Tristan-Gael Bara

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18, Rue du stade
29470 Loperhet, France
Born November 18, 1992

Education

2018–2020 **Master's Degree in Cognitive Psychology (Fundamental and Applied Research)**, Université Paris Descartes, Paris

2015–2018 **Bachelor's Degree in Psychology**, Université de Bretagne Occidentale, Brest

Research Experience

2020–2023 **PhD in Computer Science**, Conservatoire des Arts et Métiers, Paris

Supervised by Tifanie Bouchara, Alma Guilbert, and Pierre-Henry Cubaud. Research on creating multisensory training in virtual reality to improve sound localization with non-individualized binaural synthesis. Application to the development of therapeutic serious games for the rehabilitation of patients with unilateral spatial neglect.

Not completed due to health reasons.

2020 **Fundamental Research Internship**, CEDRIC Laboratory, team ILJ, Conservatoire des Arts et Métiers, Paris

Six-month internship with Tifanie Bouchara and Alma Guilbert. Development of diagnostic tools in virtual reality for unilateral spatial neglect.

2019 **Applied Research Internship**, CEDRIC Laboratory, team ILJ, Conservatoire des Arts et Métiers, Paris

Six-month internship: exploration of timbre as a parameter for the sonification of simple 3D shapes.

2018–2019 **Fundamental Research Internship**, VAC Laboratory, Université Paris Descartes

Study on adaptation to non-individualized HRTFs in a virtual environment using an audio-proprioceptive setup.

2018 **Bachelor's Final Year Internship**, Université de Bretagne Occidentale, Brest

Five-month internship in the Spatial Perception team of the Labsticc laboratory. Study on sound localization of moving sources.

Teaching

2020–2021 **Université Paris-Cité**

64-hour teaching assignment at the Institute of Psychology: Experimental Cognitive Psychology, and Research-Based Learning.

Skills

Languages:

- **French**: Native.
- **English**: Near-fluent – 2 years of professional experience in the UK.

Programming & Software Skills:

- **Languages**: C# (Unity, .Net), Python, C++.
- **Unity**: Design of immersive and interactive environments for research and clinical applications.
- **R/Matlab**: Processing of experimental data, statistical analysis, and data visualization.
- **Blender**: 3D modeling and rendering.

Publications and Presentations

Gaffard, M., Bourlon, C., **Bara, T. G.**, Bouchara, T., Colle, F., Silvestri, S., ... & Guilbert, A. (2025). *Validation of immersive virtual reality line and baguette bisection tasks for the assessment of unilateral spatial neglect.* Neuropsychology.

Gaffard, M., Bourlon, C., **Bara, T. G.**, Bouchara, T., Colle, F., Silvestri, S., ... & Guilbert, A. (2025). *Ecological assessment of unilateral spatial neglect in immersive virtual reality: A multiple-case study to assess the feasibility and relevance of a Baking Tray Task.* Neuropsychological Rehabilitation, 35(6), 1210-1228.

Guilbert, A., **Bara, T. G.**, & Bouchara, T. (2024). *Auditory-motor adaptation: induction of a lateral shift in sound localization after biased immersive virtual reality training.* Frontiers in Cognition, 3, 1400292.

Guilbert, A., **Bara, T. G.**, Bouchara, T., Gaffard, M., & Bourlon, C. (2024). *Feasibility and relevance of an immersive virtual reality cancellation task assessing far space in unilateral spatial neglect.* Journal of Neuropsychology, 18(2), 300-311.

Gaffard, M., Bourlon, C., **Bara, T. G.**, Urbanski, M., Bouchara, T., & Guilbert, A. (2023). *Evaluation of visual and auditory spatial neglect in immersive virtual reality: a case study.* Revue de neuropsychologie, 15(4), 229-236.

Bara, T. G., Guilbert, A., & Bouchara, T. (2020, August). *A new step to optimize sound localization adaptation through the use of vision.* In Audio Engineering Society Conference: 2020 AES International Conference on Audio for Virtual and Augmented Reality. Audio Engineering Society.

Bouchara, T., **Bara, T. G.**, Weiss, P. L., & Guilbert, A. (2019, September). *Influence of vision on short-term sound localization training with non-individualized HRTF.* In EAA Spatial Audio Signal Processing Symposium (pp. 55-60).

Paquier, M., Garapon, C., **Bara, T. G.**, Mignot, G., Le Bigot, N., Berthomieu, G., ... & Koehl, V. (2018, April). *Perception of approaching vs. receding sound sources.* In CFA'18 Le Havre, 14th French Congress of Acoustics.