



### **Dr. Brian Litt, MD**

Dr. Litt is the Perelman Professor of Neurology, Neurosurgery and Bioengineering at the University of Pennsylvania. He divides his time equally between the Schools of Medicine and Engineering, and directs centers in Neuroengineering, Epilepsy research and Device Innovation. Dr. Litt is a neurologist who treats patients with epilepsy. His research focuses on NeuroEngineering: materials, hardware, imaging, algorithms, data science, machine learning, and high-speed computing for neural interfaces and devices. His laboratory translates basic science into new diagnostic and therapeutic technologies, with a focus Epilepsy and other brain network disorders. Dr. Litt also works on infrastructure and platforms for international data sharing and integration at scale, and his open-source platforms, IEEG.org and Pennsieve, are used by thousands of researchers worldwide. Dr. Litt has won awards for teaching, research and mentoring, including an NIH Pioneer Award, the AES Clinical Research Award, and the NIH/ NINDS Landis Award for mentoring.

### **Talk Abstract**

Technologies to diagnose, map, monitor, analyze and treat brain network disorders, like epilepsy, are growing with breathtaking speed, but their impact on treatment and outcome have been modest. There are many potential reasons: lack of mechanistic understanding, small studies that might not generalize, systemic barriers and misaligned incentives for sharing data and accelerating progress. In this talk I will present a vision of what epilepsy care might look like in 2050, and touch upon specific research attempting to realize it, drawn from our center and elsewhere. I will present major challenges to improving care and hope to initiate discussion regarding solutions.