Dr. Mathieu Bourguignon

Laboratory of Neurophysiology and Movement Biomechanics (LNMB)
Faculty of Movement Sciences | Motricity Sciences Research Centers
ULB Neuroscience Institute

Research Area

I'm a physics engineer who undertook doctoral studies in neuroimaging. My research has essentially been organized along two lines, trying to improve our knowledge of the brain mechanisms underlying 1) motor control and 2) speech processing. To that aim, I have mainly used magnetoencephalography (MEG), a non-invasive technique to record human brain activity, in conjunction with a wide range of signal analysis methods.

Experience

Université libre de Bruxelles, Brussels Metropolitan Area - Belgium

Assistant Professor

Oct 2020 – …, 3 years

Université libre de Bruxelles, Brussels Metropolitan Area - Belgium

Post-Doctoral Researcher

Nov 2016 - Sep 2020, 3 years 11 months

Basque Center on Cognition, Brain and Language – BCBL, San Sebastián - Spain

Postdoctoral Researcher

Oct 2015 - Oct 2016, 1 year 1 month

Aalto University School of Science and Technology, Finland

Postdoctoral Researcher

Oct 2013 – Sep 2015, 2 years

Université libre de Bruxelles, Brussels Metropolitan Area - Belgium

PHD

Université libre de Bruxelles

Sep 2008 – Sep 2013, 5 years 1 month

PHD candidate at the LCFC: Laboratoire de Cartographie Fonctionnelle du Cerveau, Hôpital Érasme.

PHD thesis entitled: "Insights into human sensorimotor functions from magnetoencephalography and coherence analysis".

Selected Publications

Nurmi, T., Hakonen, M., Bourguignon, M., & Piitulainen, H. (2023). Proprioceptive response strength in the primary sensorimotor cortex is invariant to the range of finger movement. NeuroImage, 269, 119937.

Mongold, S. J., Piitulainen, H., Legrand, T., Vander Ghinst, M., Naeije, G., Jousmäki, V., & Bourguignon, M. (2022). Temporally stable beta sensorimotor oscillations and corticomuscular coupling underlie force steadiness. NeuroImage, 261, 119491.

Nara, S., Lizarazu, M., Richter, C. G., Dima, D. C., Cichy, R. M., Bourguignon, M., & Molinaro, N. (2021). Temporal uncertainty enhances suppression of neural responses to predictable visual stimuli. NeuroImage, 239, 118314.

Contact

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