

Foundations, functional, and therapeutic effects of non-invasive brain stimulation

July 3

Tuesday, 12:30 pm

Weekly Colloquium

Billings Building
Rosedale Conference Room



Speaker: Michael Nitsche, M.D.
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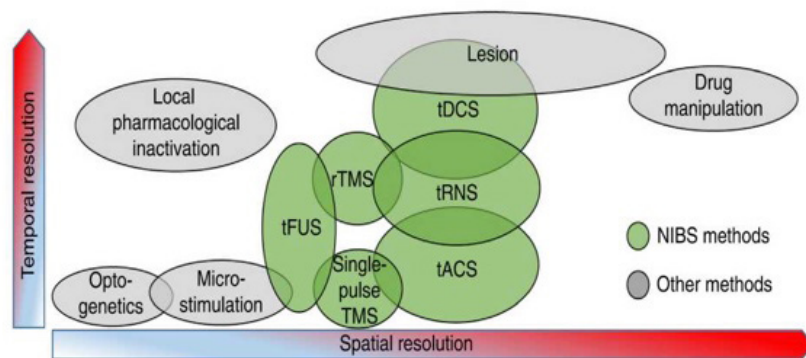
Host: Tomoko Kitago, M.D.

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Abstract

Non-invasive brain stimulation has gained increasing attention during the last years as a tool to monitor and alter cortical excitability and plasticity. These tools not only help to explore human brain physiology, including the physiological foundation of cognition and behavior, but are also emerging therapeutic tools, especially regarding counteracting maladaptive, and supporting beneficial plasticity. This talk will cover physiological mechanisms of non-invasive brain stimulation, including the contribution of neurotransmitters, and modulators, but also show how non-invasive brain stimulation can be used to enhance cognitive and motor processes, and how these effects might be useful for rehabilitation purposes.



Batsikadze G, Paulus W, Kuo MF, Nitsche MA. Effect of serotonin on paired associative stimulation-induced plasticity in the human motor cortex. *Neuropsychopharmacology*. 2013 Oct;38(11):2260-7.

Jamil A, Batsikadze G, Kuo HI, Labruna L, Hasan A, Paulus W, Nitsche MA. Systematic evaluation of the impact of stimulation intensity on neuroplastic after-effects induced by transcranial direct current stimulation. *J Physiol*. 2017 Feb 15;595(4):1273-1288

Polanía R, Nitsche MA, Ruff CC. Studying and modifying brain function with non-invasive brain stimulation. *Nat Neurosci*. 2018 Feb;21(2):174-187.



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