



OIST SEMINAR

Hosted by Optical Neuroimaging Unit

Randy M. Bruno, Ph.D.

Assistant Professor

Department of Neuroscience, Columbia University Medical Center

DATE: **Monday, June 29**

TIME: **10:00 – 11:00**

VENUE: **C210 Seminar Room**

“The Many Circuits of the Neocortex”

Abstract:

The neocortex mediates all of human and animal cognition—breathtakingly encompassing sensation, perception, decision making, and movement. These diverse functions are achieved by highly stereotyped circuitry that nature appears to have iterated across the entire surface of the brain. Recently we discovered that ascending signals from thalamus are copied separately to the superficial and deep layers of sensory cortex. Despite dense connections between layers, ascending thalamic signals account for all the sensory-driven activity of the deep layers. Drawing from experiments using anatomy, sensory physiology, pharmacology, optogenetics, and behavior in the rodent whisker system, I will present my laboratory’s latest results demonstrating independence of these two sets of layers. I will also discuss our efforts to identify their individual roles in behavior and computation.

If you are interested in meeting the speaker, please send an email to bkuhn@oist.jp.