



Mount Sinai

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ACCELERATING SCIENCE — ADVANCING MEDICINE

Redesigning Mount Sinai

Innovation is happening in our classrooms, our laboratories, and patient care facilities. Being at the forefront of change during this remarkable time in modern medicine has meant creating new initiatives and analyzing existing ones to determine their effectiveness. Nothing is sacrosanct.

A new partnership between Icahn School of Medicine at Mount Sinai and the consulting firm McKinsey & Company has created unique educational opportunities for medical students interested in broadening their knowledge of health care and consulting. Our new Primary Care Scholars Program provides students with ongoing mentorship and the invaluable clinical skills they will need to provide high-quality health care across populations. A new scholarship rewards promising students who choose to specialize in LGBT health care.

Mount Sinai students received the Innovation Award at the prestigious Emory Global Health Case Competition in 2014, the same year we established The Arnhold Global Health Institute, and began to officially

include global health in the medical school curriculum. During that time, fifty students and forty residents conducted public health and research projects in more than twenty-five countries.

At Icahn School of Medicine at Mount Sinai's Graduate School of Biomedical Sciences, we have created new classes that expose students to entrepreneurship and private industry; teach programming; emphasize teamwork; and incorporate some of the problem-solving skills that are used to educate engineers. Last spring, we launched a program leading to a Master's in Health Care Delivery Leadership to develop the knowledge and skills of future health care leaders.

In 2014, *Fast Company* magazine ranked the Icahn School of Medicine No.5 among the world's most innovative companies for "embracing data scientists and supercomputers to build the hospital of the future." The National Institutes of Health (NIH) has granted Mount Sinai \$2 million to create a new specialized supercomputer and data analysis machine to support genomics-



Dennis S. Charney, MD, is the Anne and Joel Ehrenkranz Dean of Icahn School of Medicine at Mount Sinai and President for Academic Affairs, the Mount Sinai Health System.

based research. Mount Sinai's overall NIH funding increased by 15 percent to \$247 million in 2014, during an extraordinarily tough period for public research funding.

The Icahn School of Medicine has a unique position as the academic locus of a fully integrated Health System that serves a large and diverse population. As such, we are poised for continued growth and innovation. Our ability to create new treatments and transform health care has never been better.

RESEARCH FRONTIERS

Mount Sinai Creates Center to Study Drug Interactions

Researchers at the Icahn School of Medicine at Mount Sinai have received \$11.6 million from the National Institutes of Health (NIH) to create a new center that will study how drugs interact with human cells to increase their effectiveness and decrease side effects.

The new Drug Toxicity Signature Center will be run by Ravi Iyengar, PhD, Dorothy H. and Lewis Rosenstiel Professor, Department of Pharmacology and Systems Therapeutics. By leveraging the U.S. Food and Drug



Ravi Iyengar, PhD

Administration's (FDA) Adverse Event Reporting System database, the center will develop cell signatures that can be used to predict the effects of certain drugs and drug combinations.

Mount Sinai was one of five U.S. research institutions chosen to develop centers that contribute to the second phase of the NIH Common Fund project, known as the Library of Integrated Network-based Cellular Signatures (LINCS).

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Landmark Autism Study Identifies New Genetic Differences

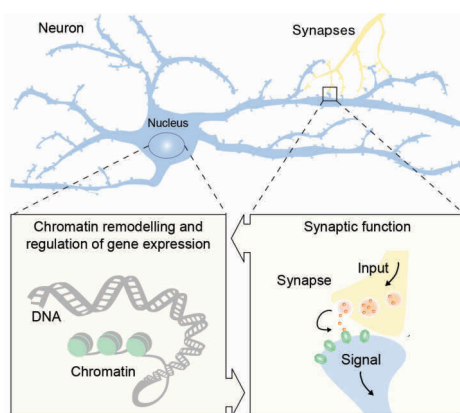
Small variations in at least 1,000 genes may contribute to the risk for autism spectrum disorder (ASD), according to researchers at the Seaver Autism Center at the Icahn School of Medicine at Mount Sinai and the Autism Sequencing Consortium (ASC), whose findings were published in the November 13, 2014, issue of *Nature*.

This estimate was based on a unique analytical model employed by the ASC, which includes investigators from 37 major international institutions who contributed to and jointly analyzed the data, in the largest study of its kind.

The new study expands the number of likely ASD genes to 107, which showed spontaneous mutations in more than 5 percent of individuals with autism. By looking at how many times variations occurred in each of the 107 genes, the team was able to predict that small differences in about 1,000 genes will eventually be found to increase autism risk.

According to the authors, the interplay between gene variations, both common and rare, holds the key to understanding autism. This was based in part on a related paper from the Seaver Autism Center that demonstrated the importance of both types of gene variants.

In the recent *Nature* paper, the researchers



The study found that many genetic differences contribute to autism by affecting gene expression (chromatin remodeling and transcription) and the junctions (synapses) that connect nerve cells as pictured above.

collected and analyzed data from 3,871 autism cases and 9,937 controls, including parents or ancestry-matched controls. They examined data on several types of rare, genetic differences in more than 14,000 DNA samples from parents, affected children, and unrelated individuals to expand the list of genes implicated in autism.

“The steps we added to our analysis pipeline over past studies provide the most complete theoretical picture to date of how many genetic changes pile up to affect the brains of children with autism,” says the study’s senior co-author Joseph D. Buxbaum,

PhD, the G. Harold and Leila Y. Mathers Research Professor of Geriatrics and Adult Development at Icahn School of Medicine, who founded the ASC in 2010. Dr. Buxbaum is also Professor of Psychiatry, Neuroscience, and Genetics and Genomic Sciences, and Director of the Seaver Autism Center.

Mark J. Daly, PhD, Co-Director of the Program in Medical and Population Genetics at the Broad Institute of MIT and Harvard, and the study’s senior co-author, says, “The genetics underlying ASD are highly complex and having access to large sample sizes is essential to rooting out the many genetic mutations involved, and the biological mechanisms implicated by those mutations.”

For the first time, the study was able to assess the effects of both inherited genetic differences and those that happen spontaneously in the sperm and eggs that go on to form human embryos. In addition, the study looked at both loss-of-function mutations and “missense” mutations (which are less severe) in affected children and their parents, and showed a role for both in ASD.

One striking new finding was the many ASD genes that are involved in modifying gene expression through processes called chromatin remodeling and transcription. The large number of mutations in such genes identified a new major pathway for autism.

▶ Mount Sinai Creates Center to Study Drug Interactions *(continued from page 1)*

“Our center focuses on three serious side effects of drugs: heart failure, liver damage, and peripheral neuropathy,” says Dr. Iyengar. “We are developing heart, liver, and nerve cells from stem cells for normal adult subjects and will be studying how these cells react to drugs to accelerate the discovery of new therapies, and create predictive computer models to improve treatment.”

Along with Dr. Iyengar, the principal investigators of the center grant are Eric Sobie, BSE, PhD, Associate Professor of Pharmacology and Systems Therapeutics; and Marc Birtwistle, BS, PhD, Assistant Professor of Pharmacology and Systems Therapeutics.

“Can we develop drugs and drug combinations to effectively treat and mitigate risks and side effects for patients with progressive diseases such as cancer and heart disease?” asks Dr. Iyengar. “Can we develop computational models that will allow us to understand cellular functions in different tissues in response to drugs? This center will enable us to answer those questions to improve current therapies and create new ones.”

Research laboratories at Harvard Medical School; Oregon Health and Science University; Broad Institute of the Massachusetts Institute of Technology and

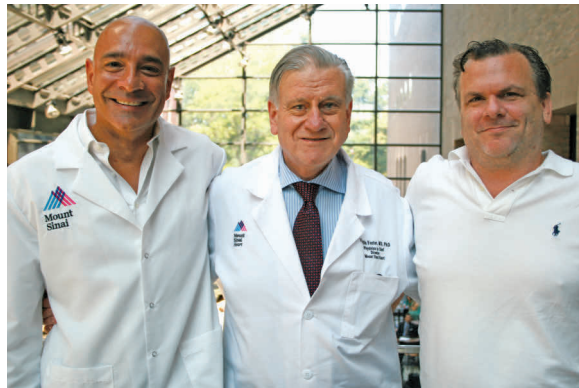
Harvard University; and the University of California, Irvine, were also chosen by the NIH to be part of the LINCS consortium to create data generation centers that bridge the gap between clinical data and molecular networks.

In a separate-but-related grant, the NIH has awarded \$20 million to Principal Investigator Avi Ma’ayan, BSc, PhD, Associate Professor in Mount Sinai’s Department of Pharmacology and Systems Therapeutics, to coordinate and integrate the data generated by Dr. Iyengar’s new center and the other research centers. Dr. Ma’ayan’s computational team will design new ways to analyze and visualize the data so that it serves as a national and international resource.

Teaching Heart-Healthy Habits to High-Risk Children and Families

Icahn School of Medicine at Mount Sinai has received a \$3.8 million grant from the American Heart Association (AHA) to promote cardiovascular health through early education and intervention programs targeting high-risk children and their parents in Harlem and the Bronx.

Mount Sinai researchers will study the genes and lifestyles of 600 preschoolers and their parents or guardians who live in these communities, which are associated with high rates of obesity, cardiovascular disease, stroke, and type 2 diabetes. The investigators will track whether the interventions lead to healthier eating habits and additional exercise. They will also examine the participants' DNA and RNA to understand how genetics plays a role in the development of cardiovascular disease.



The grant's principal investigators are, from left: Zahi A. Fayad, PhD, Director of the Translational and Molecular Imaging Institute; Valentin Fuster, MD, PhD, Director of Mount Sinai Heart, Physician-in-Chief of The Mount Sinai Hospital; and Eric E. Schadt, PhD, Director of the Icahn Institute for Genomics and Multiscale Biology.

from Sesame Workshop. Results from these studies show that with education and support from parents and teachers, young children can develop healthy habits.

"A better understanding of the interaction between behavior, environment, and genetics will help us develop more effective techniques to prevent cardiovascular disease," says the grant's lead investigator, Valentin Fuster, MD, PhD, Director of Mount Sinai Heart, Physician-in-Chief of The Mount Sinai Hospital, and the Richard Gorlin, MD, Heart Research Foundation Professor. "Our research tests the hypotheses that habits are formed very early in life and that children can help their parents live healthier lives."

Dr. Fuster has introduced similar preschool programs in Colombia and Spain that use popular characters

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Novel Vaccine Fights Lymphoma

A novel vaccine that stimulates the body's immune response has been effective in shrinking tumors in patients with low-grade, B-cell lymphoma who are enrolled in a clinical trial at The Tisch Cancer Institute at the Mount Sinai Health System. Among the trial's first five patients, one has had a complete remission, one has had a partial remission, and three have had stable disease.

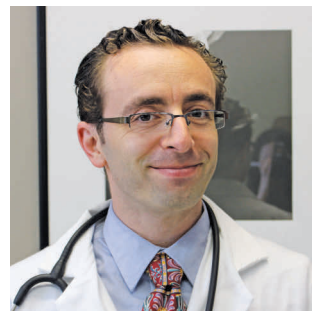
The vaccine is actually produced in each patient when two immune-modifying medicines are administered directly into a tumor, combined with two days of localized, low-dose radiotherapy to the same tumor. The first medicine mobilizes special immune cells, or dendritic cells, to the tumor, where they sample pieces of dying tumor cells after radiotherapy. The second medication activates the tumor-loaded dendritic cells, which then teach the rest of the immune system to recognize and eliminate tumor cells throughout the body.

Standard treatments such as chemotherapy and radiation enable patients to live with low-grade, B-cell lymphoma, but do not cure the disease, says Joshua Brody, MD,

Director of the Lymphoma Immunotherapy Program at Icahn School of Medicine at Mount Sinai. He is the first researcher to use the new dendritic cell mobilizing medicine as a treatment for lymphoma.

"We have helped a lot of people, but this new treatment provides us with the potential for a greater future," says Dr. Brody. "It teaches the patient's immune system to kill the lymphoma. Our patients find this especially exciting because—in some sense—they are actively creating their own anti-cancer therapy, as opposed to just passively receiving a therapy, as with standard treatments."

The trial is being funded by a \$750,000 Clinical Investigator Award Dr. Brody received from the Damon Runyon Cancer Research Foundation. A total of 30 patients will be enrolled in the clinical trial. Dr. Brody recently presented the study's preliminary data at conferences held by the American



Joshua Brody, MD

Society of Hematology on Lymphoma Biology, the American Association for Cancer Research in Tumor Immunology and Immunotherapy, and the Society for Immunotherapy of Cancer.

Sergei German, a patient who is currently enrolled in the trial says, "The

treatment Dr. Brody has conceived and the trial he is running at Mount Sinai is probably the best option for lymphoma patients nowadays. It offers the opportunity to treat lymphoma using immunotherapy without resorting to harsh chemotherapy."

Mr. German reports that the treatment's side effects have been very mild, similar to the results of a flu vaccine for which he would take a pain reliever such as acetaminophen. The treatment, he says, "is like teaching our bodies to fight cancer the same way they fight mumps. The trial is the best chance to take advantage of this approach."

New Program Provides Hospital-Level Care at Home

Over the next three years, Medicaid and Medicare patients who present at Mount Sinai's emergency departments with certain health conditions will be given a choice of whether they want to be treated as inpatients or be treated at home with the same level of acute care, under Mount Sinai's new Mobile Acute Care Team (MACT) program.

The MACT program was established with a \$9.6 million Health Care Innovation Award from the Centers for Medicare and Medicaid Services (CMS), with the goal of creating new ideas and new models of delivery that lead to improved care and lower costs for people enrolled in Medicare and Medicaid.

Under the three-year award, Mount Sinai, through its Visiting Doctors Program, will partner with community organizations such as Visiting Nurse Service of New York to provide these patients with in-home care for acute medical conditions that include cellulitis, chronic obstructive pulmonary disease (COPD), community-acquired pneumonia, congestive heart failure, deep venous thrombophlebitis, diabetes, and urinary tract infection. The Mount Sinai

Visiting Doctors Program conducts more than 6,000 annual primary care and end-of-life visits to elderly and home-bound patients in Manhattan.

"Delivering acute care in the home is an example of medicine advancing in every way," says Linda DeCherrie, MD, Associate Professor of Medicine, and Geriatrics and Palliative Medicine, Clinical Director of the MACT program, and Director of Mount Sinai Visiting Doctors. "It will allow the Mount Sinai Health System to improve patient satisfaction."

This is the second time in two years that the Icahn School of Medicine at Mount Sinai has received a CMS Health Care Innovation Award. MACT was modeled after the Hospital at Home program developed several years ago at the Johns Hopkins University.

MACT is expected to serve roughly 700 acute-care patients in Manhattan, with teams comprised of physicians, nurse practitioners,



Linda DeCherrie, MD

nurses, social workers, and community health workers. The teams will provide daily medical visits and arrange for necessary medical equipment, medications, and laboratory services to be supplied in patients' homes. A clinical team will be on call at all times, and patients will have access to rapid medical services and medications.

Through MACT, Mount Sinai will be able to create a reasonable payment model for high-level home-based acute care that CMS can adopt and implement. Currently, CMS does not have a payment code for hospital-level outpatient care.

The project described was supported by Grant Number 1C1CMS331334 of the Department of Health and Human Services, Centers for Medicare & Medicaid Services. The contents are solely the responsibility of the authors and do not necessarily represent the official views of the U.S. Department of Health and Human Services or any of its agencies.

Using Virtual-Reality Simulation to Improve Brain Surgery Outcomes

Virtual-reality simulation, designed to improve outcomes and reduce complications in patients undergoing brain surgery, is being pioneered at the Icahn School of Medicine at Mount Sinai. Neurosurgical simulation is an innovative training tool for neurosurgery residents and provides experienced surgeons the ability to plan and rehearse complex procedures.

The Brain Surgery Simulation Program, led by Joshua B. Bederson, MD, Professor and Chair of Neurosurgery, is using three simulators: the NeuroTouch, the Surgical Rehearsal Platform, and the Surgical Navigation Advanced Platform. Each has 3D software and handheld surgical controls to provide visual, tactile, and audio feedback to the practitioner. A computer-generated "score" evaluates key measures, such as the amount of tumor removed,



Joshua B. Bederson, MD, left, and Jonathan Rasouli, MD, PGY-3, demonstrate the use of a neurosurgical-simulation device.

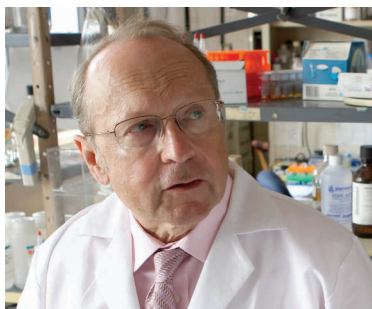
and the extent of bleeding and damage to healthy tissue. Mount Sinai's Simulation Program team includes neurosurgeons, as well as neurologists, radiologists, residents, MD/PhD students, statisticians, and computational scientists.

Neurosurgical simulation allows surgeons, who were previously unable to rehearse brain surgery using patient-specific data, the ability to input brain images using various modalities to create a 3D rendering of the patient's cranial anatomy. For neurosurgery residents,

the simulators offer a unique opportunity to conduct simulated operations from surgeries that already took place. For neurosurgery attendings, the simulation planning process may help in reducing time spent conducting a surgical procedure, which ultimately reduces patient risk and improves the likelihood of a successful outcome.

Renowned Microbiologist Peter Palese, PhD, Honored

Peter Palese, PhD, a world-renowned microbiologist who has led seminal studies that continue to greatly expand the understanding of influenza viruses, was recently named a member of the 2014 class of the American Academy of Arts and Sciences. The organization is one of the nation's most acclaimed honorary societies and a leading center for independent policy research. It includes among its current members more than 250 Nobel Laureates across various disciplines and more than 60 Pulitzer Prize winners.



Peter Palese, PhD

Dr. Palese is the Horace W. Goldsmith Professor of Medicine (Infectious Diseases) and Professor and Chair of the Department of Microbiology at Icahn School of Medicine at Mount Sinai. Chief among his many achievements is establishing the first genetic maps for the influenza A, B, and C viruses.

“On behalf of the entire Mount Sinai Health System, I would like to congratulate Dr. Palese on his election to the American Academy of Arts and Sciences,” says Dennis S. Charney, MD, Anne and Joel Ehrenkranz Dean, Icahn School of Medicine at Mount Sinai and President for Academic Affairs, the Mount Sinai Health System.

“Peter Palese is one of the truly great scientists in the world today. His research on the mechanisms of how viruses cause disease is leading to vaccines that will help millions of people. In addition, Dr. Palese is a phenomenal mentor whose trainees are now leaders in their own right. This recognition by the Academy is well-deserved.” Dr. Palese, together with Adolfo Garcia-Sastre, PhD, Director of Mount Sinai’s

Global Health and Emerging Pathogens Institute, and the Irene and Dr. Arthur M. Fishberg Professor of Medicine, created a revolutionary new approach to study viral gene structure and function, allowing them to manipulate single genes, which greatly facilitates the development of commercial influenza vaccines.

Both scientists and Christopher Basler, PhD, Professor of Microbiology, have also collaborated with the U.S. Centers for Disease Control and Prevention and the Armed Forces Institute of Pathology to study the deadly influenza virus of 1918. By using historical samples from victims, specifically RNA fragments to determine the genetic sequence of the killer strain, they were able to recreate the virus and to identify the most important gene responsible for the high virulence of the 1918 virus.

Among his many honors, Dr. Palese was elected to the National Academy of Sciences and the Institute of Medicine, and he was a recipient of the 2012 Sanofi-Institut Pasteur Award and the 2010 European Virology Award from the European Society for Virology. He is the author of multiple book chapters and more than 300 publications, and he has received several patents on viral vaccines and antiviral compounds.

“As scientists in microbiology and infectious disease, we are always looking for answers to questions about existing pathogens and those that may emerge in the future,” says Dr. Palese. “Receiving recognition like this helps to reinforce that the work we do is seen as important to those inside and outside of our laboratories.”

National Recognition for Advancing Spinal Cord Injury Treatment

A physician-scientist and a clinical investigator at the James J. Peters VA Medical Center in the Bronx were presented with the 2014 Samuel J. Heyman Service to America Medal in Science and the Environment for their groundbreaking contributions to improving the health care and quality of life of paralyzed veterans. The ceremony took place on Monday, September 22, in Washington, D.C.

The Partnership for Public Service, a nonprofit nonpartisan organization that celebrates excellence in the federal civil service, awards medals annually in seven areas of accomplishment. They are highly competitive and known as the “Oscars” of public service. The winners and finalists also attended a ceremony at the White House,



Ann M. Spungen, EdD, and William A. Bauman, MD, at the James J. Peters VA Medical Center in the Bronx.

hosted by First Lady Michelle Obama.

William A. Bauman, MD, and Ann M. Spungen, EdD, the Director and Associate Director, respectively, of the National Center

of Excellence for the Medical consequences of Spinal Cord Injury at the Mount Sinai-affiliated VA Medical Center, were recognized for advancing the understanding and treatment of the many complex medical conditions that result after spinal cord injury, and for developing novel therapeutic interventions.

Dr. Bauman is Professor of Medicine and Associate Professor of Rehabilitation Medicine at Icahn School of Medicine at Mount Sinai. Dr. Spungen is Associate Professor of Medicine with a secondary appointment in Rehabilitation Medicine. In testimonials, their work was described as revolutionary, creative, and having a profound impact on how physicians now care for these patients. One nomination letter said: “Dr. Bauman has

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A Renowned Ophthalmologist Takes the Helm at NYEE

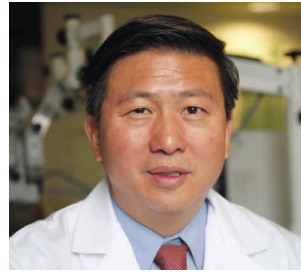
James C. Tsai, MD, MBA, a renowned physician-scientist with a research focus on glaucoma, recently was named President of New York Eye and Ear Infirmary of Mount Sinai (NYEE) and Chair of Ophthalmology of the Mount Sinai Health System. As President, Dr. Tsai says his main goals will be raising the visibility of NYEE to referring physicians, and ensuring that it is known as an international center of excellence in residency and fellowship training in ophthalmology and otolaryngology.

Dr. Tsai previously held the position of Chair of the Department of Ophthalmology and

Visual Science at Yale School of Medicine and Chief of Ophthalmology at Yale-New Haven Hospital.

As part of the Mount Sinai Health System and Icahn School of Medicine at Mount Sinai, NYEE will grow as a “true center of excellence for advancing science and clinical care in ophthalmology, otolaryngology, and plastic surgery,” he says.

Dr. Tsai earned his medical degree from



James C. Tsai, MD, MBA

Stanford University School of Medicine, and his Master's in Business Administration from Vanderbilt University. He currently serves as Chair of the Glaucoma Subcommittee of the National Eye Health Education Program Planning Committee of the National Institutes of

Health; Chair of the American Academy of Ophthalmology's Global Ophthalmic News & Education Network Advisory Board; and Chair of the Medical Advisory Board of the Glaucoma Foundation.

Experts in Heart Disease and Rheumatology Join Mount Sinai

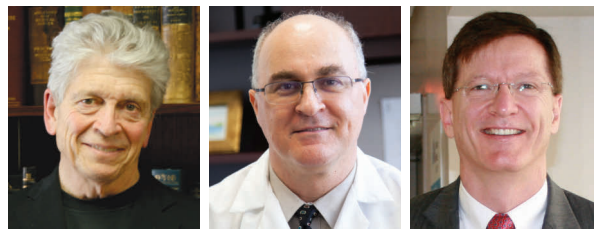
Blase A. Carabello, MD, a specialist in valvular heart disease, has joined the Mount Sinai Health System as Chair of Cardiology at Mount Sinai Beth Israel and Medical Director of the Heart Valve Center at The Mount Sinai Hospital.

Dr. Carabello has published more than 250 peer-reviewed research studies and 200 book chapters and editorials, and co-authored the American Heart Association/American College of Cardiology Guidelines for the Treatment of Valvular Disease from 1998 to 2014. In 2009, he received the prestigious Distinguished Scientist Award from the American College of Cardiology.

Prior to joining Mount Sinai, Dr. Carabello served as Chief of Cardiology at the Texas Heart Institute at St. Luke's Episcopal Health System.

Dr. Carabello graduated cum laude from Temple University School of Medicine. He received his residency training in internal medicine at Massachusetts General Hospital, and completed his cardiology fellowship at Brigham and Women's Hospital.

Pércio S. Gulko, MD, an expert in rheumatoid arthritis, has been named the Lillian and Henry M. Stratton Professor of Medicine (Rheumatology) and Chief of the Division of Rheumatology in the Samuel Bronfman Department of Medicine at Icahn



From left: Blase A. Carabello, MD; Pércio S. Gulko, MD; and John D. Puskas, MD

School of Medicine at Mount Sinai.

The author of more than 60 leading peer-reviewed publications, Dr. Gulko has made critical breakthroughs in identifying and characterizing new genes implicated in the regulation of disease severity and joint damage in rheumatoid arthritis.

Through the Mount Sinai Health System's new Arthritis Center of Excellence, Dr. Gulko will lead a multidisciplinary team of experts in offering specialized care for conditions that include psoriatic arthritis, rheumatoid arthritis, lupus, Sjögren syndrome, osteoarthritis, inflammatory muscle disease, and amyloidosis. Discoveries made in his laboratory hold enormous potential for generating novel therapeutics and prognostic biomarkers for arthritis.

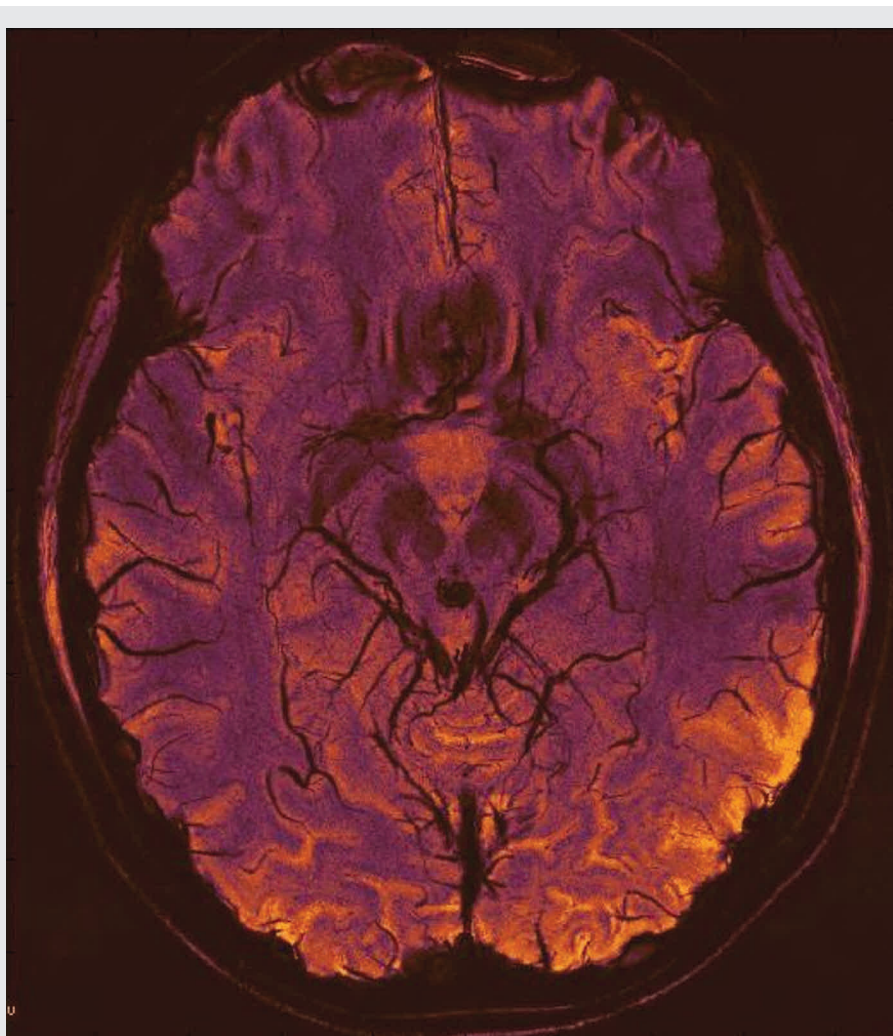
Dr. Gulko completed his medical degree, internship, and clinical fellowship in rheumatology at the Universidade Federal do Rio Grande do Sul, in Porto Alegre, Brazil.

Prior to joining Mount Sinai, Dr. Gulko served as Professor and Director of the Laboratory of Experimental Rheumatology at the Center for Genomics and Human Genetics at the Feinstein Institute for Medical Research at North Shore-LIJ.

John D. Puskas, MD, recognized internationally for his expertise in off-pump coronary artery bypass surgery, has been named Chair of Cardiothoracic Surgery at Mount Sinai Beth Israel and Director of Surgical Coronary Revascularization for the Mount Sinai Health System. A specialist in adult cardiac surgery, including aortic root surgery and minimally invasive valve surgery, he is also a pioneer in the development of minimally invasive surgical techniques for the treatment of atrial fibrillation.

Dr. Puskas is currently the national principal investigator for three ongoing U.S. Food and Drug Administration investigational device trials. Prior to joining Mount Sinai, Dr. Puskas served as Chief of Cardiothoracic Surgery at Emory University Hospital Midtown. He received his medical degree from Harvard Medical School, and completed his residency in general surgery at Massachusetts General Hospital and his cardiothoracic surgery residency training at Emory University School of Medicine.

Subtle Abnormalities Seen with 7 Tesla MRI



An axial slice just above the eyes of a healthy human brain depicts the venous vasculature in detail. It was obtained using an ultra-high field (7 Tesla) MRI scanner that can produce very high resolution anatomical images, making it possible to noninvasively reveal subtle abnormalities associated with disease that are not detectable with conventional MRI.

Image courtesy of Zahi A. Fayad, PhD, laboratory

Teaching Heart-Healthy Habits to High-Risk Children and Families *(continued from page 3)*

Principal investigators of the grant include Zahi A. Fayad, PhD, Director of the Translational and Molecular Imaging Institute; and Eric E. Schadt, PhD, Director of the Icahn Institute for Genomics and Multiscale Biology, and the Jean C. and James W. Crystal Professor of Genomics.

By 2020, the AHA goal is to improve the cardiovascular health of all Americans and reduce deaths from cardiovascular disease and stroke by 20 percent.

The grant calls for Dr. Fayad to focus on the parents or caregivers. “We will measure their cardiovascular risk factors, such as blood pressure and cholesterol, and take an ultrasound of their blood vessels,” Dr. Fayad says. By doing this, the adults will be able to visualize their health problems.

Dr. Schadt’s project will examine the cross-generation genetic and genomic information of the children and their parents, exploring how genes work together in the context of lifestyle habits and behavior. The goal is to identify new approaches to disease treatment and prevention.

Mount Sinai was among four major medical centers that received a total of \$15 million from the AHA. The other AHA Strategically Focused Prevention Research Network Centers are Northwestern University Feinberg School of Medicine, The University of Texas-Southwestern Medical Center, and Vanderbilt University Medical Center.

National Recognition for Advancing Spinal Cord Injury Treatment *(continued from page 5)*

been the single most important scientist and physician leading the way to improved medical management of persons with spinal cord injury.” Dr. Bauman has worked at the Bronx VA hospital for 35 years, starting in the laboratory of the late Rosalyn Sussman Yalow, PhD, a physicist and Nobel Laureate in Physiology or Medicine in 1977, and a former Mount Sinai faculty member. Dr. Spungen began working with Dr. Bauman in 1990.

“They lead a team of talented doctors to address many of the largely neglected, but highly relevant, issues faced by patients with spinal cord injury,” says Erik Langhoff, MD, PhD, Director of the James J. Peters VA Medical Center.

The team’s many accomplishments include: studies revealing that patients have an increased risk for heart disease and are

susceptible to an asthma-like lung condition; novel drug therapies for low blood pressure and poor bowel function; and investigating new ways to reduce bone loss that occurs after the immobilization of spinal chord injury. They were also among the first to test and reveal the benefits of using the ReWalk exoskeleton, an assisted-walking robotic device now being used by individuals with paraplegia.



Icahn School of Medicine at Mount Sinai
One Gustave L. Levy Place, Box 1107
New York, NY 10029-6574

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