We have identified Lgr5 as a facultative component of the Wnt receptor complex selectively expressed on various homeostatic stem cell populations. Employing new, non-variegated Lgr5-2A-CreERT2/EGFP/DTR mouse models we now identify a subset of Lgr5-expressing chief cells responsible for epithelial repair and cancer initiation in the corpus stomach following parietal cell atrophy. We additionally characterize the transcriptomes Lgr5+ stem cells in mouse intestine, colon and stomach, revealing new gastric stem cell-specific markers that can be used to isolate human gastric stem cells for regenerative medicine applications and for use in selectively targeting cancer-causing mutations to the Lgr5+ stem cell compartment in mice as a means of evaluating their contribution to gastric cancer initiation and progression. Finally, we identify neonatal Lgr5+ cells in the mouse uterus as Wnt-dependent stem cells responsible for epithelial gland development. Adjacent Lgr5- epithelial cells within the neonatal glands function as essential niche components to support the function of Lgr5+ stem cells ex-vivo.

Wednesday  |  April 3  |  2019  |  12 pm

Daniels Hollywood Theatre
(1246 Black Wing)

Hosts: Drs. Tae-Hee Kim & Robert Bandsma