



UW Center for Translational Muscle Research

2025 UW CTMR ANNUAL SYMPOSIUM

Friday, November 21, 2025

9:00am – 5:00 pm Pacific Time

[Orin Smith Auditorium \(Building C\)](#)

UW SLU | 850 Republican St | Seattle, WA, 98109

THEME: Modeling & Metabolism in Muscle Research

- 8:45 am** **Coffee and Tea**, Building C Lobby
- 9:00 am** **General Welcome & Keynote Speaker Introduction**
Mike Regnier, PhD, CTMR Director
- 9:15 am** **Keynote Session**
Daniel Beard, PhD, Professor of Cardiovascular Physiology, Molecular and Integrative Physiology, Internal Medicine, Emergency Medicine, and Biomedical Engineering, Medical School and College of Engineering, University of Michigan Medical School
Title: ***The Vicious Cycle of Metabolic and Mechanical Dysfunction in Heart Failure***
- 10:15 am** **Break**
- 10:30 am** **CTMR Pilot Grant Awardees (Year 6)**
Moderator: **Dave Beck, PhD**, Co-Core Director, CTMR Quantitative Analysis Core
Silvia Marchianò, PhD, PharmD, Acting Instructor, Department of Laboratory Medicine & Pathology and **Elaheh Karbassi, PhD**, Acting Instructor, Department of Laboratory Medicine & Pathology
Title: ***Mutational screening of ribonucleotide reductase (RNR) activity for improved cell-based heart regeneration***
Joe Powers, PhD, Assistant Professor Department of Laboratory Medicine & Pathology and Mechanical Engineering
Title: ***Measuring and modeling emergent mechanical behavior of remodeled myocytes due to Filamin C deletion***
Wentao Zhu, PhD, Acting Assistant Professor, Department of Anesthesiology & Pain Medicine
Title: ***A Comprehensive Metabolomics Investigation into the Molecular Mechanisms of ZFYVE1 in a Mouse Model of Heart Failure.***
Matthew Childers, PhD, Research Scientist 4, Department of Bioengineering
Presented by **Aditi Prabhala**, Master's Student, Bioengineering
Title: ***Examining the Mechanisms of the Dilated Cardiomyopathy-Associated Myosin Mutation R369Q***

Joel Chamberlain, PhD, Research Associate Professor, Division of Medical Genetics,
Title: ***Cell-derived nanoparticle functional assessment in model cells as a delivery platform for muscular dystrophy antisense therapy***
Shabnam Salimi, MD, MSc, FAHA, Acting Instructor, Department of Anesthesiology & Pain Medicine
Title: ***Mechanistic Insights into DOX-induced Accelerated Aging and Mitigation Strategies***

11:30 am Lightning talks

Moderator: **Joe Powers, PhD**, CTMR Faculty

12:00 pm Lunch Break & Poster Session, C123A/B, boxed lunches provided

2:00 pm CTMR Investigator Talks

Moderator: **Mike Regnier, PhD**, CTMR Director

Princess Imoukhuede, PhD, Hunter and Dorothy Simpson Endowed Chair and Professor, UW Bioengineering

Title: ***Systems Bioengineering for Vascular Signaling and Women's Health: Mechanisms, Models, and Diagnostics***

Mike Geeves, PhD, Emeritus Professor of Physical Biochemistry, University of Kent

Title: ***Regulation of thick filaments: Seeking the Super Relaxed State (SRX) in myosin and muscle***

3:00 pm Recent CTMR Pilot Grant Awardees (Year 7)

Moderator: **Ben Davis, PhD**, Co-Core Director, CTMR Quantitative Analysis Core

Shabnam Salimi, MD, MSc, FAHA, Acting Instructor, Department of Anesthesiology & Pain Medicine

Title: ***From Metabolomics to Epigenetics Signatures of Aging Skeletal Muscle and Mice Frailty***

Guy Odom, PhD, Research Associate Professor, Department of Neurology

Title: ***Linking cardiac biophysical performance to protein redesign of microtrophin in DMD mice***

Wentao Zhu, PhD, Acting Assistant Professor, Department of Anesthesiology & Pain Medicine

Title: ***Investigating the Metabolic Basis of Chronic Pain in Spinal Muscular Atrophy (SMA) Through Comprehensive Metabolomics Analysis***

Matthew Childers, PhD, Research Scientist 4, Department of Bioengineering

Bert Tanner, PhD, Associate Professor, Washington State University

Title: ***Molecular dynamics simulations of myosin and thick-filament regulatory protein phosphorylation***

Pat Boyle, PhD, Associate Professor, Department of Bioengineering

Joe Powers, PhD, Assistant Professor Department of Laboratory Medicine & Pathology and Mechanical Engineering

Title: ***Effects of filamin C deletion on multiscale structure-function relationships in muscle***

Alec Smith, PhD, Research Assistant Professor, Department of Neurobiology & Biophysics

Title: *Investigating the functional effect of b-adrenergic stimulation on CRISPR-edited human iPSC-derived myoblasts harboring ALS-associated mutations*

3:30pm Break

3:45 pm **Special Session on Metabolomics
in Partnership with Nutrition Obesity Research Center (NORC)**
Moderator: **Dan Raftery, PhD**, Core Director, CTMR Metabolism
Ellen Schur, MD, Professor of Medicine, Director of NORC
An Introduction to NORC
Rong Tian, MD, PhD, Professor, Departments of Anesthesiology & Pain Medicine and Bioengineering
Title: **NAD metabolism in human failing heart**
Karin Bornfeldt, PhD, Professor, Departments of Laboratory Medicine & Pathology and Medicine
Title: **A Multiomics Approach to Understanding Diabetic Dyslipidemia**

Scan below for a digital copy
of the schedule

Scan below for a digital copy
of the Abstract Book of poster presentations

Guest WIFI

|

UW NetID:

|

Password:

Questions? Please contact: Katie Mitzelfelt, kmitz@uw.edu

<http://ctmr.washington.edu/>