

Proudly presenting CURRY NeuroTalks WEBINAR SERIES

Webinar 1: FEB 9, 2024, 1.30PM EST (10.30AM PST)

Compumedics Neuroscan proudly present the quarterly **CURRY Webinar series**, **NeuroTalks**, focusing on sharing research and clinical practices around epilepsy and other primary brain disorders, facilitating communications among scientists and clinicians, and inspiring new advancements within their fields.

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Featured Speakers



John S. Ebersole, MD

Overlook MEG Center, Atlantic Health Neuroscience Institute, Summit, NJ

"The Value of Simultaneous EEG and MEG Source Modeling in Epilepsy Evaluations"

MEG and EEG source modeling have complementary strengths in the localization of epileptic spike and seizure sources. Although MEG fields are not attenuated or altered by the skull and scalp, and MEG systems typically include hundreds of sensors, both unlike EEG, MEG localization is only precise for sources with a tangential or nearly tangential orientation. As cortical source orientation becomes more radial, MEG sensitivity drops. Radial sources from convexity cortex cannot be modeled by MEG. In such situations, source modeling using EEG provides the needed diagnostic accuracy. Optimal localization of epileptic foci cannot be achieved by either MEG or EEG source modeling alone, rather both should be performed on simultaneously recorded data whenever possible. This complementary relationship will be illustrated with clinical cases.





Bin He, Ph.D

Trustee Professor, Neuroscience Institute and Electrical and Computer Engineering, Carnegie Mellon University

"Recent Advances in Epilepsy Source Localization and Imaging"

Electrophysiological source imaging from non-invasively recorded electroencephalogram (EEG) and magnetoencephalography (MEG) has played a significant role in advancing our ability to map and localize epileptogenic zones, aiding presurgical planning in drug-resistant focal epilepsy patients. We will discuss recent progress in epilepsy biomarkers and source localization and show that significantly improved performance can be obtained from spatiotemporal source imaging of neural oscillations including seizure oscillations and pathological highfrequency oscillations (HFOs). Within interictal events, we found that scalprecorded HFOs riding spikes represent a highly efficient biomarker delineating epileptogenic sources. Recent advancements in machine learning and AI have allowed us to noninvasively estimate and image the source location and extent, as well as temporal dynamics of ictal and interictal events from scalp high-density EEG. Our source imaging techniques have been rigorously validated in drug-resistant focal epilepsy patients against intracranial EEG recordings and surgical resection outcomes.

Register Now for Webinar 1

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Registrations close FEB 8, 2024