Joint with the meeting on *Unraveling the Secrets of Kidney Disease*

**Scientific Organizers:**  
**Katalin Susztak**, University of Pennsylvania, USA  
**Caroline Fox**, Merck Research Labs, USA  
**Masaomi Nangaku**, University of Tokyo School of Medicine, Japan

Close to 1 in 11 people in the world suffers from kidney disease, and the incidence is increasing, especially in the developing world. This issue was recently reviewed and emphasized in a Lancet article (Global Health Atlas). Acute and chronic kidney disease is associated with a highly significant increase in cardiovascular death, and chronic kidney disease (CKD) represents a leading cause of death in the United States. There is no cure for this disease, with current treatment strategies relying on blood pressure control through blockade of the renin-angiotensin system. Such approaches only delay the development of end-stage kidney disease and can be associated with serious side effects. Recent identification of several novel mechanisms contributing to CKD development - including vascular changes, loss of podocytes and renal epithelial cells, matrix deposition, inflammation and metabolic dysregulation - has revealed new potential therapeutic approaches for CKD. This conference will review clinical and observational studies in the kidney disease area, highlight recent advances in basic biology of kidney and kidney disease, assesses emerging strategies and agents for CKD treatment, and discuss major obstacles in drug development. The conference will also encourage collaborations among clinicians and researchers from academia and pharma and accelerate innovation in this field. Furthermore, since more than half of kidney disease is caused by diabetes, the symposium will greatly benefit from the joint pairing with the conference on “Diabetes: Innovations, Outcomes and Personalized Therapies.”

**Plenary Session Topics:**  
- Podocyte Diseases  
- Immune Injury  
- Genetics and Epigenetics of Diabetes and Complications (Joint)  
- Tubule Injury and Regeneration  
- Complications of Diabetes (Joint)  
- Endothelial Dysfunction in CKD  
- Precision Medicine  
- Novel Approaches for Drug Discovery  

*plus a workshop*

Abstract Deadline: Dec 19, 2018; Discounted Registration Deadline: Jan 11, 2019

Visit [www.keystonesymposia.org/19X4](http://www.keystonesymposia.org/19X4) for more details.
SUNDAY, MARCH 3
Arrival and Registration

MONDAY, MARCH 4
Welcome and Keynote Address (X4)
Caroline S. Fox, Merck Research Labs, USA
Using Genetics to Drive Drug Discovery

Podocyte Diseases (X4)
Friedhelm Hildebrandt, Howard Hughes Medical Institute and Boston Children’s Hospital, Harvard Medical School, USA
Monogenic causes of Podocyte Loss Reveal Targets for Personalized Treatment
John Cijiang He, Icahn School of Medicine at Mount Sinai, USA
Potential New Therapies by Targeting on Podocyte Injury
Stuart J. Shankland, University of Washington, USA
Understanding Podocyte Regeneration

Short Talk(s) Chosen from Abstracts

State of the Union for Diabetes Care anno 2019: What Should We Expect from a Stellar Novel Diabetes Drug? (X3)
Speaker to be Announced
Tina Vilsbøll, Steno Diabetes Center Copenhagen, Denmark
How to Demonstrate Medical Value for Diabetes Drugs Fast and Convincingly
Brian Finan, Novo Nordisk, USA
Mechanisms of GIP Induced Augmentation of GLP-1 Pharmacology
Short Talk(s) Chosen from Abstracts

Keynote Address (Joint)
Leif C. Groop, Lund University, Sweden
Diabetes Comes in Different Flavors: On the Heterogeneity of Diabetes - Time for Reclassification of a Disease

Genetics and Epigenetics of Diabetes and Complications (Joint)
Anna Köttgen, Medical Center - University of Freiburg, Germany
Genetics of Kidney Disease and Metabolite Traits
Jose C. Florez, Massachusetts General Hospital, USA
Genetics of Diabetic Kidney Disease
Melina Claussnitzer, Harvard Medical School, Beth Israel Deaconess Medical Center, USA
Type 2 Diabetes and its Comorbidities: The Journey from GWAS to Disease Mechanism
Katalin Susztak, University of Pennsylvania, USA
Finding the G(ene) in GWAS for Kidney Disease
Short Talk(s) Chosen from Abstracts

Tubule Injury and Regeneration (X4)
Benjamin D. Humphreys, Washington University, USA
Mapping Cell States to Understand Human Diabetic Nephropathy and Chronic Kidney Disease using Single Cell and Single Nucleus RNA-Seq
Masaomi Nangaku, University of Tokyo School of Medicine, Japan
The Role of Hypoxia and HIF in Tubule Injury
Mark Douglas Okusa, University of Virginia, USA
Immune Injury in AKI
Short Talk(s) Chosen from Abstracts

Deciphering Cellular Function of Target Tissues of Relevance for Diabetes (X3)
Marcelo Nobrega, University of Chicago, USA
Experimental Dissection of the Cellular and Organismal Effects of T2D Genes

Kenichiro Furuyama, University of Geneva, Switzerland
Conversion of Human non-β-Cells into Insulin Producers

Chad A. Cowan, Harvard University, USA
Investigating Metabolic Disease with Human Pluripotent Stem Cells

Short Talk(s) Chosen from Abstracts

Poster Session 2

WEDNESDAY, MARCH 6

Complications of Diabetes (Joint)

Susan Quaggin, Northwestern University, USA
The Role of Endothelial Cell Injury in Diabetic Kidney Disease

Speaker to be Announced

Donald Kohan, University of Utah Health Center, USA
Endothelin Receptors Antagonists in DKD: SONAR and Beyond

Farhad Danesh, MD Anderson Cancer Center, USA
Podocyte and Mitochondrial Dysfunction in Diabetes

Short Talk(s) Chosen from Abstracts

Endothelial Dysfunction in CKD (X4)

Speaker to be Announced

Janos Peti-Peterdi, University of Southern California, USA
The Physiological and Pathophysiological Regulation of Glomerular Blood Flow

Hiddo Lambers Heerspink, University Medical Center Groningen, Netherlands
SGLT-2 Inhibitors and the Kidney: Extending from Diabetic to Non-Diabetic Kidneys

Short Talk(s) Chosen from Abstracts

Omics Stuff and Profiling (X3)

Christopher B. Newgard, Duke University Medical Center, USA
Biochemical Phenotyping of Metabolic Syndrome

Cecilia Lindgren, Oxford University, UK
Identifying Metabolic Cross-Trait Signatures Using UK Biobank

Hans-Ulrich Häring, Eberhard-Karls University Tübingen, Germany
Insulin Sensitization: Improving more than Glycemic Control

Short Talk(s) Chosen from Abstracts

Poster Session 3

THURSDAY, MARCH 7

Precision Medicine (X4)

Jonathan Himmelfarb, University of Washington, USA
Kidney on Chip for Drug Development

Eugene Park Rhee, Massachusetts General Hospital, USA
Metabolomics To Understand Kidney Function

Rahul Satija, New York Genome Center, USA
Single Cell Immune Sequencing in Lupus Nephritis

Short Talk(s) Chosen from Abstracts

Epigenomics of T2D (X3)

Mitchell A. Lazar, Perelman School of Medicine, University of Pennsylvania, USA
Epigenomic Regulation of Metabolism

Maïe Sander, University of California, San Diego, USA
Epigenetic Adaptation in the beta Cell

Evan D. Rosen, Beth Israel Deaconess Medical Center, Harvard University, USA
Epigenetic Variability in Insulin Resistant States

Short Talk(s) Chosen from Abstracts

Workshop (X4)

Short Talks Chosen from Abstracts

Novel Approaches for Drug Discovery (X4)

Alan R. Shuldiner, Regeneron Pharmaceuticals, Inc, USA
Drug Discovery 2.0, the Use of Human Knock-Outs and Other Genetic Experiments of Nature

Carine Boustany†, Boehringer Ingelheim, USA
Novel Strategies to Treat Diabetic Kidney Disease

Alex Bell, Ionis Pharmaceuticals, USA
RNA Therapeutics for Kidney Disease

Stephanie Cherqui, University of California, San Diego, USA
Stem Cell and Gene Therapy for Cystinosis

Short Talk Chosen from Abstracts

Metabolic Surgery (X3)

Lee M. Kaplan, Massachusetts General Hospital, USA
Variability of Response and Prediction of Outcome

Filip K. Knop, Gentofte Hospital, University of Copenhagen, Denmark
A Gut Feeling About Glucagon

Philip J. Larsen, Grünenthal Group, Germany
Can We Translate Bariatric Surgery into Equi-Efficacious Pharmacotherapy

Short Talk Chosen from Abstracts

Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (X4)

Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (X3)

FRIDAY, MARCH 8

Departure