ACSM's Integrative Physiology of Exercise Conference
Sept. 21-24, 2022
Hilton Baltimore Inner Harbor
Baltimore, Maryland

Onsite Program

#IPE22
Agenda

**Evening: Wednesday, Sept. 21**

7 to 7:15 p.m.  Welcome Remarks  
Room: Key Ballroom 8  
L. Bruce Gladden, Ph.D., FACSM  
ACSM Past-President, 2021-22  
Scott K. Powers, Ph.D., FACSM  
Chair, IPE Program Committee

7:15 to 8 p.m.  Keynote Lecture | To Endure is Everything: New Discoveries in the Science of Endurance Exercise  
Room: Key Ballroom 8  
The Journal of Physiology  
Andrew M. Jones, Ph.D., FACSM  
University of Exeter  
Exeter, U.K.

8 to 9:30 p.m.  Opening Reception  
Location: South Foyer

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**Meeting Day 1: Thursday, Sept. 22**

8 to 9:20 a.m.  Symposium | Cardiovascular Physiology  
Room: Key Ballroom 4  
High Dietary Salt and Altered Neurovascular Control: Exercise Blood Pressure, Women’s Health and Novel Therapeutic Targets  
Session Chair: Austin Robinson, Ph.D.  
Introduction  
Austin Robinson, Ph.D.  
Auburn University  
Auburn, Alabama  
The Effects of Dietary Salt on Blood Pressure Responses to Acute Aerobic Exercise  
Matthew C. Babcock, Ph.D.  
University of Colorado at Denver  
Denver, Colorado  
Salt Intake and Sympathetic Neural Control in Women  
Qi Fu, M.D., Ph.D.  
University of Texas Southwestern Medical Center  
Dallas, Texas  
Novel Mechanisms of Autophagy-Mediated Vasculoprotection  
Cameron McCarthy, Ph.D.  
University of South Carolina  
School of Medicine  
Columbia, South Carolina

8 to 9:20 a.m.  Symposium | Exercise Metabolism  
Room: Key Ballroom 8  
Exercise and Metabolic Modulation through the Microbiome  
Session Chair: Laurie Goodyear, Ph.D., FACSM  
Exercise, Microbiome and Skeletal Muscle  
Taylor Valentino  
University of Kentucky  
Lexington, Kentucky  
Exercise and the Gut-Liver Axis  
Jonathan G. Stine, M.D.  
Penn State University  
State College, Pennsylvania  
Lactate Fixation by the Gut Microbiome as a Strategy to Boost Exercise and its Metabolic Benefit  
Alex Kostic, Ph.D.  
Harvard University  
Boston, Massachusetts

9:20 to 9:30 a.m.  Break

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9:30 to 10:50 a.m.  
Room:  
Key Ballroom 8

**Symposium | Skeletal Muscle Hypertrophy**

**Session Chair: Michael Roberts, Ph.D.**

**Introduction**
Michael Roberts, Ph.D.  
Auburn University  
Auburn, Alabama

Integrin Signaling in Skeletal Muscle Hypertrophy
Marni Boppart, Ph.D., FACSM  
University of Illinois at Urbana-Champaign  
Urbana, Illinois

Intracellular Hypertrophic Signaling
Troy Hornberger, Ph.D.  
University of Wisconsin-Madison  
Madison, Wisconsin

Regional Loading Changes with Muscle Contractions
Martino Franchi, Ph.D.  
University of Padua  
Padua, Italy

10:50 to 11:10 a.m.  
Break

11:10 to Noon  
Room:  
Key Ballroom 8

**Keynote Lecture | Exercise and Bone Health: All It’s Cracked Up to Be?**

Wendy Kohrt, Ph.D., FACSM  
University of Colorado Health Sciences Center

Noon to 1 p.m.  
Break

1 to 3 p.m.  
Room:  
Key Ballroom 6

**Symposium | Environmental Physiology**

**Health, Productivity and Performance in a Warming Climate**

**Session Chair: Lacy Alexander, Ph.D., FACSM**

**Introduction**
Lacy Alexander, Ph.D., FACSM  
Penn State University  
University Park, Pennsylvania

Global Warming and Worker Productivity
George Havenith, Ph.D., FACSM  
Loughborough University  
Loughborough, U.K.

4 to 5:20 p.m.  
Room:  
Key Ballroom 4

**Symposium | Hot Topics in Integrated Physiology of Exercise**

**Molecular Bases of Exercise Adaptations**

**Session Chair: Ben Parker, Ph.D.**

The Use of Phosphoproteomics to Study Signaling across Exercise
Ben Parker, Ph.D.  
University of Melbourne  
Melbourne, Victoria, Australia

A Novel Role for Acetyltransferases in Skeletal Muscle Metabolism and Exercise
Simon Schenk, Ph.D.  
University of California, San Diego  
San Diego, California

4 to 5:20 p.m.  
Room:  
Key Ballroom 8

Transcriptional and Post-Transcriptional Regulation of Mitochondrial Content in Muscle
David A. Hood, Ph.D., FACSM  
York University  
Toronto, Ontario, Canada
Meeting Day 2: Friday, Sept. 23

8 to 9:20 a.m.
Room: Key Ballroom 4

**Symposium | Hot Topics in Integrated Physiology of Exercise**

**Using Technology to Augment Human Performance Physiology**

Session Chair: Michael Joyner, M.D., FACSM

Human Performance Augmentation for the Military: “Skin-In,” “Skin-Out” and Magnitude Considerations

- Nisha Charkoudian, Ph.D., FACSM
  U.S. Army Research Institute of Environmental Medicine
  Natick, Massachusetts

The Biomechanics and Energetics of Record-Breaking Running Shoe Technology

- Wouter Hoogkamer, Ph.D.
  University of Massachusetts, Amherst
  Amherst, Massachusetts

Human Performance Optimization: Are Sensors & Data Old News or a New Frontier

- Brad Wilkins, Ph.D.
  Gonzaga University
  Spokane, Washington

8 to 9:20 a.m.
Room: Key Ballroom 8

**Symposium | Skeletal Muscle**

**New Concepts in Muscle Biology**

Session Chair: Karyn Esser, Ph.D., FACSM

Introduction

- Karyn Esser, Ph.D., FACSM
  University of Florida
  Gainesville, Florida

Importance of RNA Transport in Skeletal Muscle

- Eric Wang, Ph.D.
  University of Florida
  Gainesville, Florida

Looking at Mitochondria and Myofibrils in 3D

- Brian Glancy, Ph.D.
  NHLBI/NIAMS
  Bethesda, Maryland

Muscle 3D Macro Mechanics Modeling

- Katherine Knaus, Ph.D.
  University of California San Diego
  La Jolla, California

9:20 to 9:30 a.m.
Room: Key Ballroom 8

Break

9:30 to 10:50 a.m.
Room: Key Ballroom 4

**Symposium | Exercise Metabolism**

**Exercise and Lipid Metabolism**

Session Chair: Jill Kanaley, Ph.D., FACSM

Exercise Induced Adaptations in White and Brown Adipose

- Kristin Stanford, Ph.D.
  The Ohio State University
  Columbus, Ohio

Intermuscular Adipose Tissue, Insulin Sensitivity and Regulation with Exercise

- Bryan Bergman, Ph.D.
  University of Colorado Anschutz Medical Campus
  Aurora, Colorado

Adipose Metabolism and Exercise in Metabolic Disease

- Lauren Sparks, Ph.D.
  Advent Health Research Institute
  Orlando, Florida

10:50 to 11:10 a.m.
Room: Key Ballroom 8

Break

11:10 a.m. to noon
Room: Key Ballroom 8

**Keynote Lecture | Sex Differences in Athletic Performance**

Sandra Hunter, Ph.D., FACSM
Marquette University
Milwaukee, Wisconsin

Noon to 1 p.m.
Room: Key Ballroom 6

Break

1 to 3 p.m.
Room: Key Ballroom 6

Break
2022 IPE Sponsors

Auburn University
School of Kinesiology

The Journal of Physiology
Symposium | Cardiovascular Physiology
COVID-19 and Cardiovascular Health in Athletes and Highly Active People
Session Chairs: John Quindry, Ph.D., FACSM & Tracy Baynard, Ph.D., FACSM

Introduction
John Quindry, Ph.D., FACSM
University of Montana
Missoula, Montana
Tracy Baynard, Ph.D., FACSM
University of Massachusetts Boston
Boston, Massachusetts

Return to Play Following COVID Infection
Jonathan Kim, M.D.
Emory University
Atlanta, Georgia

Pathophysiology of Long COVID (PASC) and Implications
Benjamin Levine, M.D., FACSM
University of Texas Southwestern Medical Center
Dallas, Texas

Myopericarditis Following COVID Infection
Meagan Wasfy, M.D.
Massachusetts General Hospital
Boston, Massachusetts

Meeting Day 3: Saturday, Sept. 24
8 to 9:20 a.m.
Symposium | Environmental Physiology
Therapeutic and Performance Aspects of Cold
Session Chair: John Castellani, Ph.D.

Introduction
John Castellani, Ph.D.
U.S. Army Research Institute of Environmental Medicine
Natick, Massachusetts

Metabolic Responses to Cold Exposure — From Survival to Therapeutic Applications
Denis Blondin, Ph.D.
University of Sherbrooke
Sherbrooke, Quebec, Canada

Cold Impact on Military Performance
Billie Alba, Ph.D.
U.S. Army Research Institute of Environmental Medicine
Natick, Massachusetts

Cold Exposure and Muscular Performance
Heather Massey, Ph.D.
University of Portsmouth
Portsmouth, U.K.

8 to 9:20 a.m.
Symposium | Physical Activity and Health
Sedentary Behavior and Health: Recent Insights
Session Chair: Peter T. Katzmarzyk, Ph.D., FACSM

Sedentary Behavior and Health: From Basic Science to Epidemiology and Back Again
Peter T. Katzmarzyk, Ph.D., FACSM
Pennington Biomedical Research Center
Baton Rouge, Louisiana

Mitochondrial and Metabolic Changes Induced by Acute Sedentary Behavior: Impact on Recovery
Paul M. Coen, Ph.D.
Advent Health Research Institute
Orlando, Florida

Transcriptomic, Phenotypic and Behavioral Characteristics Associated with Inherited Physical Inactivity
Frank W. Booth, Ph.D., FACSM
University of Missouri
Columbia, Missouri

9:20 to 9:30 a.m.
Break
9:30 to 10:50 a.m.  
**Symposium | Exercise Metabolism**  
**Ketogenic Diet and Exercise Metabolism/Performance**  
Session Chair: Louise Burke, Ph.D., FACSM

- LCHF and Elite Athletes: Metabolic Flexibility, Performance and Other Body System Effects  
  Louise Burke, Ph.D., FACSM  
  Australian Catholic University  
  Canberra, Australia

- Shifting Muscle Acetylation and Mitochondrial Function and Improving Learning and Memory with a Ketogenic Diet  
  Keith Baar, Ph.D., FACSM  
  University of California, Davis  
  Davis, California

- Impact of Combined Ketogenic Diet and Exercise Training on Substrate Oxidative Capacity in Mice  
  Robert Noland, Ph.D.  
  Pennington Biomedical Research Center  
  Baton Rouge, Louisiana

9:30 to 10:50 a.m.  
**Symposium | Cardiovascular Physiology**  
**Extraordinary Exercise and Cardiovascular Health: Can There Be too Much of a Good Thing?**  
Session Chair: Benjamin Levine, M.D., FACSM

- Introduction  
  Benjamin Levine, M.D., FACSM  
  University of Texas Southwestern Medical Center  
  Dallas, Texas

- Physical Activity and CAC: What’s the Signal?  
  Laura DeFina, M.D.  
  Cooper Institute for Aerobics Research  
  Dallas, Texas

- The Right Ventricle: The Vulnerable One?  
  Bill Cornwell, M.D.  
  University of Colorado Medical School  
  Denver, Colorado

- Atrial Fibrillation in the Athlete: What’s the Risk, and What Can You Do about It?  
  Guido Claessen, M.D.  
  UZ Leuven  
  Leuven, Belgium

10:50 to 11:10 a.m.  
Break

11:10 a.m. to Noon  
**Keynote Lecture | From the Gym to the Lab: Lessons in Human Skeletal Muscle Hypertrophy**  
Stuart Phillips, Ph.D., FACSM  
McMaster University  
Hamilton, Ontario, Canada

Noon to 1 p.m.  
Break

1 to 3 p.m.  
**Symposium | Exercise Metabolism**  
**Connections between Systemic Metabolism, Exercise and Neural/Brain Health**  
Session Chair: John Thyfault, Ph.D., FACSM

- Effects of Exercise and Lactate Metabolism on the Brain in Aging and Disease  
  Jill Morris, Ph.D.  
  University of Kansas Medical Center  
  Kansas City, Kansas

- Exercise and Connections to Brain Metabolism and Cognition Through GD15  
  Anders Klein  
  University of Copenhagen  
  Copenhagen, Denmark

- Exercise-Associated Pathways as Novel Neuroprotectants against CNS Aging and Alzheimer’s Disease  
  Constanza Cortes Rodriguez, Ph.D.  
  University of Alabama at Birmingham  
  Birmingham, Alabama

4 to 5:20 p.m.  
**Symposium | Skeletal Muscle**  
**Muscle Health in Aging and Disease**  
Session Chair: Stuart Phillips, Ph.D., FACSM

- Introduction  
  Muscle Growth with Aging  
  Sue Bodine Ph.D.  
  University of Iowa  
  Iowa City, Iowa

- Pathophysiology of Muscle with Aging  
  Beth Philips, Ph.D.  
  University of Nottingham  
  Nottingham, U.K.

- Targeting Omega 3 Supplements to Preserve Muscle in Aging/Disease  
  Chris McCrory, Ph.D.  
  Queen’s University  
  Kingston, Ontario, Canada

Schedule subject to change
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