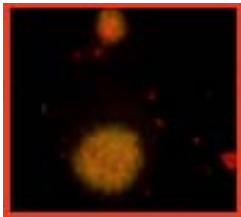


**James M. Hagberg, Ph.D.**  
Professor  
[hagberg@umd.edu](mailto:hagberg@umd.edu)

Principal Investigator, Genetics and Exercise Research Study, a study assessing the impact of common genetic polymorphisms on exercise training-induced adaptations in cardiovascular structure and function, and cardiovascular disease risk factors. Dr. Hagberg is a Professor in the Department of Kinesiology. He is currently funded by the NIH. He has previously been funded by the VA, NIH, AHA, and the US Olympic Committee. His graduate students, both Masters and Doctoral, are intimately involved in his NIH research grant projects. Dr. Hagberg is one of the UMCP Distinguished Scholar-Teachers and was awarded the University System of Maryland Regent's Award for Research in 2002.

*Fluorescence imaging from the colony forming unit-endothelial cell assay. Image demonstrates positive staining for lectin and acetylated LDL*



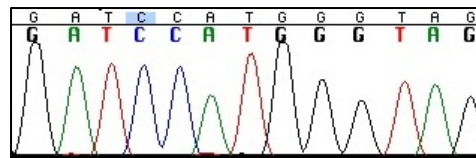
**Ben F. Hurley, Ph.D.**  
Professor  
[benhur@umd.edu](mailto:benhur@umd.edu)

Principal Investigator, "Strength Training as a Countermeasure to the Musculoskeletal Iatrogenic Effects of Androgen Deprivation Therapy for Patients with Prostate Cancer" - NIH Funded  
Dr. Hurley's research interests consist of the effects of aging and exercise training on risk factors for age-related diseases and disability, with emphasis on the effects of age, gender and genetics on health-related responses to strength training. He is also interested in the potential use of exercise training to offset the side effects of common medications used by older adults.

## *Exercise Physiology Faculty Research Interests*

**Stephen M. Roth, Ph.D.**  
Associate Professor  
[sroth1@umd.edu](mailto:sroth1@umd.edu)

Dr. Roth has formal training in both exercise physiology and genetics. The work of the NIH-funded laboratory is focused on two areas: 1) Understanding the role of genetic variation (and environmental interaction) in determining inter-individual differences in skeletal muscle traits, exercise adaptations, and other health-related phenotypes. 2) Exploring the role of physical activity in altering DNA structure, including investigations of both telomere length and epigenetics (e.g., DNA methylation).



*Sequencing of genomic DNA isolated from human tissue samples.*

**Espen E. Spangenburg, Ph.D.**  
Assistant Professor  
[espen@umd.edu](mailto:espen@umd.edu)

The primary goal of Dr. Spangenburg's NIH-funded laboratory is to understand the molecular and cellular signaling mechanisms that regulate adipose tissue and skeletal muscle function. Dr. Spangenburg's laboratory utilizes an integrative approach to address these questions, which includes the use of cell culture, animal models, and human studies. Ultimately, the laboratory is attempting to understand how physical activity and various hormones/growth factors interact to enhance human function

*Fluorescence imaging of mitochondria and nuclei in a single muscle fiber.*



**Eva R. Chin, Ph.D.**  
Assistant Professor  
[erchin@umd.edu](mailto:erchin@umd.edu)

Dr. Chin's research focuses on the molecular and cellular mechanisms that regulate skeletal muscle function. In particular, she is interested in the signals responsible for the decrease in force output during muscle fatigue and those involved in communicating to the muscle an increase in size (i.e. hypertrophy) or an increase in oxidative capacity in response to exercise training. In addition to an interest in muscle adaptation to exercise, her research aims to delineate the underlying causes of the decreased force output and altered metabolism with aging and muscular dystrophy. A long-term goal of Dr. Chin's research is to understand how muscle signals generated during exercise can best be used in combination with drug treatments for improving muscle function and quality of life in the frail elderly and in children with muscular dystrophy.



*Oil-Red-O staining of lipid treated cultured skeletal muscle myocytes*

## Research Group

Our faculty research interests cover a broad range of areas, from exercise genetics and molecular aspects of aging to applied exercise physiology.

A number of our faculty are incorporating cutting-edge genetic and molecular techniques into their studies of skeletal muscle, cardiovascular physiology, and metabolism.

## Graduate Studies

*We are looking for excellent and highly motivated graduate students to apply to our program and join our research teams.*

*Our admission requirements are at least an undergraduate GPA of 3.0, strong GRE scores, and excellent recommendations.*

*Graduate teaching assistantships, research assistantships, and fellowships are available for outstanding students.*



## EXERCISE PHYSIOLOGY

### Contact Information

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