

# Boston Ithaca Islet Club: May 1-2, 2010, Providence Rhode Island

**Saturday MAY 1 2010**

**9:00-10:00 Breakfast and Registration, Gerry House Rhode Island Hospital campus**

**10:00 Welcome remarks: Fumi and Rachel**

## **Session I: Beta cell transcription**

**Chair: Arun Sharma**

**10:10- 10:30** -- Improved precision of islet cell transcriptional analysis using qNPA and polychromatic, intracellular flow cytometry.

Pechhold, Klaus (1,2), Pechhold, Susanne (2), Seligmann, Bruce (3), Harlan, David M (1,2)

(1) Diabetes Branch, NIDDK, NIH, Bethesda, MD, (2) Diabetes Research Center, Dept. Medicine, Univ Massachusetts, Worcester, MA, (3) High Throughput Genomics, Inc. Tucson, AZ

**10:30- 10:50**-- Transcription factor MafA is necessary for mature beta-cell function in rat islets.

Jermendy, Agnes, Vetere, Amedeo, El Khattabi, Ilham, Siniakowicz, Karolina, Bee, Yong Mong, Aguayo-Mazzucato, Cristina, Sharma, Arun, Bonner-Weir, Susan

Section of Islet Transplantation and Cell Biology, Joslin Diabetes Center, Boston, Massachusetts

**10:50-11:10**-- The role of PASK in the regulation of insulin gene expression.

Meriem, Semache (1), Ghislaine, Fontés (2), Jared, Rutter (3), Vincent, Poitout (1,2,4)

(1) Department of Biochemistry, University of Montreal, Montreal, Quebec, Canada. (2) CRCHUM, University of Montreal, Montreal, Quebec, Canada. (3) Division of Endocrinology, University of Utah School of Medicine, Salt Lake City, Utah, USA. (4) Department of Biochemistry, Medicine and Nutrition, University of Montreal, Quebec, Canada.

**11:10-11:30**-- Cdk4 regulates recruitment of quiescent beta-cells and ductal epithelial progenitors to reconstitute beta-cell mass

Jo, Junghyo (1) Lee, Ji-Hyeon (2) Hardikar, Anandwardhan A. (3) Periwal, Vipul (1) Rane, Sushil G. (2)

(1) Laboratory of Biological Modeling, NIDDK, NIH, Bethesda, MD, (2) Regenerative Biology Section, Diabetes Branch, NIDDK, NIH, Bethesda, MD, (3) Stem Cells and Diabetes Section, National Centre for Cell Science, Pune, Maharashtra, India"

**11:45- 1:10 Lunch**

## **Session II: Metabolism I**

**Chair: Vincent Poitout**

**1:10-1:30**-- Signaling mechanisms of GPR40-mediated potentiation of glucose-induced insulin secretion by fatty acids

Mourad Ferdaoussi, Bader Zarrouki, Valerie Bergeron, Thierry Alquier, Vincent Poitout.

Montreal Diabetes Research Center. CRCHUM, Université de Montréal, Montréal, QC, Canada.

**1:30-1:50**-- Haploid insufficiency of SEL1L predisposes mice to high fat diet induced hyperglycemia

Francisco, Adam, Singh, Rajni, Li, Shuai

Department of Animal Science, Cornell University, Ithaca, New York.

**1:50-2:10**-- Extramitochondrial pathways of NADH reoxidation via transplasma membrane electron transport

Gray, Joshua P. (1,2) Smith, Peter J. S. (2) Cline, Gary (3) Heart, Emma (2)

(1) Department of Science, US Coast Guard Academy, New London, CT, (2) Biocurrents Research Center, Marine Biological Laboratory, Woods Hole, MA (3) Dept. of Internal Medicine, Yale University, New Haven, CT

**2:10-2:30**— Novel mechanisms for the potential cellular regulation of glucokinase by SUMOylation

Aukrust, Ingvild (1,2,3) Bjørkhaug, Lise (1,4) Molnes, Janne (2,5) Sjøvik, Oddmund (1) Flatmark, Torgeir (2) Njølstad, Pål R. (1,5) Kulkarni, Rohit N. (3)

(1) Department of Clinical Medicine, University of Bergen, Bergen, Norway, (2) Department of Biomedicine, University of Bergen, Bergen, Norway, (3) Research Division, Joslin Diabetes Center and Department of Medicine, Harvard Medical School, Boston, MA, USA (4) Center for Medical Genetics and Molecular Medicine, Haukeland University Hospital, Bergen, Norway (5) Department of Pediatrics, Haukeland University Hospital, Bergen, Norway"

**2:30-2:45 Break-Snacks**

## **Session III: Mouse models**

**Chair: Richard Kibbey**

**2:50-3:10** -- The UPR binary switch between life and death of beta cells

Osowski, Christine (1) Urano, Fumihiko (1)

University of Massachusetts Medical School, Worcester, MA

**3:10-3:30**-- Ductal heterogeneity suggests a subpopulation serves as postnatal pancreatic progenitors

Ouziel-Yahalom, Limor (1) Wan-Chun, Li (1) Straussman, Sharon (1) Guo, Lili (1) Sharma, Arun (1) Weir C., Gordon (1) Bonner-Weir, Susan (1)

Section of Islet Transplantation and Cell Biology, Joslin Diabetes Center, Harvard Medical School, Boston MA

**3:30-3:50**-- Does decreased expression of Set7/9 contribute to beta-cell defects in IRS1 KO mice?

Welters, Hannah (1) Assmann, Anke (1) Hu, Jiang (1) Mirmira, Raghu G (2) Kulkarni, Rohit N (1)

(1) Joslin Diabetes Center, 1 Joslin Place, Boston, MA 02215

**3:50-4:10-- Mitochondrial GTP regulates insulin secretion: Towards an in vivo model**

Madiraju, Anila (1) Zhao, XiaoJian (1) Pongratz, Rebecca (1) Sterpka, John (1) Philbrick, William (1) Kibbey, Richard (1)

Department of Internal Medicine, Yale School of Medicine, New Haven, Connecticut

**4:15-5:15-- JDRF presentation, Heidi Daniels, CFRE Executive Director JDRF - New England Chapter**

**6:00-8:00 –Dinner at Gerry House**

# Boston Ithaca Islet Club: May 1-2, 2010, Providence Rhode Island

**SUNDAY MAY 2, 2010**

**9:00-10:00 Breakfast at Gerry House**

## **Session IV: Metabolism 2**

**Chair: Geoffrey Sharp**

**10:00-10:20**-- Noradrenaline inhibits exocytosis via G $\beta$ y and refilling of the readily releasable granule pool via G $\alpha$ i-1/2.

Ying Zhao<sup>1,2</sup>, Qinghua Fang<sup>2</sup>, Susanne G. Straub<sup>1</sup>, Manfred Lindau<sup>2</sup>, and Geoffrey W.G. Sharp<sup>1</sup>.

1. Department of Molecular Medicine, Cornell University, Ithaca, NY 14853, 2. School of Applied and Engineering Physics, Cornell University, Ithaca, NY 14853.

**10:20-10:40**-- Role for anaplerosis and pyruvate cycling in fuel-stimulated insulin secretion from human islets

Internal Medicine/Endocrinology, Yale University, New Haven, CT

**10:40-11:00**—Survivin regulates insulin secretion under conditions of nutrient stress

Andrea Kassai<sup>1</sup>, Michael P Holloway<sup>1</sup>, Jude T Deeney<sup>2</sup>, Barbara Corkey<sup>2</sup>, Ayman Samkari<sup>1</sup>, Jonathan Liu<sup>1</sup>, and Rachel A Altura<sup>1</sup>

1. Department of Pediatrics, Brown University, Providence RI, 2. Department of Medicine, Boston University School of Medicine, Boston MA

**11:00-11:20**-- Predicting Beta-Cell Mitochondrial ATP and Free Radical Production and Effects in Response to Nutrient Exposure

Heuett, William (1) Knuth, Nicolas (1) Periwal, Vipul (1)

Laboratory of Biological Modeling, LBM, NIDDK, Bethesda, MD

**11:20-11:40**—Orian lab talk- TBA

Department of Medicine, Boston University School of Medicine, Boston MA

**11:40-1:00 Lunch and Adjourn**