ICFO



COLLOQUIUM: Shining light on synapses - neural engineering with photons as synaptic transmitter

MICHAEL KRIEG

June 23, 2023
12:00 to 13:00
ICFO Auditorium

Profile: ?

Prof Michael Krieg leads the Neurophotonics and Mechanical Systems Biology at ICFO wher his group uses Caenorhabditis elegans as a model to study the importance of cell' mechanical properties for health and disease on the molecular and systems levels, exploitin microfluidic and nanotechnological tools to apply precise forces to single cells or animals His group also works to establish an optogenetic neurotransmitter system with the aim t rewire neuronal circuits in diseased animals. He received his PhD from Technische Universita Dresden and carried out postdoctoral work at the Max Planck Institute of Molecular Cel Biology and Genetics and in the Department of Molecular and Cellular Physiology at Stanfor University School of Medicine. Michael received an ERC Starting Grant in 2017 for the projec

How to build a brain: Engineering molecular systems for mechanosensation and protection i neurons.

Abstract:
The correct communication between neurons is crucial for development and survival of the organism. Defects in neurotransmission lead to neurological disorders or misinterpretation of perceived threats. To overcome defects in cellular communication, we developed a synthetic, photon-based signaling system that enables the transmission of information from one neuron to another, a feature inherent to synaptic communication.