## THE GIS SPEAKER SERIES





# A revisionist view of tissue regeneration in the gut epithelium

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Host: Tam Wai Leong



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#### **About The Speaker**

Kelley Yan is a physician-scientist at Columbia University. She completed her MD and PhD degrees at Mt. Sinai School of Medicine then trained in Internal Medicine/Gastroenterology at Stanford, where she pursued postdoc research in Calvin Kuo's lab. She is the recipient of the Burroughs Wellcome Career Award for Medical Scientists, the NIH Director's DP2 New Innovator Award, the AGA Young Investigator Award in Basic Science. Her lab at Columbia studies intestinal stem cell biology using interdisciplinary approaches.

#### **About The Seminar**

The intestinal epithelium is a robustly self-renewing tissue supported by active stem and progenitor cells in the crypts. In the prevailing model, Lgr5+ cells in the crypt base are the only intestinal stem cells (ISCs) that sustain homeostatic regeneration. We have identified a novel population of upper crypt ISCs marked by expression of Fgfbp1, distinct from Lgr5+ cells at the base, that are multi-potent and support long-term tissue self-renewal. Here, we present a revised model of tissue regeneration that reconciles the Lgr5+ stem cell model with fate mapping studies of the Fgfbp1+ ISCs. We will also discuss our unpublished studies on stem cell heterogeneity.