

Summer/Fall 2013
(Revised)

MSSM

MOREHOUSE SCHOOL OF MEDICINE MAGAZINE

Continuing a Culture of Innovation



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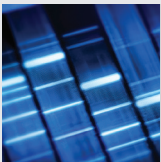
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From the President



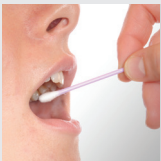
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**As of the 2013-2014 academic school year,
Morehouse School of Medicine has consolidated
The Tablet newsletter with the MSM Magazine.*

From the President

MSM Innovation Continues



Guided by our strategic plan entitled, *Soaring to New Heights of Excellence*, we have continued to advance our competitive position over the past four years. Capitalizing on the changing nature of healthcare and academic medicine, we have continued to leverage our unique mission strengths to become one of the nation's preeminent community-based medical schools.

On the pages that follow, you will find stories highlighting the creativity and tenacity of Morehouse School of Medicine's (MSM) faculty and staff. The foundation of their success is built upon an institutional culture that emphasizes operational excellence and promotes innovation throughout the entire academic enterprise, even with our approach to leadership.

MSM is at the epicenter of initiatives to increase the number of primary care physicians nationwide. We welcomed the largest M.D. class of 70 students this academic year. It is part of our multi-year plan to increase the M.D. class size to 100 by 2016, and we are well on our way to accomplishing our goal. In addition, we have continued to evolve and will reshape our pipeline programs by introducing an innovative approach to recruitment that actively engages our alumni.

Our faculty practice plan, Morehouse Medical Associates, is now Morehouse Healthcare—it's more than just a name change. Morehouse Healthcare, will relocate to a new state-of-the-art facility in September 2013, offering primary care, pediatric, obstetrics and gynecology and medical and surgical subspecialty services. The use of upgraded technology and new medical specialties are just the beginning of what we will enhance in the overall patient experience.

Our research enterprise continues to grow in size and national stature. With our recently renovated \$10M research facility, we have consolidated our five core laboratories and expanded research space. This innovative shared-use multi-lab concept promotes an integrative, multidisciplinary approach to bioscience.

Along the lines of improving our infrastructure, we recently celebrated the opening of our new library, featuring upgraded technology, expanded study space and 24-hour study rooms.

In addition, we continue to promote the translation of discoveries into effective therapies, diagnostics tests and products that improve the human condition and ameliorate ethnic and geographic health disparities. To that end, we highlight in this issue the development of a revolutionary saliva-based point-of-care test that speeds up diagnosis and treatment of malaria. Patients in malaria-endemic regions of the world can now have a new option to self-assess, accelerate detection, and seek immediate medical treatment for positive results.

We also realize that effective research can occur outside of the confines of a facility, thus the introduction of the first Mobile Clinical Research Unit in Georgia. This unique unit allows us to expand our research efforts to the streets where we are able to service individuals who lack access to medical care or transportation to a research facility.

Finally, I recently announced my planned retirement, effective June 30, 2014. At that time, MSM will implement a new organizational leadership structure that combines the role of dean and president, an evolving trend found among free-standing medical schools. Dr. Valerie Montgomery Rice, currently the school's dean, will succeed me as both president and dean.

This is an exciting time for MSM and the aforementioned stories are but a few of the examples of our progress. As reflected throughout the pages of this edition of *MSM Magazine*, we are on the cutting-edge of incorporating creative ideas into all of our enterprises. MSM is on a mission and innovation continues.

Sincerely,

A handwritten signature in blue ink that reads "John E. Maupin Jr." The signature is fluid and cursive, written in a professional style.

John E. Maupin Jr., DDS, MBA
President

Innovation in Leadership

Maupin to Conclude 30-Year Distinguished Career in 2014

Visionary leadership is inspirational, creative, innovative and forward thinking. These are the attributes of John E. Maupin Jr., D.D.S., MBA, who recently announced his planned retirement after more than 30 years of an accomplished career in academic medicine, healthcare administration and public health. Valerie Montgomery Rice, M.D., a Harvard-educated obstetrician and gynecologist who was named executive vice president and dean in 2011, will succeed him as president at the end of the next academic year and will retain her responsibilities as dean.

Dr. Maupin, one of the foremost leaders in academic medicine, has built a legacy of bringing innovative business approaches to the various organizations he has led, including MSM, and his retirement announcement is no different. While the announcement celebrates an accomplished career, it also continues to add to a legacy of visionary leadership. His tenure is characterized by strategic succession planning, implementation of a new organizational leadership structure and naming the second African-American woman to lead a free-standing medical institution.

According to Anthony Welters, chairman of the school's board of trustees, "Dr. Maupin has made significant advances during his tenure by expanding academic programs and clinical affiliations, creating innovative partnerships,



“

DR. MAUPIN HAS MADE SIGNIFICANT ADVANCES DURING HIS TENURE BY EXPANDING ACADEMIC PROGRAMS AND CLINICAL AFFILIATIONS, CREATING INNOVATIVE PARTNERSHIPS, MODERNIZING FACILITIES, AND STRENGTHENING THE INFRASTRUCTURE TO BETTER SUPPORT RESEARCH, PATIENT CARE AND TEACHING.

”

modernizing facilities, and strengthening the infrastructure to better support research, patient care and teaching.”

Borrowing a page from his corporate board experience, Dr. Maupin continually emphasized the importance of succession management and leadership development in order to meet the numerous operational challenges facing medical schools during a time of transformation. Succession management is a common best practice that facilitates the development of new talent and helps to ensure seamless leadership transitions—particularly at executive levels—and Dr. Maupin and the board of trustees wanted the same for MSM.

In this case, the process and decision was the result of a purposeful and well thought out strategy. Three years ago, Dr. Maupin recognized a trend among free-standing medical schools to elevate the role of dean to chief executive officer, while also retaining chief academic officer responsibilities. In 2010, the board of trustees approved a new leadership structure that would merge the roles of dean and president upon Dr. Maupin’s retirement. Today, MSM is among nine other similar institutions that have adopted this approach. And for MSM, this move promotes Dr. Montgomery Rice to an historical position in 2014.

Dr. Maupin plans to continue to serve on corporate and civic boards upon retirement. He and his wife Eilene will spend time with their children, grandchildren and great grandchild.

“Being part of the growth and development of this school has been a remarkable experience,” said Maupin. “Much about MSM is highly distinctive, but what makes it so special are the extraordinarily dedicated faculty and staff, community-focused students, and committed trustees and alumni.”

Georgia Native Second African-American Woman to Lead a Free-Standing Medical School



Valerie Montgomery Rice, M.D., has always been a leader among leaders. A native of Macon, Ga., she is a renowned infertility specialist, researcher and founder and former director of one of the nation’s first research centers devoted to studying diseases that disproportionately impact women of color—the Center for Women’s Health Research at Meharry Medical College. So, when she steps into the role of president and dean of MSM next year, she will again be in an elite category.

When MSM President John E. Maupin Jr. officially retires on June 30, 2014, Dr. Montgomery Rice will become the nation’s second African-American woman to lead a free-standing medical school and will join the ranks of the 16 percent of women leading academic medical institutions as dean.

Dr. Montgomery Rice is expected to further the institution’s mission by working with faculty, staff, alumni and other stakeholders while also positioning the school to remain relevant and at the forefront of an ever-changing medical education environment. In response to her appointment, she says, “I consider it an honor that our board is entrusting me with the responsibility of continuing to build on the legacy of this pre-eminent institution.”

Echoing support for the new structure, Art R. Collins, chairman of the institution’s board of trustees’ committee on transition, said, “Dr. Montgomery Rice has demonstrated her commitment to the mission and vision of the medical school. When the board selected her as dean, we believed she could ascend to leading the medical school and provide the necessary consistency to continue advancing the mission.”

Dr. Maupin and Dean Montgomery Rice will collectively continue to enhance key partnerships, advance development and philanthropic outreach, and maintain a focus on faculty and staff engagement throughout the next year. Dr. Montgomery Rice will take on her new role July 1, 2014.

Mission: *Morehouse School of Medicine is dedicated to improving the health and well-being of individuals and communities; increasing the diversity of the health professional and scientific workforce; and addressing primary healthcare needs through programs in education, research, and service, with emphasis on people of color and the underserved urban and rural populations in Georgia and the nation.*

An Innovative and Holistic Approach to Healthcare

Morehouse Healthcare patients benefit from leading-edge approaches to patient care

Continuously exploring ways to best deliver quality patient care is at the heart of MSM's clinical practice—Morehouse Healthcare. The leadership team is committed to integrating leading-edge approaches to healthcare services with nontraditional methods to provide the highest level of service to its patients.

Morehouse Healthcare, formerly Morehouse Medical Associates, is a pioneer in the medical industry. The physicians diligently work to keep pace with trends in patient care delivery.

“We incorporated new discoveries in translational research into our clinical practice, optimized electronic health records usage and expanded services, all of which enable us to offer more comprehensive patient care,” said Dr. Derrick Beech, M.D., F.A.C.S., senior associate dean, clinical affairs and faculty development for the medical school.

Alternative Patient Care

Morehouse Healthcare incorporates both traditional and holistic approaches to patient care, offering diverse treatments

and solutions as alternative therapies. Some of the nontraditional services include integrative medicine consultations—patient centered healing-oriented medicine that embraces conventional and complementary therapies. Patients can take advantage of treatments like acupuncture, Reiki (a Japanese spiritual practice for stress reduction and relaxation that promotes healing), strain-counterstrain for acute muscular pain, nutritional and herbal counseling, and meditation.

Physicians and licensed specialists like Folashade Omole, M.D., FAAFP, CPEHR, associate professor, family medicine, and Kofi Kondwani, Ph.D., assistant professor, community health and preventive medicine, are just two examples of experts in the practice.

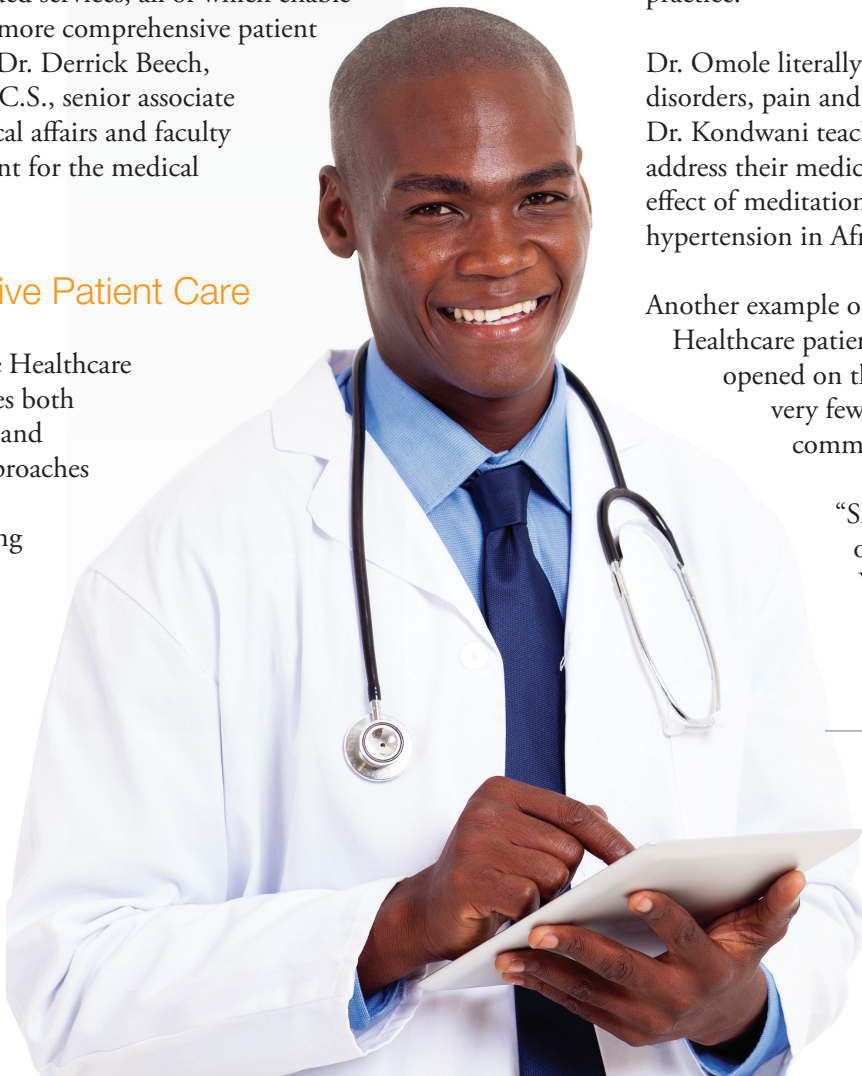
Dr. Omole literally pinpoints and treats ailments such as sleep disorders, pain and infertility as a licensed acupuncturist while Dr. Kondwani teaches meditation techniques to help patients address their medical challenges. His research determines the effect of meditation on stress, elevated blood pressure and hypertension in African-American populations.

Another example of innovation benefitting Morehouse Healthcare patients is the state-of-the-art Sleep Center that opened on the school's main campus last year, one of a very few sleep centers within the African-American community.

“Sleep disorders severely affect the quality of life of patients experiencing symptoms. We know a growing number of health problems are related to inadequate sleep and

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“We are participating in cutting-edge innovations for data management that allows us to ensure meaningful use across all our clinical sites, bridging the gap between information technology and patient care”



Dr. Priscilla Pemu explains new medical device to patient



PCMH STATUS VALIDATES MOREHOUSE HEALTHCARE
HAS THE TOOLS, SYSTEMS AND RESOURCES TO PROVIDE ITS PATIENTS
WITH THE RIGHT CARE AT THE RIGHT TIME.



interrupted sleep patterns,” said Kyra P. Clark, M.D., director, Sleep Center. More than 30 million Americans toss and turn, wake frequently, snore or even stop breathing for prolonged periods while sleeping according to Dr. Clark.

Operational Technology

Innovation in operational excellence is also a key factor in making the difference in patient care delivery. Morehouse Healthcare was one of the first practices in Atlanta to launch the electronic health records (EHR) system, which is active in all clinical sites, achieving Centers for Medicare and Medicaid Services (CMS) Meaningful Use Phase I incentive payment. Moreover, in 2010, MSM’s National Center for Primary Care received a \$19.5m grant to establish the Georgia Health Information Technology Extension Center. The Center provides assistance to healthcare practitioners throughout the

EHR implementation process, including support for qualifying meaningful use incentive payments from CMS.

“We are participating in cutting-edge innovations for data management that allows us to bridge the gap between information technology and patient care to help ensure quality, improve patient safety and implement best practices,” Dr. Beech said.

He continued, “It is imperative we continue to transform our health services delivery model in order to better meet the needs of our patients across our entire clinical practice.”

Distinguished Healthcare Service

In 2012, the Comprehensive Family Health Center and Grady East Point Clinic sites received Patient-Centered Medical

By the Numbers: Morehouse Healthcare Physicians by Specialty

26

Family
Medicine

41

Medicine

28

OB/GYN

20

Pediatrics

8

Psychiatry

20

Surgery

Morehouse Healthcare physicians, many of whom are nationally recognized experts, have provided clinical care to more than 50,000 patients.

Home (PCMH) provider recognition by the National Committee for Quality Assurance (NCQA), a non-profit dedicated to improving healthcare quality. The facilities were among the first 25 practices in Georgia to gain the prestigious identification. Obtaining PCMH status validates these facilities have the tools, systems and resources to provide patients with the right care at the right time.

PCMH is a model of 21st century primary care that combines access, teamwork and technology. For those in the patient care field, it is like winning an Oscar® or Emmy award because it is the ultimate national recognition for primary care. This award speaks to the level of quality and innovative medical solutions of Morehouse Healthcare.

Last year, Morehouse Healthcare partnered with Atlanta-based federally qualified community health centers (FQHCs), Southside Healthcare and West End Medical Center, to

create Morehouse-Choice. This partnership allows the group to leverage economies of scale and integrated technology to advance their ability to participate in evolving delivery models and reimbursement structures.

Morehouse-Choice now includes Grady Hospital and several other local area FQHCs as well. Recently, CMS approved the organization as one of Georgia's nine Accountable Care Organizations (ACOs) as part of a special Medicare "shared savings" program. Morehouse-Choice takes this concept a step further by incorporating the school's rich history of caring for underserved populations.

**According to the CMS, ACOs are groups of doctors, hospitals and other healthcare providers who come together voluntarily to improve the care of Medicaid recipients and contain the cost of their care while achieving higher reimbursement rates from insurance companies to healthcare providers.*

On the Move with a New Name and Location



Morehouse Medical Associates, our faculty practice plan, recently changed its name to Morehouse Healthcare. Keeping the name Morehouse emphasizes the strength of our brand, and adding healthcare better describes the broad array of patient services. In September, 42 healthcare providers from the multi-specialty group of 154 providers will relocate from 75 Piedmont Avenue, Atlanta to a state-of-the-art medical facility at 1800 Howell Mill Road, Atlanta.

The move allows for an additional network of healthcare professionals and services that will benefit doctors, patients and students. The building hosts an outpatient surgery center, a medical imaging center and other prominent practice groups.

Patient services will include: primary care (adult medicine and pediatric); behavioral health; cardiology; endocrinology; gastroenterology; general surgery; gynecology/obstetrics; hematology; infectious disease; nephrology; neurology; oncology; otolaryngology (ENT); psychiatry; pulmonology and sleep medicine.

To schedule an appointment or learn more about the new location and services, call 404-756-1400 or mail correspondence to 1800 Howell Mill Road NW, Atlanta, GA 30318.

Innovation in Research

Strong Labs Equal Strong Research Capabilities

Medical research, undeniably, has improved the health and well-being of society. Thanks to scientific discoveries, the development of vaccinations and early detection methods, previously wide-spread diseases like polio and smallpox are nearly a thing of the past. According to the World Health Organization, smallpox is eradicated and polio is very close at the rate of 99 percent.

Discoveries like these are happening across the globe in research facilities, and academic medical institutions like MSM are at

the epicenter of innovation. Because of MSM scientists, early detection methods for malaria and HIV/AIDS are on the road to improving patient outcomes around the globe. Other aspects of MSM's portfolio include innovative tools such as a self-contained mobile clinical research unit that gives investigators access to more diverse populations, particularly in rural areas in Georgia.

“Our approach is to provide an infrastructure that enhances our investigative efforts, from basic to clinical to community,” said Sandra Harris-Hooker, vice president and senior associate dean of research affairs for the

medical school. “In line with our mission, we are excited to foster the type of exploration that reduces and ultimately eliminates health disparities in this country.

“Furthermore, we want to unlock new biomedical knowledge, and then translate it into clinical data and best-practice models of care that can be replicated in vulnerable communities everywhere.”

Since the 1980s, the school has been successful in fulfilling a vision to transform from a two-year medical program to a nationally and internationally recognized academic health center with a robust research

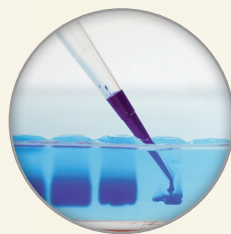
portfolio. As part of a master plan, the school has invested nearly \$56M in building its infrastructure—facilities, personnel and training.

Consolidation promotes collaboration

Today, at the center of the research facility portfolio is the newly renovated \$10M state-of-the-art facility that centralizes the school's five core areas into one common space, encompassing an innovative, shared-use, multi-lab concept. With funds from a National Institutes of Health grant through the American Recovery &

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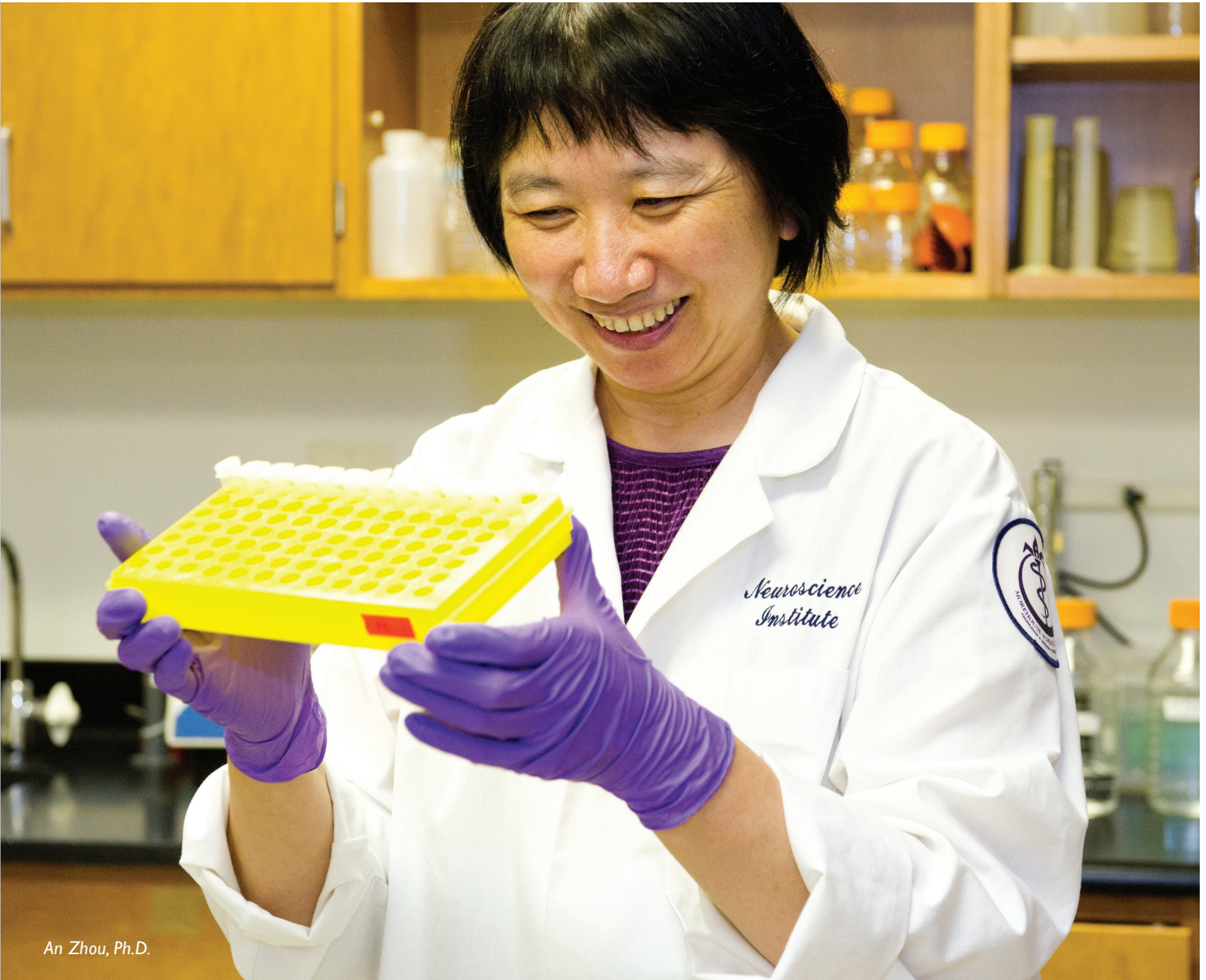
MSM's Research Center currently focuses on **five core areas** encompassing multiple technologies, including:



Analytical Chemistry/Protein Profiling (ACPP): Luminex multi-analyte testing, Proteomics and 2D gel electrophoresis



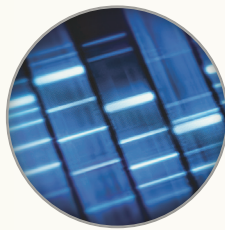
Biomedical Technology Service Labs (BTSL): Shared-use instrumentation and a monoclonal/polyclonal antibody production lab



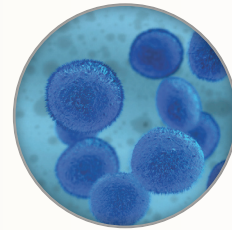
An Zhou, Ph.D.



Cell & Tissue Imaging: Electron microscopy, molecular histology, flow cytometry, cell sorting and cell imaging



Gene Profiling: Functional genomics, DNA sequencing, human genotyping and bioinformatics



Biological Manipulation: Zebrafish, stem cell and microparticle

Reinvestment Act, MSM renovated the second floor of its Medical Education Building to centralize biomedical research support activities and to purchase additional equipment. This renovation created a cutting-

edge, collaborative physical space previously spread across the campus.

This project expands MSM's program by optimizing the use of space for equipment, enhancing the collegial

environment, driving synergy, promoting cross-disciplinary scientific interchange, prompting collaborative teamwork among scientists and expanding opportunities for training. The shared-use lab

concept will benefit patient care and help attract faculty and student researchers.

Research is progressive, and so are the plans for the medical school's research vision. "For the next

RESEARCH CENTERS AND INSTITUTES

MSM's research centers and institutes enhance productivity in focused areas of investigation. The capability of each provides an excellent foundation for enhancing basic, clinical and community-based research at MSM.

Cardiovascular Research Institute: Established in 1999, the institute's mission is to improve the health outcomes of individuals with cardiovascular disease by bridging the basic science disciplines of molecular biology, genetics and physiology with the disciplines of clinical investigation, epidemiology and community-based interventions. It is one of the first cardiovascular institutes of its kind at a Historically Black College or University.

National Center for Primary Care: Established in 1998, the National Center for Primary Care has the unique distinction of being the only congressionally sanctioned center in the country dedicated to promoting optimal healthcare options for all, with a special focus on serving underserved communities.

Neuroscience Institute: Established in 1994, this institute seeks to create a supportive and challenging environment for the investigation and teaching of the functional organization of the nervous system and to pursue ways to reduce suffering brought about by neurological disorders. It is the first 'center of excellence' cooperative agreement program at a Historically Black College or University.

Prevention Research Center: Established in 1998, it is part of a network of academic research centers funded by the Centers for

Disease Control and Prevention. These centers are designed to achieve local and national health objectives focused on gaining knowledge on the best methodologies for solving the nation's obstinate health problems. The centers also collaborate with community partners, federal, state, and local health and education agencies and other universities.

The Center of Excellence on Health Disparities: Established in 2002 with funding from the National Institute of Minority Health and Health Disparities (NIMHD), milestones range from increasing the number of publications on health disparities research areas to acquiring new grants to collaborating with diverse community partners. Core activities include studies in mental health, HIV/AIDS, cardiovascular, diabetes, maternal and child health, and cancer.

Satcher Health Leadership Institute: The mission is to develop a diverse group of public health leaders, foster and support leadership strategies, and influence policies and practices toward the reduction and ultimate elimination of disparities in health. The focus is on neglected diseases and underserved populations, while giving priority to health promotion and disease prevention.

RESEARCH RESOURCE CENTERS

In collaboration with various external research resources, MSM faculty and student investigators can advance their research endeavors through the usage of state-of-the-art equipment, access to funding and partnerships with other scientists.

Research Centers in Minority Institutions (RCMI): MSM's biomedical research infrastructure receives much of its support through the RCMI program, which is sponsored by the National Centers for Research Resources of the NIH. With RCMI funding, state-of-the-art bio-medical research technology cores, shared use facilities, and other resources at MSM are available to our scientific investigators.

RCMI-Center for Clinical and Translational Research (R-CTR): The R-CTR supports the development of infrastructure required to conduct clinical and translational science. This infrastructure includes outpatient clinical research resources, biostatistical support, core laboratories, and facilities to support patient-oriented investigations.

Atlanta Clinical and Translational Science Institute (ACTSI): ACTSI is an inter-institutional magnet that concentrates basic,

translational and clinical investigators, community clinicians, professional societies and industry collaborators in dynamic clinical and translational research projects. This partnership between Emory, MSM and Georgia Institute of Technology forms a strategic multi-institutional alliance that offers compelling, unique and synergistic advantages.

Clinical Research Center (CRC): Founded in 1996, the CRC provides the clinical research infrastructure that is uniquely suited for the pursuit of clinical and translational research in minority and underrepresented communities. It is the first free-standing outpatient research facility in the nation to receive accreditation by the Joint Commission on Accreditation of Health Care Organizations.

**For more details about MSM's centers, institutes and resources, visit the research section of www.msm.edu.*

decade, we plan to concentrate our resources on investing in additional infrastructure and approaches that facilitate multidisciplinary collaboration and translational science relevant to minority health and health disparities,” said Dr. Harris-Hooker.

Investing in research pays dividends. It brings about discoveries that improve patient outcomes, while at the same time having a significant economic impact. A study conducted by the Association of American Medical Colleges shows that federal- and state-funded research received by member institutions added close to \$45B to the U.S. economy (2009 data).

Regarding MSM’s continued role in pursuing and delivering discoveries, Dr. Harris Hooker expressed, “The mission to serve the underserved in urban and rural areas is as compelling in 2013 as it was in 1975. Central to institutional priorities is the development of a critical mass of biomedical, clinical and behavioral investigators who are capable of training future generations of scientists and serving as faculty role models while pursuing state-of-the-art research.”

MSM’s educational philosophy is that academic health centers focused on the underserved must play a leadership role in translational research that brings advances in basic science and clinical medicine to their target populations.

MSM Grant Roundup



The Satcher Health Leadership Institute (SHLI) at MSM was awarded \$13.5M for the Transdisciplinary Collaborative Center (TCC) for Health Disparities Research. The National Institute of Minority Health and Health Disparities funded the project through 2017 under the leadership of David Satcher, M.D., Ph.D.

This initiative is a comprehensive approach to the development, advancement, implementation and evaluation of health policy-related issues. The TCC is expected to positively impact and sustain health equity, focus on training the next generation of health policy research leaders and expand the diversity of the health policy workforce. It is a unique collaboration between the school’s SHLI, Clinical Research Center, National Center for Primary Care and Prevention Research Center.

MSM and the Bristol-Myers Squibb Foundation recently collaborated to create the **Morehouse School of Medicine/Bristol-Myers Squibb Foundation Partnership for Equity in Diabetes**. Based in the school’s National Center for Primary Care, the partnership will work to share successful models and best practices from the Foundation’s *Together on Diabetes* initiative and other programs involved in the diabetes, community health, public health, and primary care practice communities. In addition, the partnership will launch an online learn-share-connect portal and resource center to provide training and support for implementing what was learned from *Together on Diabetes*. To learn more, visit www.TogetherOnDiabetes.com.

Together on Diabetes targets adult populations disproportionately affected by type 2 diabetes and focuses on improving their health outcomes by strengthening patient self-management education, cultivating community-based supportive services and promoting broad-based community mobilization.

Stopping a Killer

New Saliva-Based Test Speeds Up Diagnosis & Treatment of Malaria

Drawing blood in western cultures is a widely accepted practice, but in developing countries, it can be considered taboo. Religious and cultural beliefs, superstition, lack of education or fear of contracting HIV/AIDS are among some of the reasons why cultures may be uncomfortable with the blood collection procedure. So, the innovative saliva-based malaria test created by researchers at MSM provides a viable option for diagnosing malaria without the need for a blood sample.

In 2010, nearly 220 million cases of malaria struck worldwide killing nearly 700,000 people—most from the African region—according to the Centers for Disease Control. This mosquito-borne disease causes fever, chills and flu-like symptoms that can result in severe complications and death if it goes untreated.

But thanks to the new saliva-based point-of-care (POC) diagnostic, malaria



specific, safe, simple and affordable, allowing patients in malaria-endemic regions to self-assess and seek immediate medical treatment for positive results.

“This is an oral solution that detects parasite antigens in saliva,” said Jonathan Stiles, Ph.D., professor of microbiology,

and business personnel who visit those areas can also benefit. Individuals using the POC diagnostic can seek treatment before this often-neglected infectious disease sets in.”

Unlike the standard microscopic screening of blood smears for malaria, the saliva-based method does not require a blood sample. This eliminates the need for skilled field personnel and the biohazard risks of accidental infection or cross-contamination during blood draws.

Dr. Stiles further elaborated on the importance of early detection and treatment to prevent malaria deaths among children and travelers from developed nations who do not have prior exposure to the disease. “People who have never been exposed to malaria are more likely to die from it if neglected,” he said. During POC studies in Africa, the new saliva-based method proved to be more sensitive than blood-based rapid



“THE ONLY OTHER RAPID-DIAGNOSTICS AVAILABLE FOR MALARIA ARE BLOOD-BASED, SO BEING ABLE TO PROVIDE A SALIVA-BASED SOLUTION IS GROUNDBREAKING AND WILL CHANGE THE WAY MALARIA IS DIAGNOSED AND TREATED.”

patients can receive earlier diagnosis and treatment to stop this killer in its tracks. This revolutionary solution is the first saliva-based diagnostic of its kind with wide application. And it is sensitive,

biochemistry and immunology and co-director of MSM’s Global Health Fellows Program. “It can be used not only by people who live in endemic areas but tourists, expatriates, military

Taking Clinical Research to the Streets

diagnostic tests (RDTs) for detecting parasites in blood. The assessment is also able to distinguish between the mildest and the most severe form of malaria (cerebral malaria), which is responsible for most malaria deaths, neurological disorders and learning difficulties in survivors.

“The only other rapid-diagnostics available for malaria are blood-based, so being able to provide a saliva-based solution is groundbreaking and will change the way malaria is diagnosed and treated,” Dr. Lillard added. “The public health benefits are innumerable.”

Dr. Lillard indicated that several biotech companies have expressed interest, and MSM hopes to finalize an industry partnership that will bring this diagnostic tool to market in the near future. The saliva-based innovation has received three U.S. patents with additional patents pending approval in America and abroad. Meanwhile, the research team linked to this discovery is moving forward to refine it and to continue conducting field studies using prototypes.

For more information, contact Dr. Jonathan Stiles, jstiles@msm.edu, or Dr. James Lillard, jlillard@msm.edu.

MSM malaria researchers include: Jonathan Stiles, Ph.D., professor of microbiology, biochemistry and immunology and co-director of MSM's Global Health Fellows Program; James Lillard, Ph.D., M.B.A., professor of microbiology, biochemistry and immunology and associate dean for research and director of translational technologies and Nana Wilson, M.P.H., M.S.C.R., Ph.D., 2013 graduate.



Clinical research is on the move in a nontraditional way at MSM. The institution recently unveiled Georgia's first-ever Mobile Clinical Research Unit, which allows researchers the ability to duplicate onsite laboratory studies in the field.

“What makes this so unique is its sole dedication to research and education,” said Valerie Montgomery Rice, M.D., the school's dean and executive vice president. “Research can exist beyond four walls, and this affords us a great opportunity to bring intervention and prevention to our patients and be ‘hands-on’ in the streets of our communities.”

School researchers may leverage the mobile unit for existing studies on Vitamin D, stroke prevention, hypertension, and diabetes, among others. In fact, members of the school's Clinical Research Center team recently used the 30-foot-long bus for their Blood Genomic Profiling in Stroke (Blood GPS) Study, designed to quickly detect stroke biomarkers through blood samples.

This unique concept is beneficial to those who lack proper medical attention or have no means of transportation to a research center. It brings state-of-the-art, sophisticated research capabilities to populations throughout metro Atlanta and to key difficult-to-reach cities like Macon, Fort Valley, Albany, Columbus and Augusta, and to more than 150 partners in Georgia. These communities have clinics and medical practices that have long partnered with the institution to improve the quality of care for their patients and are ideal as the initial areas of reach.

The “field lab” is self-contained and handicap accessible with cardiac monitors, refrigerator and freezer, portable ultrasound, scale, computers, Internet access, two exam rooms, laboratory, private patient interview areas, restroom and audio/visual technology for patient education.

Innovation in Education & Training

Addressing the Physician Shortage through Pipeline Programs

There is no secret the United States is facing a rapid decline in the number of physicians per capita, especially primary care health professionals. One way to reverse this trend is through pipeline programs, designed to prepare and inspire students of all ages to pursue careers in medicine and medical research.

According to the Association of American Medical Colleges (AAMC), the country will witness a shortage of nearly 63,000 doctors by 2015. The shortage—expected to increase exponentially over the years—will negatively impact patients everywhere. As a result of the downward trend, the AAMC in 2006 called for a 30 percent increase in medical school enrollment by 2015, ultimately adding 5,000 new medical students annually.

MSM is doing its part to meet the urgent need for physicians, implementing an aggressive five-year initiative to double its medical class size to 100 by 2016. The school has already increased its numbers from 56 in 2009 to 70 in 2013. Unique and tailored pipeline programs have added to the growing numbers at MSM and other medical schools.

The school's pipeline programs introduce students from K-12 through post-collegiate years to medical, biomedical science research and public health professions. These programs also are critical to producing qualified physicians and scientists, while promoting diversity among healthcare professionals. Common among higher education institutions, pipeline programs were implemented at MSM in the early 1980s via the school's Summer M.D. Program (now called **Academically Prepared for EXcellence - APEX**). APEX students participate in an intensive Medical College Admission Test preparation course, engage in clinical shadowing, and attend demanding classes with matriculating first-year medical students.



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“When I started the Vivien Thomas Pipeline program in the 9th grade, I was unsure about what aspect of science I wanted to pursue. I loved the program and continued on to the APEX program. The MSM pipeline programs provided exposure to the clinical and research aspects of medicine and helped me decide what medical path to consider. Although, still exploring medical specialties, I am so excited to start my first year of medical school at Indiana School of Medicine,” said Laura Okonokhua, M.S.M.S.

“For the current academic school year, 54 percent of Master of Science in Medical Science and APEX pipeline students were accepted into medical schools across the country and 53 percent of those joined a class of 70 here,” said Rita Finley, Ph.D., assistant dean, educational outreach and health careers for the school.

She explained, “The majority of program participants perform exceptionally well in the courses as a result of the nurturing environment and laser focus on medical sciences classes. We know overwhelmingly that our pipeline students who enter the medical program perform at the top of their classes and serve as student leaders.” In fact, 33 percent of honor graduates (Alpha Omega Alpha) in the Class of 2013 were from the Summer M.D. Program.

“The Master of Science in Medical Science program allowed me to gain a better understanding of medicine and learn about different career paths in medicine. Since acceptance into the program, I have been immersed in medicine and use what I learned through the pipeline program as a medical student,” said Wali Johnson, MSM second-year surgery M.D. student, class president and student government vice president.

The institution provides academic support and guidance through 20 distinct pipeline programs and additional partner initiatives, with an emphasis on young people who are underrepresented in medicine and from disadvantaged backgrounds. Program leaders also are beginning to engage alumni to promote

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TO MEET THE URGENT NEED FOR PHYSICIANS, THE LEADERSHIP OF MSM, AMONG OTHER INITIATIVES, IMPLEMENTED AN AGGRESSIVE FIVE-YEAR PLAN TO DOUBLE ITS MEDICAL CLASS SIZE TO 100 BY 2016.



pipeline initiatives through Alumni Learning Communities, which will soon launch in Georgia and eventually spread throughout the U.S., wherever MSM alumni reside (see sidebar).

“We are all committed to carrying out the school’s mission of improving the health and well-being of individuals through education, research and service. Our alumni live that mission every day. What better way to further channel that mission than by partnering our outreach efforts with our esteemed alumni,” expressed Dr. Finley.

Alumni Mentors Help Build Pipeline in Georgia

An effective means of generating student interest in science, technology, engineering, and mathematics (STEM) courses and healthcare careers is through hands-on experience with professional mentors. Through the school’s Alumni Learning Communities, the institution will work with alumni to enhance exposure of health profession careers to Georgia’s economically disadvantaged students and those underrepresented in medicine, ultimately contributing to an increase in the state’s healthcare workforce.

According to the Board of Regents of the University System of Georgia, if no intervention takes place to resolve the physician shortage, Georgia will rank last in the United States in physicians per capita by 2020. Ultimately, the goal is to contribute to an increase in the state’s healthcare workforce to avoid this scenario.

Georgia alumni will work with youth and young adult students in medically underserved areas to expand the number of students interested in enrolling in STEM courses and pursuing careers in the health professions. The objectives are to: motivate students to continue academic excellence and complete their education; help them become more competitive for successful application and matriculation in graduate and health profession schools; encourage them to return to Georgia to practice; and inspire a passion for service to the underserved.

The Office for Educational Outreach and Health Careers will equip alumni with toolkits containing the necessary resources to help ensure success. This rich pipeline will make MSM well networked among potential students, creating a more energized, engaged and, most importantly, more prepared applicant base that will ultimately foster the diversity of the healthcare profession.

MSM Pipeline Programs

Educational programs connecting students with possibilities

K-12:

- Benjamin Carson Summer Science Academy
- Medical Preparatory Program (MedPrep)
- National Institutes of Health/National Institute of Diabetes and Digestive and Kidney Diseases Short Term Education Program for Underrepresented Persons (STEP-UP) Program
- Promoting Our Worth as Entrepreneurs and Researchers in Innovative Technology (POWER-IT)
- Vivien Thomas Summer Research Program

K-12 and Undergraduate Programs

- Alumni Learning Communities
- Atlanta Center for Translational Research on Endometriosis (ACTRE)
- Atlanta University Center – Bridging the Gap (AUC-BTG) Scholar’s Program
- Minority Association for Pre-Health Students (MAPS)
- National Space Biomedical Research Institute (NSBRI) and MSM Neuroscience Institute (NSBRI-NI) Research Program
- Southeastern Primary Care Consortium/Atlanta Area Health Education Centers (SPCC-Atlanta AHEC)
- Student Initiative on Recruitment (SIR)
- Undergraduate Health Sciences Academy
- What I Wish I Knew How To Do When I Got To Grad School

Post-Baccalaureate Programs

- Academically Prepared for EXcellence (APEX) Program

Graduate and Medical School Programs

- Minority International Health Disparities Research Program – Howard University/Morehouse School of Medicine
- Master of Science in Medical Sciences Degree Program
- Morehouse School of Medicine/Tuskegee University/ and University of Alabama at Birmingham Partnership Summer Cancer Research Training Program
- MSM-Howard Hughes Medical Institute (HHMI) Summer Research Fellows Program
- Summer Research Experience for Medical Students

New Library Enhances Access, Collaboration and Technology

MSM is on a mission to enhance education and training. Studies have shown that school libraries make a difference in student achievement and have a positive impact on learning. To improve and expand its educational offerings, the school renovated its primary source for information—the library.

Modernized with \$1.5M Title III funds and private donations, the refreshed library includes collaborative communal space with writable walls, an open environment with natural light, a more inviting entry, updated finishes and contemporary furniture. A new student lounge is located in close proximity to the library. The renovations, along with new computers, ensure the continued key role of the library as the hub of student learning. Since the grand opening in February 2013, there has been a significant increase in the use of all facets of the library.

“The library is truly becoming a center of learning for all students, faculty, and staff with the utilization of the new study areas and the use of print and online

research, making information easier to find. MSM is the only school in the state of Georgia currently operating this technology.

“THE LIBRARY IS TRULY BECOMING A CENTER OF LEARNING FOR ALL STUDENTS, FACULTY, AND STAFF WITH THE UTILIZATION OF THE NEW STUDY AREAS AND THE USE OF PRINT AND ONLINE RESOURCES. THE STAFF HAS BEEN ENERGIZED BY THE RENOVATIONS AND WE NOW HAVE A WOW FACTOR.”

resources. The staff has been energized by the renovations, which give the library a ‘WOW’ factor,” said Joe Swanson Jr., M.S.L.S, director of the library.

Innovative new library resources:

- **Scopus** – Scopus is the world’s largest abstract and citation database of peer-reviewed literature with smart tools designed to track, analyze and visualize

- **Six SMART Boards** – SMART Boards allow users to physically interact, explore and manipulate concepts of a lesson. These interactive electronic whiteboards are great for demonstrations and appeal to various learning styles. They are conveniently located in the library study rooms and e-lab.
- **24-hour study rooms** – The library hours now mirror the schedules of MSM residents, who may need resources after their on-call schedule and students who burn the midnight oil, a benefit currently not offered at many medical schools around the country.

“The students are so thankful to have the amazing technology like SMART Boards at our fingertips. The addition of this innovative technology and 24-hour study rooms have really enhanced learning and provided more opportunities for group collaboration,” said Takara Scott, Ph.D. student.

In addition, the library now offers extended book loans of 28 days and a pre-ordering service (librarians@msm.edu) to have books or other literature ready for easy pickup.



From left to right back row: Warren Williams, Reggie Askew, John Furedi
From left to right front row: Dr. Valerie Montgomery Rice, Dr. Opal Williams, Joe Swanson, Dr. John E. Maupin Jr.



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