Three Mount Sinai Luminaries Elected To The National Academy of Medicine

Three Icahn School of Medicine at Mount Sinai faculty members recently received the professional honor of being elected to the prestigious National Academy of Medicine (NAM): Neil S. Calman, MD, Chair of the Department of Family Medicine and Community Health; Yasmin L. Hurd, PhD, Director of the Addiction Institute and Ward-Coleman Chair in Translational Neuroscience; and Ramon E. Parsons, MD, PhD, Director of The Tisch Cancer Institute and Ward-Coleman Chair in Cancer Research.

The esteemed group joins 21 Mount Sinai colleagues who also have received the professional distinction of being members of the NAM, formerly the Institute of Medicine, an independent organization that serves as a national and international advisor on health and related policy formation. Academy membership demonstrates outstanding commitment to issues related to health care, prevention of disease, education in the health professions, or biomedical research.

Rare Tumor May Provide Road Map to Diabetes Therapies

A rare benign tumor may hold the key to regenerating insulin-producing beta cells and lead to novel drugs for patients with diabetes, according to a study led by Andrew F. Stewart, MD, Director of the Diabetes, Obesity and Metabolism Institute and the Irene and Dr. Arthur M. Fishberg Professor of Medicine at the Icahn School of Medicine at Mount Sinai.

Dr. Stewart’s team conducted the largest genomic study of insulinomas—benign pancreatic tumors that secrete insulin—and uncovered multiple pathways to human beta cell proliferation, long seen as a holy grail in treating, and possibly curing, diabetes.

“We’ve sequenced 38 human insulinomas with 30,000 genes each, and now know all the genes that are mutated and misregulated,” says Dr. Stewart. “For the first time, we have a genomic recipe—an actual wiring diagram in molecular terms—that demonstrates how beta cells replicate.” The results of that research were reported in the journal Nature Communications in October 2017.

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Andrea E. Dunaif, MD, a renowned physician-scientist in diabetes and women’s health, has joined the Mount Sinai Health System as Chief of the Hilda and J. Lester Gabrilove Division of Endocrinology, Diabetes and Bone Disease. In her role, Dr. Dunaif seeks to build on Mount Sinai’s strengths in research on diabetes, metabolism, and endocrine disorders.

Dr. Dunaif is a leader in research into polycystic ovary syndrome (PCOS), which affects about 7 percent of reproductive-age women. PCOS is an inherited disorder where the ovaries, and frequently the adrenal glands, make a slight increase in the male hormone testosterone, leading to irregular periods, excessive hair growth, and acne. Research led by Dr. Dunaif has shown that PCOS is associated with insulin resistance and is a leading risk factor for type 2 diabetes in young women. She has also shown that the male and female relatives of affected women are at increased risk for type 2 diabetes and reproductive problems. “I am transferring my research program here,” Dr. Dunaif says, “so Mount Sinai will become a major center for the genetics of PCOS.”

In a continuation of her work, funded by a $2.5 million National Institutes of Health (NIH) grant, Dr. Dunaif is mapping chromosomal regions that have a high likelihood of containing genes causing PCOS. The ultimate goal is to identify therapeutic targets and genetic markers that could be used to predict and prevent PCOS.

Dr. Dunaif, the Lillian and Henry M. Stratton Professor of Molecular Medicine, began her career at The Mount Sinai Hospital in the early 1980s. She most recently served at Northwestern University’s Feinberg School of Medicine in Chicago as Chief of Endocrinology, Metabolism, and Molecular Medicine; Vice Chair for Research in the Department of Genetics and Genomic Sciences and The Charles Bronfman Institute for Personalized Medicine at the Icahn School of Medicine.

“Returning to Mount Sinai is very much like coming home,” Dr. Dunaif says. “And it is exciting to see the extraordinary growth in the study of diabetes, metabolism, and population health at Mount Sinai St. Luke’s; the Thyroid Center at Mount Sinai Union Square; and the groundbreaking research on postmenopausal metabolism, artificial pancreas systems, and pancreatic beta cells at the Icahn School of Medicine.

She plans to take advantage of the “phenomenal expertise in genetics at Mount Sinai” by working closely with the Department of Genetics and Genomic Sciences and The Charles Bronfman Institute for Personalized Medicine at the Icahn School of Medicine at Mount Sinai. She also seeks to expand her Division’s strengths across the Health System, including the study of diabetes, metabolism, and population health at Mount Sinai St. Luke’s; the Thyroid Center at Mount Sinai Union Square; and the groundbreaking research on postmenopausal metabolism, artificial pancreas systems, and pancreatic beta cells at the Icahn School of Medicine.

Dr. Dunaif points to the Mount Sinai setting as another advantage. “And it’s right here in the country. Now it is one of the premier academic health centers in the country.”

Dr. Stewart says that one of the reasons he joined Mount Sinai five years ago was that its strong Genomics and Bioinformatics programs offered him the potential to assess the insulinomas he had been collecting. “I wanted to do genome sequencing and RNA expression as part of comprehensive studies to figure out which genes were turned on and which weren’t in insulinomas,” he says.

Eric Schadt, PhD, Dean for Precision Medicine, and the Jean C. and James W. Crystal Professor of Genomics, Icahn School of Medicine at Mount Sinai, assigned a team of bioinformaticists to work closely with Dr. Stewart, led by Carmen Argmann, PhD, Associate Professor of Genetics and Genomic Sciences, Icahn School of Medicine at Mount Sinai. “We are now further expanding our sequencing to 100 insulinomas. We already have found many pathways that lend themselves to new drugs,” Dr. Stewart observes.

Dr. Stewart has repeatedly undercut the argument that human beta cells were impossible to reproduce. In the March 2015 issue of Nature Medicine, his team reported the discovery of the first drug that can trigger human beta cell regeneration: harmine. In that study, Dr. Stewart’s team robotically screened 100,000 chemical compounds in search of a drug to make beta cells grow. They identified 86 potential candidates, and eventually winnowed the field to harmine, which is derived from the flowering plant harmal, or ayahuasca.

Harmine, however, has psychoactive properties that act not only on beta cells but on the brain and other tissues throughout the body. That complication has touched off a search within the research community to find other small molecules that target only beta cells. “We’re making considerable progress in making the next-generation versions of harmine in combination with other drugs that will afford us much higher proliferation of human beta cells,” Dr. Stewart says. “With the insulinoma project, we have acquired a road map to even more effective beta cell regenerative drugs.”

Rare Tumor May Provide Road Map to Diabetes Therapies (continued from page 1)
The Phillips School of Nursing at Mount Sinai Beth Israel recently hosted a delegation of registered nurses from Seoul National University Bundang Hospital in South Korea, who were eager to learn about the U.S. health care system, particularly about nursing activities related to falls and evidence-based practice. The nurses’ specialties included pulmonology, otolaryngology, and neuropsychiatry.

Todd F. Ambrosia, DNP, MSN, RN, FNP-BC, Dean of the Phillips School of Nursing, led a series of presentations with the assistance of an interpreter. He and Phillips faculty members provided the visitors with an overview of the school’s different nursing programs and degrees, and of the overall Mount Sinai Health System. Sangwook Shin, a first-year student in the Phillips Accelerated Associate Degree Program in Nursing, shared his experiences as a student in his native tongue. Megan Hackford, RN, Skills Lab Coordinator at the Phillips School of Nursing, led the visitors on a tour of the facility and provided a brief demonstration in the Ruth Nerken Simulation Lab.

Dr. Ambrosia says he was excited to hear the Korean nurses identify Mount Sinai as one of the leading health systems in the United States. “We appreciated the opportunity to have this global dialogue with other nurses,” says Dr. Ambrosia. “These interactions strengthen our opportunity to collaborate and build lasting partnerships to enhance academic and clinical initiatives in nursing.”

According to the American Cancer Society, the annual awards luncheon—now in its 22nd year—has raised more than $5 million since its inception. Honorees are chosen for distinguishing themselves as remarkable mothers who inspire others through their abilities to balance parenting with social obligations, careers, and philanthropic activities. Past Mother of the Year honorees include fashion designers Vera Wang, Tory Burch, and Carolina Herrera, as well as Kathie Lee Gifford herself, and philanthropists Anne and Charlotte Ford.

In her acceptance speech, Dr. Boolbol said, “Before I was a mom, I thought about how much I would teach and inspire my children. The reality is that I am overwhelmed by how much I learn and am inspired by them every day.”

Susan K. Boolbol, MD, and her children.

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Susan K. Boolbol, MD, and her children.
Providing low-income patients with affordable, accessible, and comprehensive health care

Dr. Calman joins fewer than 50 family physicians in an Academy populated mainly by the world’s leading medical specialists. His election rewards his work over three decades to reduce health disparities in the broad context of social and medical issues. “It’s the hallmark of what I have done,” he says.

Dr. Calman launched the Institute for Family Health in 1985 with a staff of four and became affiliated with Mount Sinai in 2012. Today, the Institute employs more than 1,400 staff and receives more than 650,000 patient visits annually to its 51 locations in Brooklyn, Lower Manhattan, Harlem, the Bronx, and the Hudson Valley. It provides more than 102,000 low-income patients with services that include primary care, mental health, dental care, and social work that satisfy national standards for affordable, accessible, and comprehensive health care.

The Institute also trains health professionals, and operates three distinct family medicine residency programs and fellowships in women’s health and for family nurse practitioners. Dr. Calman has led the Institute’s research efforts that focus on improving health equities and making high-quality health care available to anyone in need.

Dr. Calman’s focus on population health and public health has earned him a long list of accolades, including the Robert Wood Johnson Foundation’s Community Health Leadership Award, the American Academy of Family Physicians’s Public Health Award, The Pew Charitable Trust’s Primary Care Achievement Award, and the Physician Advocacy Award from the Institute on Medicine as a Profession. Accreditation by The Joint Commission and recognition by the National Committee for Quality Assurance certify the highest levels of patient care.

Developing new treatments for addiction that really change lives

Having so many faculty members at the NAM is a testament to the quality of the work being done at Mount Sinai, says Dr. Hurd, a neuroscientist and founding Director of the Addiction Institute at the Icahn School of Medicine. “It proves the degree to which Mount Sinai is influencing the course of science, medicine, health care, and more. And that is pretty impressive.”

Discovering effective therapies for addiction has become a national call to action and is Dr. Hurd’s specialty. According to the 2016 U.S. Surgeon General’s Report, more than 20 million Americans have substance abuse disorders.

In studying the neurology behind addiction, Dr. Hurd’s laboratory at Mount Sinai examines the environmental and genetic causes of addiction visible in animal behavior, molecular biology, cell biology, pharmacology, psychology, neuroimaging, bioinformatics, and biotechnology. Her lab has analyzed human and animal tissues at the single-cell level and pioneered the technique of DREAMM (DREADD-assisted metabolic mapping), a source of high-resolution quantitative mapping of functional brain circuits associated with the disturbance of genes expressed in specific cell populations.

Dr. Hurd’s lab has made major inroads in addiction research by showing that marijuana use has different effects on developing brains and adult brains. Individuals who are exposed to the active ingredient in marijuana—tetrahydrocannabinol (THC)—early in life, for example, show greater sensitivity to opiates, which could make them more vulnerable to addiction and other problems. In addition, the changes it makes in the brain can last through adulthood and even into the next generation. In addition to THC, Dr. Hurd is testing cannabidiol, another active ingredient in marijuana, for its palliative effects. Evidence so far suggests its potential role in preventing relapses in heroin and cocaine addiction, reducing anxiety, and improving overall cognitive function. “I would say that my passion is developing treatments that really change lives,” Dr. Hurd says.

Enhancing translational research and collaborating on the complex puzzle of cancer

Dr. Parsons’s election to the NAM follows his 2017 appointment as Director of The Tisch Cancer Institute and the receipt of a $6.7 million award from the National Cancer Institute that will fund research into the tumor-suppressing functions of the PTEN gene—which encodes a phosphatase enzyme relevant to many types of cancer—that he discovered 20 years ago. Upon analyzing the gene’s sequences that exhibited mutations in cancers, he recalls “the ‘aha moment’ when we saw that the phosphatase—a tumor suppressor—was mutated.”

One of Dr. Parsons’s goals as Director of The Tisch Cancer Institute is to detect hypermutating cancers as early as possible in a patient’s diagnosis so that he or she can receive immune checkpoint therapy at the most advantageous point during treatment. This effort is based, in part, on research that Dr. Parsons began more than two decades ago as a fellow at Johns Hopkins School of Medicine while investigating defective DNA repair that causes hypermutation in colon cancer.

His other goals for The Tisch Cancer Institute include enhancing the infrastructure for translational research, and expanding, recruiting, and training basic and clinical scientists to perform more patient-oriented research, as well as promoting research to address disparities in patient outcomes.

Multiple disciplines working in concert on cancer is pivotal, Dr. Parsons says. When experts with different perspectives collaborate on a complex puzzle, “the further into it you get, the more quickly you can try to finish it.” An optimist, he says, “You can’t be in the cancer field without seeing the glass half full. We must analyze in exquisite detail our success and why it is working, then compare that with failures to be able to develop better care for everyone.”
Around the Health System

Easier Access to Care at Mount Sinai Doctors Forest Hills

Those who live and work in the Rego Park/Forest Hills communities of Queens now have easier access to care with the recent opening of Mount Sinai Doctors Forest Hills. The nearly 16,500-square-foot facility brings together, under one roof, four existing Mount Sinai specialty practices from the area.

A ribbon-cutting and an open house last fall were celebratory events that attracted Mount Sinai leadership and physicians, city and local government officials, and the public. The facility offers specialists in primary care, cardiology, endocrinology, general and vascular surgery, neurology, obstetrics and gynecology, orthopedics, and urology. Radiology and lab services are also available onsite. Located at 99-01 Queens Boulevard between 66th Road and 67th Avenue, it is easily reached by city buses, and the M and R trains. For an appointment, call 718-520-6100.

Recognition for Excellence in Neuroscience Research

Lakshmi A. Devi, PhD, left, Dean for Academic Development and Enrichment at the Icahn School of Medicine at Mount Sinai, began the year as a designated 2018 WCBR (Winter Conference on Brain Research) Pioneer for her neuroscience research on opioid and cannabinoid signaling in analgesia and addiction. Along with her team, Dr. Devi, Professor of Pharmacology, Neuroscience, and Psychiatry at the Icahn School of Medicine, has demonstrated that G protein-coupled receptors can function as heterodimers, with unique pharmacology and selective upregulation associated with various disease states. Dr. Devi also serves as an engaged mentor in the field of neuroscience. The WCBR provides an annual forum for the sharing and dissemination of the latest advances in neuroscience and supports continuing education, mentorship, diversity, outreach, and financial support for junior investigators. Dr. Devi serves on the WCBR Board of Directors.

Learning How to Save a Life

More than 250 attendees—including 66 public school students—recently received hands-on cardiopulmonary resuscitation (CPR) and automated external defibrillator (AED) instruction at community health fairs organized by the Mount Sinai Health System. Held at four Health System campuses, the events aimed to increase awareness of sudden cardiac arrest, a condition that can only be treated by immediate, correct use of CPR or AED. According to the American Heart Association, each year more than 350,000 adults and children will experience the often fatal condition. “If CPR and/or AED are used within minutes to resuscitate a person who experiences sudden cardiac arrest, it may help to save a life,” says Beth Oliver, DNP, RN, Senior Vice President, Cardiac Services, Mount Sinai Health System. “With proper knowledge and skills, anyone can save a life during an emergency.”

Matilda Mullen, RN, provided life-saving demonstrations at The Mount Sinai Hospital community health fair.
Vote Now for “Best Doctors” 2018

Tuesday, January 16, is the voting deadline for online nominations for New York magazine’s “Best Doctors.” All licensed MDs and DOs are encouraged to nominate colleagues within the Mount Sinai Health System who are clinically outstanding and deserving of recognition. The Health System has consistently been a frontrunner in this prestigious listing. In New York’s 2017 “Best Doctors” edition, 253 physicians from within the Mount Sinai Health System were listed.

To participate, physicians must have their National Provider Identification (NPI) number and a valid email address. Participants cannot nominate themselves, but they can nominate 10 physicians in their own specialty; five in Family Medicine, Internal Medicine, and Pediatrics; and three in each of the remaining specialties.

Nominations are collected and tabulated by Castle Connolly Medical Ltd., which selects the top 10 percent of the region’s physicians to appear in Top Doctors: New York Metro Area, and a shorter version for New York magazine.

To vote online, please go to www.castleconnolly.com/nominations.

National Institutes of Health Common Fund’s High-Risk, High-Reward Research Program

Hosted by the Department of Environmental Medicine and Public Health, this event will feature Ravi Basavappa, PhD, National Institutes of Health Program Leader for the Common Fund’s High-Risk, High-Reward Research Program, which was established to support exceptionally creative scientists and encourage outside-the-box thinkers to pursue highly innovative ideas in any area of biomedical research. Attendees will gain insight from Dr. Basavappa and past award winners, and learn about the various awards the Program offers. Dennis S. Charney, MD, Anne and Joel Ehrenkranz Dean, Icahn School of Medicine at Mount Sinai, and President for Academic Affairs, Mount Sinai Health System, will present opening remarks. To register, visit events.mountsinaihealth.org and search by program title or date.

Tuesday, January 23
1 – 2:20 pm
Hess Center, Davis Auditorium

Mount Sinai Brooklyn Launching “Epic ASAP”

In February, “Epic ASAP” will replace Healthmatics, the current system in use in the Emergency Department at Mount Sinai Brooklyn—an effort to further improve clinical workflow efficiencies, as well as patient care quality and safety.

The new system has several key benefits, including:

- The availability of Electronic Prescribing of Controlled Substances (EPCS)
- Decreased wait times for patients within the Emergency Department.

The “Go-Live” will occur Saturday night, February 3, into Sunday, February 4.

For more information, contact EpicMSB@mountsinai.org.

Yoga, Pilates, Meditation Classes, and More!

Mount Sinai Calm is a program that offers self-care, stress management, and relaxation classes to Mount Sinai Health System employees. For yoga, Pilates, meditation, and other Mount Sinai Calm offerings and resources, email 4calm@mountsinai.org or visit mountsinai.org/about/ms-fit/self-care.

Mount Sinai Transformation Update

For the most recent updates on Mount Sinai’s downtown transformation, please go to: http://www.mountsinai.org/locations/downtown

The Mount Sinai Health System complies with applicable Federal civil rights laws and does not discriminate, exclude, or treat people differently on the basis of race, color, national origin, age, religion, disability, sex, sexual orientation, gender identity, or gender expression.