

Programma Visiting professor/scientist 2024

Finanziato dalla LR 7/2007 della Regione Autonoma della Sardegna

Hosted by: Dr. Nicola Lai

Brain-Computer Interfaces and Neural Engineering

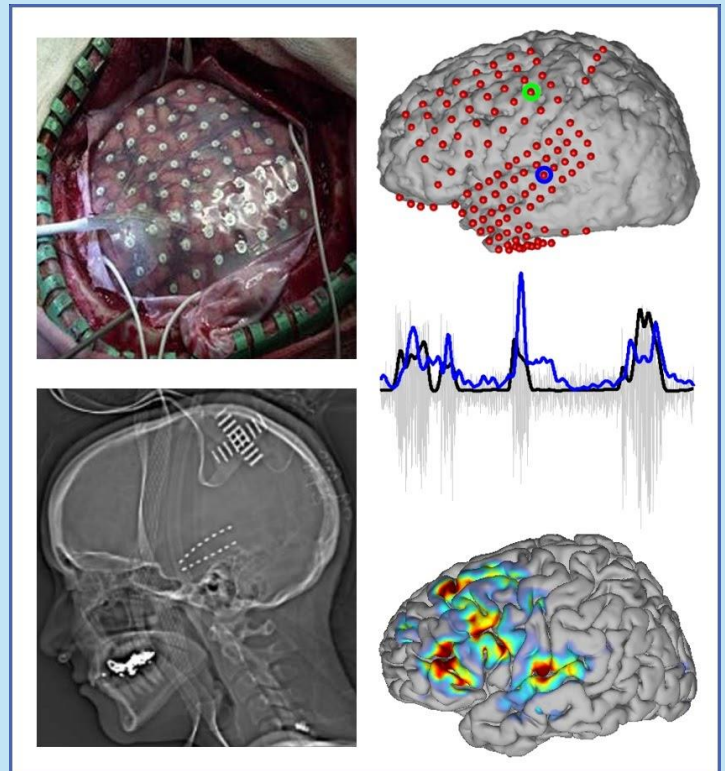


Dean Krusienski, PhD

Professor and Graduate Program Director of Biomedical Engineering at Virginia Commonwealth University, Virginia, United States of America

Tuesday, May 7, 2024 at 17:00 – 18:00 Aula Magna Facoltà di Ingegneria Via Marengo

Biosketch. Dean Krusienski directs the Advanced Signal Processing in Engineering and Neuroscience (ASPEN) Laboratory. He has co-authored over 100 peer-reviewed publications related to advancing brain-computer interface and neural signal analysis techniques, which have collectively received over 11,000 citations. Most notably, his work was among the first to demonstrate successful BCI control from electrodes in the hippocampus and speech synthesis using intracranial electrodes. His work has been funded by NSF, NIH, and NASA/NIA, including current projects on intracranial speech decoding and synthesis, closed-loop DBS, music perception, user-state estimation, visual and auditory attention, and virtual reality applications.



Abstract. Rapidly advancing neurotechnologies such as brain-computer interfaces (BCIs) use direct measurements of brain activity to provide actionable output. Many of these neurotechnologies are targeted for clinical applications such as assistive communication and control devices, rehabilitation, and therapies. This talk will provide an overview of BCI systems, with focus on recent advances in real-time speech synthesis from invasive measurements of electrophysiological brain activity. Additionally, some preliminary work will be presented on the characterization of neural activity in hippocampal epilepsy and for closed-loop deep-brain stimulation (DBS) in movement disorders.