"Precision-the genes and beyond"
Interdisciplinary Research Symposium

September 15 and 16, 2022
UAB Hill Student Center Ball Rooms
1400 University Blvd, Birmingham, AL 35294

THURSDAY, SEPTEMBER 15, 2022

7:30 – 8:15 a.m.  Registration & Breakfast

8:30 a.m.  Welcome & Opening Remarks
Thomas Buford, PhD
Professor, Gerontology, Geriatrics, and Palliative Care
Heersink School of Medicine
Director, UAB Center for Exercise Medicine
The University of Alabama at Birmingham

8:40 a.m.  Keynote Speaker: Lauren Ptomey, PhD, RD, LD
Associate Professor
Center for Physical Activity & Weight Management
Department of Internal Medicine
University of Kansas Medical Center
“Weight Management Intervention for Individuals with Intellectual Disabilities”

9:40 a.m.  Break

Session 1: Adherence and Behavior

9:45 a.m.  Dorothy Pekmezi, PhD
Professor, Health Behavior
School of Public Health
The University of Alabama at Birmingham
“Wearables & mHealth Technologies to Support Rural Populations in Physical Activity”
10:05 a.m.  Holly Wyatt, MD, PhD
Professor, Nutrition Sciences
School of Health Professions
The University of Alabama at Birmingham
“Strategies to increase dietary adherence in research and clinical programs”

10:25 a.m.  Brooks Wingo, PhD
Associate Professor, Occupational Therapy
School of Health Professions
The University of Alabama at Birmingham
“Using technology to monitor and increase dietary adherence among people with physical disabilities”

11:05 a.m.  Break

Session 2: Therapy Identification

11:25 a.m.  Merry-Lynn McDonald, PhD
Assistant Professor, Pulmonary, Allergy and Critical Care Medicine
Heersink School of Medicine
The University of Alabama at Birmingham
"Genomics of Musculoskeletal Diseases"

11:45 a.m.  Constanza Cortes, PhD
Assistant Professor, Cell, Developmental and Integrative Biology
Heersink School of Medicine
The University of Alabama at Birmingham
“The Muscle-to-Brain Axis: Neuroprotection on the Treadmill”

12:05 p.m.  Anna Thalacker-Mercer, PhD
Assistant Professor, Cell, Developmental and Integrative Biology
Heersink School of Medicine
The University of Alabama at Birmingham
“Determinants of skeletal muscle health in aging and disease”

12:25 p.m.  Daniel Smith Jr., PhD
Assistant Professor, Nutrition Sciences
School of Health Professions
The University of Alabama at Birmingham
“Assessing response variability in nutrition interventions”

12:45 p.m.  Lunch and Poster Session
Session 3

2:30 p.m. Keynote Speaker: Daniel Beavers, PhD
Associate Professor of Statistical Sciences
Wake Forest University
"Weight Loss and Physical Function in Aging: Study Design and Statistical Considerations"

3:30 p.m. Break

3:45 – 4:25 p.m. Flash talks of trainees whose abstracts were selected by faculty judges

3:45 p.m. Catherine Danielle Jones
Do Fatigue and Depression have an Interactive Effect on Sedentary Behavior and Physical Activity in Persons with MS?

3:50 p.m. Jayakrishnan Nair
Apoe4, Age And Sex Regulate Respiratory Neuroplasticity Elicited By Acute Intermittent Hypercapnic-Hypoxia In Humans

3:55 p.m. Keri Kemp
Associations between dietary habits and gut microbiota composition in diverse adolescents

4:00 p.m. M. Natalie Davis
Alzheimer’s disease risk factor BIN1 in parvalbumin interneurons

4:05 p.m. Samia O’Bryan
Attenuated Thigh Lean Mass Gains in Older Adults in Response to High-Intensity

4:10 p.m. Samuel Chang
Targeting NADPH Oxidase 4 (NOX4) to prevent cardiac pathology associated with chronically induced cardiac O-GlcNAcylation.

4:15 p.m. Sourav Datta
Visual Motor Integration among Children with Vision Impairment

4:20 p.m. Yanqi Zhang
Maternal Diet-Induced Obesity Compromised the Availability and Altered the Tissue Distribution of Lutein in Neonatal Rats

4:25 p.m. Closing comments for Day 1 of the Symposium.

5:00 p.m. Networking Reception (Open to all attendees)
Hilton Birmingham at UAB
808 20th Street South, Birmingham, AL 35205
Friday, September 16, 2022

7:30 – 8:15 a.m.  Registration & Breakfast

8:30 a.m.  Welcome & Opening Remarks
James Rimmer, PhD  
Professor, School of Health Professions - Research Collaborative  
Lakeshore Foundation Endowed Chair in Health Promotion and Rehabilitation Sciences  
Director, UAB / Lakeshore Research Collaborative  
The University of Alabama at Birmingham

8:35 a.m.  Keynote Speaker: Rebecca Seguin-Fowler, PhD, RD, LD, CSCS  
Associate Director, Institute for Advancing Health through Agriculture  
Professor of Nutrition, College of Agriculture and Life Sciences  
Chief Scientific Officer, Healthy Texas  
Texas A&M University  
"Multilevel, Multicomponent Interventions to Advance Health Equity through Community-Engaged Nutrition and Obesity Prevention Research"

Session 4: Sleep and Circadian Rhythms

9:30 a.m.  Karen Gamble, PhD  
Professor, Psychiatry and Behavioral Neurobiology  
Heersink School of Medicine  
The University of Alabama at Birmingham  
“To Eat or Not to Eat: When is the Question”

9:50 a.m.  Courtney M. Peterson, PhD  
Associate Professor, Nutrition Sciences  
School of Health Professions  
The University of Alabama at Birmingham  
“Meal Timing, Circadian Rhythms, and Precision Nutrition”

10:10 a.m.  Girish Melkani, PhD  
Associate Professor, Pathology  
Heersink School of Medicine  
The University of Alabama at Birmingham  
“You are when you eat: Time-restricted feeding and circadian clock mediated regulation of cardiometabolic disorders”
10:30 a.m.  
**Martin Young, PhD**  
Professor, Cardiovascular Disease  
Heersink School of Medicine  
The University of Alabama at Birmingham  
“The interplay between cardiac clock genes and nutrition: Insights gained from murine models”

10:50 a.m.  
**Break**

**Session 5: Multi-phase Optimization Strategy**

11:10 a.m.  
**Tapan Mehta, PhD**  
Professor, Family & Community Medicine  
Heersink School of Medicine  
The University of Alabama at Birmingham  
“Developing sustainable cardiometabolic intervention packages in primary care settings: Leveraging optimization trial designs, machine learning and artificial intelligence”

11:30 a.m.  
**Drew Sayer, PhD**  
Assistant Professor, Nutrition Sciences  
School of Health Professions  
The University of Alabama at Birmingham  
“SMART” Lifestyle Interventions for Improving Health and Wellbeing in People with Obesity”

11:50 a.m.  
**Jereme Wilroy, PhD**  
Assistant Professor, Physical Medicine & Rehabilitation  
Heersink School of Medicine  
The University of Alabama at Birmingham  
“Protocol and design considerations for a sequential multiple assignment randomized trial (SMART) to increase adherence to home exercise in people with spinal cord injury”

12:10 p.m.  
**Lunch**

12:45 p.m.  
**Closing Remarks and Announcement of Travel Awards**