

# Toward highly integrated visible light photonics and neurophotonics

seminar

April 4, 2019 | 2:00 pm  
Lecture Hall MPI | B.1.11



## Abstract

Visible light integrated photonics remains largely undeveloped relative to silicon photonics in the infrared for data communications. Tremendous opportunities exist in developing this technology for biological and display applications. In this talk, I will review our collaborative efforts on the development of integrated photonics using silicon nitride waveguides on silicon substrates. Initial prototyping on 100mm wafers and our transition to foundry fabrication on 200mm wafers will be discussed. Experimental results will be shown from our application of this technology to implantable neurophotonics probes for delivering highly patterned light to brain tissue *in vivo* and *in vitro* for optogenetic stimulation and functional calcium imaging.

## Speaker

Dr. Wesley Sacher

Max Planck Institute of Microstructure  
Physics & Electrical and Computer En-  
gineering, University of Toronto,  
Canada