

VICTORIA PETERSON

Academia Joven de Argentina

Instituto de Matemática Aplicada del Litoral (CONICET)

TOWARDS BROADCASTING NEUROTECHNOLOGY FOR MOTOR RECOVERY IN ARGENTINA

Abstract: By means of a brain-computer interface (BCI) promising rehabilitation technologies can be built for restoring motor function after stroke. However, their high cost and complexity often limit their accessibility, especially in low- to middle-income countries. As a potential neurorehabilitation tool, the BCI system should allow rapid use across several sessions. Traditional brain decoding algorithms require large calibration data, which restricts therapy time, and generally do not adapt to brain changes that may encounter technology usage learning. This talk presents coAR.BCI (coadaptive rehabilitative brain-computer interface), a low-cost, open-source, co-adaptive and human-centered BCI that aims at fostering the usability of these neurotechnologies for rehabilitative purposes. The algorithmic solution as well as designed neurofeedback is envisioned to make this technology more accessible and appealing.

About the speaker: Victoria Peterson is a CONICET Assistant Researcher at IMAL, Santa Fe, Argentina and Associate Professor at Universidad Nacional del Litoral, Argentina. She obtained her degree in Biomedical Engineering in 2013 and her Ph.D. in Engineering, Signals, Systems and Computational Intelligence in 2018. In 2019, she joined IMAL, UNL-CONICET, Argentina as a CONICET postdoc fellow and later in 2021, she became a Harvard Research Fellow at the Brain Modulation lab in the Massachusetts General Hospital, Boston, USA. Victoria is currently an external collaborator of the Brain Modulation Lab and was a visiting Doctoral Student at the RELab, ETH Zurich in 2017 and 2018. With over 10 years of experience in machine learning solutions for brain signal decoding in the context of brain-computer interfaces, one of her research projects was nominated for the BCI Award 2021. In 2024, she received the Early Career Award of the ANCEFN, Argentina
