



NIDDK P30 Center for Molecular Studies in Digestive and Liver Diseases Research Seminar



Pekka Katajisto, PhD

Professor, Molecular and Integrative Biosciences Research Programme
Centre of Excellence in Stem Cell Metabolism
University of Helsinki
Finland

"Stem Cell Niche and the Regenerative Decline of Intestine during Aging"

Thursday, March 2, 2023

12:00 – 1:00 PM EST

VIRTUAL ONLY

Our body is constantly repaired and renewed by tissue specific stem cells, which produce cells undertaking specialized functions and new stem cells maintaining the future renewal capacity. In a young body, such tissue stem cells can easily counter the wear and tear of everyday life by replacing damaged cells with new ones. However, as we age, capacity of stem cells declines, and the resulting drop in tissue repair manifests as the functional decline associated with aging. Our goal is to understand why stem cell activity deteriorates with age, and to develop stem cell-based strategies targeting aging related diseases and ailments.

Tissue resident stem cells (aka. adult stem cells) renew and repair our tissues. However, in order to secure tissue homeostasis, generation of new stem cells via self-renewal and their differentiation into functional cells must be carefully balanced. During aging, multiple types of alterations directly in stem cells, or in their tissue neighborhood can disturb this balance. Our laboratory studies both stem cell intrinsic, and extrinsic mechanisms altering tissue renewal capacity, and how such mechanisms ultimately result in the functional decline we recognize as aging.