

# 240<sup>th</sup> WPI-IIIS Seminar

## Signaling Diversity in GPCR-Orchestrated Intracellular Responses

G protein–coupled receptors (GPCRs) are one of the largest membrane receptor families that mediate a wide range of physiological and pathological functions. The roles of GPCRs are diverse, encompassing the sensing of environmental cues, maintenance of homeostasis, regulation of development, and control of behavior. To fulfill these functions, GPCRs act as molecular hubs that concurrently activate multiple signaling pathways. This signaling complexity varies across receptors, and understanding it is essential for elucidating their physiological roles *in vivo*. Moreover, achieving selective activation of specific signaling pathways has emerged as a promising strategy for developing GPCR-targeted drugs with optimized efficacy and minimized side effects. Advances in structural and molecular insights are driving the rational design of drugs capable of selective signal modulation. This seminar will introduce approaches to dissect GPCR signaling diversity and discuss its underlying mechanisms.



### Dr. Ryoji Kise

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Date: **Wednesday, October 29, 2025**

Time: **9:00 – 10:00**

Venue: **1F Auditorium, IIIS Building**

**\* On-site participation only**



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