



Mount Sinai

inside

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New Institute for Exposomic Research Will Study Lifelong Effects of Environmental Exposures

The Icahn School of Medicine at Mount Sinai is establishing the Institute for Exposomic Research under the leadership of Robert O. Wright, MD, MPH, and Rosalind J. Wright, MD, MPH, two international leaders in environmental health. The Institute, the first in the world focused on exposomics, will study the effects of environmental exposures on health and will translate these findings into new strategies for prevention and treatment.

“The exposome is a new research field and is analogous to genomics,” says Dr. Robert Wright, Ethel H. Wise Professor and Chair, Department of Environmental Medicine and Public Health, and Director, Senator Frank R. Lautenberg Environmental Health Sciences Laboratory.

“While genomics concerns all the genetic factors that predict health, the exposome encompasses all the environmental factors that affect your health, including nutrition, social factors, chemicals, and the physical environment, from the time you are conceived until the time you die. To understand health, you must understand both fields.” He is Director of the Institute, and its Co-Director is Dr. Rosalind Wright, Horace W. Goldsmith Professor in Children’s Health Research and Dean of Translational Biomedical Sciences at the Icahn School of Medicine.

The Institute will build upon the expertise of the Lautenberg Laboratory



Rosalind J. Wright, MD, MPH



Robert O. Wright, MD, MPH

to develop new technologies and methodologies in exposomics. Mount Sinai’s recent investment in the field has already led to significant funding from the National Institutes of Health (NIH), including a \$9 million grant in December for Environmental influences on Child Health Outcomes (ECHO), to investigate the effects of a broad range of environmental exposures on children’s long-term health, and two additional \$10 million NIH grants for the Children’s Health Exposure

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Orthopedics Team Shares Surgical Techniques in China



Members of the Mount Sinai orthopedics team at the hospital in Yinchuan: from left, Matthew Renner, PA; Suriya Sriprasertying, RN; Donald M. Kastenbaum, MD; Jin Hee Choi, RN; and Albert Toe, PA.

Donald M. Kastenbaum, MD, has been traveling to China each year for more than 15 years to teach orthopedic surgeons the latest techniques in orthopedic hip and knee surgery. This year, he and his four-person team at Mount Sinai Beth Israel were invited by the Chinese government and the General Hospital of Ningxia Medical University, in Yinchuan, a city of nearly 2 million people about 400 miles southwest of Beijing.

Dr. Kastenbaum is Physician-in-Chief

and Vice Chairman of the Department of Orthopaedic Surgery at Mount Sinai Beth Israel. His team included Albert Toe, PA; Matthew Renner, PA; Jin Hee Choi, RN; and Suriya Sriprasertying, RN.

The group’s three-day visit in early February involved a 13-hour flight to Beijing and a two-hour flight to Yinchuan. The next morning, Dr. Kastenbaum began giving the first of multiple lectures—with slides and case studies in English and Chinese—followed by hospital rounds and several total knee replacement surgeries.

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Analysis Resource (CHEAR) program. CHEAR provides laboratory resources to measure environmental chemicals, metabolites, hormones, and other factors representing components of the human exposome. The CHEAR grants also fund a Data Repository, Analysis, and Science Center, led by Susan L. Teitelbaum, PhD, Professor of Environmental Medicine and Public Health, that specializes in analyzing exposomic big data.

A major part of the CHEAR facilities' mission will be analyzing the samples collected by ECHO, a seven-year study of 50,000 children followed longitudinally across the United States. Mount Sinai is part of a consortium that includes programs in Boston and Virginia and will recruit 5,000 of these subjects. The Wrights are part of the committees now setting up protocols for the national ECHO study.

The doctors have been collaborating for more

than 20 years. They first met in medical school at the University of Michigan. Rosalind Wright specialized in critical care and adult pulmonary medicine and Robert Wright in medical toxicology and pediatric emergency medicine. Over the years their interests converged, in large part because they were both concerned by the environmental issues that brought their patients to the hospital. "For me it became an issue of prevention," Dr. Rosalind Wright says. "Taking care of someone with very advanced, end-stage lung disease, I could adjust medications so the patient could walk a little farther or sleep a little better. But I thought, 'Where do we start so that we can give people a healthier life overall, as well as help them live longer?' Getting them to stop smoking, for example, has a small effect. But if we go back to the root of the unhealthy trends, we can have a huge impact. For example, I was struck by the data showing that if a mother smokes during pregnancy or

she experiences high stress in pregnancy, the child will have decreased lung function by age 6 or 7, and that lower lung function will track over their life and make them more likely to develop chronic lung disease."

The new Institute will expand exposomics into research programs in disciplines across campus, including personalized medicine, cancer, women's health, aging, immunology, and clinical trials. "Intuitively, we all know that our environment plays the major role in shaping our health, but until recently the tools to measure environment on an 'omic' scale didn't exist. That's the future, and it aligns with the changes happening in health care," Dr. Robert Wright says. "As Mount Sinai's leadership says, population health, not fee for service, is the future, and that means prevention. Investing in understanding exposomics will give us the tools for prevention."

"The Decade of the Developing Brain" Panel Focuses on Environment and Lifelong Health



From left: Rosalind J. Wright, MD, MPH; Manish Arora, PhD, MPH; the two moderators, Shevon Skinner, RN, MSN, MPH, Director of Patient Services, LSA Family Health Service in East Harlem, and Maida Galvez, MD, MPH, Associate Professor, Environmental Medicine and Public Health; David Bellinger, PhD; and Avi Reichenberg, PhD.

"The Decade of the Developing Brain," a symposium held in honor of the tenth anniversary of the Department of Environmental Medicine and Public Health's Children's Environmental Health Center, could arguably be summed up by these three points: "Our environment is complex and constantly changing. Prenatal and early postnatal life are critical periods that can affect lifelong health," said Manish Arora, PhD, MPH, Vice Chair of the Department of Environmental Medicine and Public Health at the Icahn School of Medicine at Mount Sinai. And finally, "Save your teeth."

At the half-day symposium, held at the New York Academy of Medicine on Friday, February 24, a keynote speech by David Bellinger, PhD, Harvard T.H. Chan School of Public Health, Boston Children's Hospital, outlined the population-level effects of environmental chemicals on neurodevelopment. Avi Reichenberg, PhD, Professor of Psychiatry, and Environmental Medicine and Public Health, addressing the complexity of autism risk, said multiple published studies have concluded that "there is no association between vaccination and the risk for autism. Yet unfortunately this comes up again and again."

Rosalind J. Wright, MD, MPH, Horace W. Goldsmith Professor in Children's Health Research and Dean of Translational Biomedical Sciences at the Icahn School of Medicine, discussed the relationship between a mother's physical response to stress and fetal development. "When you are living with chronic financial strain, violence, and discrimination, it can have effects on the developing baby, starting in pregnancy with particular implications on the developing brain," she said. On the positive side, she also showed evidence indicating that good nutrition and "sensitive, responsive, supportive care" can buffer young children from the effects of stress.

Dr. Arora called the study of the developing brain a "relay race" in which bench scientists like him supply packets of information that clinicians and researchers in the field can act upon. One of his major contributions is developing new techniques to study human teeth, which have growth rings that each day capture information about chemical exposure and nutrition—a hard drive of biologic information. Dr. Arora advised attendees not to throw away the teeth they shed, saying, "They are more valuable than you think."

Multiple Sclerosis Gala Honors Donors and Patients

More than 225 donors, patients, faculty, and friends attended the 15th Annual Gala for the Corinne Goldsmith Dickinson (CGD) Center for Multiple Sclerosis at Mount Sinai, which was held Thursday, March 2, at The Plaza. The event was chaired by Meruka Hazari, MD, a patient at the Center; her sister, Kernika Gupta, MPH; and their mother, Renu Gupta, MD.

A highlight of the evening was the presentation of a special award to Blair Underwood, actor, director, and philanthropist, by Robert Friedman, Mount Sinai Health System Trustee and a member of the CGD Center Advisory Board. The award recognized Mr. Underwood's exemplary contribution to the advocacy community. He shared with the audience that his television show, *GIVE*, which profiles philanthropic efforts, was created to honor his philosophy that "to whom much is given, much is required." He went on to say, "I've been given a great deal in my 50-something years on this planet. Though I believe 'giving back' and



From left: Robert Friedman; Aaron E. Miller, MD, Professor of Neurology, and Medical Director, Corinne Goldsmith Dickinson Center for Multiple Sclerosis at Mount Sinai; Blair Underwood; and Fred D. Lublin, MD.

care and become a worldwide leader in clinical research aimed at ending this disease," said Fred D. Lublin, MD, Saunders Family Professor of Neurology at the Icahn School of Medicine at Mount Sinai and the Center's Director.

'being of service' is a requirement, it also feels good, and it is a joy."

The evening also featured a panel presentation moderated by Kate Milliken, founder of the website mycounterpane.com. Ms. Milliken interviewed CGD Center patients and caregivers, each with an inspirational personal journey that exemplified the program's theme, "The Power Within."

The Clifford H. Goldsmith Award for Outstanding Service was presented to Joan Noto, President of the Corinne Goldsmith Dickinson Center Advisory Board. "Through the efforts of generous, committed individuals, such as Joan, we have been able to provide comprehensive, compassionate

➤ Orthopedics Team Shares Surgical Techniques in China *(continued from page 1)*



His back to the camera, Donald M. Kastenbaum, MD, left, with members of his Mount Sinai team and staff at the General Hospital of Ningxia Medical University in Yinchuan, performed a knee replacement procedure that was broadcast to more than 1,000 people gathered at the hospital auditorium and four local hospitals.

"It was an amazing opportunity to share our knowledge with our counterparts in China and allow our team members to learn first-hand about medical practices in another part of the world, all while building the Mount Sinai brand," says Dr. Kastenbaum, who is also Vice President/Medical Director of Perioperative Services for the Mount Sinai Health System, and is considered an expert in operating room safety and efficiency.

During the visit, Dr. Kastenbaum was able to put into practice his belief that success in the surgical suite is based not just on his own skills—honed over the course of performing more than 6,000 total hip and knee replacements—but on his team approach. This approach methodically addresses a range of interoperative issues, such as how to set up the operating room, ensure sterility, account for all instruments, and decrease the risk of infection, while focusing on efficiency, not speed. It also recognizes the importance of preoperative planning and postoperative care.

In 2002, Dr. Kastenbaum was first invited to speak and perform live surgery at a major orthopedic conference in China, which spurred his interest in helping to improve medical education internationally. This eventually led him to develop a fellowship program and to become co-chair of the International Congress for Joint

Reconstruction (ICJR) Chinese Orthopedic Association meeting, the most widely attended yearly meeting of orthopedic surgeons in China, which attracts nearly 15,000 people.

Over the years, Dr. Kastenbaum's orthopedic fellowship program has grown to become one of the most sought-after programs for Chinese orthopedic surgeons. Many of his former fellows are now chairs of their own departments or presidents of their hospitals.

"I am very grateful to be in a position to help so many of these doctors from around the world who want to learn about best practices so they can, in turn, help their patients," he says. "They do so much good for their patients, often with less equipment than we have in the United States. We can also learn more from traditional Chinese medicine, which has tremendous merit."

Dr. Kastenbaum says he is looking forward to another educational trip with his team next year. "We want to continue and are expanding to other parts of the world because we have only just begun to make a difference in improving surgical outcomes in patients," he says.

Around the Health System

Colorectal Cancer Awareness Events

The Mount Sinai Endoscopy Center hosted an array of educational activities for Colorectal Awareness Month on Wednesday, March 1. During a health fair at The Mount Sinai Hospital, participants picked up educational literature and giveaways and walked through a 20-foot-long inflatable model of a colon. Provided by the Colon Cancer Challenge Foundation and known as the “Rollin’ Colon,” the model exhibits polyps and other colon cancer symptoms. Later that day, the Foundation launched a “Protect Your Butt” campaign focused on saving lives through colon cancer awareness, prevention, and translational research. Colon cancer survivors, advocates, and clinicians joined in a celebratory “booty shake” at the event, which was held at the Naumburg Bandshell in Central Park and co-sponsored by Mount Sinai, Epi proColon, and Bracco Diagnostics Inc.



Starting fifth from left: Alex Ky-Miyasaka, MD, Associate Professor of Surgery; Sanghyun A. Kim, MD, Assistant Professor of Surgery; and David A. Greenwald, MD, Professor of Medicine (Gastroenterology); with nurses and staff from The Mount Sinai Hospital’s Endoscopy Center.

Breaking Barriers at Kravis Children’s Hospital

In partnership with the nonprofit enCourage Kids Foundation, Leif Becker, a martial artist and motivational speaker, recently met with pediatric patients at the Blau Center for Children’s Cancer and Blood Disease at Kravis Children’s Hospital at Mount Sinai. Mr. Becker holds a world record for breaking wooden boards (487 in one minute). In preparation for his visit, patients and families had decorated wooden



Martial artist Leif Becker visits with patient Myles Lewis and his father, Fredrick Lewis. Mr. Becker breaks boards to symbolize the power of hope over adversity.

boards depicting their personal obstacles or challenges. Mr. Becker shattered the boards to symbolize breaking through barriers. “The smiling faces as he effortlessly broke the boards were a testament to the power to spread a message of hope over adversity,” says Cheryl F. Strauss, Zone Clinical Coordinator, Child Life and Creative Arts Therapy Department, Kravis Children’s Hospital. Pediatric patients who were unable to attend the visit shared stories and asked questions from their hospital rooms via a KidZone TV live broadcast.



HRH Princess Madeleine, center, with Becky, left, and Reba.

Swedish Princess Visits Mount Sinai’s Adolescent Health Center

HRH Princess Madeleine of Sweden and Joanna Rubinstein, DDS, PhD, President and CEO of the World Childhood Foundation, USA, recently visited the Mount Sinai Adolescent Health Center. Led by the Center’s Medical Director, Anne T. Nucci-Sack, MD, Assistant Professor of Pediatrics, Icahn School of Medicine at Mount Sinai, the dignitaries greeted patients, clinicians, and leaders. Two patients, Becky and Reba, shared their personal histories with Princess Madeleine, who works actively with the World Childhood Foundation. The organization was founded in 1999 by her mother, Queen Silvia of Sweden, to help children around the world who are at risk for sexual abuse or exploitation.

Celebrating the Patients Cured of Hepatitis C

The Institute for Liver Medicine held a special party on Tuesday, March 7, on The Mount Sinai Hospital campus, for an extraordinary group of patients: men and women who have been cured of Hepatitis C.

“It’s rare in medicine that we get to bring people back to celebrate a cure,” Barbara Murphy, MD, Murray M. Rosenberg Professor of Medicine and Chair of the Department of Medicine for the Mount Sinai Health System, told the 85 jubilant patients, who clapped and cheered.

Hepatitis C is a liver disease caused by a virus, but most individuals do not have any symptoms until 10 years or more after infection. Without medical treatment, chronic Hepatitis C can eventually cause liver cancer or liver failure. Frequently, patients need liver transplants to survive.

The patients who came together were celebrating their health—and the nine new direct-acting antiviral medications that have transformed treatment and significantly increased cure rates in the last three years. A patient is considered cured if a blood test reveals no presence of virus in the blood 12 weeks after treatment is completed.

“The advances in Hepatitis C treatment have been revolutionary—it is now possible to cure up to 99 percent of patients with virtually no side effects,” says Douglas T. Dieterich, MD, Director, Institute for Liver Medicine, and Professor of Medicine (Liver Diseases), who hosted the

celebration. The new medications, given in daily pill form for 8 to 24 weeks, replaced former treatments that had severe side effects, little tolerability, and cure rates of only 20 percent to 30 percent.

“This is astounding scientific progress,” says Dr. Dieterich, who notes that Mount Sinai clinical researchers helped develop the new medications. “Through medication and liver transplants, we have now cured more than 2,000 patients at The Mount Sinai Hospital and a total of 5,000 in the Health System since the beginning of 2014. Still, there remain huge numbers of people who have Hepatitis C who do not even know they have it. Our task now is to identify, test, and treat them.”

Dr. Dieterich, other physicians, and staff, including Alyson Harty, RN, and Maria Rivera, Medical Assistant, were among those singled out by a dozen patients who gave spontaneous testimonials. “I want to give kudos to you, Dr. Dieterich. You are always full of joy and compassion,” said patient Louis Burns. “I am just so grateful for the treatments. You have definitely transformed my life. You have helped us.” Patient Harry Bangel sought Ritu Agarwal, MD, Assistant Professor of Medicine (Liver Diseases) in the crowd, posed for a photograph, and said, “This is the woman who cured me.” Patient Arlene Gray recalled a long-ago memory of being “so afraid” when she was diagnosed. At the party, she spoke of the compassion she felt from the staff. “This is a family of love,” she said. Patient David Jordon smiled and posed with Danielle Carter, MD, fellow, Liver Diseases, and said: “I’m cured. I can’t think of anything better.”

Clockwise from top left:

1. Patient Louis Burns told Douglas T. Dieterich, MD: “You are always full of joy and compassion.”

2. Patient Harry Bangel posed with Ritu Agarwal, MD, and said: “This is the woman who cured me.”

3. Patient Toni Zaino gave a rousing speech before Dr. Dieterich, Mount Sinai staff, patients, and friends.

4. Maria Rivera, left, and Alyson Harty, RN, were singled out for their compassionate care.



LGBT Community Health Fair

All are welcome to attend an education and screening fair for National LGBT Health Awareness Week, co-sponsored by LGBT Health in the Mount Sinai Office for Diversity and Inclusion and the nonprofit group Harlem United.

Thursday, March 30

Noon – 5 pm

**Harlem Neighborhood Health Action Center
158 East 115th Street**

Grand Rounds / Institute for Medical Education

Sunny Nakae, PhD, MSW, Assistant Dean for Admissions, Recruitment and Student Life, Assistant Professor, Department of Medical Education, Loyola University Chicago Stritch School of Medicine, presents “Undocumented Students in Medical Education.”

Wednesday, March 22

Noon – 1 pm

Hess Center, Room 5-101

Grand Rounds / Radiology

Falgun H. Chokshi, MD, MS, Director, Neuroradiology Services, Emory University Hospital Midtown, Assistant Professor, Radiology and Imaging Sciences, Biomedical Informatics, Emory University School of Medicine, presents “Time-Resolved MRA of the Spine.”

Wednesday, March 22

4 – 5 pm

Annenberg MC 330

Friedman Brain Institute Translational Neuroscience Seminar Series

David A. Seminowicz, PhD, Associate Professor, Department of Neural and Pain Sciences, University of Maryland School of Dentistry, presents “fMRI and EEG Studies of Prolonged Pain Models: Effects on Cognitive, Affective, and Sensory Networks.”

Thursday, March 23

1 – 2 pm

Hess Center, Seminar Room A

Grand Rounds / Brookdale Department of Geriatrics and Palliative Medicine

Brie Williams, MD, MS, Professor, Medicine, Division of Geriatrics, Director, Criminal Justice and Health Program, University of California, San Francisco, presents “Aging and Dying in the Criminal Justice System: Using Geriatrics and Palliative Care to Inform Practice and Policy Change.”

Thursday, March 30

5 – 6 pm

Annenberg 10-30

Epic Launches in April at Outpatient Cancer Practices

Mount Sinai Downtown-Chelsea Center, Mount Sinai West Hematology/Oncology, and Mount Sinai Downtown-Union Square will launch the Epic Beacon oncology module on Tuesday, April 4.

The implementation will officially place the three outpatient cancer practices on the same electronic medical record system as The Mount Sinai Hospital and Mount Sinai Queens. The effort, which aims to provide more integrated and coordinated care for patients, is being led by operational and clinical leadership at the three sites, and the Mount Sinai Epic Clinical Transformation Group and the Project Management Office within the Information Technology Department. For more information, contact grace.williams@mountsinai.org.

Mount Sinai Transformation **update**

For the most recent updates on Mount Sinai's downtown transformation, please go to:

<http://www.mountsinaihealth.org/locations/downtown>

Twenty-First Annual Douglas West Memorial Lecture

Lucy Kalanithi, MD, FACP, Clinical Assistant Professor of Medicine, Stanford School of Medicine, and widow of Dr. Paul Kalanithi, author of the No. 1 *New York Times* best-selling memoir *When Breath Becomes Air*, a meditation on mortality, will give a presentation on her experiences as a physician and caregiver for her husband. Please RSVP to katherine.madden@mssm.edu.

Sponsored by the Lilian and Benjamin Hertzberg Palliative Care Institute of the Brookdale Department of Geriatrics and Palliative Medicine.

Tuesday, April 4

5:30 pm

Stern Auditorium



INSIDE MOUNT SINAI

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