

Advances In Skeletal Muscle Biology Conference

WEDNESDAY, March 19, 2025

Reitz Union, University of Florida

Time

12:30-1:30pm

Grant Writing Workshops, *Ground Floor Reitz Union (Rooms Noted Below)*

Sponsored by the Wellstone Center Training/Education Core & the University of Florida

Room G330

R Grants

12:30-12:55

Christopher Fry- Key aspects for a successful R grant – a reviewer's perspective
University of Kentucky

12:55-1:30

Panel Question & Answer Session

Christopher Fry, NIH MRS study section member
University of Kentucky

Anna Thalacker-Mercer, NIH MTE, ASG and SEP Reviewer
University of Alabama at Birmingham

Zhen Yan, Former NIH SMEP study section member and CMAD study section member
Center for Exercise Medicine Research at Fralin Biomedical Research Institute at Virginia Tech Carilion

Room G320

K Grants

12:30-12:55

Mattia Quattrocelli- Key aspects for a successful K grant – a reviewer's perspective
Cincinnati Children's/University of Cincinnati

12:55-1:30

Panel Question & Answer Session

Mattia Quattrocelli, K Grant Recipient 2019
Cincinnati Children's/University of Cincinnati

Clara Peek, K Grant Recipient 2015
Northwestern University

Calvin Cole, K Grant Recipient 2021
University of Rochester Medical Center

Room G310

F Grants

12:30-12:55

Vihang Narkar- Key aspects for a successful F grant – a reviewer's perspective
UTHealth McGovern Medical School at Houston

12:55-1:30

Panel Question & Answer Session

Vihang Narkar, NIH SEP Fellowships: Musculoskeletal, Rehabilitation and Skin
Sciences
UTHealth McGovern Medical School at Houston

Orlando Laitano, NIH SEP Fellowships: Musculoskeletal, Rehabilitation and Skin
Sciences
University of Florida

Victoria Palzkill, F Grant Recipient 2024
University of Florida

1:45pm **Welcome and Opening Remarks, *Rion Ballroom (Third Floor Reitz Union)***

2:00pm **Session I** **Muscle Atrophy and Associated Pathologies**
Chairs *Sue Bodine and Josh Huot*

2:00-2:25 Denis Guttridge
Medical University of South Carolina Inflammation in the muscle microenvironment and its role in cancer cachexia

2:25-2:50 Roberta Sartori
University of Padova Dissecting gene networks and cellular landscape in cancer cachexia

2:50-3:15 Paul Gregorevic
The University of Melbourne Examining cachexia and metastasis from a muscle perspective

3:15-3:25 Aneesha Dasgupta
Indiana University School of Medicine Effect of muscle atrophy on pancreatic cancer biology and progression

5 min talk with no questions

3:25-3:30 Bradley Gordon
Florida State University Molecular clock suppressors promote myotube atrophy in vitro with direct relevance to limb muscle atrophy in response to androgen deprivation

3:30-3:35 Jeremy Ducharme
University of Florida KPC pancreatic cancer disrupts the skeletal muscle circadian transcriptome in a FoxP1-dependent manner

3:35-3:40 Paola Ortiz Gonzalez
Indiana University School of Medicine Neuromuscular Dysfunction Precedes Muscle Atrophy and Bone Loss in Colorectal Cancer

3:40-3:45 Nicholas Thomas
University of Kentucky HDAC4 DNA binding disrupts muscle plasticity following joint injury and is rescued with muscle-specific Hdac4 deletion

3:45-3:50 Alexandra Ware
University of Chicago BNIP3-dependent muscle atrophy in cancer cachexia promotes PDAC progression

3:50-4:20 **Coffee Break, Rion Foyers**
Coffee provided

Holmes-Huxley Memorial Keynote Lecture

4:20-5:20 Malcolm Irving, PhD, FRS
King's College London How muscle works: a cell-downwards perspective

5:20-7:30pm **Reception and Poster Viewing, *Grand Ballroom (Second Floor Reitz Union)***
Beverages and hors d'oeuvres provided

THURSDAY, March 20, 2025

Rion Ballroom, Reitz Union, University of Florida

Time

8:00am Coffee, Tea, and Pastries, Grand Ballroom

8:30am **Session II** **Muscle Growth and Regeneration**

Chairs *Marni Boppart and Jason Doles*

8:30-8:55 Troy Hornberger
University of Wisconsin - Madison Identifying the Mechanisms Through Which
Exercise Regulates Muscle Mass

8:55-9:20 Clara Peek
Northwestern University Clock-oxygen signaling in the epigenetic regulation
of muscle regeneration

9:20-9:45 Shihuan Kuang
Duke University Regulation of muscle growth and regeneration by
mitochondrial FAM210A

9:45-9:55 Craig Goodman
University of Melbourne The Ubiquitinomics of Skeletal Muscle Hypertrophy

9:55-10:05 Dada Pisconti
Stony Brook University Neutrophils in muscle regeneration and dystrophy:
a double-edged sword

5 min talk with no questions

10:05-10:10 Cristhian Montenegro
University of California San Francisco The role of fibroadipogenic progenitor cell
mitochondrial transfer in skeletal muscle following
ischemia-reperfusion injury

10:10-10:15 Victoria Palzkill
University of Florida Suppression of Intramuscular Adipose Tissue
Improves Limb Outcomes in Mice with Hindlimb
Ischemia

10:15-10:20 Angad Yadav
University of Alabama at Birmingham Glutamine deficiency increases nuclear localization
of mitochondrial-TCA-cycle enzymes, restricting
myogenesis

10:20-11:00am **Coffee Break, Grand Ballroom**
Coffee, tea, and light snacks provided

11:00am **Session III** **Exercise and Systems Biology**

Chairs *Rita Brookheart and Karyn Esser*

11:00-11:25 Rafael Deminice
State University of Londrina Cancer-associated Sarcopenia: Mechanisms
Explored Through a Translational Approach

11:25-11:50 Kim Huffman
Duke University Updates in Rheumatoid Arthritis Skeletal Muscle

11:50-12:15	Vihang Narkar UTHealth McGovern Medical School at Houston	Estrogen-Related Receptors In Exercise & Muscle Disease
12:15-12:25	Julia Starck Karolinska Institute	Endurance Exercise Elevates Plasma Mature Brain- Derived Neurotrophic Factor in Youth and Adults, with Enhanced Effects in Adulthood
12:25-12:35	Doug Swank Rensselaer Polytechnic Institute	Stretch activation combats force loss from fatigue in fast-contracting mouse skeletal muscle fibers
<u>5 min talk with no questions</u>		
12:35-12:40	Rebecca Mammel Virginia Tech	NOX4 Drives Exercise-Induced Mitophagy
12:40-12:45	Xuansong Mao Virginia Tech	AMPK α 2(Thr172) activation is essential for exercise- induced mitochondrial adaptations in skeletal muscle but not for improved exercise capacity
12:45-12:50	Alexander Fliflet University of Illinois at Urbana-Champaign	Development of a Human Extracellular Vesicle Therapy to Recover Skeletal Muscle Following Disuse

12:50-1:08 Trainee Data Blitz Session I

Pre- and post-doctoral trainee data blitz (2 min presentations with no questions)

Chairs

Christopher Perry and Irena Rebalka

37. **Brooke Morris**, York University

Examining the relationship between body composition and muscle function following combined anti-obesity pharmacotherapy and nutritional intervention: A proposal

49. **Imtiaz Masfique Dowllah**, University of Florida

ABCB10 Mediates Exercise-Induced Protection Against Doxorubicin-Induced Respiratory Muscle Dysfunction

83. **Zachary Fennel**, University of Utah

Macrophage Metabolic Rewiring Alters Raman-Based Molecular Signatures and Functional Recovery Following Disuse Atrophy in Aged Mice

151. **Zachary Sechrist**, University of Rochester Medical Center

AAV induced overexpression of IGFBP-3 is sufficient and necessary to promote skeletal muscle wasting via TGF- β dependent signaling in mice

153. **Emily Shorter**, Karolinska Institutet

Functional, molecular, and histological characterization of skeletal muscle in a murine model of peripheral artery disease

183. **Yangyi Luo**, University of Florida

Muscle resident mesenchymal stem cells are required for muscle mass maintenance but not neuromuscular junction integrity

193. **Alexandra Steele**, McMaster University

Isolation of a persistently quiescent muscle satellite cell population

1:08-1:45 Lunch - Grand Ballroom
Beverages and sandwiches provided

1:45-3:15 Poster Session I - Grand Ballroom

3:15pm Session IV Aging of Skeletal Muscle
Chairs Orlando Laitano and Benjamin Miller

3:15-3:40 Zheng (Jake) Chen
UT Health Science Center at Houston
Regulatory role of RORs at the interface of circadian rhythms and aging

3:40-4:05 Micah Drummond
University of Utah
Immunometabolism and the regrowth of aging muscle

4:05-4:30 Bret Goodpaster
AdventHealth
The molecular responses of skeletal muscle to acute endurance and resistance exercise: Initial findings from the Molecular Transducers of Physical Activity Consortium (MoTrPAC)

4:30-4:40 Severine Lamon
Deakin University
The transcriptomic signature of age and sex is not conserved in human primary myocytes

4:40-4:50 Ross Wohlgemuth
University of Kentucky
Targeting the extracellular matrix to support aged muscle hypertrophy

5 min talk with no questions

4:50-4:55 Ted Graber
East Carolina University
Effect of High Intensity Interval Training in Middle-Aged Male C57BL/6J

4:55-5:00 Jordan Fuqua
Oklahoma Medical Research Foundation
mTORC1 inhibition to counteract proteostatic and mitochondrial dysfunction in aged skeletal muscle following disuse

5:00-5:05 Mia Kawaida
University of Florida
Skeletal muscle PGC-1 α alleviates age-related declines in physical function by modulating L-kynurenine metabolism

5:05-5:20 Trainee Data Blitz Session II

Pre- and post-doctoral trainee data blitz (2 min presentations with no questions)

Chairs

Esther Dupont-Versteegden and Allison Owen

2. **Niloufar Amiri**, Virginia Tech

Exercise-induced mitophagy in skeletal muscle is impaired with age and associated with loss of mitoAMPK

8. **Ryan Dannemiller**, University of Alabama at Birmingham

The impact of serine and glycine availability on skeletal muscle cell composition following injury in aged mice

34. **Baptiste Jude**, Karolinska Institutet

Exploring a Microvascular Impact on Muscle Metabolic Dysfunction in Chronic Inflammation

82. **Savannah Epstein**, Indiana University School of Medicine

Investigating the role of Krüppel-Like Factor 10 (KLF10) in Pancreatic Ductal Adenocarcinoma (PDAC) associated cachexia

100. **Max Michel**, Auburn University

The Effects of Leg Immobilization and Subsequent Resistance Training on Skeletal Muscle Adaptation in Trained vs. Untrained Adults

6:00-6:40 Trainee Career Networking Event (rsvp required)

6:45pm Dinner at the Swamp Restaurant; (please wear your name tag and lanyard)

The speakers will be dining at the Swamp Restaurant and we encourage all attendees to dine there also, at your own expense, so that informal interactions can continue.

FRIDAY, March 21, 2025

Rion Ballroom, Reitz Union, University of Florida

Time

8:30am Breakfast, Grand Ballroom (*poster presenters encouraged to eat prior to poster session*)

9:00-10:30am Poster Session II - Grand Ballroom Breakfast Provided

10:30am Session V Bioenergetics and Metabolism
Chairs Sarah White-Springer and Zhen Yan

10:30-10:55 Paul Titchenell
University of Pennsylvania Enhancing Muscle Mass and Function to Improve Quality of Weight Loss

10:55-11:20 Sarah Greising
University of Minnesota The muscle remaining after injury, how to target metabolism

11:20-11:45	Jessica Ellis East Carolina University	How a muscle survives without fatty acid oxidation
11:45-11:55	Duarte Ferreira Karolinska Institutet	Overexpression of non-cysteine-rich domains of Imcd1 in skeletal muscle reveals enhanced mitochondrial function and glucose handling
11:55-12:05	Mattia Quattrocchi Cincinnati Children's/ University of Cincinnati	The human variant rs6190 unveils a blueprint to reconvert the glucocorticoid receptor into a muscle insulin sensitizer
<u>5 min talk with no questions</u>		
12:05-12:10	David Lee Duke University	Metabolism-guided Isolation of Muscle Stem Cells to Improve Transplantation Efficacy
12:10-12:15	Jensen Goh University of Kentucky	Satellite cell mitochondria are transferred to muscle fibers in response to a hypertrophic stimulus
12:15-12:20	Katie Whytock AdventHealth	A full-length single nuclei transcriptomic atlas of human skeletal muscle insulin resistance
12:20-12:30	Communications Award Presentation	
12:30-1:30	Lunch - Grand Ballroom <i>Beverages and sandwiches provided</i> Please remove all posters from boards by the end of lunch	
1:30pm	Session VI <i>Chairs</i>	Muscle Diseases and Therapeutics <i>David Hammers and Justin Hardee</i>
1:30-1:55	Noah Weisleder University of Kentucky	Targeting sarcolemmal membrane repair as a therapy for muscular dystrophies
1:55-2:20	Pietro Spitali Leiden University Medical Center	Spatial Transcriptomics Analysis of Becker and Duchenne Muscular Dystrophy to Uncover Histopathological Changes in Dystrophinopathies
2:20-2:45	George Rodney Baylor College of Medicine	Regulation of Sarcoplasmic Reticulum Calcium Leak in Skeletal Muscle
2:45-2:55	Heather Montie Philadelphia College of Osteopathic Medicine	Investigating the role of CD38 in spinal and bulbar muscular atrophy
2:55-3:05	Ashling Holland PepGen	Nonclinical Data for PGN-EDODM1 Demonstrated Mechanistic and Meaningful Activity for the Potential Treatment of DM1

5 min talk with no questions

3:05-3:10	Mackenzie Davenport University of Florida	Differential pathology and susceptibility to MBNL loss across mouse muscles in a myotonic dystrophy model
3:10-3:15	Muthukumar Karuppasamy University of Alabama at Birmingham	Drug repurposing evaluation of lead autophagic antagonists in a novel XMEA mouse model
3:15-3:20	Vinicius Mariani Duke University School of Medicine	Orchestrated sarcomeric protein regulation in donor-derived skeletal muscle microphysiological system

3:20pm Presentation of Poster Awards

3:30pm Farewell

Administrative Organizer:

Christa Stout, University of Florida

Administrative Assistant:

Amanda Abdala, University of Florida

Scientific Organizers:

Karyn Esser, University of Florida
Andrew Judge, University of Florida
Orlando Laitano, University of Florida
Ashley Smuder, University of Florida

David Hammers, University of Florida
Sarah Judge, University of Florida
Terence Ryan, University of Florida
H. Lee Sweeney, University of Florida

**Thank you for attending, we hope to see you again for the next
Advances in Skeletal Muscle Biology Conference!**

