

133rd WPI-IIIS Seminar

Spying on dopamine modulation by constructing new genetically-encoded sensors

Dopamine (DA) is a central monoamine neurotransmitter involved in many physiological and pathological processes. A longstanding yet largely unmet goal is to measure DA changes reliably and specifically with high spatiotemporal precision, particularly in animals executing complex behaviors. Here we report the development of two genetically-encoded GPCR-Activation-Based-DA (GRAB_{DA}) sensors that enable these measurements. GRAB_{DA} sensors can resolve a single-electrical-stimulus evoked DA release, and detect endogenous DA release in the intact brains of flies, fish, and mice. Similar strategies can be harnessed to develop a plethora of GRAB sensors for other important neurotransmitters/neuromodulators.



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Date: **Wednesday, June 20, 2018**

Time: **12:00 – 13:00**

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



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