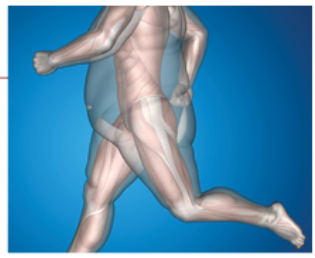
The 17th Annual Postgraduate Nutrition Symposium

The Adipocyte in Energy Regulation



BIOGRAPHY – KEYNOTE ADDRESS

Philipp E. Scherer, PhD

Philipp Scherer is Professor and Director of the Touchstone Diabetes Center at the University of Texas Southwestern Medical Center in Dallas. He received his Ph.D. degree from the University of Basel, Switzerland, followed by post-doctoral training the Whitehead Institute at MIT in Cambridge. In 1997, he joned the faculty of the Albert Einstein College of Medicine where he was a Professor for Cell Biology and Medicine. Throughout his career, he has maintained an interest in processes related to cellular and systemic energy homeostasis. He identified adiponectin, one of the first secretory factors to be described that almost exclusively originate in adipose tissue and which is currently widely studied by many different research groups.

Current efforts in his laboratory are focused on the identification and physiological characterization of novel proteins that serve as potential links between the adipocyte, liver, the pancreatic beta cell and the processes of whole body energy homeostasis, inflammation, cancer and cardiovascular disease.

Scherer has been on the faculty of UT Southwestern Medical Center since 2007 as a member of the Departments of Internal Medicine and Cell Biology. He holds the Touchstone Distinguished Chair in Diabetes Research and is a member of the Simmons Comprehensive Cancer Center. He won the 2005 Outstanding Scientific Achievement Award from the American Diabetes Association and the 2012 O'Donnell Award in Medicine from the Academy of Medicine, Engineering & Science of Texas. In 2013, he received the Naomi Berrie Award for Outstanding Achievement in Diabetes Research from Columbia University, the Britton Chance Memorial Award of the Agency for Science, Technology and Research (A*STAR), Singapore and he was awarded the 2015 Banting Medal for Scientific Achievement from the American Diabetes Association.

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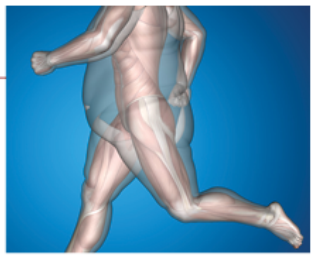

BIOGRAPHIES – SESSION I

C. Ronald Kahn, MD

C. Ronald Kahn is a world recognized expert in diabetes and obesity research, as well as a preeminent investigator of insulin signal transduction and mechanisms of altered signaling in diabetes and metabolic disease. Dr. Kahn is currently the Chief Academic Officer, Co-Head of the Section on Integrative Physiology and Metabolism at Joslin Diabetes Center and the Mary K. Iacocca Professor of Medicine at Harvard Medical School. Dr. Kahn served as Research Director of the Joslin Diabetes Center from 1981 to 2000, and President of Joslin from 2001 to 2007. Under his leadership, Joslin research grew more than 20-fold, clinical and educational activity tripled, and new corporate alliances were launched. Dr. Kahn has received more than 70 awards and honors, including election to the National Academy of Science and Institute of Medicine, Rolf Luft Award, Allyn Taylor International Prize in Medicine, Manpei Suzuki and Hamm International Awards, and the highest honors of the American Diabetes Association, EASD, Endocrine Society and the American Association of Clinical Endocrinologists. He has authored more than 600 original publications and 200 reviews and chapters. Dr. Kahn also served as chair of the Congressionally-established Diabetes Research Working Group, which developed the strategic plan for all federally-funded diabetes research, as well as President of the American Society of Clinical Investigation.

Dr. Kahn holds undergraduate and medical degrees from the University of Louisville and did his training at Barnes Hospital/Washington University and the NIH. He has received honorary Doctorates from the University of Paris, University of Louisville, University of Geneva, University of Copenhagen, Louisiana State University, and Washington University in St. Louis, and is an honorary Professor and Director of the Diabetes Center at Peking University School of Medicine.

Sadaf Farooqi, PhD, FRCP

Sadaf Farooqi qualified with Honours in Medicine from the University of Birmingham, being awarded the gold medal. After hospital posts in Birmingham and Oxford she moved to Cambridge to undertake a PhD. She identified the first single gene defect to cause human obesity in patients with a mutation in the leptin gene, published in Nature in 1997 and described their dramatic response to leptin therapy (NEJM 1999; SCIENCE 2007). As a Wellcome Trust Senior Clinical Fellow at the Institute of Metabolic Science in Cambridge, Professor Farooqi co-ordinates a programme of research into the genetic, molecular and physiological basis of human obesity. She has been invited to speak at numerous international meetings and has been the recipient of a number of awards in recognition of her contribution to Endocrinology including the Andre Mayer Award 2006 (International Association for the Study of Obesity), the RD Lawrence Award 2007 (Diabetes UK), the Society for Endocrinology Medal 2012 and the European Society for Endocrinology Prize 2012.

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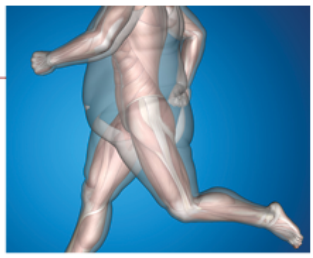

Barbara B. Kahn, MD

Barbara Kahn, MD is the George R. Minot Professor of Medicine at Harvard Medical School, Vice-Chair for Research Strategy in the Dept. of Medicine at Beth Israel Deaconess Medical Center (BIDMC) and a Senior Associate member of the Broad Institute of MIT and Harvard. Dr. Kahn received her MD from Stanford University and an MS in Health Sciences from the University of California at Berkeley. She did a General Medicine Fellowship at the University of Calif. Davis and an Endocrine Fellowship at NIH. She was Chief of the Diabetes Unit at BIDMC and subsequently, Chief of the Division of Endocrinology, Diabetes, and Metabolism during which time she expanded the research and clinical programs of the Division. Dr. Kahn is a world renowned scientist whose work has elucidated the molecular mechanisms underlying obesity and type 2 diabetes. Her discoveries have had a major impact on understanding the role of the adipose cell as an endocrine organ that regulates systemic insulin sensitivity and diabetes risk. Her lab also demonstrated that AMP-activated-protein-kinase regulates neural and peripheral circuits controlling adiposity and fuel homeostasis. Most recently, Dr. Kahn's lab, with Alan Saghatelian, discovered a novel class of lipids with anti-diabetic and anti-inflammatory effects. Dr. Kahn has received many awards including the Outstanding Scientific Achievement Award and the Mosenthal Award from ADA; the Jacobaeus Prize from the Novo Nordisk Foundation and the Karolinska Institute; the Charles Best Award from University of Toronto; and the Gerald Aurbach Award from Endocrine Society. In 2016, she received the Journal of Lipid Research Award and the Banting Medal for Scientific Achievement which is the highest scientific award bestowed by the American Diabetes Association. Dr. Kahn is an elected member of the ASCI, AAP, and National Academy of Medicine, and a Fellow of the AAAS.

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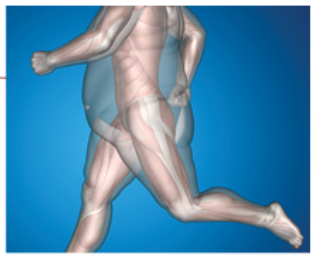

BIOGRAPHIES – SESSION II

Nicolas Rohner, PhD

Dr. Rohner's research interest focuses on the interface of developmental biology, genetics, evolution and physiology with a particular interest on understanding the genetic basis and molecular mechanisms of adaptation. He mostly uses the cavefish Astyanax mexicanus as a model for comparative physiology to address the question of how these fish have adapted to their nutrient poor environments and to what extent similar mechanisms are employed in our own evolutionary history, maladaption to modern civilizations and the resulting obesity epidemic.

Dr. Rohner is currently assistant investigator at the Stowers Institute for Medical Research and assistant professor in the Department of Molecular & Integrative Physiology and KU Medical Center. He was a postdoctoral fellow in the laboratory of Professor Cliff Tabin in the Department of Genetics at Harvard Medical School and a doctoral student in the laboratory of Professor Christiane Nüsslein-Volhard at Max-Planck-Institute for Developmental Biology, where he received his PhD. Dr. Rohner received his MSc and his BSc at Friedrich-Alexander University in Erlangen Germany.

Alexander A. Soukas, MD, PhD

Alex Soukas, M.D., Ph.D. is an Assistant Professor of Medicine at the Massachusetts General Hospital/Harvard Medical School in the Department of Medicine, Endocrine Division, Diabetes Unit as well as a member of the Center for Human Genetic Research, and an Associate Member of the Broad Institute of MIT and Harvard. Dr. Soukas' laboratory studies the molecular genetics of obesity and diabetes. Obesity, through its contribution to type 2 diabetes and other cardiometabolic diseases, is the single largest contributor to death and disability in the U.S., exceeding even smoking. To elucidate the genetic underpinnings of obesity, the Soukas lab uses a multidisciplinary approach, uniting genetics and genomics in the invertebrate model C. elegans with mouse and human genetics and physiology. High throughput genetics and genomics are used to identify and study genes that lead to alterations in body fat mass, aging, and metabolic signaling. Disease mechanisms identified in C. elegans are brought to mammalian models with the ultimate goal of informing human health and identifying new therapeutic targets for cardiometabolic diseases. Dr. Soukas received his Sc.B. in Biomedical Engineering from Brown University. He attended the Tri-institutional M.D., Ph.D. program of Cornell, Rockefeller and Sloan Kettering. He graduated with his M.D., Alpha Omega Alpha, from Cornell University Medical College and a Ph.D. in molecular genetics from the Rockefeller University. Dr. Soukas completed his internal medical residency at the Brigham and Women's Hospital and thereafter a clinical and research fellowship in Endocrinology, Diabetes, and Metabolism at the Massachusetts General Hospital. He is an attending physician in the MGH Diabetes Center with an interest in clinical obesity and diabetes. He is a recipient of the Ellison Medical Foundation New Scholar in Aging Award, the Charles H. Hood Foundation Child Health Research Award, a NIH Career Development Award, an award from the American Federation for Aging Research, and a Harvard Medical School Excellence in Tutoring Award.

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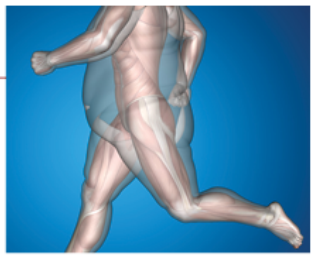

Jeffrey M. Gimble, MD, PhD

Dr. Gimble graduated with a B.A. in Biology from Dartmouth College, Hanover, NH (1976) and received his MD and PhD (Cell Biology) from Yale University, New Haven, CT (1982). After internship and residency training in Internal Medicine at Barnes Hospital, Washington University in St. Louis (1982-84), he completed a Medical Staff Fellowship in the Laboratory of Immunogenetics, NIAID, NIH (1984-87). Dr. Gimble began studying the differentiation properties of bone marrow stromal cells, now know as mesenchymal stem cells (MSCs), in 1987 as a faculty member at the Oklahoma Medical Research Foundation in collaboration with Dr. Paul Kincade. His laboratory was among the first to investigate the molecular biology of bone marrow stromal adipogenesis. In 1999, Dr. Gimble left academia to join Zen-Bio, a biotech company in the Research Triangle Park, NC, focusing on human adipose tissue derived cells, where he served as the Director of Tissue Engineering. In 2000, together with Carolyn Underwood and Drs. Yuan-Di Halvorsen and William Wilkison, he co-founded Artecel Sciences, a company whose mission was to develop tissue engineering products based on the use of human adipose-derived stem cells. As Chief Scientific Officer at Artecel, Dr. Gimble received his first exposure to manufacturing and regulatory issues relating to stem cell products. After the sale of the company in 2003, Dr. Gimble joined the Pennington Biomedical Research Center (Baton Rouge LA) where he remained on faculty until 2013 as a tenured Professor. During this period, his laboratory focused on the development of methods for the isolation and characterization of adipose derived stem cells for regenerative medicine and on the role of circadian mechanisms in regulating adipose and bone metabolism. In 2010, together with Dr. Xiying Wu, he co-founded LaCell LLC (New Orleans, LA), a biotech company delivering premium quality human stem cell products to research laboratories. In 2013, Dr. Gimble moved to LaCell as its Chief Scientific Officer. He continues to serve as an Adjunct Professor in the Center for Stem Cell Research and Regenerative Medicine as well as the Departments of Medicine, Structural and Cellular Biology, and Surgery at Tulane University School of Medicine (New Orleans, LA).

Yasemin Sancak, PhD

Yasemin Sancak is a postdoctoral research fellow at Massachusetts General Hospital in Dr. Vamsi Mootha's laboratory.

Dr. Sancak's work focuses on the interplay between mitochondria and calcium signaling. Using biochemical techniques, Dr. Sancak identified an important component of the molecular machinery that imports calcium into mitochondria. Using biochemical and structural methods, she aims to understand how this machinery is regulated. She has developed animal models with defective mitochondrial calcium machinery to study the role of mitochondrial signaling in physiology and disease.

Dr. Sancak received her undergraduate degree in molecular biology and genetics at Bogazici University in Istanbul, Turkey and her Ph.D from Massachusetts Institute of Technology, Department of Biology in 2010. She is currently continuing her postdoctoral training.

Yasemin Sancak has received Abraham J. Siegel Fellowship award and Harold M. Weintraub graduate student award. She is a former a Helen Hay Whithey Foundation Postdoctoral Fellow.

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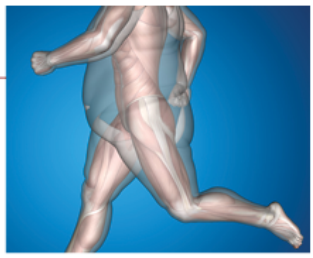

BIOGRAPHIES – SESSION III

Bruce M. Spiegelman, PhD

Bruce M. Spiegelman is the Stanley J. Korsmeyer Professor at Harvard Medical School and Dana-Farber Cancer Institute. Spiegelman received a B.S. with highest honors from the College of William and Mary in 1974, his PhD in biochemistry from Princeton University in 1978, and completed postdoctoral work at MIT. He joined Harvard Medical School and Dana-Farber Cancer Institute in 1982 and was appointed Professor in 1991. His research focuses on fat cell biology, diabetes andmuscular diseases. Spiegelman's accomplishments have been recognized by the awarding of a number of honors and prizes. Major honors include: the Heinrich Wieland Prize in Lipid Research (University of Munich, 1997); the Bristol-Myers Squibb Award for Distinguished Achievement in Metabolic Research (2003); the Rolf Luft Prize in Metabolic Research (Karolinska Institute, 2003); the Jacobaeus Prize (Novo-Nordisk, 2004); the Eliot P. Joslin Medal (Joslin Diabetes Center, 2004); the Transatlantic Medal (British Endocrine Society, 2007); the Debrecen Prize (Faculty of Medicine, Debrecen, Hungary, 2008); the Naomi Berrie Award for Outstanding Achievement in Diabetes Research (Columbia University Medical Center, 2008); the Hans Bloemendal Medal for Outstanding Scientific Achievement (Radboud University Nijmegen Medical Centre, The Netherlands, 2010); the Frederick Banting Medal of the American Diabetes Association (their highest award) in 2012; the Manpei Suzuki Prize for Diabetes Research (Tokyo) in 2013, the Inbev Baillet-Latour Health Prize in 2015 and Helmholtz Prize for Diabetes Research, Munich, Germany, 2015.

Spiegelman has also been elected to the National Academy of Sciences and the American Academy of Arts and Sciences, both in 2002. He was also elected to the Institute of Medicine of the USA in 2014. He has served as the elected Chair of the Section on Metabolism and Medical Physiology of the National Academy of Sciences (2013-2016).

Aaron M. Cypess, MD, PhD, MMSc

Aaron M. Cypess, M.D., Ph.D., MMSc is an Investigator and Acting Section Chief of the Translational Physiology Section in the Diabetes, Endocrinology, and Obesity Branch of the intramural program of the National Institute of Diabetes, Digestive, and Kidney Diseases at the NIH in Bethesda, MD (http://www.niddk.nih.gov/about-niddk/staff-directory/intramural/aaron-cypess/pages/research-summary.aspx). Dr. Cypess has an AB in chemistry from Princeton University, a medical degree from Cornell University, and a doctoral degree from The Rockefeller University. Prior to his arrival at the NIH, Dr. Cypess was an Assistant Investigator at Joslin Diabetes Center and Assistant Professor at Harvard Medical School. He trained in the laboratory of C. Ronald Kahn, where they demonstrated that brown adipose tissue is a functional organ in adult humans (NEJM 2009;360:1509-17). His current research focuses on human brown and white adipose tissue function and their utilization to treat obesity and metabolic disease. Research methodologies include PET and MRI imaging, preclinical physiological models, and bioinformatics.

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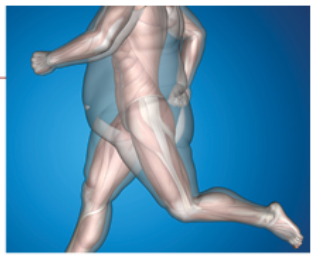

Martin P. Torriani, MD

Dr. Torriani is Associate Professor of Radiology at Harvard Medical School and Director of the MGH Metabolic Imaging Core. Dr. Torriani obtained his medical degree from the University of Campinas Medical School in Brazil, where he also completed his residency in Diagnostic Radiology. He joined the Department of Radiology at Massachusetts General Hospital in 2001, where he trained as Research and Clinical Fellow in Musculoskeletal Imaging and Intervention, thereafter joining staff. Dr. Torriani also earned a Master's degree in Medical Sciences from the Department of Pathology of the University of Campinas in 2004. Besides work and research as a radiologist specialized in the musculoskeletal system, Dr. Torriani has extensive experience using cutting edge imaging methods to examine tissue biochemistry and body composition. Dr. Torriani's research efforts focus on metabolic imaging using MR imaging and MR spectroscopy, high resolution MR imaging, computed tomography, and whole-body positron emission tomography. Over the last 15 years, he has investigated muscle metabolism (particularly lipid distribution and mitochondrial function), liver and marrow adiposity, and body composition in obese adults and adolescents, subjects with GH disorders and HIV lipodystrophy), with several of such studies having been funded by NIH and Harvard grants. As Director of the MGH Metabolic Imaging Core, imaging techniques pioneered by Dr. Torriani at MGH such ^{1}H- and ^{31}P-MR spectroscopy are also made available to other investigators, enabling non-invasive assessment of tissue metabolism and response to dietary, exercise and pharmacological interventions.

Robert E. Gerszten, MD

Robert E. Gerszten, MD serves as Chief of Cardiology at Beth Israel Deaconess Medical Center. He is a Professor of Medicine at Harvard Medical School, and a Senior Associate Member of the Broad Institute. Dr. Gerszten graduated from the University of Virginia as an Echols Scholar and President's Distinguished Scholar, then entered medical school at the Johns Hopkins University School of Medicine. Following his residency at the University of Pennsylvania, he performed cardiovascular research and clinical fellowships at the Cardiovascular Research Institute at UCSF, and the Cardiovascular Research Center (CVRC), MGH. He joined the MGH as a faculty member in 1997. From 2006-2015 he served as Director of Clinical and Translational Research in the MGH Heart Center.

Dr. Gerszten's investigative career focuses on the nexus of cardiac and metabolic diseases. His translational research program is a national leader in the use of metabolomics and proteomic technologies for the discovery of new biomarkers and pathways contributing to atherogenesis and its complications. His group has identified novel biomarkers that identify those destined to develop diabetes over a decade before disease onset. An area of particular focus is the application of these tools to identify those most likely to benefit from clinical interventions. His highly interactive program collaborates across a spectrum of institutions, from the Broad Institute to the Framingham Heart Study, the Jackson Heart Study, the Diabetes Prevention Program, and the TIMI Study Group.

His work is funded by the NIH and the American Heart Association, from whom he received an Established Investigator Award. In addition to his investigative focus, Dr. Gerszten has been an active clinician in the Coronary Care Unit and the Consultation Services at MGH, and serves on the Executive Committee of the MGH Cardiac Unit Associates.

Dr. Gerszten is a member of the American Society for Clinical Investigation, the Association of American Physicians, and the Association of University Cardiologists.

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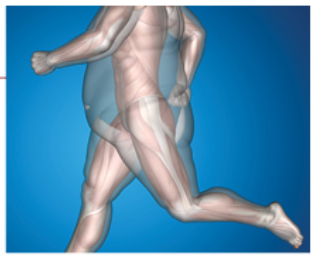

Gökhan S. Hotamisligil, MD, PhD

Dr. Hotamisligil's research efforts focus on the genetic basis of common and complex diseases, particularly obesity, diabetes, and heart disease. His research examines the molecular mechanisms of nutrient sensing and response pathways as they relate to immune and metabolic homeostasis. He is an internationally recognized leader with many seminal contributions including the discoveries that defined immunological components of obesity and led to the emergence of the field of immunometabolism, discovery of novel hormones regulating lipid and glucose metabolism, and endoplasmic reticulum as a key organelle regulating cellular and organismic metabolism, and its role in obesity, insulin resistance, and diabetes. Dr. Hotamisligil pursues interdisciplinary paths, collaborations, and industry alliances towards development of novel preventive and therapeutic strategies against chronic metabolic diseases. These programs have driven several drug development platforms currently in clinical trials. His work has produced >180 papers which have received >40,000 citations and resulted in multiple patents.

Dr. Hotamisligil has been recognized with many fellowships and awards from the Markey, Pew, and Sandler Foundations, the American Diabetes Association and the J.S. Simmons Endowment at Harvard University. He's an elected member of the TUBA, fellow of the AAAS and recipient of the 2004 TUBITAK Science Award, Outstanding Scientific Accomplishment Award of American Diabetes Association, Wertheimer Award from IASO, the Naomi Berrie Award from Columbia University, Science Award of the Vehbi Koç Foundation, Roy Greep Award of Endocrine Society, and the International Danone Prize. He is also a member of the Board of trustees of the Kadir Has University and the Scientific Advisory Board of Sabri Ülker Foundation.