

Center for Exercise Medicine and Sport Sciences  
**Ayala School of Biological Science**



**Shlomit Radom-Aizik, PhD**

Executive Director, Pediatric Exercise and Genomics  
Research Center (PERC)  
Department of Pediatrics, School of Medicine  
University of California Irvine

*The Promise of Genomics and Epigenetics Studies in  
Exercise Research*

“Growth in childhood and adolescence is unique among mammals and is a dynamic process regulated by an evolution of hormonal and inflammatory mediators, age-dependent progression of gene expression, and environmentally modulated epigenetic mechanisms. Many of these same processes likely affect molecular transducers of physical activity. How the molecular signaling associated with growth is synchronized with signaling associated with exercise is poorly understood. Recent advances in “omics”—namely genomics and epigenetics, metabolomics, and proteomics—now provide exciting approaches and tools that can be used for the first time to address this gap. A biologic definition of “healthy” exercise that links the metabolic transducers of physical activity with parallel processes that regulate growth will transform health policy and guidelines that promote optimal use of physical activity”-(Pediatric Exercise Science, 2016, 28, 194 -201)

**Friday January 12, 2018**

**12:30p.m.**

**room 4201 Natural Sciences 2  
(building 402 on the campus map)**