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Workshop Presentation

Transcranial Direct Current Stimulation Workshop

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Abstract

It is an Intensive 1-day course for introducing utilizing transcranial direct current stimulation (tDCS) in an applied format. This technique is a noninvasive brain stimulation that uses direct electrical currents over the head to stimulate specific parts of the brain which modulates neuronal activity. It has strong potentiality in the field of medical and neuroscientific research. Anodal stimulation acts to excite neuronal activity while cathodal stimulation inhibits or reduces neuronal activity. Although tDCS is still an experimental form of brain stimulation, researchers have demonstrated cognitive improvement in some people undergoing tDCS. Several studies also suggest it may be a valuable tool for the intervention in neuropsychiatric conditions such as depression, craving, stroke and pain. It was first recognized in neuroscience research in the 1950's and 60's, but has been a rapid growth from 2008. Lecture and hands-on practice in this course will introduce participants to the theoretical aspects of tDCS, (and related simulation technologies e.g. tACS, HD-tDCS, tRNS) and help develop proper skills for practical application. Some issues related to mechanisms of action, hardware, accessories, device set-up and parameters, safety, previous application in research settings, and best clinical practices will be introduced.

Keywords: Transcranial Direct Current Stimulation**,** Neuronal Activity**,** Clinical Practices**,** Simulation Technologies.

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