

Kotaro Oka (Keio, Japan)



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Biographical Sketch

Professor, Keio University; Visiting Adjunct Professor, Kaohsiung Medical University

His researches are related to intracellular information processing by using fluorescent and other imaging techniques. He has succeeded to simultaneously visualize the cAMP/cGMP behavior in growth cones (Kobayashi et al. *Sci. Rep.* 2015), ATP and mitochondrial activity in neuronal axons (Suzuki et al. *Sci. Rep.* 2018), and Ca^{2+} and cGMP mobilization in sensory neurons of *C.elegans* (Shidara et al. *J. Neurosci.* 2017). Furthermore, for last 20 years, he has been also investigated Mg^{2+} mobilization and signal transduction in neurons by developing fluorescent imaging techniques. He demonstrated mitochondrial as intracellular Mg^{2+} source, Mg^{2+} mobilization by neuronal excitation (Yamanaka et al. *Neurosci.*, 2015), and also nitric mono-oxide (NO) stimulation (Yamanaka et al. *FEBS Lett.*, 2013). Recently he found GABA application induced Mg^{2+} mobilization in early stages of developmental neurons and it regulates several kinase activities (Yamanaka et al. *Curr. Biol.* 2018). Contact: oka@bio.keio.ac.jp

In his presentation, he will talk about intracellular Mg^{2+} mobilization and its functions in neurons.