

Valentin Guigon

CURRENT POSITION

Postdoctoral researcher

Social Learning and Decisions Lab

UMD | March 2024 – ongoing

Affiliate researcher

Artificial Intelligence

Interdisciplinary Institute at Maryland

Neuroscience and Cognitive Science

(NACS) program, UMD

RESEARCH AND PERSONAL INTERESTS

Beliefs

Emotions

Information

Social learning

Decision-making

Computational psychiatry

Computational neuroscience

NeuroAI

Social sciences

Public policies

Epistemology

CONTACT

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github

PHD THESIS

Guigon, V.(2022). Neurocognitive mechanisms underlying transmission of uncertain information in humans.

EDUCATION

Doctorate degree – Biology: Cognitive neuroscience

2018–2022 | Neurosciences and Cognition Doctorate School, Lyon 1, France

Master degree – Cognitive science

2016–2018 | Psychology Faculty, Lyon 2, France

Licence degree – Physiology & Neuroscience (Cognitive and Adaptive)

2015–2016 | Sciences Faculty, Marseille Saint-Charles, France

Licence degree – Psychology

2012–2015 | Human Sciences Faculty, Aix-en-Provence, France

RESEARCH EXPERIENCE

Post-doctorate | Social Learning and Decisions Lab

Department of Psychology, University of Maryland, MD, USA

March 2024 – ongoing | Social decision making

Studies: Neurocomputational mechanisms underlying neurotypical and neuroatypical learning in social contexts. Individual differences in dynamic belief updating during trust learning.

Tools: Matlab (SPM), R, Python (PyMC, fMRIprep, Nilearn, Fitlins)

Project management: Behavioral and neuroimaging studies, Lab Operations, Lab Automatization

Management: Joshua Berman, Atharv Umap, Gaurav D. Mahajan

PI: Caroline Charpentier

Post-doctorate | Neuroeconomics (ISCMJ & GATE)

CNRS UMR 5229 & CNRS UMR 2824, France

March 2023 – October 2023 | Social decision making

Studies: Neurocognitive mechanisms underlying transmission of uncertain information in humans. Beliefs updating in social networks.

Tools: Matlab (VBA toolbox, SPM), R (JAGS, BRMS)

Project management: Behavioral study

PIs: Marie Claire Villeval, Jean-Claude Dreher

PhD | Neuroeconomics (ISCMJ & GATE)

CNRS UMR 5229 & CNRS UMR 2824, France

October 2018 – December 2022 | Social decision making

Studies: Neurocognitive mechanisms underlying transmission of uncertain information in humans.

Tools: Matlab (VBA toolbox, SPM), R (JAGS, BRMS)

Project management: Behavioral and neuroimaging studies

PhD directors: Marie Claire Villeval, Jean-Claude Dreher

Research Internship | Neuroeconomics lab. (ISCMJ)

CNRS UMR 5229, France

February – July 2018 | Decision making & rewarding

Study: gPPI analysis of testosterone-induced effects on orbitofrontal–amygdala relationships during anticipation of primary and secondary rewards.

Tools: Matlab (SPM, CONN)

Missions: Brain functional connectivity analysis

PI: Jean-Claude Dreher

SKILLS

Computational Modeling & Simulation
Bayesian Statistical Analysis & Inference
Reinforcement Learning & Decision-Making Models
Experimental Design & Behavioral Task Optimization
Project Leadership & Cross-Disciplinary Collaboration
Teaching, Mentoring & Scientific Communication

SOFTWARE PACKAGES

neurodesign-plus
Python package (PyPI)

FELLOWSHIPS

LabEX CORTEX fellowship (2022–2023)
LabEX CORTEX fellowship (2021–2022)
INDEX INDEPTH PhD fellowship (2018–2021)

CONTRIBUTIONS

Cortex-magazine, editorial board member (January 2023 – January 2024)

AFFILIATIONS

Affiliate, AI Interdisciplinary Institute at Maryland (2024–ongoing)
Affiliate, Neuroscience and Cognitive Science (NACS) program (2025–ongoing)

RESEARCH EXPERIENCE

Research Internship | Neuroeconomics lab. (ISCMJ)

CNRS UMR 5229, France

June – August 2017 | Decision making & rewarding

Studies: Functional connectivity analysis in rewarded tasks and implementation of moral norms in tDCS disrupted decision-making behaviors.

Tools: Matlab (SPM, CONN)

Missions: fMRI analysis; research and ethics protocols

PI: Jean-Claude Dreher

Additional early experiences (summary)

Integrative and Adaptative Neurosciences Laboratory (CNRS UMR 7260, 2016): vestibular cortex; complex systems modelling.

Cognitive Psychology Laboratory (CNRS UMR 7290, 2015); La Poste: nudging risky behaviors and ecological transition.

Speech and Language Laboratory (CNRS UMR 7309, 2014): theory of mind; schizophrenia; data collection and behavioral analysis.

TEACHING EXPERIENCE

Teacher | NACS 645 Cognitive Science (U. of Maryland)

September–December 2025 | 11 PhD students

Content: Foundational debates in cognitive science.

Classes: Concepts; Modularity; Embodied cognition; Brain architecture; Cognitive architecture; Innateness; Methods; Social cognition; Intercultural cognition; Cognitive systems; Thinking; NeuroAI.

Teacher | Cortecs Critical Thinking Summer School (France)

July 2025 | 20 students

Content: Information; Beliefs; Predictions.

Mentor | UMD PhD (U. of Maryland)

September 2024–April 2025 | 1 student

Mentor | Neurosciences Master 1 (U. Claude Bernard Lyon 1)

January–June 2023, 2024 | 2 × 3 students

Teacher | SPM fMRI preprocessing & contrasts (U. Claude Bernard Lyon 1)

June 2023 | 20 PhD students

Content: fMRI preprocessing and first-level modeling with SPM.

Teaching assistant | Cognitive Psychology (U. Lumière Lyon 2)

September–December 2018, 2019, 2020 | 4 × 40 students

Course: Cognitive psychology, Licence 2

Classes: Research methodology; Emotions; Working memory; Executive functions; Language.

Supervisor: Gaëtan Plancher.

Teaching assistant | Intro. to cognitive psychology (U. Lumière Lyon 2)

September–December 2017 | 2 × 40 students

Course: Introduction to cognitive psychology, Licence 1

Classes: Research methodology; Theoretical and experimental paradigms.

Supervisor: François Osiurak.

EXTERNAL TRAINING

2025

- Hugging Face AI Agents, 28h

2024

- Hugging Face Deep RL, 28h Certified
- Reproducible Research, INRIA (FUN-MOOC), 24h Certified
- ML with scikit-learn, INRIA (FUN-MOOC), 36h Certified
- Structural Equation Modeling, CenterStat, 18h Certified
- Game Theory, Stanford U. (Coursera), 17h

2023

- Hugging Face NLP Course, 49h
- CS50, Harvard U. (edX), 30h
- ML with Python, IBM (Coursera), 15h

2022

- Bayesian Statistics in Evolutionary Biology, LBBE, UCBL1, 27h Certified

2021

- Statistical Bayesian Modelling, L. Nalborczyk, MaiMoSiNe, 20h Certified
- Integrity and Ethics in Research Careers, UDL (FUN-MOOC), 30h Certified

2020

- Model Thinking, S.E. Page (Coursera), 27h

2019

- Noninvasive Brain Stimulation Workshop, 14h Certified
- Leaders of Learning, Harvard U. (FUN-MOOC), 15h Certified
- Intro. to Neuroeconomics (Coursera), 31h

2018

- Principles of fMRI I & II, M. Lindquist (Coursera), 17h

PUBLICATIONS

Guigon, V., Geay, L., & Charpentier, C. J. (2026). Rethinking misinformation through plausibility estimation and confidence calibration. *Communications Psychology*, 4, 24.

Guigon, V., Villeval, M. C., & Dreher, J. C. (2024). Metacognition biases information seeking in assessing ambiguous news. *Communications Psychology*, 2(1), 122.

Hu, Y., **Guigon, V.**, Philippe, R., Zhao, S., Derrington, E., Corneau, B., ... & Dreher, J. C. (2022). Perturbation of Right Dorsolateral Prefrontal Cortex Makes Power Holders Less Resistant to Tempting Bribes. *Psychological Science*, 33(3), 412–423.

O'Connor, D. A., Janet, R., **Guigon, V.**, Belle, A., Vincent, B. T., Bromberg, U., ... & Dreher, J. C. (2021). Rewards that are near increase impulsive action. *iScience*, 24(4), 102292.

MANUSCRIPTS IN PREPARATION

Guigon, V., Topel, S., Charpentier, C. J. Individual differences in dynamic belief updating during trust learning.

Conference presentations: SNE (2025); CISE (2025).

Guigon, V., Benistant, J., Villeval, M. C., Dreher, J.-C. Neurocomputational processes of inferring others' preferences for information.

Conference presentations: SBDM (2021, 2023); SNE (2021).

Guigon, V., Dunne, S., Pazderska, A., Frodl, T., Nolan, J. J., Clairis, N., O'Doherty, J. P., Dreher, J.-C. Testosterone causes decoupling of orbitofrontal cortex–amygdala relationship while anticipating primary and secondary rewards.

Conference presentation: OFC Meeting (2018).

Benistant, J., **Guigon, V.**, Nicolas, A., Derrington, E., & Dreher, J. C. (2025). Dynamic valuation bias explains social influence on cheating behavior. *bioRxiv*.

SCIENCE DISSEMINATION

Valentin Guigon [Substack](#)

Valentin Guigon [Medium](#)

V. Guigon (2025). La sphère publique et la chambre d'écho. Cortecs.org.

S. Tremblay & CheeseNaan Productions (2024). Au-delà des écrans : comprendre la désinformation en ligne.

V. Guigon (2023). Notre société est-elle de plus en plus polarisée ? Cortex-mag.net.

A. Sorce (2021). L'invité de la semaine Valentin Guigon, fake news et théories du complot. Pharefm.com.

O. Mollaret (2021). À Lyon : les victimes de fake news « fonctionnent comme tout le monde ». Rue89lyon.fr.

Yanis (2021). Comment ne pas se faire avoir par les fake news ? Alveole.media / Cognitif.

A. Gabert (2020). Pourquoi les théories du complot plaisent à notre cerveau. Cortex-mag.net.