Wednesday, September 17, 2014

7:00-8:00 p.m.  Keynote Lecture
What We Can Learn from Trips To Mars?
Sleep, Exercise, and Performance
David F. Dinges, University of Pennsylvania

8:00-9:00 p.m.  Opening Reception

Thursday, September 18, 2014

8:30-10:30 a.m.  Concurrent Symposia
SESSION 1A:
How Does Exercise Induce Skeletal Muscle Hypertrophy? Let's Work It Out
Chairs: Troy Hornberger and Karyn Esser

Introduction
The Regulation of mTOR by Mechanically-Induced Signaling Events: Emerging Concepts
Troy Hornberger, University of Wisconsin - Madison

Exploring New Roles for the TGF-Beta Signaling Network in Skeletal Muscle Adaptation
Paul Gregorevic, Baker IDI Heart and Diabetes Institute

Blood Flow Restriction Exercise: How We Think It Works and How We Can Make It Better
Jeremy Loenneke, University of Oklahoma

Resistance Exercise-Induced Hypertrophy in Humans: Evidence-Based Findings vs. Belief
Beyond Evidence
Stuart Phillips, McMaster University

SESSION 1B:
Aging, Exercise and Systems Health
Chair: Craig Harms

Introduction
The Aging Athlete's Heart
Benjamin Levine, University of Texas Southwestern Medical Center

Aerobic Exercise and Vascular Health with Aging
Douglas R. Seals, University of Colorado

Skeletal Muscle Health and Plasticity in Lifelong Exercisers
Scott Trappe, Ball State University

Aging, Exercise and Respiratory System Health
Jerome A. Dempsey, University of Wisconsin - Madison

10:30-11:00 a.m.  Break

11:00 a.m.-12:00 p.m.  Keynote Lecture
Models of Exercise and Secreted Proteins: Toward a New Generation of Therapeutics
Bruce Spiegelman, Harvard University

12:00-1:00 p.m.  Lunch Break

1:00-3:00 p.m.  Poster Sessions

3:00-5:00 p.m.  Concurrent Symposia
SESSION 1C:
Exercise-Induced Oxidative Stress: Cause and Consequences
Chair: Scott K. Powers

Introduction
Exercise-Induced Radical Production in Skeletal Muscles: Friend or Foe?
Scott K. Powers, University of Florida

Sources of Oxidant Production in Contracting Skeletal Muscles: A Changing Paradigm
Malcolm Jackson, University of Liverpool

Use of Antioxidant Supplements to Improve Performance during Endurance Exercise
Michael B. Reid, University of Florida

The Controversy of Antioxidants and Exercise Training Adaptation - What Does the Evidence Say?
Carmen Gomez, University of Valencia
| SESSION 1D: | Exercise-Induced Metabolic Adaptations in the Heart; Sex, Flies and Lipids  
*Chairs: Karyn Hamilton and Leslie Leinwand*  
*Introduction*  
Sex Differences in Physiologic/Pathological Hypertrophy  
*Leslie Leinwand, University of Colorado*  
Exercise Induced Changes in Cardiac Physiology: Lessons Learned from Drosophila  
*RJ Wessells, University of Michigan*  
A Menu for the Heart: Lipids and Other Foods  
*Ira Goldberg, Columbia University*  
Speaker to be selected from approved abstracts  
*Friday, September 19, 2014*  
8:30-10:30 a.m. | Concurrent Symposia  
11:00 a.m.-12:00 p.m. | Keynote Lecture:  
Keeping Clocks Aligned: A New Role for Exercise in Systemic Health and Performance  
*Karyn Esser, University of Kentucky*  
12:00-1:00 p.m. | Lunch Break  
1:00-3:00 p.m. | Poster Sessions  
3:00-5:00 p.m. | Concurrent Symposia  
*SESSION 2A:*  
Beyond Fusion: New Roles for Stem Cells in Muscle Adaptation to Exercise  
*Chair: Charlotte Peterson*  
*Introduction*  
Satellite Cells Regulate Fibroblast Activity in Muscle During Overload  
*Charlotte Peterson, University of Kentucky*  
Role for Non-Satellite Stem Cells in Muscle Repair and Adaptation Post-Exercise  
*Marni Boppart, University of Illinois, Urbana-Champaign*  
Beyond Growth: Our Evolving Understanding of the Satellite Cell in Human Skeletal Muscle  
*Gianni Parise, McMaster University*  
Can Inflammation Susceptibility in Myogenic Cells Predict Responses to Exercise Rehabilitation?  
*Marcas Bamman, University of Alabama-Birmingham*  
| SESSION 2B:*  
Exercise and Vascular Health  
*Chair: John Halliwill*  
*Introduction*  
Sustained Post-Exercise Vasodilation in Humans: What, How, and Why?  
*John Halliwill, University of Oregon*  
VEGF and Metabolism: A New Role for VEGF?  
*Mark Olfert, West Virginia University*  
Exercise and Arterial Stiffness in Clinical Populations  
*Kenneth Wilund, University of Illinois, Urbana-Champaign*  
| SESSION 2C:*  
Mitochondrial Quality Control in Skeletal Muscle: A Role for Mitochondrial Clearance (Mitophagy)  
*Chair: Zhen Yan*  
*Introduction*  
Mitochondrial Dynamics and Mitophagy  
*Richard Youle, Porter Neuroscience Research Center*  
Mitochondrial Remodeling In Muscle Adaptation: Cash For Clunkers  
*Zhen Yan, University of Virginia*  
Mitochondrial Dysfunction and Sarcopenia  
*Christian Leeuwenburgh, University Of Florida*  
Speaker to be selected from approved abstracts  
| SESSION 2D:*  
Guts, Smarts and Heart: Effects of Exercise Dosage on Inflammation in the Gut, Brain and Cardiovascular System  
*Chair: Jeffrey A. Woods*  
*Introduction*  
Impact of Exercise on the Gut and its Microbiota  
*Jeffrey A. Woods, University of Illinois, Urbana-Champaign*  
Exercise Reduces Inflammatory Microglia in the Hippocampus: Role in Neurogenesis and Behavioral Learning  
*Justin Rhodes, University of Illinois, Urbana-Champaign*  
Anti-Inflammatory Effects of Aerobic Exercise on Aging Arteries  
*Doug Seals, University of Colorado*  
Speaker to be selected from approved abstracts
Saturday, September 20, 2014

8:30-10:30 a.m.  Concurrent Symposia

**SESSION 3A:**
Regulation of Fuel Utilization during Exercise
Chair: Lorraine Turcotte

Introduction
Contraction-Induced Lipid Utilization: Who is Telling the Fat Players What to Do?
*Lorraine Turcotte, University of Southern California*

How to Run 1000 Miles: Fuel Use and Metabolic Adaptations in Iditarod Sled Dogs
*Benjamin F. Miller, Colorado State University*

Muscle Glycogen, GLUT4, and Exercise
*Mark Hargreaves, University of Melbourne*

Working Out the Kinks: Impact of Exercise on Insulin Resistance
*Jeff Horowitz, University of Michigan*

11:00 a.m.-12:00 p.m.  Keynote Lecture
Muscle Metabolism, Signaling and Exercise
*Erik Richter, University of Copenhagen*

12:00-1:00 p.m.  Lunch Break

1:00-3:00 p.m.  Poster Sessions

3:00-5:00 p.m.  Concurrent Symposia

**SESSION 3B:**
Exercise and Cytokines: Health Mediators or Stress Responders?
Chair: David C. Nieman

Introduction
An Introduction to Exercise and Cytokines
*David C. Nieman, Appalachian State University*

Skeletal Muscle as a Stress Sensor:
Focus on Muscle-Derived Interleukin-6 During Heat Stress
*Steven S. Welc, UCLA*

Effects of Exercise Training on Chronic Inflammation in Obesity: Potential Mechanisms
*Tongjian You, University of Massachusetts - Boston*

Exercise, Weight Loss, and Effects on Inflammation
*Kristen M. Beavers, Wake Forest University*

11:00 a.m.-12:00 p.m.  Keynote Lecture
Muscle Metabolism, Signaling and Exercise
*Erik Richter, University of Copenhagen*

12:00-1:00 p.m.  Lunch Break

1:00-3:00 p.m.  Poster Sessions

3:00-5:00 p.m.  Concurrent Symposia

**SESSION 3C:**
Exercise Only Affects Muscle? Fat Chance
Chair: Laurie Goodyear

Introduction
Exercise Only Affects Muscle? Fat Chance
*Laurie Goodyear, Harvard University*

Control of Brown Fat Differentiation and Function: Interplay between Progenitors and Inductive Cues
*Yu-Hua Tseng, Harvard University*

Exercise and Brown Fat: Basic Biology and Novel Therapeutics
*Bruce Spiegelman, Harvard University*

Exercise, Weight Loss, and Effects on Inflammation
*Kristen M. Beavers, Wake Forest University*

**SESSION 3D:**
Exercise Genomics: Beyond big data
Chair: Monica Hubel

Adipose-Derived Exosome miRNAs Regulate Skeletal Muscle Insulin Signaling
*Monica J. Hubal, Children's National Medical Center*

Genomic Predictors of Exercise Training Responses
*William E. Kraus, Duke University*

Membrane Cytoskeleton Remodeling in Response to Acute Overload
*Eric P. Hoffman, George Washington University*

Speaker to be selected from approved abstracts

Speaker to be selected from approved abstracts