Workshop: Neurophysiological assessment to enhance neuroergonomy in operational environments

Pietro Aricò[1,2], Fabio Babiloni[1,2], Eduardo Bellomo[3]
[1] *BrainSigns srl, Via Tirso, 14 - 00198 Rome, Italy*
[2] *Sapienza University of Rome, Piazzale Aldo Moro 5, 00185, Italy*
[3] *Brain Products GmbH, Zeppelinstrasse 7, 82205, Gilching, Germany*

Abstract / Short description

New solutions or technologies in operational environments are often evaluated through subjective assessments, expert judgements and performance monitoring. However, subjective measurements have not proven to be extremely robust due to conscious bias and to a high intra-operator and inter-operator variability while, performance indicators can only provide incomplete information as an operator may achieve the same performance under different mental conditions (i.e. workload). Using just the aforementioned measures is not enough, since it is not possible to quantify the 'unconscious' phenomena underlying human behavior.
In this regard, neurophysiological measures (e.g. Electroencephalographic signals) are prone to assess human mental states (e.g. workload, stress, vigilance) and can even be computed online, i.e., during the execution of the task.
The workshop is aimed at providing participants on the current state of the art on mental states evaluation, and to hand on current novel wearable technologies, able to provide neurophysiological assessment in out-of-the-lab applications.

Keywords

Human-Factors, Electroencephalography, Neuroergonomic evaluation, Wearable EEG headsets, User experience.

Tentative Schedule for a 2.5-hour session - Monday, July 8th pm

Workshop Neurophysiological assessment to enhance neuroergonomy in operational environments – chair: Fabio Babiloni	
3 pm	Welcome and introduction Speaker – Fabio Babiloni
3:30pm	Assessment in operational environments Teacher – Pietro Arico
4:30 pm	Neuroergonomy tool for Neurophysiological assessment: Hands-on Teacher – Eduardo Bellomo
5:30pm	Conclusion Speakers - All