

# Joint KJELDGAARD & DANDRITE Lecture

**Thursday 29 August 2019 at 13.15 - 14.00**

Auditorium A1, building 1333, room 101,  
Bartholins Allé 7, 8000 Aarhus,  
Aarhus University



## Yulong Li

Peking-Tsinghua Center for Life Sciences,  
Peking University,  
Beijing, China

## Spying on neuromodulation by constructing new genetically encoded fluorescent 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 genetically encoded GPCR-activation-based-DA (GRABDA) sensors that enable these measurements. GRABDA sensors can resolve a single-electrical-stimulus-evoked DA release in mouse brain slices and detect endogenous DA release in living flies, fish, and mice. Similar strategies can be harnessed to develop a plethora of GRAB sensors for other important neurotransmitters/neuromodulators.

**Host:** Group Leader Keisuke Yonehara, Dept. of Biomedicine,  
DANDRITE - Danish Research Institute of Translational Neuroscience,  
Aarhus University