LABORATOIRE DE NEUROSCIENCES FONCTIONNELLES ET PATHOLOGIES

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Education and Training
2019   Accreditation to supervise research (Habilitation à diriger des recherches, HDR), University of Picardie-Jules Verne (UPJV), Amiens, France.
2011-2012 Postdoctoral Associate, NIRS Brain Imaging Laboratory, University of Pittsburgh, PA, USA.
2010-2011 Postdoctoral Associate, Biomedical Functional Imaging and Neuroengineering Laboratory, University of Minnesota, MN, USA.
2008-2009 Postdoctoral Associate, Biomedical Engineering Laboratory, University of Manitoba, MB, Canada.
2007-2008 Biomedical Research Engineer, GRAMFC Laboratory, University of Picardie-Jules Verne, Amiens, France.
2007   PhD in Neuroscience, University of Picardie-Jules Verne (UPJV), Amiens, France.
1999   M.Sc. in Biomedical (Bioelectrical) Engineering, Iran University of Science and Technology (IUST), Iran.

1995   B.Sc. in Electrical Engineering, Shiraz University, Iran.

Research interests
Neuroimaging, Functional connectivity, Structural connectivity, EEG, fNIRS, fMRI, DTI, Analysis and modeling of brain dynamics in adults and children.

Clinical interests
Epilepsy, Stroke, Neurodegenerative diseases, Attention deficit hyperactivity disroder.

Selected Publications
• Aarabi A, Huppert TJ, Assessment of the effect of data length on the reliability of resting-state fNIRS connectivity measures and graph metrics, Biomedical Signal Processing and Control 54, 101612.
• Ghimatgar H, Kazemi K, Helfroush MS, Aarabi A, 2019, An automatic single-channel EEG-based sleep stage scoring method based on hidden Markov model, Journal of Neuroscience Methods.
• Ghimatgar H, Kazemi K, Helfroush MS, Aarabi A, 2018, An improved feature selection algorithm based on graph clustering and ant colony optimization, Knowledge-Based Systems 159, 270-285
• Aarabi, A., Osharina V., Wallois F., Effect of confounding variables on hemodynamic response function estimation using averaging and deconvolution analysis: An event-related NIRS study, Neuroimage, 2017.
• Aarabi A, He B, seizure prediction in patients with focal hippocampal epilepsy, Clinical Neurophysiology, 2017.
• Osharina V, Aarabi A, Manoochehri M, Mahmoudzadeh M, Wallois F. Hemodynamic Changes Associated with Interictal Spikes Induced by Acute Models of Focal Epilepsy in Rats: A Simultaneous Electrocorticography and Near-Infrared Spectroscopy Study. Brain topography. 2017.
• Adebimpe A, A Aarabi, E Bourel, M Mahmoudzadeh, F Wallois, brain network analysis of EEG functional connectivity in patients with benign childhood epilepsy with centro-temporal spikes, Clinical Neurophysiology

127 (3), e60, 2015.
- Azizollahi H, Aarabi A, Wallois F. Effects of uncertainty in head tissue conductivity and complexity on EEG forward modeling in neonates. Human brain mapping. 2016;37:3604-22.
- Aarabi A, Huppert T, Characterization of the relative contributions from systemic physiological noise to functional Near-infrared Spectroscopy (fNIRS) using single-channel independent component analysis, Neurophotonics 2016.
- Adebimpe A, Aarabi A, Bourel-Ponchel E, Mahmoudzadeh M, Wallois F. Functional Brain Dysfunction in Patients with Benign Childhood Epilepsy as Revealed by Graph Theory. PloS one. 2015;10:e0139228.
- Aarabi A, He B, 2014. Seizure prediction in hippocampal and neocortical epilepsy using a model-based approach. Clin Neurophysiol. 125(5):930-40
- Aarabi A, He B, 2012. A rule-based seizure prediction method for focal neocortical epilepsy. Clin Neurophysiol 123, 1111-1122.
- Aarabi A, Kazemi K, Grebe R, Moghaddam HA, Wallois F, 2009. Detection of EEG transients in neonates and older children using a system based on dynamic time-warping template matching and spatial dipole clustering. Neuroimage 48, 50-62.
- Aarabi A, Fazel-Rezai R, Aghakhani Y . A fuzzy rule-based system for epileptic seizure detection in intracranial EEG. Clin Neurophysiol. 2009 120(9):1648-57.
- Aarabi A, Wallois F, Grebe R, 2008. Does spatiotemporal synchronization of EEG change prior to absence seizures? Brain Res 1188, 207-221.
- Aarabi A, Grebe R, Wallois F, 2007. A multistage knowledge-based system for EEG seizure detection in newborn infants. Clin Neurophysiol 118, 2781-2797.