Tentative Agenda
(blocks of times subject to be adjusted)
(session times are in Eastern Standard Time, EST)

Monday November 9, 2020

9:30 a.m. – 9:40 a.m.  Welcome
Scott Trappe, PhD, Conference Chair
Ball State Univ.

9:45 a.m. – 11:45 a.m.  Symposium 1
Scientific Contributions of John O. Holloszy, MD
Chair: John Kirwan, PhD
Pennington Biomedical Research Center

Amira Klip, PhD
Hospital for Sick Children
When GLUT4 ‘arrived’ in muscle

Juleen Zierath, PhD
Karolinska Institute
Exercise as “medicine” to enhance insulin sensitivity and metabolism in type 2 diabetes: Inspired by John O. Holloszy

Katsuhiko Funai, PhD
Univ. of Utah
Biogenesis of mitochondrial membranes

Jacob Haus, PhD
Univ. of Michigan
Calcium and caloric restriction: A new perspective on old ideas for the treatment of diabetes

Session Q & A

11:45 a.m. – 12:15 p.m.  Break

Meet the Editor
AJP – Endocrinology and Metabolism
Andre Marette, PhD, Université Laval
12:15 p.m. – 1:15 p.m.  **Workshop 1**  
*Navigating the NIH for Young Investigators & Grant Writing*  
Facilitators: Lyndon Joseph, PhD, NIA and Amanda Boyce, PhD  
NIAMS

1:15 p.m. – 2:15 p.m.  Break

2:15 p.m. – 4:15 p.m.  **Symposium 2:**  
*Mission to mars: Astronaut health & exercise*  
Chairs: Jessica Scott, PhD, Memorial Sloan Kettering Cancer Center and Lori Ploutz-Snyder, PhD, Univ. of Michigan

Lori Ploutz-Snyder, PhD  
Univ. of Michigan  
*Introduction to the NASA SPRINT exercise studies*

Jessica Scott, PhD  
Memorial Sloan Kettering Cancer Center  
*Exercise to mitigate multisystem deconditioning: the NASA 70-day bed rest study*

Scott Smith, PhD  
National Aeronautics and Space Administration (NASA)  
*Nutrition as fuel for space exploration*

COL Michael Fossum (Astronaut)  
Texas A&M University at Galveston  
*Maintaining bone and muscle mass in space: The astronaut perspective*

Session Q & A

### Tuesday November 10, 2020

9:30 a.m. – 9:40 a.m.  **Daily Welcome**  
TBD

9:45 a.m. – 10:45 a.m.  **Keynote Address 1**  
*August Krogh, Nobel Laureate: 100 Year Anniversary Celebration*  
Michael Kjaer, MD, DMSc  
Univ. of Copenhagen

10:45 a.m. – 11:00 a.m.  Break
11:00 a.m. – 12:00 p.m.  **Workshop 2**  
*Career Paths & Diversity in Science*  
Facilitators: Jessica Scott, PhD, Memorial Sloan Kettering Cancer Center; Matthew Fedoruk, PhD, United States Anti-Doping Agency (USADA) and Hirofumi Tanaka, PhD, Univ. of Texas at Austin

12:00 p.m. – 12:30 p.m.  Break

12:30 p.m. – 2:30 p.m.  **Symposium 3**  
*Exercise & Organ Crosstalk*  
Chair: Bente Klarlund Pedersen, MD, DMSc  
Rigshospitalet Hospital & Univ. of Copenhagen

Henriette Van Praag, PhD  
Florida Atlantic Univ.  
*The role of muscle in adult neurogenesis and memory function*

David Wright, PhD  
Univ. of Guelph  
*Clinical relevance and underlying mechanisms of exercise-induced browning of white adipose tissue*

Mark Febbraio, PhD  
Monash Univ.  
*Role of extracellular vesicles in tissue cross talk during exercise*

Cora Weigert, PhD  
Univ. of Tuebingen  
*Hepatokines-a novel group of exercise factors*

Session Q & A

2:30 p.m. – 2:45 p.m.  Break

2:45 p.m. – 4:15 p.m.  **Formal Poster Session 1**

**Wednesday November 11, 2020**

9:30 a.m. – 9:40 a.m.  **Daily Welcome**  
TBD
9:45 a.m. – 10:45 a.m. **Keynote Address 2**
A.V. Hill, Celebrating a Century of VO2max
David Bassett, PhD
Univ. of Tennessee

10:45 a.m. – 11:00 a.m. Break

11:00 a.m. – 1:00 p.m. **Concurrent Sessions of Trainee Presentations**
Room 1: Integrative Responses I
Chair: Jacob Haus, PhD
Univ. of Michigan

Michael Schleh
Univ. of Michigan
*High-intensity interval training increased aerobic capacity but did not improve peripheral insulin sensitivity, in either insulin resistant or insulin sensitive obese adults*

William Tait
Univ. of Otago
*The utility of preoperative high-intensity interval training*

Brooks Leitner
Yale Univ.
*Interaction between inflammation and substrate metabolism during recovery from an acute bout of treadmill training*

Kevin Gries
Mayo Clinic
*Inflammation, mitochondria, and exercise responsiveness in obesity*

Andre Teixeira
University of Guelph
*Regulation of renal and muscle sympathetic nerve activity during stress in humans*

Timothy Moore
Univ. of California, Los Angeles
*The response to physical activity in mouse and man: an interplay between genetics and exercise*

Cesare Granata
Monash Univ.
*A multi-omics approach reveals an intricate network of exercise training-induced mitochondrial adaptations in human skeletal muscle*
Euan Owen
Univ. of Liverpool
*Integrative transcriptomic, proteomic and protein synthesis profiling of individual proteins in mouse skeletal muscle reveal distinct signatures between adult and old animals.*

**Room 2: Skeletal Muscle I**
Chair: Simon Schenk, PhD
Univ. of California, San Diego

James Shadiow
Univ. of Michigan
*Skeletal muscle fiber type-specific redox signatures in lean and obese individuals in response to exercise*

Yuntian Guan
Univ. of Virginia
*Mitochondrial quality control in exercise-mediated protection against diastolic dysfunction in diabetes*

J. Matthew Hinkley
AdventHealth Orlando
*Exercise-induced metabolite signatures in skeletal muscle are similar between young and old adults*

Jacob Bonafigia
Queen's Univ.
*Interindividual variability in skeletal muscle responses to moderate intensity continuous training*

Megan Trappe
Burris Laboratory School
*High intensity exercise in space: human skeletal muscle fiber types after 6 months aboard the international space station*

Elena Monti
Univ. of Padova
*Early neuromuscular and contractile maladaptations to short-term bed rest*

Jacob Sorensen
Univ. of Minnesota
*Secondary denervation and poor neuromuscular junction remodeling is a chronic pathophysiologic consequence of volumetric muscle loss*
Eleanor Jones
Univ. of Nottingham
*Motor unit discharge properties following concentric and eccentric exercise-induced fatigue are dependent upon contraction type.*

**Room 3: Cardiovascular and Aging**
Chair: Jessica Scott, PhD
Memorial Sloan Kettering Cancer Center

Nathan Stewart
Rutgers Univ.
*Nocturnal blood pressure dipping relates to metabolic insulin sensitivity but not vascular function in metabolic syndrome*

Emily Heiston
Virginia Commonwealth Univ.
*A single bout of exercise increases vascular insulin sensitivity in adults with obesity*

Juan Estrada
UT Southwestern Medical Center
*Insulin receptor blockade in the nucleus tractis solitarius augments exercise pressor reflex function in normal rats*

Ramona Weber
Kansas State Univ.
*Effects of soluble guanyl cyclase activator on skeletal muscle capillary hemodynamics in heart failure rats with reduced ejection fraction*

Mark Schoenike
Massachusetts General Hospital
*Pulmonary capillary wedge pressure responses to upright exercise refine hemodynamic assessment and predict prognosis in hfpef*

Hyerim Park
Florida State Univ.
*Effects of aging and endurance exercise training on bone structure and blood flow*

Davis Englund
Mayo Clinic
*The effects of structured physical activity on biomarkers of cellular senescence in older adults*

Jae Min Cho
Univ. of Utah
*Late-in-life exercise training improves composition of the intestinal microbiome.*
Integrative Responses & Skeletal Muscle II
Chair: Paul Coen, PhD
AdventHealth Research Institute

Kevin Murach
Univ. of Kentucky
*The genetic and epigenetic regulation of skeletal muscle ribosome biogenesis in response to acute exercise*

Ji H. Kang
Univ. of California, San Diego
*Loss of sirtuin 1 (SIRT1) does not impair contraction-stimulated glucose uptake in mouse skeletal muscle*
Harrison Stierwalt
Univ. of Kansas Medical Center
*AMPK signaling, not Rac1 activation contribute to the insulin sensitizing effects of exercise following moderate-intensity exercise in humans*

Mamoru Oyabu
Kyoto Prefectural Univ., Japan
*Gene regulation in skeletal muscle atrophy by a transcription factor FOXO1*

Cory Dungan
Univ. of Kentucky
*Senescent cells accumulate in skeletal muscle of aged mice following mechanical overload*

Priti Gupta
Univ. of Houston
*Comparing three exercise interventions on pancreatic tumor growth in mice during chemotherapy treatment*

Patrick Ryan
Texas A&M Univ.
*Exercise is chemotherapy: exercise-derived myokines suppress lung cancer cell growth*

Noah Hutchinson
Univ. of Illinois at Urbana-Champaign
*Effects of broad spectrum antibiotic administration on running wheel behavior in mice*

1:00 p.m. – 1:30 p.m. Break
Meet the Editor
AJP Regulatory, Integrative and Comparative Physiology
Gina Yosten, PhD, Saint Louis Univ.

1:30 p.m. – 3:00 p.m.  **Formal Poster Session 2**

3:00 p.m. – 3:15 p.m.  Break

3:15 p.m. – 5:15 p.m.  **Quiz Bowl**

**Thursday November 12, 2020**

9:30 a.m. – 9:40 a.m.  **Daily Welcome**
TBD

9:45 a.m. – 11:45 a.m.  **Symposium 4**
**Homeostasis & adaptation of tendons to exercise**
Chair: Peter Magnusson, DMS
*Institute of Sports Medicine Copenhagen*

Karl Kadler, PhD
The Univ. of Manchester
*The role of the circadian clock in exercising tendons*

Michael Kjaer, MD, DMSc
Univ. of Copenhagen
*Cellular and molecular responses to exercise and inactivity in human tendon muscle loading*

Stephanie Dakin, PhD
Univ. of Oxford
*Exercise induced inflammation in tendinopathy*

Chris Mendias, PhD
Myognosis, Inc.
*Regulation of extracellular matrix tendon tissue in response to resistance training*

Session Q & A

11:45 a.m. – 12:00 p.m.  Break

12:00 p.m. – 1:00 p.m.  **Workshop 3**
**Team Science**
Facilitators: Lori Ploutz-Snyder, PhD, Univ. of Michigan; Sue Bodine, PhD, Univ. of Iowa and John Kirwan, PhD, Pennington Biomedical Research Center
1:00 p.m. – 1:30 p.m.  Break

1:30 p.m. – 3:30 p.m.  **Symposium 5**  
**Testosterone, Health & Performance**  
Chair: Matthew Fedoruk, PhD  
United States Anti-Doping Agency (USADA)

Daniel Eichner, PhD  
Sports Medicine Research & Testing Laboratory  
*Testosterone and androgen abuse in sport - Evolution and challenges in detection*

Stefan Pasiakos, PhD  
Military Nutrition Division, US Army Research Institute of Environmental Medicine  
*Testosterone supplementation, energy deficit and performance*

Angelica Lindén Hirschberg, MD, PhD  
Karolinska Institute  
*Testosterone, females and athletic response - current research and controversy*

Al Matsumoto, MD  
Univ. of Washington  
*Testosterone and health: Medical need or anti-aging fad? Clinical use of testosterone in men*

Session Q & A - Live

**Friday November 13, 2020**

9:30 a.m. – 9:40 a.m.  **Daily Welcome**  
TBD

9:45 a.m. – 11:45 p.m.  **Symposium 6**  
**Molecular Transducers of Physical Activity Consortium (MoTrPAC)**  
Session Chair: Sue Bodine, PhD, Univ. of Iowa

Sue Bodine, PhD  
Univ. of Iowa  
*Overview of preclinical animal study protocol and results of training studies*

Marcas Bamman, PhD  
Univ. of Alabama Birmingham  
*Overview and update of MoTrPAC clinical studies*

Malene Lindholm, PhD  
Stanford Univ.  
*Integrative multi-omic analysis in MoTrPAC*
Bret Goodpaster, PhD
AdventHealth Research Institute
Moving the exercise biology field beyond MoTrPAC

MoTrPAC Panel Discussion with Speakers, NIH Officials and Audience

Session Q & A

11:45 a.m.– 12:00 p.m. Break
Meet the Editor
Journal of Applied Physiology
Sue Bodine, PhD
Univ. of Iowa

12:00 p.m. – 1:00 p.m. Workshop 4
Social Media
Facilitator: Stacy Brooks
American Physiological Society

1:05 p.m. – 1:45 p.m. Awards & Closing Remarks