manitoba neuroscience network

Mechanisms regulating synaptic connectivity in the mammalian retina

SEMINAR & VISITING SPEAKER SERIES

DATE
Monday, October 16th, 2023

TIME 11:00 AM to 12:00 AM

LOCATION
APOTEX 050

SPEAKER

Mrinalini Hoon, PhD

Assistant Professor, Department of Opthalmology and Visual Sciences, University of Wisconsin-Madison, RRF Rebecca Meyer Brown Professor, McPherson Eye Research Institute, Director of the UW Madison School of Medicine Electron Microscope Facility

BIO

Dr. Mrinalini Hoon received her bachelor's degree in Physiology from the Calcutta University and has a PhD in Neuroscience from the International Max Planck Research School at the University of Goettingen, Germany. Dr. Hoon completed her postdoctoral training at the University of Washington with Dr. Rachel Wong. Dr. Hoon is currently Assistant Professor at the University of Wisconsin-Madison Department of Ophthalmology and Visual Sciences and the RRF Rebecca Meyer Brown Professor at the McPherson Eye Research Institute. Dr. Hoon also serves as the Director of the University of Wisconsin-Madison School of Medicine's electron microscopy facility. The Hoon lab employs a multi-faceted toolkit to determine the mechanisms that regulate the formation and maintenance of mammalian retinal synapses and circuits and is currently funded by grants from NIH/NEI as well as grants from other research foundations.

ABSTRACT

Neural circuits rely on synaptic connections to process information and perform computations. In the mammalian retina a wide diversity of synaptic connections exist, each tailored to performing a specific visual task.

Our lab is interested in understanding the cellular, molecular and activity-dependent mechanisms that establish functional synapses in the mammalian retinal circuit. Through murine transgenic tools, single-cell electrophysiology and high-resolution light and electron microscopy we are studying the mechanisms that regulate the formation and function of inhibitory synapses that regulate information flow in the inner retina.

We find that an early GABA receptor type plays a key role for the establishment of these synapse types. Further, the maturation of these synapses is regulated by visual cues.

Thus, divergent mechanisms regulate synaptic connectivity in the mammalian retinal circuit.

Zoom Link

https://umanitoba.zoom.us/j/69822376315?pwd=cityZ3lZS1lxT-jhyZUI0TDMvUURzUT09&from=addon

Meeting ID: 698 2237 6315

Password: 872431

For more information:

T: 204-235-3939
E: info@manitobaneuroscience.ca

https://hoon.ophth.wisc.edu/

Hôpital St-Boniface Hospital RECHERCHE • RESEARCH
Division of Neurodegenerative Disorders

Health Sciences Centre Winnipeg

University of Manitoba