



**Mount
Sinai**

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A PUBLICATION OF THE MOUNT SINAI HEALTH SYSTEM

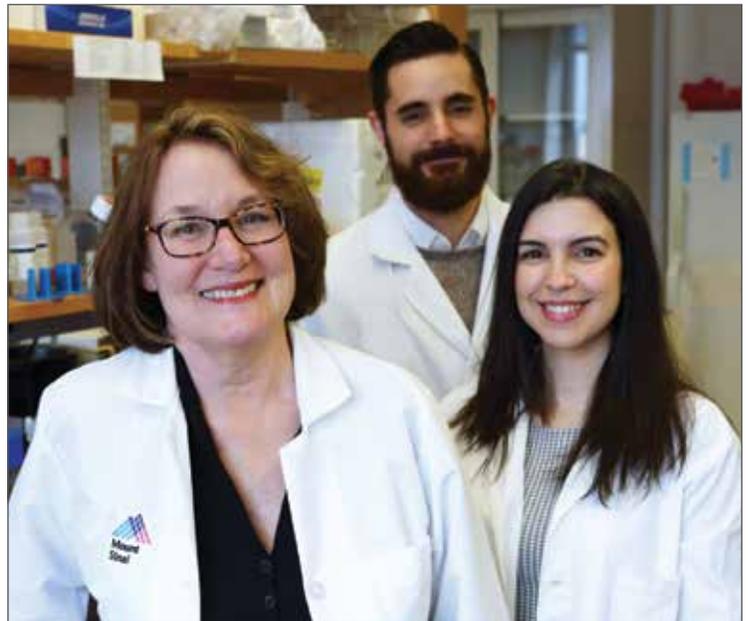
April 18 - May 1, 2016

Researchers Discover New Clues in the Development of Transplantable Stem Cells for Blood Disorders

For scientists who study stem cells, the ability to produce hematopoietic stem/progenitor cells (HSPCs) in the lab and then transplant them into patients with blood disorders has been a long-sought-after goal. Recently, the field took a step closer to that milestone when researchers at the Icahn School of Medicine at Mount Sinai identified cells in the embryos and placentas of mice that are actually precursors to HSPCs. Hematopoiesis is the daily process by which the human body generates all of the different types of cells found in the blood and immunological system.

The results of the team's work—led by Kateri Moore, DVM, Associate Professor of Developmental and Regenerative Biology at the Icahn School of Medicine—were published online in the March 7, 2016, issue of *Developmental Cell*. The findings could eventually provide new information that will help develop patient-specific HSPCs and more differentiated blood products for cell-replacement therapy.

In a previous study, Dr. Moore's team successfully reprogrammed mouse skin cells to resemble HSPCs. That reprogramming process was used to inform the group's latest research, which was focused on maturing precursor cells into hematopoietic stem/progenitor cells that are suitable for transplanting.



Kateri Moore, DVM, left, with graduate students Andreaia Gomes and Jeffrey Bernitz

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Neil Calman, MD, and Kamini Doobay

Student Leads New York Forum on Dismantling Racism in Health Care

Kamini Doobay, a fourth-year medical student at the Icahn School of Medicine at Mount Sinai, played a key role in organizing a recent forum in New York City that featured renowned medical, public health, and academic leaders who convened to examine racial inequities that contribute to poorer health outcomes in communities of color.

The program, "Dismantling Racism in the NYC Health System: The Time is Now," took place Saturday, March 12, at the CUNY Graduate Center and drew 200 participants. Ms. Doobay worked with Mount Sinai's Department of Medical Education, the New York City Department of Health and Mental Hygiene, the CUNY Graduate School of Public Health and

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Physical Fitness in Late Adolescence May Reduce The Risk of Developing Adult-Onset Diabetes

Physical fitness in late adolescence may reduce the risk of developing type 2 diabetes later in life, according to a new study from the Icahn School of Medicine at Mount Sinai that appeared online in the March 8, 2016, issue of the *Annals of Internal Medicine*.

Researchers—led by Casey Crump, MD, PhD, Vice Chair for Research in the Department of Family Medicine and Community Health at Icahn School of Medicine at Mount Sinai—evaluated data on the aerobic capacity of 1.5 million males who were military conscripts in Sweden between 1969 and 1997. The scientists then compared the men’s aerobic capacity to their medical diagnoses that were made between 1987 and 2012, when the men were a maximum age of 62.

The findings showed that low aerobic capacity correlated with an increased long-term risk for type 2 diabetes later in life, independent of the men’s body mass index (BMI), family history, or socioeconomic factors. A combination of low aerobic capacity and low muscle strength was associated with the highest risk, although aerobic capacity had a stronger influence.

“Most previous studies have examined physical fitness only in adulthood,” says Dr. Crump, who collaborated with researchers at Lund University in Sweden. “Few studies have examined physical fitness early in life, and none examined physical fitness in adolescence in relation to the long-term

risk for type 2 diabetes. We also found that low muscle strength was an independent risk factor, although it was less influential than aerobic capacity.”

“Few studies have examined physical fitness early in life, and none examined physical fitness in adolescence in relation to the long-term risk for type 2 diabetes.”

—Casey Crump, MD, PhD

The study, funded by the National Institutes of Health and the Swedish Research Council, examined only males and did not measure physical fitness at older ages. But it, nonetheless, points to the important role that physical fitness plays in overall health and in adolescence.

Type 2 diabetes is a metabolic disease that causes sugar or glucose to collect in the bloodstream and can lead to heart disease, stroke, kidney disease, blindness, increased infections, and loss of toes, feet, or fingers as a result of poor circulation.

Over the past three decades, the prevalence of type 2 diabetes—the most common form of diabetes diagnosed primarily in adults—has more than doubled and now affects



Casey Crump, MD, PhD

at least 300 million people worldwide. In the United States alone, 9.3 percent of the population has been diagnosed with diabetes and an estimated 8.1 million people have the disease but have not been diagnosed, according to the U.S. Centers for Disease Control and Prevention. The American Diabetes Association estimates the economic costs of type 2 diabetes and its complications exceed \$200 billion annually in the United States.

While obesity is a well-established risk factor for type 2 diabetes, Dr. Crump says the study showed that physical fitness has important benefits even for people who are not overweight or obese.

In summary, says Dr. Crump, “Elucidation of these risk factors in young persons may help facilitate earlier and more effective preventive interventions.”

The Mount Sinai Hospital Named Top Performer

The Mount Sinai Hospital, including its Manhattan and Queens campuses, recently was named a 2014 *Top Performer on Key Quality Measures*® by The Joint Commission, the nation’s leading accreditor of health care organizations.

Mount Sinai was the only full-service hospital in Manhattan to achieve this distinction, which signifies its commitment to patient safety and quality-improvement outcomes.

The *Top Performer on Key Quality Measures* program is available to Joint Commission-accredited hospitals and is based on data reported

in the previous year about evidence-based clinical processes for certain conditions that are closely linked to positive patient outcomes.

The Mount Sinai Hospital was recognized as a *Top Performer* in: Heart Attack, Heart Failure, Pneumonia, Surgical Care, Immunization, and Perinatal Care.

As a *Top Performer*, Mount Sinai was among 1,043 or 32 percent of Joint Commission-accredited hospitals to be included in its 2015 annual report, *America’s Hospitals: Improving Quality and Safety*. The annual report summarized data on 49 accountability measures reported by more than 3,300 hospitals in the United States.

Hands-On Learning at the Brain Awareness Fair

More than 100 volunteers from the Mount Sinai Health System and 500 local students and members of East Harlem and surrounding communities participated in the Fourth Annual Brain Awareness Fair on Tuesday, March 15, in The Mount Sinai Hospital's Guggenheim Pavilion Atrium.

Educational hands-on activities and demonstrations included building neuron models out of pipe cleaners, examining models of brains from different animals, observing monkey brain neurons under a microscope, and learning how the five senses function within the brain.

Held during international Brain Awareness Week, the fair was hosted by Mentoring in Neuroscience Discovery at Sinai (MiNDS) and the Center for Excellence in Youth Education (CEYE), with support from The Friedman Brain Institute at Mount Sinai, and The Dana Foundation—a private philanthropic organization that supports brain research.

Mount Sinai faculty provided information on addiction, Alzheimer's disease, autism, and mental health at the fair's "Meet the Experts" booth.

For the first time this year, an "Art of the Brain" exhibit was held at the Grady Alexis



From left: Steven Philemond, Clinical Research Coordinator, Neurosurgery, examines a brain image with Amir Du Bose and Andre Levins, students from the Eagle Academy for Young Men.

Gallery, 215 East 99th Street, and at Mount Sinai Beth Israel's Phillips Ambulatory Care Center, 10 Union Square East, where visitors viewed photographs and medical illustrations celebrating the beauty of the brain as seen through the eyes of Mount Sinai scientists and researchers.

Middle school students from PS/IS 171 Patrick Henry Preparatory School took a guided tour of the exhibit at the Grady Alexis Gallery with MiNDS Co-directors, who explained the photographic images. After the tour, Jill K. Gregory, MFA, CMI, and Christopher M. Smith, MA, from Academic Medical Illustration, Academic Informatics and Technology,

Icahn School of Medicine at Mount Sinai, demonstrated how brain illustrations are created and led the students in a drawing exercise.

At El Barrio Artspace PS109, a community arts facility that houses the Grady Alexis Gallery, CEYE teaching assistants introduced the students to the NeuroSky® MindWave starter kit, an instrument that displays

how brainwaves and levels of attention change during different activities.



From left: Elis Claudio learns about animal brains from Merina T. Varghese, PhD, Postdoctoral Fellow, and Tahia Warda, Associate Researcher II, Neuroscience.

› Researchers Discover New Clues in Transplantable Stem Cells *(continued from page 1)*

"We've been able to isolate precursor cells from the placentas of mice and under special culture conditions, mature them in our laboratory to become definitive hematopoietic stem cells," says Dr. Moore. "That means they could be transplanted into an adult mouse and reconstitute its blood system."

The work being done by the Mount Sinai team is particularly critical due to the severe shortage of human donors for blood stem cell transplants. The scientists' ultimate goal—to create a significant new source of transplantable stem cells—could represent a breakthrough treatment for patients with blood diseases such as leukemia, lymphoma, multiple myeloma, and immune deficiency. Indeed, patient-specific HSPCs grown in the laboratory could "provide a whole new blood system of renewable cells that wouldn't be rejected by the body because it would be from the patient's own cells," according to Dr. Moore.

Another member of the research team, Ihor Lemischka, PhD,

Professor of Developmental and Regenerative Biology, Pharmacology and Systems Therapeutics, says, "Many investigators have attempted to do what we've done in terms of growing HSPCs *in vitro*, but we've been able to build on this process in a way that could move the field forward. The next step is to test these findings in humans."

Drs. Lemischka and Moore have been investigators in the field of hematopoiesis and stem cell biology for 20 years, moving their lab from Princeton University to Mount Sinai in 2007. As part of The Black Family Stem Cell Institute at Mount Sinai, they are committed to pursuing the therapeutic use of stem cells as a promising area of medicine.

Their lab has enlisted the help of Mount Sinai Innovation Partners, which assists Mount Sinai's researchers in bringing in outside partners and funding, with an eye toward eventually commercializing its cell-reprogramming process.

➤ Student Leads New York Forum on Dismantling Racism in Health Care *(continued from page 1)*

Health Policy, and other entities to develop the day-long activities.

Keynote speakers included New York City Health Commissioner Mary Travis Bassett, MD, MPH; Neil Calman, MD, Professor and System Chair of The Alfred and Gail Engelberg Department of Family Medicine and Community Health, Icahn School of Medicine at Mount Sinai, and Chief Executive Officer of The Institute for Family Health; and Camara P. Jones, MD, PhD, MPH, President of the American Public Health Association and Senior Fellow at the Satcher Health Leadership Institute and the Cardiovascular Research Institute at Morehouse School of Medicine.

“Longstanding institutional racism has led to unacceptable health inequities in New York City,” Dr. Bassett told participants. “Health professionals have a responsibility to acknowledge how racism can negatively impact a person’s health and use their credibility to advocate for change.”

Dr. Calman, who co-founded the Institute for Family Health, one of the largest and most highly acclaimed networks of community health centers in New York State, is considered a visionary leader in the effort to eliminate health care disparities.

“New York City has one of the most economically and racially segregated health care systems in the United States,” Dr. Calman said. “Blacks and Latinos are more than twice as likely to be uninsured or publicly insured.”

Dr. Jones spoke about achieving health equity on a national level. “Racism saps the strength of the whole society through the waste of human resources,” she said. Under Dr. Jones’ leadership, the American Public Health Association is launching a “National Campaign Against Racism.”

“Highlighting sources of racial and ethnic inequities, providing health professionals with the tools to address them, and recommending interventions were our primary goals,” says Ms. Doobay. “Our unity shows the extended community that this work is larger than any one of us. Now is the time to come together and translate awareness into action.”

“We were proud to be co-sponsors of such an important event, which comes at a critically important juncture in the history of the medical profession and of our country,” said David Muller, MD,



Camara P. Jones, MD, PhD, MPH



Mary Travis Bassett, MD, MPH

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—Kamini Doobay,
Fourth-year medical student

Dean for Medical Education and the Marietta and Charles C. Morchand Chair in Medical Education, about the forum.

The Icahn School of Medicine has instituted programs to eliminate bias and racism from Mount Sinai’s academic and professional communities through collaborations with, among others, the Anti-Racism Coalition and LGBTQ student groups. It has also started developing innovative race and bias initiatives, which include the reassessment of the medical school curriculum, physician training, and admissions processes.

Around the Health System

New CT Scanner to Help Provide Rapid Care

Mount Sinai Brooklyn recently acquired an additional CT scanner to decrease waiting time and expedite results for patients who need immediate testing, such as people who may have had a stroke. Located near the Emergency Department, it features 128-slice technology that provides high-definition imaging details and performs CT angiograms. Among the attendees at a ribbon-cutting ceremony on Thursday, March 31, were, from left: GraceAnn Weick, ANP, MSN, Chief Operating Officer and Vice President, Patient Care Services, Mount Sinai Brooklyn; Burton P. Drayer, MD, Dr. Charles M. and Marilyn Newman Professor and System Chair, Department of Radiology; Lin H. Mo, MBA, MPH, President, Mount Sinai Brooklyn; Carl Ramsay, MD, Vice President, Emergency Medicine Clinical Operations, Mount Sinai Health System; and Scott M. Lorin, MD, Chief Medical Officer, Mount Sinai Brooklyn.



Barbara Warren, PsyD

Gay City News Honors Barbara Warren, PsyD

Barbara Warren, PsyD, Director, LGBT Programs and Policies, Office for Diversity and Inclusion, Mount Sinai Health System, recently received a 2016 Impact Award from *Gay City News*, which serves New York City's LGBT community. Dr. Warren was awarded for advancing LGBT equality and health equity over the past 28 years and for her work with the New York State Network of Lesbian,

Gay, Bisexual and Transgender Health and Human Services Providers, the National Association of Lesbian and Gay Community Centers, and the Mount Sinai Health System. The Human Rights Campaign Foundation recently recognized six campuses of the Mount Sinai Health System as "Leaders in LGBT Healthcare Equality."

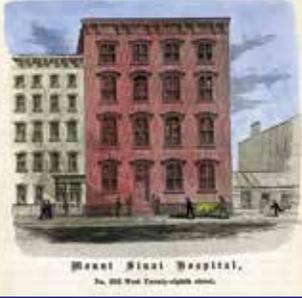
21st Annual Medical Student Research Day

Five Icahn School of Medicine at Mount Sinai students were chosen to give oral presentations of their basic and clinical research projects at Mount Sinai's 21st Annual Medical Student Research Day, on Thursday, March 10, in Stern Auditorium. Mitra Heshmati, PhD, Imikomobong Ibia, Emily Leven, Paul Peng, PhD, and Elizabeth Tarras received a prize of \$250 each for their work, which was carried out under the supervision of faculty mentors: Scott Russo, PhD, Associate Professor of Neuroscience; Charles Mobbs, PhD, Professor of Medicine, Geriatrics and Palliative Medicine, and Neuroscience; Eyal Shemesh, MD, Associate Professor of Pediatrics, and Psychiatry; Joshua Brody, MD, Assistant Professor of Medicine (Hematology and Medical Oncology); and Rosanne Leipzig, MD, PhD, Professor of Medicine, Geriatrics and Palliative Medicine, and Population Health Science and Policy. Christina Wyatt, MD, Associate Director, Medical Student Research Office, moderated the oral presentations.

Twenty two of the 138 students who presented posters on their work in the Guggenheim Pavilion Atrium, right, received an Honorable Mention Blue Ribbon. "We are very proud of the high quality of the presentations. They reflect the intellectual curiosity, critical thinking, and hard work of our students, and the dedication of their research mentors," said Karen Zier, PhD, Associate Dean for Medical Student Research.



150th Anniversary



April 17 marks the 150th anniversary of when The Jews' Hospital in New York changed its name to The Mount Sinai Hospital. The new name is said to have been chosen from a passage in the Bible that took place as Moses approached Mount Sinai and God said to him, "I, the Lord, am thy healer."

When the Jews' Hospital opened in 1855, it accepted only Jewish patients, following the custom of the day when religious and ethnic groups created hospitals to care for their own. Eleven years later, in 1866, the Hospital's directors adopted a non-sectarian admissions policy that was more consistent with their policy of providing care to wounded Union soldiers during the Civil War. The artist rendering, left, is of the Hospital's first building on West 28th Street, a location that it occupied in 1866 when the name was changed.

Grand Rounds / Population Health, Family Medicine, and Community Health

Jan Sundquist, MD, PhD, Professor, Director; and Kristina Sundquist, MD, PhD, Professor, Center for Primary Health Care Research, Department of Clinical Sciences, Lund University, Sweden, present "Swedish Family Medicine: A Translational Approach."

Monday, April 25

1 - 2 pm

**The Mount Sinai Hospital Campus
Goldwurm Auditorium**

Grand Rounds / Medicine

Harry Fischer, MD, Associate Professor, Medicine, Chief, Division of Rheumatology, Associate Chairman, Administrative Affairs, Department of Medicine, Mount Sinai Beth Israel, presents "CPC: A 76-Year-Old Man with a Rash."

Tuesday, April 26

8:30 - 9:30 am

**Mount Sinai Beth Israel
Podell Auditorium, Bernstein Pavilion**

Grand Rounds / Anesthesiology

Andrew B. Leibowitz, MD, Chair, Professor, Anesthesiology, Professor, Surgery, presents "Anterior Mediastinal Masses."

Wednesday, April 27

6:30 - 8:10 am

**The Mount Sinai Hospital Campus
Annenberg 13-01**

Grand Rounds / Institute for Medical Education

Denise V. Rodgers, MD, Vice Chancellor for Interprofessional Programs, Rutgers Robert Wood Johnson Medical School, presents "Teaching about Racism and Bias in the Context of Health Disparities."

Wednesday, April 27

Noon - 1 pm

**The Mount Sinai Hospital Campus
Hess Center, Davis Auditorium**



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18th Annual Child Health Research Day 2016

This event highlights the outstanding research activities of students, house staff, clinical and research postdoctoral fellows, research staff, social workers, nurses, and junior faculty in the Jack and Lucy Department of Pediatrics at Mount Sinai and its affiliates, The Mindich Child Health and Development Institute and the Department of Preventive Medicine. Basic, translational, population-based, and clinical research broadly related to the health and welfare of infants, children, and adolescents will be presented in the plenary and poster sessions. Activities take place on The Mount Sinai Hospital Campus. For more information, email Carla Monaco at Carla.Monaco@mssm.edu. *Sponsored by the Jack and Lucy Clark Department of Pediatrics, The Mindich Child Health and Development Institute, and the Department of Preventive Medicine.*

Thursday, April 21

8 am - 1 pm

Guggenheim Pavilion Atrium

April is Autism Awareness Month

The Seaver Autism Center for Research and Treatment is sponsoring activities in April to celebrate Autism Awareness Month. Stop by information tables to pick up brochures about autism, talk to members of the team, and learn more about studies and treatments.

Information Tables

Wednesdays, April 20 and 27

11 am - 2 pm

Guggenheim Pavilion, Outside the Plaza Café

Seaver Seminar Series

Jed Elison, PhD, Assistant Professor, Institute of Child Development, University of Minnesota, presents "Visual Orienting and Early Identification of Autism." This event is free of charge and open to the public.

Wednesday, April 20

2 - 3 pm

Hess Center, Seminar Room B