



Colloquium Notice

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Optical Tools for Large-Scale in vivo Recording of Neuronal Activity

Understanding how sensory information is represented, processed and leads to generation of complex behavior from the activity of neurons is the major goal of systems neuroscience. Many brain functions are emergent functional states of highly distributed functional networks that include the dynamic interaction of local circuits with long-range neuronal connections. However, the ability to detect and manipulate such large-scale functional circuits has been hampered by the lack of appropriate tools and methods that allow parallel and spatiotemporally specific manipulation of neuronal population activity while capturing the dynamic activity of the entire network at high spatial and temporal resolutions. I will present the development of different optical neurotechnologies in our laboratory that have been aimed at addressing this technological gap over the last decade. Through these we have consistently extended the boundaries of speed, resolution and volume size up to the level of whole brains at which neuronal circuits can be functionally recorded across different model systems.

Monday

May 4, 2020

Starts at 12:15 PM

Coffee at 12:00 PM

Physics Conference Room, SB B326