



“Do ribbons play an essential role at rod bipolar cell synapses in the retina?”

Speaker

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Date and Time

Thursday, 21st September 2023
12 o'clock

Location

**Center for Biostructural Imaging of
Neurodegeneration (BIN)**
*Von-Siebold-Straße 3a, 37075 Göttingen
Seminar Room*

Abstract

Ribbon synapses mediate analog signaling in the auditory, vestibular and visual systems. I will present experiments designed to identify an essential function for the distinctive presynaptic ribbon structures in rod bipolar cell synapses in the mouse retina. Our previous work has shown that these synapses effectively encode luminance and compute contrast by varying the occupancy of the readily releasable pool (RRP) of synaptic vesicles. More recent experiments test the hypothesis that ribbons provide a structural framework to enable a consistent spatial relationship between presynaptic calcium channels and vesicle release sites. Such an arrangement might ensure that all vesicles within the RRP have the same release probability, potentially enhancing analog signaling at these synapses.