School of Exercise and Nutritional Sciences

**Faculty Areas of Expertise/Research**

**Professors**

**Baweja, Harsimran – Associate Professor**

Understanding the neural mechanisms underlying movement lateralization, movement control and learning in young and older adults and persons with movement disorders arising from nervous system pathology; and translating these mechanisms into innovative and meaningful interventions and rehabilitation paradigms.

**Bhutani, Surabhi – Assistant Professor**

Integrates sensory (smell and taste related), metabolic, and neural measures to understand eating behaviors, food choice patterns, diet quality, and weight gain in humans; Influence of contextual factors (sleep, chronotype, modern food environment, etc.) on smell perception, taste preference, and food choices; Develop novel sensory based interventions to improve diet quality and weight loss.

**Buono, Mike - Professor**

Environmental physiology – the effect of altitude and heat on athletic performance.

**Cannon, Daniel – Associate Professor**

Mechanisms of skeletal muscle dysfunction and exercise intolerance in humans and animal models of chronic cardiopulmonary diseases (COPD, pulmonary arterial hypertension, chronic heart failure).

**Domingo, Antoinette - Associate Professor**

Locomotion biomechanics, motor learning and control in intact and disordered nervous systems; Optimizing the use of physical guidance and rehabilitation robotics to restore gait, balance and health in individuals with neurological injury; adapted athletics.

**Green, Jennifer - Associate Professor**

Development and testing of mind-body interventions (e.g., yoga, mindfulness, meditations); digital health; mental health disparities; maternal health; behavioral science; mixed-methods approaches. New faculty starting in January 2023 Physical Activity Behavioral Science.

**Gombatto, Sara - Associate Professor**

Mechanisms underlying musculoskeletal pain problems, with the goal of developing more targeted interventions. Emphasis on posture and movement factors associated with low back pain and lower extremity injury in the general population and in elite athletes; influence of psychological factors such as fear of movement.

**Hooshmand, Shirin - Associate Professor**

Improve age-related changes in musculoskeletal health (bone, joint, and muscle), cardiovascular dysfunction and impairments in cognitive function that occur with physiological aging through nutrition interventions.

**Hong, Mee Young - Professor**

Effect of diets, functional foods and phytochemicals on risk factors of cardiovascular disease and colon cancer prevention; Nutritional status across the lifespan, in population ranging from teenagers to frail older adult.

**Johnson, Ashleigh – Assistant Professor**

Physical activity promotion with an emphasis on community-based interventions and youth populations; identification of physical activity determinants and disparities around physical activity opportunities; behavior-change interventions; use of sports to promote physical activity in youth.

**Kern, Mark – Professor/ Nutrition Program Director**

The impact of diet and exercise on metabolism, appetite and weight regulation, risk factors for chronic diseases, and exercise performance.

**Kressler, Jochen – Associate Processor**

Metabolic responses to exercise and nutrition interventions with focus on secondary complications in spinal cord injury. Exercise modalities of interest include upper limb exercise, functional electrical stimulation exercise and exoskeleton assisted exercise.

**Lebsack, Denise - Associate Professor**

Athletic training; Prevention; Management and rehabilitation of athletic injuries.

**Liu, Changqi – Associate Professor**

Food allergen purification, characterization, and detection; nutritional and physicochemical properties of underutilized and novel food sources; and potential health benefits of functional food components.

**Mahar, Matt – Professor/School Director**

Promotion and measurement of physical activity and fitness in children and youth; identification of valid and reliable youth fitness testing methods; analysis of the effects of classroom-based physical activity programs on physical activity and on-task behavior.

**Maluf, Katrina – Professor**

Neurophysiological and biomechanical mechanisms of stress-related chronic pain conditions; Optimizing physical therapy interventions for the prevention and treatment of chronic musculoskeletal pain.

**McClain, Amanda – Assistant Professor**

Social, cultural, and life course influences on food choice, food provisioning, diet quality, and cardiometabolic health in low-income and Hispanic/Latino populations; causes and consequences of food insecurity; the role of food assistance programs in promoting food security, diet, and health; community-based and mixed-method research approaches; behavior-change interventions.

**Nogueira, Leonardo – Assistant Professor**

Mechanisms of muscle fatigue, contractile dysfunction, and exercise-induced muscle regeneration under chronic inflammatory diseases, environmental pollutants (tobacco smoke), and acute and chronic hypoxia.

**O’Connor, Shawn – Assistant Professor**

Health sensing technologies and rehabilitation strategies for improved recovery after neuromuscular injury or decline. Development of muscle and metabolic health sensing devices. Dynamics and control of locomotion. Mechanisms of fall risk in older adults. Use of computational models and experimental devices (e.g. virtual reality) for perturbing and assessing gait function.

**Rauh, Mitchell - Professor**

Running Injuries (emphasis in high school populations), Female Athlete Triad (emphasis in high school populations), Sports Injury Epidemiology (emphasis in high school populations), Sports Medicine/Orthopedics, Stress Fracture, Sports specialization in youth sports, Sudden cardiac death and other cardiac conditions in high school athletes, Evidence-Based Practice in Physical Therapy.

**Reschechtko, Sasha – Assistant Professor**

Neural control of movement, sensorimotor neuroscience, ecological hand use, movement-based assessment of sensory function.

**Tuttle, Lori - Professor**

Aging, metabolism and women’s health. Particular interest in the area of female pelvic floor dysfunction and the role of skeletal muscle architecture and surrounding structures on pelvic floor function and the role of rehabilitation on these structures. Fecal and anal dysfunction and rehabilitation.

**Weber Rawlins, Michelle – Assistant Professor**

Concussion care seeking behavior in athletes and military personnel, concussion educational interventions, medical disqualification following concussion. Social determinants of health on concussion care seeking in historically underrepresented groups, concussion and nutrition practices, return to learn following concussion.

**Zhao, Jing – Assistant Professor**

Functionalities and flavor impacts of food proteins; agricultural by-products utilization; novel protein development and characterizations; utilization of plant and algae proteins in alternative meat products; flavor characterization of protein-rich foods.