Sina*Innovations* Focuses on Therapeutic Discovery

The increasingly important role that academic medical centers play in the discovery of treatments for human diseases was the central theme of the Fifth Annual Sina*Innovations* conference held Tuesday, October 25, and Wednesday, October 26, at the Icahn School of Medicine at Mount Sinai.

Pharmaceutical industry executives and academicians from the nation's top scientific and medical institutions participated in a series of panel discussions in Stern Auditorium on subjects that included novel approaches to drug screening, identifying targets, designing clinical trials, and funding therapeutic discovery.

In his opening remarks at Sina*Innovations*, Kenneth L. Davis, MD, President and Chief Executive Officer of the Mount Sinai Health System, told the audience, "The revolution in biology will come from the labs of academic medicine. We are proud to stand at the leading edge."

Keynote speakers included George Church, PhD, Professor of Genetics, Harvard Medical School, left; and Drew M. Pardoll, MD, PhD, the Abeloff Professor of Oncology at Johns Hopkins Medicine

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, helped kick off the conference. He said, "Innovation and discovery are part of the DNA of the Mount Sinai Health System. We are the largest health system in New York City, and one of the largest in the United States. We take care of every ethnic group, every socioeconomic group. Our doctors see every disease known to mankind. So whose responsibility is it to make these discoveries? It is our responsibility."

Aortic Disease Center Opens at Mount Sinai

Julius H. Jacobson II, MD, left, with Michael L. Marin, MD

Mount Sinai surgeons, staff, and guests recently celebrated the opening of one of New York State's first Aortic Disease Centers, which was established through the generous support of Julius H. Jacobson II, MD, Director Emeritus of Vascular Surgery and Distinguished Service Professor of Surgery at Mount Sinai, and his wife, Joan Jacobson. The Julius and Joan Jacobson Aortic Disease Center will be devoted to improving overall patient care and education, and advancing research and treatment efforts, including preventive strategies, for aortic aneurysms and other diseases of the aorta. Mount Sinai has long been a leader in developing new techniques and minimally invasive treatments for the repair of aortic aneurysms, which alone claim the lives of nearly 20,000 Americans each year.

Known as the father of vascular microsurgery, Dr. Jacobson spent 54 years of his illustrious career at Mount Sinai, 35 of them serving as Chief of Vascular

Conference participants from multiple disciplines discussed the complicated nature of drug development and the need for close collaboration between industry and academia, and between experts in big data, engineering, basic science, and translational research.

"This is a team sport," said panel participant Lisa Boyette, MD, PhD, Chief Executive Officer of the nonprofit research accelerator Curable. "Problems are more complex, solutions are complex. No one can be an expert in everything."

Aled Edwards, PhD, Chief Executive Officer of the Structural Genomics Consortium, a Canadian-based public-private partnership to advance drug discovery, said, "The promise of academic medical centers is the ability to think differently. They have lots of smart young people and cultures that are not staid."

Kevin Grimes, MD, Co-Director of the SPARK Translational Research Program at Stanford University School of Medicine,

Panelist Lisa Boyette, MD, PhD

said, "Academics bring a real fearlessness because we're not beholden to shareholders and senior management. We can take risks and really have the freedom to do that."

Access to patient samples and the ability to spend several years performing basic research on a particular target—performing science for science's sake—were also the noted strengths of academic medical centers.

Cancer immunologist Drew M. Pardoll, MD,

PhD, and several other renowned experts presented keynote addresses on topics ranging from therapeutic frontiers in mental health to health disparities in the developing world. In his address, Dr. Pardoll, Abeloff Professor of Oncology, and Director of the Bloomberg-Kimmel Institute for Cancer Immunotherapy at Johns Hopkins Medicine, discussed breakthroughs in cancer treatment. The CTLA-4 and PD-1 checkpoint inhibitors that were recently approved for treating some metastatic cancers, he said, were built upon many years of science that came before.

In his closing remarks, Sina*Innovations* leader Scott L. Friedman, MD, Dean for Therapeutic Discovery and Chief of the Division of Liver Diseases at the Icahn School of Medicine at Mount Sinai, reiterated Mount Sinai's "commitment to making a difference in the quality and length of the lives of our patients." He said the conference is about "electrifying" attendees. "It will be successful if it has planted new seeds for concepts, new directions, even a new way of looking at an old problem."

Second Annual Mount Sinai Innovation Awards

Nineteen individuals from the Mount Sinai Health System were honored for their contributions to research, technology, medicine, and health care at the second annual Mount Sinai Innovation Awards ceremony, which was held on Monday, October 24, in conjunction with the Sina*Innovations* conference.

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, received the **Inventor of the Year Award** for his contributions to the field of depression. Dr. Charney's work, demonstrating that ketamine is a rapidly acting antidepressant, has been hailed as one of the most exciting developments in antidepressant therapy in more than half a century.

Young investigators Roland H. Friedel, PhD, and Nadejda M. Tsankova, MD, PhD, received the **Faculty Idea Prize** for their strategy to test the Zika virus as a potential treatment for glioblastoma, a fatal brain tumor. Dr. Friedel is Assistant Professor, Neuroscience, and Neurosurgery; and Dr. Tsankova is Assistant Professor, Pathology, and Neuroscience.

The **Dean's Healthcare System Team Science Award**, which acknowledges the importance of interdisciplinary teams in translational research, went to seven investigators who are studying the bacterial profiles of pregnant women with and without inflammatory bowel disease and their newborn babies. The winners were: Jose C. Clemente, PhD, Assistant Professor, Genetics and Genomic

Mount Sinai award recipients and presenters

First MedMaker Challenge Competition Fosters Innovation
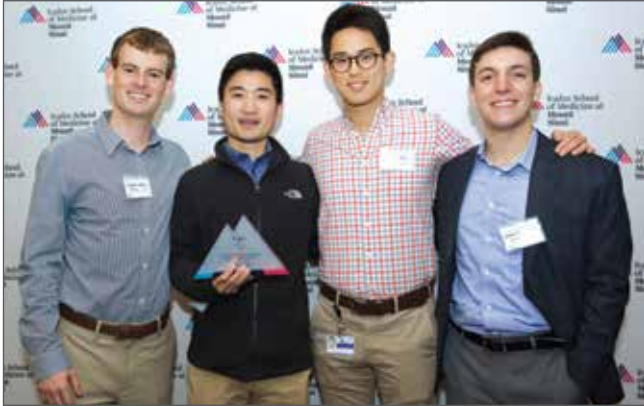
First-place winners in the MedMaker Challenge included, from left, second-year medical students Taylor Miller, Davis Zhou, Dong Yao, and John Di Capua. Not pictured, team member Ryan Neff.

Sina*Innovations* hosted its first MedMaker Challenge this year, a two-day competition to "democratize innovation" that drew 75 participants—including students from the Icahn School of Medicine at Mount Sinai and other institutions, and engineering and software professionals. The goal of the competition was to create a high-tech approach to managing, monitoring, and treating health problems associated with pain and fatigue. In all, 14 teams worked on solutions over a 48-hour period. A panel of judges from Mount Sinai chose first-, second-, and third-place winning teams that received prizes of $3,500, $2,500, and $1,500, respectively.

- **1st Place:** PT Partner is a wearable device for patients following knee surgery. It surrounds the knee and ankle joint and tracks the patient's physical therapy course via a phone application, providing real-time feedback to the patient, as well as important metrics to the care provider, including the completion of scheduled exercise, range of motion, and daily activity.

- **2nd Place:** Sickle Me Not is a multiplatform application for managing and engaging pediatric sickle cell patients who live with chronic pain. Patients can communicate with their health care providers and with other children who have sickle cell disease using an iPhone app. Features include a physician dashboard, a 3D model that helps patients pinpoint their pain, and the ability to send a fever alert to health care providers.

- **3rd Place:** bioLumen is a noninvasive biofeedback therapy that treats lumbar muscle tension—a component of chronic lower back pain—through relaxation in a patient's home. Data can be uploaded to the patient's electronic medical record for clinical review.

Sciences, and Medicine; Jean-Frédéric Colombel, MD, Professor, Medicine (Gastroenterology); Jeremiah Faith, PhD, Assistant Professor, Genetics and Genomic Sciences, and Medicine (Clinical Immunology); Jianzhong Hu, PhD, Assistant Professor, Genetics and Genomic Sciences; Inga Peter, PhD, Professor, Genetics and Genomic Sciences; Joanne Stone, MD, Professor, Obstetrics, Gynecology and Reproductive Science; and Joana Torres, MD, postdoctoral fellow, Department of Medicine (Gastroenterology).

Four innovators received the **4D Technology Development Program Award** for their projects that use new technology: Sander Houten, PhD, Associate Professor, Genetics and Genomic Sciences; Sarah J. Miller, PsyD, Assistant Professor, Oncological Sciences; Christopher Strother, MD, Assistant Professor, Emergency Medicine, and Medical Education; and Douglas B. Unis, MD, Associate Professor, Orthopaedics.

A team of five doctoral and medical students who created Multis, a low-cost handheld diagnostic tool that screens for multiple diseases in one test and is designed to reach patients in resource-limited settings, received the **Quod Erat Demonstrandum (Q.E.D.) Award**. The recipients were Kieran Chacko, Brandon Hogstad, Michela Masi Leone, David Sachs, and Olivia Torre.

Corporate sponsors for Sina*Innovations* included: AbbVie Inc.; Accenture PLC; Cisco Systems; Dell Inc.; Gilead Sciences, Inc.; Jones Day; Lightpath; and the Louis and Rachel Rudin Foundation Inc. MedMaker Challenge corporate sponsors included: Persistent Systems, Inc., and Salesforce.com.

Integrating Patient Data Across the Health System

Beginning at 7 pm on Saturday, December 10, four hospitals within the Mount Sinai Health System will simultaneously convert their medical record numbering systems to one using a Mount Sinai Medical Record Number (MSMRN). The MSMRN is a unique patient identifier that is currently being used at The Mount Sinai Hospital and Mount Sinai Queens, as well as numerous ambulatory practices within the Health System. A medical record number is assigned to each patient when first visiting Mount Sinai—whether for an office visit or hospital stay—and is the key to that patient's clinical information. The four hospitals participating in the conversion are Mount Sinai West, Mount Sinai St. Luke's, Mount Sinai Beth Israel, and Mount Sinai Brooklyn.

When the conversion is complete, the MSMRNs will reside in one Health System-wide common database, the enterprise Master Patient Index (eMPI), helping to integrate patient data across the Health System and making it accessible from six of the seven Health System hospitals and numerous ambulatory sites.

The project, run by the Program Management Office, involved a number of clinical, operational, and technology

Program leaders for the Mount Sinai Medical Record Number effort include, from left, Patricia M. Lamb, MHHA; Marc Napp, MD; and Elena Sethi, Director, Program Management Office, Information Technology.

teams tasked over the past two years with understanding the complexities of integrating nearly 50 impacted systems and developing the medical record number conversion and reconciliation process, all while maintaining Mount Sinai's standards of excellence in patient care and safety.

"We have partnered with the Chief Operating Officers and their teams at the four affected hospitals and enlisted assistance from Mount Sinai's Emergency Management Department to complete this extremely complex project," says Marc Napp, MD, Deputy Chief Medical Officer, Mount Sinai Health System, who

is leading the project, along with Patricia M. Lamb, MHHA, Chief of Ancillary and Support Services, Mount Sinai Health System. "We appreciate the cooperation and diligence of all involved," adds Ms. Lamb.

Dr. Napp notes that five fully staffed Command Centers, including one at each of the four hospitals, will provide oversight during the night of the transition. Special focus will be devoted to a critical aspect of the medical record number changeover—the issuance of a new MSMRN wristband for every patient in the four affected hospitals. Dr. Napp says the original wristband will also remain to ensure an additional safety check.

"Moving to a common patient identifier will allow Mount Sinai clinicians to access the most recent and accurate patient information, and lays the foundation for future implementations of the Epic Electronic Medical Record. In this way, the eMPI moves us closer to our institutional goal of one patient, one record, and one Health System," says Ms. Lamb.

› Aortic Disease Center Opens at Mount Sinai *(continued from page 1)*

Surgery. He developed the first microscope that allowed the surgeon and first assistant to view the operative field simultaneously. Known today as the "diploscope," the invention now resides in a collection of the Smithsonian Institution in Washington, D.C.

Michael L. Marin, MD, the Dr. Julius H. Jacobson II Chair in Vascular Surgery and Surgeon-in-Chief at the Mount Sinai Health System, spoke at a luncheon honoring the Jacobson family that took place on Wednesday, November 2. "Countless vascular surgeons across the country and around the world owe their skill and practice to Dr. Jacobson," said Dr. Marin, who fondly shared memories of his mentor from his time as a young medical student at Mount Sinai.

Wendy Jacobson, MD

Dr. Jacobson's daughter, Wendy Jacobson, MD, Adjunct Professor of Psychiatry and Behavioral Sciences at Emory University School of Medicine, and Training and Supervising Analyst at Emory University Psychoanalytic Institute, also spoke at

the event. "His focus has always been on innovation, collaboration, and invention," she said, "and his career is a testimonial to that."

Dr. and Mrs. Jacobson's philanthropic interests have always been vast, with many contributions benefitting Mount Sinai over the years. Beyond medicine, they have made numerous individual and joint contributions to the fields of education, writing, and music.

"This gift could not represent a more generative, timely, and important use of their collective resources," Dr. Wendy Jacobson said. "The research and clinical advances that will be fostered by this Center truly are inspiring and humbling."

Around the Health System

Mount Sinai Patient Scores a Marathon Win for Team IBDKids

Evan Wood, a 22-year-old Mount Sinai patient, won the Foot Locker Five-Borough Challenge at the New York City Marathon, representing Manhattan and Team IBDKids, a cause that is deeply meaningful to him. Mr. Wood, a recent graduate of New York University, was diagnosed with Crohn's disease when he was 14, struggling with stomach pain and weighing about 80 pounds. With care from doctors at The Mount Sinai Hospital, including Keith J. Benkov, MD, he began to thrive. And inspired by Dr. Benkov, who has finished 29 New York marathons, he took up running. "He's modest, and he doesn't like praise," Mr. Wood says of Dr. Benkov, "but he's been a miracle for me; he's been a lifesaver." Dr. Benkov started and leads Team IBDKids, which supports The Children's Inflammatory Bowel Disease Program at Mount Sinai. The team has raised more than $200,000 this year, and $3 million since starting in 2006, Dr. Benkov says. At the marathon on Sunday, November 6, Mr. Wood

Patient Evan Wood, left, at the New York City Marathon with Keith J. Benkov, MD

raised $3,163 while winning the Challenge, a "race-within-a-race" against four other runners, each representing a borough and a charity. They started together, but competition began in earnest at the halfway point, just outside of Queens. "It's a very good-spirited competition," says Mr. Wood, whose race time was 3:44:57. "And you get citywide bragging rights."

Children Enjoy Halloween Festivities at Urgent Care Inwood

Neighborhood children with their parents at the second annual Spooktacular Halloween House.

Mount Sinai Doctors Urgent Care Inwood hosted its second annual Spooktacular Halloween House on Friday, October 28, for 200 neighborhood children. They created masks inspired by the Mexican holiday Día de Los Muertos (Day of the Dead) and visited a photo booth to have their pictures taken in costume. After the event, the children trick-or-treated at more than 40 businesses in the Urgent Care Inwood building. The facility is one of three Mount Sinai Doctors Urgent Care practices in New York City that treats patients with non-life-threatening illness or injury.

Faculty of Color Network Gathering

More than 50 faculty and staff from throughout the Mount Sinai Health System mingled at a recent Faculty of Color Network (FCoN) event held at MIST in Harlem. The gathering was sponsored by the Health System's Office for Diversity and Inclusion and the Center for Multicultural and Community Affairs at the Icahn School of Medicine at Mount Sinai. Participants learned about faculty development opportunities, mentor programs, and ways to further professional interaction. Among the guests from the Icahn School of Medicine were (see photo) from left: Miguel Gama Sosa, PhD, Associate Professor of Psychiatry; Ann-Gel Palermo, DrPH, MPH, Associate Dean for Diversity and Inclusion in Biomedical Education; and Melissa Alvarez-Downing, MD, Assistant Professor of Surgery (Colorectal Surgery). Another event is planned for the spring.

RxUniverse Puts Proven Apps in Patients' Hands

With thousands of mobile health apps available to consumers, there is no standardized way for providers to find clinically proven apps that can be easily delivered to patients. Through RxUniverse, a new platform developed by researchers at the Mount Sinai Health System, the institution aims to be the first to address this problem.

"Apps have typically been recommended to patients verbally, but with the myriad of mobile health apps on the market, many with no proven evidence, it is a challenge for providers and patients," says Ashish Atreja, MD, MPH, Chief Technology Innovation and Engagement Officer in the Department of Medicine, and Director of Sinai AppLab.

"RxUniverse simplifies the process, both for our clinicians and our patients," says Bruce Darrow, MD, PhD, Chief Medical Information Officer, Mount Sinai Health System. Clinicians use the app (pronounced "Prescription Universe") to direct patients to a list of apps evaluated for efficacy based on published evidence. Popular apps include MyChart, which allows patients to access their records and communicate with doctors; the MountSinaiNY app, which allows patients to look up doctors and make appointments; and Health Promise, which helps patients with chronic diseases track their symptoms and treatment.

"The goal was if we prescribed apps to 100 patients within six weeks, and the patients were finding them useful, that would be a success," Dr. Atreja says. "And we were blown away with the results: Within six weeks we had more than 2,000 patients who were prescribed apps." For clinicians, using RxUniverse is much like prescribing medication. "We can open the electronic medical record, go to the patient chart, click on the 'App Portal' and choose the right app through RxUniverse," he says. "Then a link to the app gets into the hands of the patient's smartphone and email."

One of Dr. Atreja's patients, Laura Webb, says she was very happy with her prescribed app. "I use Health Promise to track my symptoms, primarily thinking about things like pain, or whether am I anxious," says Ms. Webb, who has Crohn's disease. "This is a way for us as patients to really feel out where we are with our symptoms—how we're doing—and then communicate that information to the doctor in real time."

The RxUniverse platform was launched in August and is in use at eight pilot sites in the Health System, including Mount Sinai Doctors East 85th Street, which was recently celebrated as the top prescriber of apps during the pilot.

In response to the internal success of RxUniverse, the Sinai AppLab has worked with Mount Sinai Innovation Partners to launch a new startup company, Responsive Health, which will license RxUniverse for use by other health systems. "As the pace of innovation in digital medicine accelerates, there will be increasing demand for the ability to quickly integrate new apps into our health care systems," says Kenneth L. Davis, MD, President and Chief Executive Officer, Mount Sinai Health System. "Mount Sinai is proud to be at the forefront of digital medicine and dedicated to streamlining the eHealth care delivery model."

More details are at http://rxuniverse.com. Providers interested in bringing RxUniverse to their specialties can contact Dr. Atreja at ashish.atreja@mssm.edu.

Mount Sinai Doctors Faculty Practice Plans Final Epic "Go-Live" December 1

The final "Go-Live" of a unified Epic electronic medical record for registration, scheduling, clinical documentation, and billing within the Mount Sinai Doctors Faculty Practice is scheduled for Thursday, December 1, capping an implementation process that began in June. The large-scale transformation, which has involved 22 departments, is being led by the Faculty Practice's Mount Sinai Practice Transformation program. To learn more, visit http://intranet1.mountsinai.org/mspt.

Mount Sinai **Transformation**   **update**

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

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