Brain-Computer-Interfaces: Introduction & Application to Memory

WHEN: Friday, February 2nd, 2018, 3-4pm
WHERE: College of Medicine BC-71 Rm 126, Boca Raton
Video Conference to MC-17 Rm 119, Jupiter



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Abstract: Interest in the brain-computer-interface (BCI) field has grown at an exponential rate over the past decade. Unfortunately, education on the topic has not kept pace. There is a general misunderstanding concerning what BCIs are, how they function and what they can do. This talk will address those points, dispel common myths surrounding BCIs and present the current state of the art.
Most BCIs are concerned with movement through robotics. This is due to the extensive knowledge we have of the motor cortex and how it functions. However, work is now being done on the emerging field of cognitive BCIs. Mechanisms of cognition are far less understood than motor function.
Working memory is a cognitive system that enables mammals to solve problems or complete tasks in service of a greater goal. It is central to complex human behavior. After introducing, defining and exploring current BCIs, this talk will explore its application to working memory by examining activity in the frontoparietal network of macaques performing a visual working memory task. These findings may lead to a BCI that improves working memory, thereby improving executive function.

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