

Accelerating Science – Advancing Medicine

Mount Sinai's fellowship program has a long history of training leaders in medicine and endocrinology.

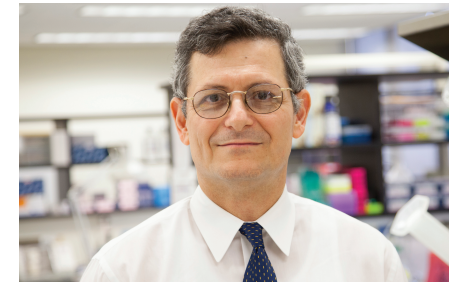
Among the many program graduates holding leadership positions in academic institutions around the world is Alex Stagnaro-Green, MD, MHPE, recently named a Regional Dean at the University of Illinois College of Medicine. Additionally, three have served as presidents of the American Association of Clinical Endocrinologists: Rhoda H. Cobin, MD; Donald A. Bergman, MD; and Jeffrey I. Mechanick, MD.

Our programs greatly emphasize research, and this report spotlights some of the research accomplishments of our fellows, whose projects have included: exploring genetics and epigenetics of autoimmune thyroiditis and type 1 diabetes; conducting outcome studies in Cushing's disease;

developing a smart phone application for managing diabetes; and investigating new biomarkers of complications in gestational diabetes.

Today, there are enhanced research and clinical opportunities for our 14 fellows. This is the result of the 2013 creation of the Mount Sinai Health System, which brought together the Icahn School of Medicine at Mount Sinai and seven member hospital campuses that serve highly diverse populations throughout New York City and beyond.

Additionally, Mount Sinai recently established a Diabetes, Obesity and Metabolism Institute dedicated to cutting-edge research in type 1 and type 2 diabetes; our Diabetes Center



Yaron Tomer, MD, FACP, Chief, Hilda and J. Lester Gabrilove Division of Endocrinology, Diabetes and Bone Disease, and Lillian and Henry M. Stratton Professor of Molecular Medicine

increased the number of outpatient and inpatient consults by 30 percent this year; and community outreach continues to grow.

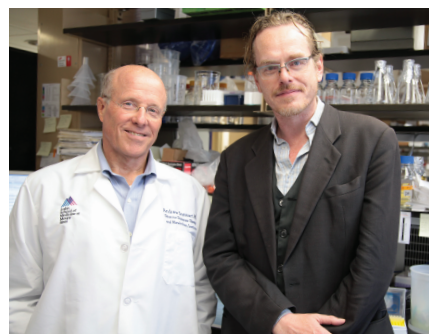
Every day, Mount Sinai is further integrating its programs. For patients, that means greater access to world-class endocrinologists close to home.

ADVANCING RESEARCH

Diabetes, Obesity and Metabolism Institute Expands Focus

Mount Sinai's Diabetes, Obesity and Metabolism Institute continues to expand under the leadership of Director Andrew Fyfe Stewart, MD, the Irene and Dr. Arthur M. Fishberg Professor of Medicine.

Dr. Stewart has led a team of scientists who discovered a novel mechanism that regulates the replication of insulin-producing beta cells in the pancreas. Their findings, published in 2013 in *Diabetes*, provided novel working models describing the control of cell cycle progression in the human β -cell. The discoveries also offer new insights into possible therapeutic approaches to stimulate the regeneration of pancreatic beta cells in patients with type 1 and type 2 diabetes. Over the past year, substantial progress has been made using high-throughput drug screens to identify novel drugs that induce



Andrew Fyfe Stewart, MD, left, and Dirk Homann, MD

human beta cells to proliferate. In addition, researchers, led by Christoph Buettner, MD, PhD, Associate Professor of Medicine, and Neuroscience, recently discovered that impairment in insulin action in the brain may be one of the earliest defects that occurs

in obese patients who eventually develop diabetes, according to findings that are being published in *Cell Metabolism*.

We have also expanded the type 1 diabetes basic immunology research program, led by Yaron Tomer, MD, FACP, Chief of the Division of Endocrinology, Diabetes and Bone Disease. Among the leading recruits is Dirk Homann, MD, Associate Professor of Medicine, an expert on type 1 diabetes immunology, who joined the Division from the University of Colorado.

The Institute is also creating a program to advance the study of bariatric surgery and diabetes with William B. Inabnet III, MD, Chair, Department of Surgery, Mount Sinai Beth Israel, a world-renowned leader in the field of minimally invasive endocrine and laparoscopic surgery.

DRIVING CLINICAL AND RESEARCH EXCELLENCE

A Center for Pituitary Care and Research

The new Pituitary Care and Research Center at Mount Sinai is exploring novel therapies for Cushing's disease, acromegaly, and other pituitary disorders. This multidisciplinary Center, established in 2014, is one of only a few centers in New York State entirely dedicated to pituitary care and research.



Eliza B. Geer, MD

Eliza B. Geer, MD, Assistant Professor of Endocrinology and Neurosurgery, and the Center's Medical Director, is leading the Center's research efforts. She is the principal investigator on a number of studies investigating body composition, adipose tissue regulation, appetite, and long-term outcomes in patients with Cushing's disease

and other pituitary disorders. Dr. Geer was awarded the Dr. Harold and Golden Lamport Research Award for Clinical Research in 2012 and the Mount Sinai Endocrinologist of the Year Award for outstanding service in 2013.

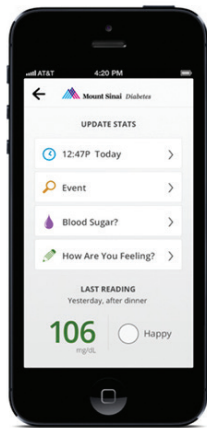
To learn more about the Center's research, clinical trials, and team of endocrinologists, neurosurgeons, neuroradiologists, and neuro-ophthalmologists who provide comprehensive patient assessment, medical management, and pre- and postoperative care to patients with pituitary disorders, visit www.mountsinai.org/pituitary.

STATE-OF-THE-ART CARE

Facilitating Diabetes Self-Management

Ronald Tamler, MD, PhD, MBA, Clinical Director of the Mount Sinai Diabetes Center; former endocrinology fellow Gillian Boyd Woschinko, MD; and former chief medical resident Anna Ross, MD, have created a smart phone app to facilitate diabetes self-management. Research feeding into the app, which was made possible with support from Daggerwing Health, the Verizon Foundation, and the Diabetes Action

Foundation, was presented in two posters and a lecture at the 2014 Endocrinology Society meeting. The free app will be available to the public, following usability



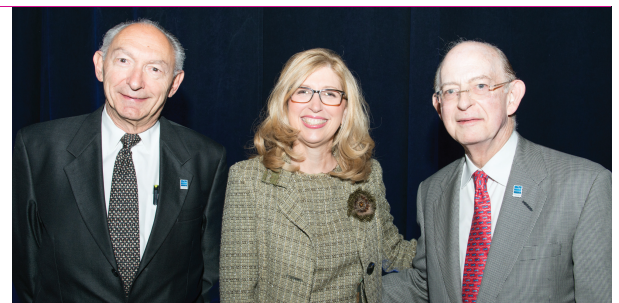
testing and a pilot study set to begin in early 2015.

Dr. Tamler had evaluated the offerings already available for diabetes self-management and found that most were missing out on evidence-based medicine, behavioral science, or both. According to Dr. Tamler, "The new, evidence-based 'MySinai Diabetes App' is built on best practices, and pre-set to respond to patients, who will enter the kind of diabetes they have and their primary goals, and will receive information and motivational messages while also helping their doctors keep track of their health."

ACHIEVEMENTS

Elliot J. Rayfield, MD, Clinical Professor of Medicine (Division of Endocrinology, Diabetes and Bone Disease), received the Endocrine Society's 2014 Sidney H. Ingbar Distinguished Service Award at its 96th Annual Meeting & Expo, held in June in conjunction with the 16th International Congress of Endocrinology.

Dr. Rayfield has been the driving force in establishing the Clark T. Sawin Memorial Library and Resource Center, which preserves historical endocrine literature. He has excelled at innovative fundraising approaches for the library and the Endocrine Society's Development Committee, and was instrumental in instituting the Delbert A. Fisher Fellowship Program and Lectureship at the Society's annual meeting.



Elliot J. Rayfield, MD, right, with Leonard Wartofsky, MD, Chair, Department of Medicine, Georgetown University Hospital; and Teresa K. Woodruff, PhD, Endocrine Society President (2013 – 2014)

Leading Research into Adrenal Gland Disorders

Mount Sinai's Adrenal Center continues to advance research under the leadership of Co-Directors Alice Levine, MD, Professor of Medicine, and William B. Inabnet III, MD, Chair of Surgery, Mount Sinai Beth Israel. The Adrenal Center's recent areas of study include:

- **Research on primary aldosteronism, (PA), the leading cause of identifiable endocrine hypertension.** Mount Sinai investigators, led by Sandi-Jo Galati, MD, former second-year fellow, examined PA prevalence rates in New York City, and after screening nearly 300 outpatients found that the prevalence of PA was less than that reported in recent studies worldwide.
- **Pheochromocytoma, a highly complex disease.** The results of an international retreat of 15 experts held at Mount Sinai to improve the diagnosis and management of pheochromocytoma was turned into a review paper and will be published in the November 2014 issue of *Endocrine Practice*.
- **Ongoing research into the use of mifepristone for patients with adrenal adenomas and mild hypercortisolism.** Dr. Levine; Gillian Goddard, MD, a former second-year fellow; Aarti Ravikumar, MD, second-year fellow; and colleagues seek to determine if administering the glucocorticoid receptor blocker, mifepristone, leads to improvement in the metabolic syndrome and quality of life.