

NIDDK Workshop: Circadian Rhythms and Metabolic Disease

April 12 - 13, 2010

Bethesda North Marriott Hotel
and Conference Center, Bethesda, MD

"...no time to lose..."



Organizers: Charles Czeisler, Mitchell Lazar, Ronald Margolis, Sheryl Sato, and Corinne Silva

Monday, April 12, 2010

7:00 a.m. – 8:00 a.m. **Registration, Poster Set-up, and Continental Breakfast**

8:00 a.m. – 8:20 a.m. **Welcome**
*Gregory Germino, Deputy Director, National Institute of Diabetes and
Digestive and Kidney Diseases (NIDDK)*

Workshop Goals
Ronald Margolis, NIDDK

Plenary 1 *Genetic and Molecular Analysis of Circadian Clocks in Mammals*

8:20 a.m. – 9:00 a.m. *Joseph S. Takahashi, University of Texas Southwestern*

Session 1: Central and Neural Circuitry

9:00 a.m. – 9:30 a.m. Oscillators Entrained by Food and the Emergence of Anticipatory
Timing Behaviors
Rae Silver, Columbia University

9:30 a.m. – 10:00 a.m. From Nodes to Networks in the Mammalian Circadian System
Erik Herzog, Washington University

10:00 a.m. – 10:30 a.m. Hypothalamic Circuitry Linking Feeding and Circadian Rhythms
Clifford B. Saper, Harvard Medical School

10:30 a.m. – 10:50 a.m. **Break**

Session 2: Model Organisms

10:50 a.m. – 11:20 a.m. The Monarch Butterfly: The New Clock on the Block
Steven M. Reppert, University of Massachusetts Medical School

11:20 a.m. – 11:50 a.m. A Surprisingly Large Number of CLK Direct Target Genes
in *Drosophila*
Michael Rosbash, Brandeis University

11:50 a.m. – 12:20 p.m. Interaction Between the Circadian Clock and Metabolism in
Drosophila
Amita Sehgal, University of Pennsylvania Medical School

12:20 p.m. – 1:30 p.m. **Lunch Break**

Session 3: Transcription and Peripheral Clocks (I)

- 1:30 p.m. – 2:00 p.m. Nuclear Receptors and AMPK—Resetting Metabolism
Ronald M. Evans, Salk Institute
- 2:00 p.m. – 2:30 p.m. Nuclear Receptor Regulation of Circadian Rhythm and Metabolism
Mitchell A. Lazar, University of Pennsylvania
- 2:30 p.m. – 3:00 p.m. Metabolic and Cardiovascular Consequences of Circadian Misalignment in Humans
Steven A. Shea, Brigham and Women's Hospital
- 3:00 p.m. – 3:20 p.m. Break**

Session 4: Transcription and Peripheral Clocks (II)

- 3:20 p.m. – 3:50 p.m. Circadian Oscillator and Metabolic Sand-timer Determine Rhythmic Transcription in Liver
Satchidananda Panda, Salk Institute
- 3:50 p.m. – 4:20 p.m. Regulation of Circadian Rhythm by Ubiquitination
Lei Yin, University of Michigan
- 4:20 p.m. – 4:50 p.m. Loss of Nocturnin, a Circadian Deadenylase, Confers Resistance to Diet-induced Obesity
Carla B. Green, University of Texas Southwestern
- 4:50 p.m. – 5:05 p.m. **HOT TOPIC:** Synthetic ROR and REV-ERB Ligands Modulate Lipid and Glucose Metabolism
Thomas P. Burris, The Scripps Research Institute
- 5:05 p.m. – 5:20 p.m. **HOT TOPIC:** Circadian Control of Beta Cell Function
Vijay Yechoor, Baylor College of Medicine
- 5:20 p.m. – 7:00 p.m. Poster Session**
- 7:00 p.m. Dinner (on your own)**

Tuesday, April 13, 2010

7:00 a.m. – 8:00 a.m.

Registration and Continental Breakfast

Plenary 2

Signaling Within the Mammalian Circadian Timing System

8:00 a.m. – 8:40 a.m.

Ueli Schibler, University of Geneva

Session 5:

Interplay Between the Clock and Physiology

8:40 a.m. – 9:10 a.m.

Epigenetics and Metabolism: The Circadian Clock Connection
Paolo Sassone-Corsi, University of California, Irvine

9:10 a.m. – 9:40 a.m.

Clock-regulated Transcription in the Mouse Liver
John B. Hogenesch, University of Pennsylvania

9:40 a.m. – 10:10 a.m.

Molecular Pathophysiology of Diabetes and Obesity in Circadian Mutant Mice
Joseph Bass, Northwestern University

10:10 a.m. – 10:30 a.m.

Break

10:30 a.m. – 11:00 a.m.

“Clocked Up” Arteries: Vascular Implications of the Circadian Clock
R. Daniel Rudic, Medical College of Georgia

11:00 a.m. – 11:30 a.m.

Molecular Characterization of Human Sleep Variants
Ying-Hui Fu, University of California, San Francisco

11:30 a.m. – 12:00 p.m.

Dysregulation of Sleep and Circadian Rhythms: Role in Obesity and Metabolic Disorders
Fred W. Turek, Northwestern University

Session 6:

Clocks and Human Disease

12:00 p.m. – 12:30 p.m.

Circadian Rhythm Disorders
Charles A. Czeisler, Brigham and Women’s Hospital

12:30 p.m. – 1:00 p.m.

Human Circadian Variants and Insights Into Other Disorders
Louis Ptacek, University of California, San Francisco

1:00 p.m. – 1:10 p.m.

Meeting Summary and Future Directions

1:10 p.m.

Adjournment