Emmanuel Biau

LECTURER

Department of Psychology, University of Liverpool

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ACADEMIC POSTS

Lecturer - Sir Henry Wellcome research fellow   **2018 - Present**

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

- **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
- 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 - present)
- ULTRA course for the title of Fellow of Higher Education Academy (2022 - present)

SKILLS

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