Emmanuel Biau

RESEARCH FELLOW - LECTURER

Department of Psychology, University of Liverpool

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**ACADEMIC POSTS**

**Tenure-track Fellow** **2023 - Present**

Department of Psychology, University of Liverpool (UK)

* Design and lead projects on the role of slow brainwaves on audio-visual speech perception and memory
* Combine advanced statistics with electrophysiology techniques in healthy populations (EEG, MEG) and epilepsy patients (intracranial EEG) | Computational modelling approach to simulate brain networks

**Sir Henry Wellcome research Fellow** **2018 - 2023**

Department of Psychology, Universities of Birmingham and Liverpool (UK)

* Design and lead projects on the role of slow brainwaves on audio-visual speech perception and memory
* Combine advanced statistics with electrophysiology techniques in healthy populations (EEG, MEG) and epilepsy patients (intracranial EEG) | Computational modelling approach to simulate brain networks

**Marie Skłodowska-Curie research Fellow 2016 - 2018**

Department of Psychology, Maastricht University (the Netherlands)

* Designed and led projects on the role of neural oscillations in multisensory speech integration
* Combined advanced statistics with electrophysiology techniques in healthy populations (EEG)
* Opensource toolbox to improve timestamp accuracy between real stimulus onsets and EEG recordings for scientific community

**EDUCATION**

**Ph.D Biomedicine 2011 - 2015**

Cognition and Brain Center, Pompeu Fabra University, Barcelona (Spain)

* Thesis title: “The role of speaker’s hand gestures in speech perception.”
* Excellent *cum laude*.

**MSc Integrative biology and cognitive neuroscience 2008 – 2009**

* University of Pierre and Marie Curie, Paris, France

**FELLOWSHIPS and GRANTS**

* Shared Research Facilities grant (co-PI). £13.6k Wellcome Trust & University of Liverpool
* Sir Henry Wellcome Postdoctoral fellowship (PI). £250k Wellcome Trust
* Marie Skłodowska-Curie Individual fellowship (PI). £166k European Union’s Horizon 2020
* National Mobility grant (PI). £6k Spanish Ministry of Education
* PhD fellowship (PI). £66k Spanish Ministry of Education

**SELECTED PUBLICATIONS**

* Branzi, F. M., Martin, C. D., & **Biau, E**. (2023). Activating words without language: beta and theta oscillations reflect lexical access and control processes during verbal and non-verbal object recognition tasks. *Cerebral Cortex*, 33(10), 6228-6240.
* **Biau, E.**, Schultz, B. G., Gunter, T. C., & Kotz, S. A. (2022). Left Motor δ Oscillations Reflect Asynchrony Detection in Multisensory Speech Perception. *Journal of Neuroscience*, 42(11), 2313-2326.
* **Biau, E.**, Wang, D., Park, H., Jensen, O., & Hanslmayr, S. (2021). Auditory detection is modulated by theta phase of silent lip movements. *Current Research in Neurobiology*, 100014.
* Schultz, B. G., **Biau, E.**, & Kotz, S. A. (2020). An open-source toolbox for measuring dynamic video framerates and synchronizing video stimuli with neural and behavioral responses. *Journal of Neuroscience Methods*, 343.
* **Biau, E.**, Fernandez, L.M., Holle, H., Avila, C., & Soto-Faraco, S. (2016). Hand gestures as visual prosody: BOLD responses to audio-visual alignment are modulated by the communicative nature of the stimuli. *NeuroImage*, 132, 129-137.
* **Biau, E.**, Torralba, M., Fuentemilla, L., de Diego Balaguer, R., & Soto-Faraco, S. (2015). Speaker’s hand gestures modulate speech perception through phase resetting of ongoing neural oscillations. *Cortex*, 68, 76-85.

**RECENT COMMUNICATION and DISSEMINATION**

* 7 invited talks in national and international conferences (e.g., BioMag2022; BACN2022)
* 3 Invited talks at universities (e.g., Oxford University, University of Birmingham, Radboud University)
* Poster presentation at Liverpool Neuroscience Day 2022

**TEACHING and SUPERVISION**

Lectures

* MSc Advanced Experimental Methods (PSYC641): 8h
* Integrative MSc course (PSYC731): 2h
* Research methods in Cognitive Neuroscience (PSYC231): 2h
* Research Focus (PSYC131): 1h
* TED Talk (PSYC340): 1h

Seminars and Tutorials

* Compare and contrast implicit and explicit measures of preference (PSYC131): 6h
* Research seminar about Automatic Imitation Tendency (PSYC231): 6h
* 1st and 2nd year tutorials (PSYC134-5; PSYC234-5): 20h
* Problem Based Learning in “Brain Damage” and “Ageing” (MSc Maastricht University, Netherlands): 40h

BSc and MSc supervisions

* Supervision of 8 BSc projects (PSYC340)
* Co-supervision of 6 MSc final projects with Prof Hanslmayr (University of Glasgow)
* Supervision of 2 MSC final projects (Maastricht University, Netherlands)

Module coordinator

* Semester 2 for PSYC231

**PROFESSIONAL DEVELOPMENT and LEADERSHIP ROLES**

* Member of the IPH Contract Researcher Committee (2022 - 2023)
* Fellow of Higher Education Academy (June 2022)

**SKILLS**

* Electrophysiological data recording: Biosemi, Brainstorm, Polhemus, Neuralynx
* Programming and time-series analysis skills: MATLAB, Fieldtrip, Python
* Parametric and non-parametric statistics.