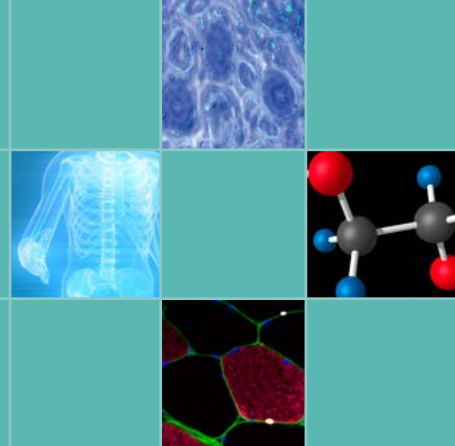


# ACSM Conference on Integrative Physiology of Exercise

Eden Roc  
Miami Beach,  
Florida, USA  
September 17-20, 2014



## 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*

Intravascular ATP: Source of and Role in  
Muscle Blood Flow Control  
*Brett Kirby, Duke University*

**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

## Friday, September 19, 2014

**8:30-10:30 a.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 Adaption: 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*

**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*  
*Speaker to be selected from approved abstracts*

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

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*