



COLUMBIA UNIVERSITY

*College of Physicians
and Surgeons*



the Naomi Berrie **DIABETES CENTER**
Columbia University Medical Center
the care until the cure

23rd Annual Conference

Frontiers in Diabetes Research

Neural Control of Metabolic Homeostasis

Saturday, November 20, 2021 via Zoom

10:00 AM - 3:15 PM EST



Course Directors

Domenico Accili, M.D., *Russell Berrie Foundation Professor of Medicine (in Diabetes); Director, Diabetes and Endocrinology Research Center; Head of Endocrine Division; Columbia University Vagelos College of Physicians and Surgeons, New York, New York*

Robin S. Goland, M.D., *J. Merrill Eastman Professor of Diabetes (in Medicine, Pediatrics, and the Naomi Berrie Diabetes Center) at CUMC; Co-Director, Naomi Berrie Diabetes Center, Columbia University Vagelos College of Physicians and Surgeons, New York, New York*

Rudolph L. Leibel, M.D., *Christopher J. Murphy Memorial Professor of Diabetes Research; Professor of Pediatrics and Medicine; Head, Division of Molecular Genetics; Co-Director, Naomi Berrie Diabetes Center, Columbia University Vagelos College of Physicians and Surgeons, New York, New York*

Utpal B. Pajvani, M.D., Ph.D., *Herbert Irving Associate Professor of Medicine, Division of Endocrinology, Columbia University Vagelos College of Physicians and Surgeons, New York, New York*

Faculty

Alejandro Caicedo, Ph.D., *Professor of Medicine, University of Miami Miller School of Medicine, Miami, Florida*

Alan Cherrington, Ph.D., *Professor of Molecular Physiology & Biophysics; Professor of Medicine Director; Jacquelyn A. Turner and Dr. Dorothy J. Turner Chair in Diabetes Research, Vanderbilt University, Nashville, Tennessee*

Sabrina Diano, Ph.D., *Robert R. Williams Professor of Nutrition, Department of Molecular Pharmacology and Therapeutics, Department of Physiology and Cellular Biophysics; Director, Institute of Human Nutrition, Columbia University Vagelos College of Physicians and Surgeons, New York, New York*

Daniel Drucker, M.D., *Senior Investigator, Lunenfeld-Tanenbaum Research Institute, Sinai Health System, University of Toronto, Ontario, Canada*

Barbara Kahn, M.D., *George R. Minot Professor of Medicine Vice Chair for Research Strategy, Department of Medicine, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, Massachusetts*

Tony Lam, Ph.D., *Professor & John Kitson McIvor Endowed Chair in Diabetes Research; Canada Research Chair (Tier 1) in Diabetes & Obesity; Associate Director of Research, Banting and Best Diabetes Centre, Toronto General Hospital Research Institute & University of Toronto, Ontario, Canada*

Gary J. Schwartz, Ph.D., *Professor of Medicine, Neuroscience, and Psychiatry & Behavioral Sciences, Albert Einstein College of Medicine, Bronx, New York*

Sarah Stanley, Ph.D., *Assistant Professor, Diabetes, Obesity and Metabolism Institute and Neuroscience, Icahn School of Medicine at Mount Sinai, New York, New York*



Saturday, November 20, 2021

ALL TIMES INDICATED ARE IN EASTERN STANDARD TIME

- 10:00 a.m. Welcome and Introduction
Robin S. Goland, M.D. & Rudolph L. Leibel, M.D.
Neuronal Sensing of Metabolic Status
Moderator: Rudolph L. Leibel, M.D.
- 10:05 a.m. Brain Monocyte-neuron Axis in Systemic Metabolism
Sabrina Diano, Ph.D.
- 10:30 a.m. The Role of Neural Input under Hyperglycemic and Hypoglycemic Conditions in the Dog
Alan Cherrington, Ph.D.
- 10:55 a.m. Panel Discussion
Endocrine Modulators of Glucose/Lipid Homeostasis
Moderator: Rudolph L. Leibel, M.D.
- 11:05 a.m. The GLP-1 Glucoregulatory Axis-mechanisms and Cellular Targets
Daniel Drucker, M.D.
- 11:30 a.m. Novel Lipids that are Beneficial for Both Type 1 and Type 2 Diabetes
Barbara Kahn, M.D.
- 11:55 a.m. Berrie Frontiers Award for Outstanding Achievement in Diabetes Research
Rudolph L. Leibel, M.D.
- 12:05 p.m. Panel Discussion
- 12:15 p.m. *Break*
Visceral Feedback to the Brain
Moderator: Utpal B. Pajvani, M.D., Ph.D.
- 12:45 p.m. The Role of the Bile Acids in Peripheral and Central Regulation of Glucose Homeostasis
Tony Lam, Ph.D.
- 1:15 p.m. The Adipose Tissue-brain Axis in the Sensory Control of Metabolism
Gary J. Schwartz, Ph.D.
- 1:45 p.m. Panel Discussion
Brain-Pancreas Crosstalk
Moderator: Utpal B. Pajvani, M.D., Ph.D.
- 1:55 p.m. Central and Peripheral Circuits Regulating Islet Function
Sarah Stanley, Ph.D.

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| 2:25 p.m. | New Insight into How the Pancreatic Islet Communicates with the Brain Alejandro Caicedo, Ph.D. |
| 2:55 p.m. | Panel Discussion |
| 3:05 p.m. | Frontiers Award Presentation Utpal B. Pajvani, M.D., Ph.D. |
| 3:15 p.m. | <i>Adjourn</i> |

Program Description & Objectives

This virtual program is designed for research scientists, clinicians, and students with an interest in diabetes and obesity.

Specifically, this conference will focus on recent basic and clinical insights regarding bidirectional crosstalk between the brain and peripheral tissues integral to maintaining body weight, glucose and lipid homeostasis. Particular emphasis will be placed on the interactions – and potential genetic mechanistic links – relating to susceptibility to development of obesity, diabetes and related dyslipidemias. Additional areas of focus will include novel potential approaches to the treatment of these metabolic diseases.

At the conclusion of this activity, participants will be better able to:

- Review effects of the central nervous system on body weight, glucose and lipid metabolism.
- Discuss potential mechanisms of crosstalk between somatic tissues and the brain.
- Discuss novel mechanistic links between obesity and metabolic diseases.

Additional Information

Contact: Center for Continuing Medical Education
Columbia University Vagelos College of Physicians and Surgeons
630 West 168th Street, Unit 39
New York, NY 10032
Telephone: (212) 305-3334
Fax: (212) 305-5740
e-mail: cme@columbia.edu
www.ps.columbia.edu/cme

Accreditation Statement

The Columbia University Vagelos College of Physicians and Surgeons is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

AMA Credit Designation Statement

The Columbia University Vagelos College of Physicians and Surgeons designates this live activity for a maximum of 4.5 *AMA PRA Category 1 Credits*[™]. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Tuition

Tuition: Free.

Confirmation will be sent upon completion of the registration.

Note: This meeting will only be held live. A recording will not be distributed.

Registration

Online: www.ps.columbia.edu/cme

The Naomi Berrie Diabetes Center

The Naomi Berrie Diabetes Center, combining premier family-centered patient care and education for children and adults with world-class research, opened in October 1998. The Center offers coordinated, multidisciplinary clinical care for adults and children with diabetes. Educational, nutritional and psychosocial counseling help the patient and family to cope effectively with diabetes. Basic and clinical research programs at the Berrie Center focus on the biologic bases for diabetes and obesity. The Naomi Berrie Diabetes Center's commitment to patient care, research and education reflects its mission to improve the lives of people with diabetes and its dedication to finding a cure. For additional information, call the Center at (212) 851-5492 or visit our web site:

www.nbdiabetes.org