Bar-Ilan University

The Mina and Everard Goodman Faculty of Life Sciences
School of Optometry and Vision Science

Wednesday 17th January 2018, 12:00-15:00

We are pleased to invite students and faculty for the mini course:

From Artificial Senses to Electronic Soul: Progress in Neural Interfaces

Prof. Daniel Palanker

Department of Ophthalmology and Hansen Experimental Physics Laboratory,
Stanford University

Electrical nature of neural signaling allows efficient bi-directional electrical communication with the neural system. To some extent, such interfaces already provide restoration of sensory inputs, such as hearing for the deaf, and sight for the blind. Interfaces with the peripheral neuro-muscular system and with motor cortex of the brain allow actuating prosthetic limbs. Deep brain stimulation helps controlling the mood in depression, and tremor in patients with Parkinson's disease. With progress in understanding of the neural systems and technological advances, such interfaces may allow not only restoration of the lost functionalities, but also augmentation and expansion of our capabilities, such as external memory and data processing, artificial senses, telepathic communication, and completely new states of mind.

I will describe the mechanisms of electrical and optical excitation and inhibition of neurons, and review the ever-expanding range of applications of such interfaces in medicine and beyond.

The workshop will take place in the Faculty of Life Science, School of Optometry and Vision Science, Bar-Ilan University.

Life Science Seminar Room, Building 212, Room 212

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The workshop is free of charge, but registration is required by sending an email to liadzah@walla.co.il