



Studying the Dream-spike - Where REM Sleep Meets Epilepsy

SEMINAR & VISITING SPEAKER SERIES

DATE

Friday, May 28, 2021
9:00AM

ZOOM LINK

<https://us02web.zoom.us/j/83948652686?pwd=OFIURDh4dUZtbHh6K3JwaWdjTUcxQT09>

MEETING ID

839 4865 2686

PASSCODE

547062

SPEAKER

Marcus Ng, MD, FRCP(C), CSCN(EEG)

Associate Professor of Neurology, University of Manitoba, Department of Internal Medicine

BIO

Dr. Ng completed medical school at the University of Alberta with Special Training In Research, and residency in neurology at the Memorial University of Newfoundland, before completing a fellowship in epilepsy, electroencephalography (EEG), and clinical neurophysiology at the Massachusetts General Hospital / Harvard Medical School. He is the current chief EEG examiner for the Canadian Society of Clinical Neurophysiologists (CSCN). He also contributes to examinations of the American Clinical Neurophysiology Society (ACNS), and serves on numerous committees for the CSCN, ACNS, Canadian Neurological Sciences Federation, Canadian League Against Epilepsy, American Epilepsy Society, American Brain Foundation, and the International Federation of Clinical Neurophysiology. He has been invited to lecture at the National Epilepsy Review Course and the National Teaching Course on Sleep Neurology. Furthermore, he is the first-author on the first-ever dedicated clinical atlas to quantitative EEG in the intensive

care unit. His supervised, co-supervised, and mentored graduate, postgraduate, and undergraduate trainees have won numerous awards, including the inaugural Anti-NMDA Receptor Encephalitis Foundation Prize, and the Young Investigator Award of the ACNS.

RESEARCH

The mission of Dr. Ng's Dreamspike Research Laboratory is to understand and apply the unique anti-epileptic properties of rapid eye movement (REM) sleep. Most dreaming occurs in REM sleep, and epileptic activity can be recorded on brainwave recordings as a spike. Where the two meet is the "dreamspike" – an event in which epileptic activity breaks through the usual calming influence of REM sleep against seizures. His interdisciplinary research interest (e.g. sleep, neuroscience, medicine, engineering) has adopted a highly innovative interdisciplinary approach (e.g. quantitative EEG, machine learning, transcranial direct current stimulation, survey research, clinical trials) that takes the most promising set of tools from a variety of fields to tackle the fascinating enigma of why REM sleep is anti-epileptic, while making a number of serendipitous discoveries along the way. Innovations have included a quantitative EEG algorithm for REM sleep detection, hypothesizing an "orexi-cortical axis", and inventing a set theoretic framework for epileptic source localization.

OBJECTIVES

1. To illustrate the known effects of rapid eye movement (REM) sleep against seizures and epilepsy.
2. To delineate current efforts to understanding the fundamental anti-epileptic mechanisms of REM sleep.
3. To describe current efforts to clinically apply REM sleep's anti-epileptic effects in medicine.

For more information:

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