

Yassine YACHOU, MD, PhD, LLM

Clinical Neuroscientist and Senior Research Engineer | Neuromodulation | Computational Modeling | Health Law/Bioethics | AI for Life Sciences

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Profile

Physician-researcher trained in neurosurgery and specialized in clinical neuromodulation, electric-field modeling, neurobiology, and AI-supported biomedical research. My work bridges clinical neuroscience, FEM/AI, Good Clinical Practice, biomedical regulation, health law/bioethics, and inclusive medical education.

Selected Contributions

- Medical and scientific contribution to multiple neuromodulation studies, including multicenter randomized, observational, computational, and qualitative projects.
- Developed Python/FEM workflows for individualized electric-field modeling and personalized TMS/tDCS targeting.
- First author of a 2025 Journal of Affective Disorders meta-analysis integrating electric-field modeling into tDCS evidence for depression.
- First author of a 2024 Anatomical Sciences Education study on tactile modeling and inclusive anatomical learning.
- First author of an early SARS-CoV-2 neuroinvasion/neuroinflammation review cited in the WHO COVID-19 literature database.

Professional Experience

Medical Investigator and Senior Research Engineer - Neurosciences | EPS Ville-Evrard / AP-HP / INSERM ecosystem, Paris region, France | 2024-present

- Contribute to clinical and translational neuromodulation research for treatment-resistant depression and schizophrenia.
- Participate in DSNATURE rTMS study operations, data quality, clinical procedures, and multicenter coordination.
- Designed combined DLPFC rTMS + cerebellar anodal tDCS protocol and a funded MRI-to-FEM-to-AI prototype for personalized TMS.

Neurobiology AI Expert | Mercor.io Corporation, California, USA - Remote | 2026-present

- Evaluate neurobiology and life-science AI tasks for factual rigor, scientific accuracy, and alignment with training guidelines.
- Support prompt methodology, multimodal reasoning tasks, data quality control, and scientific fact-checking workflows.

Senior Research Engineer - Neurosciences | AP-HP CHU Henri Mondor, Creteil, France | 2023-2024

- Conducted individualized electric-field modeling in tDCS studies; linked stimulation dose, anatomical variability, and clinical response.
- Built scripts for automated correlation between simulated electric-field measures and clinical outcomes.

Clinical Research Fellow | INSERM / CEA NeuroSpin / Paris-Saclay, France | 2022-2023

- Managed MRI preprocessing, segmentation, mesh generation, SimNIBS simulations, and post hoc correlations with clinical outcomes.
- Extended electric-field modeling workflows to depression and prosocial-behavior tDCS meta-analytic projects.

Specialized Lecturer in Neuroanatomy and Medical Education Researcher | CFRP Valentin Haüy / Université Paris-Cité, Paris, France | 2022-2023

- Designed tactile and multisensory anatomy teaching methods for healthcare students, including visually impaired learners.
- Published inclusive anatomy education research in Anatomical Sciences Education.

Research Associate | College of Staten Island, City University of New York, USA | 2021-2022

- Contributed to preclinical research on taurine, neuroprotection, epilepsy, GABAergic mechanisms, and synaptic plasticity.

- Participated in DBS-related procedures, epilepsy surgery activities, neurotrauma, emergency neurosurgical care, and international conference presentations.
- Published first-author review on neurological manifestations of SARS-CoV-2.

Education and Training

- Doctor of Medicine (MD), Neurosurgery Residency Training - Astrakhan State Medical University, 2014-2021.
- Master 2 Research, Cellular Signaling and Integrative Neurosciences - Universite Paris-Saclay, 2022-2023.
- Master in Health Law (LLM), Medical Law, Bioethics and Health - Universite Paris 8, awarded 2026.
- DIU Clinical Trial Investigator and Project Manager Training - Sorbonne Universite, 2022-2023.
- DIU Psychopharmacology and Brain Stimulation Therapies - Sorbonne Universite, 2022-2023.
- Doctorate in Science (PhD), Neuroscience - VAE pathway, Aix-Marseille Universite, 2026.

Selected Publications

1. Yachou Y. et al. Transcranial direct current stimulation in patients with depression: An electric field modeling meta-analysis. *Journal of Affective Disorders*, 2025. DOI: 10.1016/j.jad.2025.01.001.
2. Yachou Y., Samson O., Las Vergnas O. Prospective Comparative Study on Enhancing Geometrical Mental Representation and Anatomical Learning in Medical Students through Modeling Clay as an Assessment Tool. *Anatomical Sciences Education*, 2024. DOI: 10.1002/ase.2404.
3. Yachou Y. et al. Neuroinvasion, neurotropic, and neuroinflammatory events of SARS-CoV-2. *Neurological Sciences*, 2020. DOI: 10.1007/s10072-020-04575-3.
4. Yachou Y., El Idrissi A. Taurine role in neuroprotection. In *Natural Molecules in Neuroprotection and Neurotoxicity*, Academic Press, 2024.
5. Makdah G., Yachou Y. et al. Efficacy of tDCS on prosocial behaviours: a novel meta-analytical tool based on electric field modeling. *Neuroscience Applied*, 2024. DOI: 10.1016/j.nsa.2024.104797.

Grants, Awards, Skills and Memberships

World Live Neurovascular Conference 2022 Educational Grant; WFNS World Congress Bogota 2022 Grant; Pan American Neuroendocrine Society Scholarship 2018; 1st Place International Endoscopic Simulation Competition; 4th Place International Neurosurgery Competition.

Skills: clinical research; neuromodulation; TMS; tDCS; FEM; SimNIBS; MRI segmentation; Python; GCP; systematic review; meta-analysis; biomedical ethics; health law; AI evaluation; prompt engineering; qualitative analysis; inclusive medical education.

Memberships: AAN, EAN, AANS, Moroccan Society of Neurosurgery, Societe des Neurosciences, F-CRIN, ESCI, ECNP, UEMS.

References available upon request.