.** The array of cutting-edge, high-throughput sequencing services, coupled with the expertise of faculty and staff, available at the School of Medicine's Institute for Genome Sciences (IGS), make this a key technological resource. The RROAC believes that faculty should take greater advantage of the knowledge and skills at IGS, to help advance and encourage major collaborative research projects.

The Center for Biomolecular Therapeutics (CBT) is a second area of technological strength. CBT has a wide menu of services available at relatively low costs to School of Medicine faculty, including the ability to pay for half of a postdoctoral fellow's salary assigned to a specific project.

"IGS and CBT provide investigators access to tools that individual laboratories could not support, and has experts willing and extremely interested in the research who can help analyze data at a level that can improve publication impact and strengthen grant applications," says Dr. McCarthy. "I have colleagues at other universities who are simply green with envy over the resources we have here at the School of Medicine."

Over the years, the School of Medicine has made major investments in

imaging equipment that can advance research at the macroscopic level, such as imaging the whole human brain, down to the details of cell-cell interactions at the microscopic level. Having access to all this equipment is unusual at a single academic medical university, and places the School of Medicine at a great advantage over peer institutions in terms of leveraging our imaging capabilities for basic, translational and clinical research.

The new Center for Innovative Biomedical Resources (CIBR), still in its early stages, will become yet another key research resource for the School, and must be exploited to significantly advance the expertise and capabilities of a single laboratory.

**Patient care and military medicine strengths.** The RROAC identified potential partnerships with clinical faculty in transplantation research and shock trauma, respectively. "We have incredible investigators on the patient care side and on the bench research side, but need to form a stronger alignment between the basic and clinical departments to advance these areas of strength," says Dr. McCarthy.

**Next steps.** RROAC members plan to speak with outside experts on core technologies to see how these resources are managed at other institutions and develop best practices for the School of Medicine. The group also hopes to identify funds to support mini-grants to encourage pilot projects and new collaborations. Working with the Office of Public Affairs & Communications, the RROAC plans to increase community awareness of the resources already available to all faculty, students, staff and trainees.

Capitalizing upon the in-house strengths of the School of Medicine, while a relatively simple step to take, could displace challenges to research and has great potential for putting the School on a path to success.



Margaret McCarthy, PhD

# Match Day

No Worries for the Class of 2014  
When it Comes to Finding a  
Perfect Match

**F**or the first time, the Match Day ceremony for the University of Maryland School of Medicine was not held in historic Davidge Hall. Fitting for an event that includes laughter, tears and even musical interludes and dancing, the hoopla moved this year to the Hippodrome Theater for the ceremony on March 21.

And boy was it a great show! "It's very exciting, very surreal. It feels like it shouldn't even be time to Match yet, but here we are," said Zachary Haupt, who learned he is heading to Ann Arbor for an internal medicine residency at the University of Michigan Hospitals.

Held at the same time in

medical schools around the country, Match Day is when fourth-year medical students learn the residency program into which they have been accepted. The National Resident Matching Program (NRMP) conducts the Match nationwide, using a computer algorithm that aligns the preferences of applicants with the preferences of residency programs in order to fill thousands of training positions available at U.S. teaching hospitals.

"I think this, for a lot of students, is

actually bigger than graduation day," said Brandon Smith. "It's the next part of our education, of our journey to becoming doctors, and it has a really special place in our hearts, this ceremony. Graduation is important, too, but Match Day is the start of all the good things to come." Brandon will be staying close to home now that he has landed a Pediatrics residency at Johns Hopkins Hospital.

"Graduation is the capstone to everything, but a lot of our hard work and the long hours we put in will really be rewarded today when we open those envelopes and find out where we're going to spend the next couple years of our lives," added Joseph Mechak, president of the Class of 2014. "It's a big day, and people get really excited about it." Joseph will do a Pediatrics residency at the University of Virginia in Charlottesville.

Match Day can be a torturous process for students, as names are called randomly from a chest full of envelopes, so the future doctors don't know if they will be first or last to find out where they're headed. David Brauer was the lucky student who got the first envelope, finding out he is heading to Scripps Clinic/Green Hospital in La Jolla, California for an internal medicine residency. Praveen George was the last to get an envelope, and proudly announced to the crowd that he had landed an internal medicine residency at the University of Maryland Medical Center. As a



reward for his patience, Praveen won the contents of a bank in the shape of Pumbaa from *The Lion King*, into which each student had put a monetary donation before accepting his/her Match letters. (The theme for this year's Match Day was *Hakuna Matata*.) This money is traditionally used for an after-Match celebration.

The University of Maryland School of Medicine had 161 students who matched on March 21, 2014. Fifty members of the Class of 2014 will stay in the state of Maryland for their residency training.

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