Sunday, September 17

10:30-13:00 Registration

13:00-13:15 Welcome and Opening Remarks
Matthias Tschöp, Research Director, Helmholtz Diabetes Center, Helmholtz Zentrum München

13:15-14:45 Session 1: Systems Control of Energy Storage
Chairs: Matthias Tschöp, Jens Brüning

13:15-13:45 Jeffrey Friedman, Rockefeller University
TBD

13:45-14:15 Karine Clément, INSERM, Sorbonne University
Importance of profibrotic progenitors in human adipose tissue

14:15-14:45 Bruce Spiegelman, Harvard Medical School
Systems Control of Energy Balance: Basic Science and Therapeutic Opportunities

14:45-15:15 Break

15:15-16:30 Session 2: Incretin Biology
Chairs: Richard DiMarchi, Andrea Nawrocki

15:15-15:45 Daniel Drucker, University of Toronto
Evolving cardiovascular complexity of the incretin system

15:45-16:15 Brian Finan, Novo Nordisk
TBD

16:15-16:30 Patrick MacDonald, University of Alberta
Connecting metabolism to the exocytotic site: mechanisms controlling insulin secretion in human diabetes

16:30-16:45 Maria Cristina Nostro, Toronto General Hospital Research Institute
Proteomic profiling of hPSC-derived pancreatic progenitors

16:45-17:15 Break

17:15-17:45 Special Evening Lecture
Chairs: Jacob Sten Petersen, Annette Schürmann

17:15-17:45 Rudolph Zechner, Karl Franzens University
Pathways to degrade fat

18:00-22:30 Opening Reception (for all conference attendees)
Monday, September 18

08:00-08:30 Coffee

08:30-10:15 Session 3: Diabetes and the Brain
Chairs: Cristina García-Cáceres, Ingo Bechmann

08:30-09:00 Lora Heisler, University of Aberdeen
Targeting 5-HT circuits to improve type 2 diabetes

09:00-09:30 Michael Cowley, Monash University
Melanocortin neuronal effects on Blood Glucose

09:30-09:45 Sarah Stanley, Mount Sinai Hospital
Neural regulation of metabolism through glucose-sensing neurons

09:45-10:00 Denis Burdakov, The Francis Crick Institute
Hypothalamic origins of overeating and underexercising

10:00-10:15 Roberto Coppari, Université de Genève
Mechanisms permitting life without insulin

10:15-10:30 Suneil Koliwad, University of California
TBD

10:30-11:00 Break

11:00-12:00 Session 4: Metabolic Liver Disease
Chairs: Hans Häring, Nina Henriette Uhlenhaut

11:00-11:30 Bart Staels, Institut Pasteur Lille
Non-alcoholic steat-hepatitis, linking liver and cardio-metabolic diseases

11:30-11:45 Katharina Beuke, University of Lille
Computing the integrated hepatocyte response to paracrine TNF secretion from non-parenchymal cells upon LPS-induction

11:45-12:00 Andrew Murphy, Baker Heart and Diabetes Institute
Altered haematopoiesis in diabetes: contribution to cardiovascular disease

12:00-14:00 Lunch/Break

12:00-14:00 Late Breaking Abstract Session
(Fellows selected from abstracts paired with senior speakers & chairs for project discussion)

14:00-15:00 Session 5: Systemic Control of Metabolism
Chairs: Giles Yeo, Matthias Blüher

14:00-14:30 Eve van Cauter, University of Chicago
Sleep circadian rhythms and metabolism: the inseparable triad

14:30-14:45 Josiane L. Broussard, University of Colorado Boulder
Tissue-specific metabolic impairments associated with sleep and circadian disruption

14:45-15:00 Rinke Strienstra, Wageningen University and Research
The importance of innate immune cell metabolism: from acute inflammatory responses to Diabetes

15:00-15:15 Romain Barrès, Karolinska University Hospital
*Dynamic and heritable epigenetic modifications in response to lifestyle*

15:15-15:45 Break

15:45-16:45 **Session 6: Role of Adipocyte Function**
Chairs: Michael Roden, Matthias von Herrath

15:45-16:15 **C. Ronald Kahn, Joslin Diabetes Center, Harvard Medical School**
*TBD*

16:15-16:30 Rana Gupta, *University of Texas Southwestern*
*Regulation of Adipose Tissue Development and Remodeling*

16:30-16:45 Brian O’Neill, *Carver College of Medicine, University of Iowa*
*The Insulin-FoxO Axis in the Regulation of Muscle Proteostasis and Mitochondrial Metabolism*

16:45-17:00 Timo Müller, *Helmholtz Zentrum München*
*p62, A Novel Key Regulator of BAT Thermogenesis*

17:00-17:30 Break

17:30-19:00 **Session 7: Cellular Energy Metabolism**
Chairs: Johannes Beckers, Michael Ristow

17:30-18:00 **Sheila Collins, Sanford Burnham Research Institute**
*Signaling mechanisms controlling white and brown fat metabolism and energy expenditure*

18:00-18:15 Celine Riera, *Cedars-Sinai Medical Center*
*Chemosensory control of Metabolic homeostasis*

18:15-18:30 Wei Shen, *ShanghaiTech University*
*Cellular basis for thermoregulation and their link to obesity*

18:30-18:45 Jessica Ellis, *Purdue University*
*Muscle fatty acid oxidation: a major regulator of obesity and insulin sensitivity*

18:45-19:00 Lorenzo Galluzzi, *Weill Cornell Medical College*
*ATP at the interface between cellular bioenergetics and organismal homeostasis*

19:30-21:30 Speaker’s Dinner
Munich city tours (optional event for conference attendees)

21:30 Special performance by The Sugar Daddies (Open to everyone)

**Tuesday, September 19**

08:30-09:00 Coffee

09:00-10:30 **Session 8: Islet Biology & Beta Cell regeneration**
Program
5th Helmholtz-Nature Medicine Diabetes Conference

Chairs: Heiko Lickert, Anette Ziegler

09:00-09:30  Matthias Hebrok, University of California  
Probing human beta cells

09:30-10:00  Andrew Stewart, Mount Sinai Hospital  
Data mining and combinatorial approaches to therapeutic human beta proliferation for diabetes

10:00-10:30  David Hodson, University of Birmingham  
Pancreatic beta cell function under the spotlight

10:30-11:00  Break

11:00-12:30  Session 9: Energy Homeostasis and Ageing  
Chairs: Martin Jastroch, Martin Klingenspor

11:00-11:30  Andrew Dillin, University of California Berkeley  
Orchestrating aging and metabolic health across a troubled soma

11:30-12:00  Frank Madeo, Graz University  
Caloric restriction mimetics promote longevity

12:00-12:30  Patrick Schrauwen, Maastricht University  
Energy turnover as a target to combat type 2 diabetes

12:30-13:30  Lunch

13:30-15:00  Session 10: Exercise Metabolism  
Chairs: Susanna Hofmann, Martin Halle

13:30-14:00  Mark Febbraio, Garvan Institute of Medical Research  
Role of myokines in health and disease

14:00-14:30  Laurie Goodyear, Harvard Medical School  
TBD

14:30-15:00  Deborah Muoio, Duke University  
Proteomics meets respiratory fluxomics for deciphering the mitochondrial acyl-proteome

15:00-15:30  Break

15:30-16:30  The Helmholtz Diabetes Lecture  
Chair: Stephan Herzig
Johan Auwerx, Ecole Polytechnique Fédérale de Lausanne  
Systems genetics approaches to map novel targets in the metabolism and genes

16:30-16:40  HeDi Award Presentation

16:40-16:50  Nature Reviews Endocrinology Best Abstract Prize Presentation

16:50-17:00  Closing Remarks

Invited Speakers:
Johan Auwerx, Ecole Polytechnique Fédérale de Lausanne, Karine Clément, Institute of Cardiometabolism and Nutrition INSERM, Sorbonne University, Sheila Collins, Sanford Burnham Research Institute, Michael Cowley, Monash Obesity and Diabetes Institute, Monash University, Andrew Dillin, University of California Berkeley, Daniel Drucker, Lunenfeld-Tanenbaum Research Institute, University of Toronto, Mark Febbraio, Garvan Institute of Medical Research, Brian Finan, Novo Nordisk, Jeffrey Friedman, Howard Hughes Medical Institute & Rockefeller University, Laurie Goodyear, Joslin Diabetes Center, Harvard Medical School, Matthias Hebrok, University of California San Francisco, Lora Heisler, Rowett Institute of Nutrition and Health, University of Aberdeen, David Hodson, Institute of Metabolism and Systems Research, University of Birmingham; C. Ronald Kahn, Joslin Diabetes Center, Harvard Medical School, Frank Madeo, Institute of Molecular Biosciences, Karl-Franzens University, Deborah Muoio, Duke University, Patrick Schrauwen, Maastricht University, Bruce Spiegelman, Dana-Farber Cancer Institute, Harvard Medical School, Bart Staels, Institut Pasteur Lille, Andy Stewart, Mount Sinai Hospital, Eve van Cauter, Sleep Metabolism and Health Center, Department of Medicine, University of Chicago, Rudolph Zechner, Institute of Molecular Biosciences, Karl-Franzens University

HelDi* nominees:

Romain Barrès, Karolinska University Hospital, Karolinska Institute, Katharina Beuke, University of Lille, Josiane L. Broussard, University of Colorado Boulder, Denis Burdakov, The Francis Crick Institute, Roberto Coppari, Université de Genève, Jessica Ellis, Purdue University, Lorenzo Galluzzi, Weill Cornell Medical College, Rana Gupta, University of Texas Southwestern, Suneil Koliwad, University of California San Francisco, Patrick MacDonald, Alberta Diabetes Institute, University of Alberta, Timo Müller, Helmholtz Zentrum München, Andrew Murphy, Baker Heart and Diabetes Institute, Maria Cristina Nostro, Toronto General Hospital Research Institute, Brian O’Neill, Carver College of Medicine, University of Iowa, Celine Riera, Cedars-Sinai Medical Center, Wei Shen, ShanghaiTech University, Sarah Stanley, Mount Sinai Hospital, Rinke Stienstra, Wageningen University and Research...