1:30 - 2:45 p.m. PIONEER SYMPOSIUM: FACULTY SESSIONS
Location: Ricketson Law Building, Sturm College of Law

“The Public Health Burden of Early Adversity”
Sarah Enos Watamura, Associate Professor, Division of Arts, Humanities and Social Sciences
This session will review the science and theory behind how early life stress has lifelong consequences for individuals, their children and society. The role of contextual, biological, and psychosocial factors in the transmission of risk and protective factors including points for intervention will be discussed. Data from ongoing projects at DU and in Colorado will be highlighted.

“The Earliest Origins of Health and Disease”
Elysia Poggi Davis, Professor, Division of Arts, Humanities and Social Sciences
This session will discuss how the environment and development during the fetal period shape health and disease risk across the lifespan. Recent evidence has revealed that experiences that occur before birth play an important role in healthy aging and contribute to both morbidity and mortality. This session will discuss these findings and the implications for policy and intervention.

“Biomarkers for Alzheimer and Down Syndrome: Common Biological Pathways”
Lotta Granholm-Bentley, Professor & Executive Director of the Knoebel Institute for Healthy Aging
People with Down syndrome develop Alzheimer’s disease in their 4th or 5th decade along with variable intellectual disability earlier in life. We are developing novel blood biomarkers which may help identify early signs of Alzheimer pathology in the brain, and therefore could help in determining when preventative treatment should be initiated. This could also be used for early identification of Alzheimer pathology in the general population. Data will also be presented demonstrating effects of exercise or cognitive training on blood biomarkers in an older population.
Jennifer C. Greenfield, Assistant Professor, Graduate School of Social Work
Life expectancies are on the rise in the U.S., but as we age, we face the increasing likelihood of living with chronic diseases and functional limitations. It is no surprise, therefore, that more Americans serve as caregivers each year. Unfortunately, many caregivers face competing demands between work and family responsibilities, a conflict that compromises both financial and physical wellbeing. This presentation will summarize research on the costs of caregiving for both caregivers and society as a whole, and review policy approaches that may mitigate these costs and help family members across the life course more successfully balance caregiving responsibilities and careers.

“Understanding the Biology of Aging to Improve Health and Quality of Life as We Age”
David Patterson, Professor of Biological Sciences, Member, Knoebel Institute for Healthy Aging
The most significant risk factor for many disorders including certain cancers, cardiovascular disease, diabetes, and neurodegenerative disease (Alzheimer’s disease, Parkinson’s disease, and amyotrophic lateral sclerosis) is aging. Aging itself eventually negatively impacts quality of life due, for example, to increasing frailty and cognitive decline. Therefore, understanding the biology of aging may lead to ways to delay or decrease susceptibility to all of these conditions and improve healthy aging. We will discuss the use of cell and animal models to study the biology of aging to obtain new understanding that could lead to interventions to extend longevity and healthspan.

“The C Word: What You Need to Know About the Psychological and Emotional Needs of Cancer Patients and Their Families”
Nicole Taylor, Director of the Center for Oncology Psychology Excellence and Clinical Assistant Professor, Graduate School of Professional Psychology
The number of cancer survivors is expected to double by 2050 and one in two men and one in three women will get cancer in their lifetimes. Each of these cancer survivors has many friends and loved ones who are also affected by their diagnosis, treatment, and prognosis. This session will provide a brief overview of the field of psychosocial oncology and help participants learn ways to support people they know that are affected by cancer.

3:00 – 4:15 p.m. PIONEER SYMPOSIUM: FACULTY SESSIONS
Location: Ricketson Law Building, Sturm College of Law

“Aging and the Social Determinants of Health”
Karen Albright, Assistant Professor, Department of Sociology & Criminology, and Affiliated Faculty, Graduate School of Social Work
The term “social determinants of health” refers to any nonmedical factor(s) influencing health—i.e., the conditions in which people are born, grow, live, work, and age. Shaped by the distribution of money, power, and resources at global, national, and local levels, these factors are primarily responsible for health inequities. This lecture will provide a broad
overview of the social, behavioral, and cultural factors that affect the health of individuals and populations and, thus, contribute profoundly to health disparities, particularly in the latter decades of life. Health care policy, service delivery issues, and health care system dynamics will also be discussed.

“Reimagining the relationship between researchers and practitioners: Stories from the San Luis Valley”
Nick Cutforth, Professor and Chair, Research Methods and Information Science Department, Morgridge College of Education

Colorado’s San Luis Valley looks like a postcard but most of the 48,000 residents don’t live picture postcard lives. The majority of the children live in poverty, and schools struggle to meet their physical, behavioral, and academic needs due to insufficient resources, lack of professional development, and other support tools. These schools need to have access to evidence-based practices that improve student well-being and achievement. However, for these practices to take root, researchers have to break down the walls between themselves and the community by continually seeking out information on the obstacles experienced by rural educators, and engaging them in developing improvements and solutions. Through stories, pictures, and testimonials, Nick Cutforth will share an approach developed with CU colleagues that has resulted in San Luis Valley schools implementing evidence-based environmental and policy changes that support child and adolescent health.

“Movement Biomechanics: Helping us function (and even thrive) in aging bodies”
Bradley Davidson, Associate Professor, Mechanical Engineering

How will your movement change as you approach 70 years old...80...90? As a society we have an increased focus on how to thrive in these later years. Physical medicine is undergoing a shift from primarily addressing post-injury function toward injury prevention and maintaining long-term health. However, unlike many other medical professions, quantitative data is rarely used to guide treatment. In this session, we will examine the foundations of quantitative movement biomechanics, translational applications, and emerging technologies that will help us improve the quality of our movement and thrive at any age.

“Intergenerational Crisis or Promise? How to Bring Generations together for an Aging Society”
Leslie K. Hasche, Associate Professor, Graduate School of Social Work

Given the growth in the sheer number and proportion of older adults in our society, we are facing several potential intergenerational crises, such as state and federal debt, environmental sustainability, promotion of aging friendly communities, growing costs of health care, age discrimination in the work place, and intergenerational family conflicts. Through discussions of how to define and promote intergenerational justice and programs, Dr. Leslie Hasche will showcase examples of how her teaching and research efforts may indicate the promise of bringing generations together to overcome these challenges. A review of the conflicts as well as innovative programming will be offered.
“Aging, A Photography Project”  
Roddy MacInnes, Associate Professor, Division of Arts, Humanities and Social Sciences  
My photographic adventure began in 1965. I was raised in the country. Most of my relatives lived in the city. When they’d come to visit, photographs were taken of things they’d want to remember. In my subconscious, the connection was established that photography celebrates life. My adventure was not always optimistic though. I experienced a mid-life period of depression. I utilized photography in an attempt to see myself. From that exercise, I grew to appreciate the therapeutic potential of art. I now believe that life itself can be an art project. In my classes at DU, this is what I attempt to teach.

“Improving the Drug Development Process: The Role of Patents and Open Source Collaboration in the U.S. Pharmaceutical Industry”  
Paul Olk, Senior Associate Dean and Professor of Management  
The average U.S. citizen spends over $1,000 a year on prescription medications, 36% higher than the next country. Why do prescription medicines cost so much? Why can some pharmaceutical companies dramatically raise the price of a drug seemingly overnight? In this session, we will explore the drug development process and the critical role of patents and intellectual property (IP) rights. We will then discuss recent changes affecting the industry, and highlight findings from National Science Foundation-funded research into the emergence of “open source” collaborations, where pharmaceutical firms collaborate and give away their IP for free. We will conclude with the implications these collaborations have for the future of drug development.