## Seminar/Talk

# Multiplicative disinhibition and the logic of motion vision

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Host: Maximilian Joesch

Nonlinear, multiplication-like operations carried out by individual nerve cells greatly enhance the computational power of a neural system, but our understanding of their biophysical implementation is scant. I pursue this problem in the motion vision circuit of Drosophila, where neural activity and connectivity are highly stereotyped. I record the membrane potentials of direction-selective T4 neurons and of each of their five columnar input elements in vivo in response to visual and pharmacological stimuli. Electrophysiological measurements and conductance-based simulations suggest a passive multiplication-like interaction between two distinct types of synapse on the T4 dendrite. My talk will provide a detailed biophysical account and an intuitive understanding of how a single neuron uses multiplicative disinhibition to compute the direction of visual motion.

**Tuesday, January 23, 2024 04:00pm - 05:00pm**
Central Bldg / O1 / Mondi 2 (I01.O1.008)

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