

Spontaneous brain activity and stimuli interaction

-Non-additive rest-stimulus interaction and mental functions



Prof. Georg Northoff, MD, PhD, FRCPC

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TIME: 1:00pm ~ 2:30 pm, Feb. 9; Place: EC4: 2101A <u>!!!!!Light refreshments will be provided!!!!!</u> Hosted by: Dr. Ning Jiang, Systems Design Engineering

Biography: Georg Northoff is a philosopher, neuroscientist, and psychiatrist, holding degrees in all three disciplines. Originally from Germany, he was recruited to head up the new Mind, Brain, and Neuroethics Research Unity at the Royal's Institute of Mental Health Research, proudly affiliated with the University of Ottawa. He researches the relationship between the brain and mind in its various facets, focusing on the neural and biochemical mechanisms related to higher-order mental functions like consciousness and self in both healthy people and in those with such mental illnesses as depression and schizophrenia. "The question driving me is: why and how can our brain construct subjective phenomena like self, consciousness, and emotions." He is one of the leading figures in linking philosophy and neuroscience and is the author of 260 journal articles and 15 books, including the recently released "Neuro-philosophy and the Healthy Mind," 2016, Norton Publishing, New York. You can find more information about Dr. Northoff at <u>www.georgnorthoff.com</u>.

<u>Abstract:</u> Our brain shows strong spontaneous activity whose exact functional role for behavior and mental features remains unclear. Moreover, the exact neuronal mechanisms by means of which the spontaneous activity interacts with stimuli is not yet explored; this is especially relevant for technologies like Brain-Computer interface. I here present various lines of data supporting non-additive rather than



additive mechanisms of rest-stimulus interaction and how that is relevant for mental features like self and consciousness.

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