**Deep Learning for EEG-Based Brain-Computer Interface**

**The abstract of lecture:**

The field of brain-computer interface (BCI) has witnessed significant advancements in recent years, driven in large part by the integration of deep learning techniques. This talk explores the cutting-edge applications of deep learning techniques in the context of BCIs based on electroencephalogram (EEG) signals, a non-invasive, portable, and cost-effective neuromonitoring modality, bridging the human brain and external devices. Based on the foundational principles of EEG signal acquisition, preprocessing, and recognition, we delve into the evolving landscape of deep learning models and architectures tailored for EEG data analysis. Our focus extends to the real-world implications of these advancements, shedding light on how deep learning-powered EEG-BCIs are revolutionizing assistive technology, healthcare, and neuroscientific research, with insights into the emerging trends and pivotal challenges.