Anne-Lise Saive

Research Scientist - Cognitive Neuroscience & AI

Discipline(s)

Neurosciences, Sciences cognitives

Activities / CV

Anne-Lise SAIVE is a Computational Neuroscience Researcher at the Paul Bocuse research center, affiliated to UNIQUE - Unifying Neuroscience and Artificial Intelligence in Québec. She has a multidisciplinary profile, combining cutting-edge expertise in cognitive sciences in olfaction, emotion and memory, brain imaging (fMRI, MEG, EEG), and analytical methods based on computational neuroscience and Artificial Intelligence.
Her previous work has focused on the functioning of the hippocampus and sensory cortices in the Proust phenomenon - the ability of odors to bring back very vivid and emotional memories, suddenly taking us back to a specific time and place. She now aims to create new learning tools able to boost sensory perception and improve memory performance for students and sensory experts including sommeliers, cooks and perfumers.

HER RESEARCH OUTLINE

CREATE NEW LEARNING TOOLS ABLE TO BOOST SENSORY PERCEPTION AND IMPROVE MEMORY

AXIS 1 — Explore how developing spatial skill sets can improve olfactory identification and memory performance

AXIS 2 — Take advantage of recent AI advances to decipher human motions and actions in relation to food

BACKGROUND
Previous research projects

2018-2021 - Postdoctoral research fellow
Cognitive and Computational Neuroscience lab, Psychology Department, Université de Montréal

- **Research topic**: Characterize the neural dynamics underlying the encoding and consolidation of human memory, reinforced by a positive emotional state. Studies in MEG and iEEG

- ***Fundings***: Quebec Research Fund for Nature and Technologies ([FRQNT](#)) & Apogee Canada Research Excellence Fund for Data Valorization ([IVADO](#)) & Québec Union of Neuroscience and Artificial Intelligence ([UNIQUE](#))
- ***PIs***: Pr Karim Jerbi, in collaboration with Dr Dang Nguyen.

2016-2018 - Postdoctoral research fellow
Cognitive and Computational Neuroscience lab, Psychology Department, Université de Montréal, Quebec Canada

- ***Research topic***: Identifying the neural markers that predict the richness of episodic odor memories. A data-driven machine learning approach in iEEG.
- ***Fundings***: French [Fyssen](#) Foundation & Quebec Bio-Imaging network ([RBIQ](#))
- ***PI***: Pr Karim Jerbi.

2011-2015 - PhD in Cognitive Neuroscience
University Claude Bernard Lyon 1 (France), Lyon Neuroscience Research Center, Diploma delivered by the Cognitive Neuroscience PhD school of Lyon.

- ***Research Topic***: Characterizing the physiological, behavioral and neuronal patterns underlying the encoding and odor-evoked retrieval of complex odor memories in healthy populations using fMRI.
- ***Funding***: 4 year PhD fellowship of the Roudnitska Foundation, France
- ***Advisors***: Dr. Jane Plailly and Pr. Jean-Pierre Royet

Additional information

PUBLICATIONS

Peer-reviewed scientific publications

- Thiery T, **Saive AL**, Combrisson E, Dehgan A, Kahane P, Berthoz A, Lachaux JP, Jerbi K, (2020), Decoding the neural correlates of occulomotor decision-making in humans, Plos Biology
- Castro M, L'Héritier F, Plailly J, Saive AL, Corneyllie A, Tillmann B, Perrin F, (2020), Priming effects of music on name perception: the influence of personal relevance and familiarity. Scientific Report
- Meunier D, Pascarella A, …, **Saive AL**, Deghan A, Jerbi K (2020), NeuroPycon: An open-source Python toolbox for fast multi-modal and reproducible brain connectivity pipelines. NeuroImage,
- Combrisson E, Vallat R, Meunier D, Althukov D, Lajnef T, **Saive AL**, …, Jerbi K, (2019) Visbrain: A multi-purpose GPU-accelerated open-source suite for brain data visualization. Frontiers in Neuroinformatics.
- Alamian G, Hincapié AS, Pascarella A, Thiery T, Combrisson E, **Saive AL**, Martel V, Althukov D, Haesebaert F, Jerbi K. (2017) Measuring alterations in oscillatory brain networks in Schizophrenia with resting-state MEG: State-of-the-art and methodological challenges. Clinical Neurophysiology.
- **Saive AL**, Royet JP, Thévenet M, Garcia S, Plailly J, (2015) "What-Where-Which" episodic retrieval requires conscious recollection and is promoted by semantic knowledge. PlosOne, 10(12):e0143767
- **Saive AL**, Royet JP, Plailly J (2014) A review on the neural bases of episodic odor memory: from laboratory-based to autobiographical approaches. Frontiers in Behavioral Neuroscience, 8:240.
- **Saive AL**, Royet JP, Ravel N, Thévenet M, Garcia S, Plailly J (2014) A unique memory process, modulated by emotion, underpins odor recognition and episodic retrieval in humans. Frontiers in Behavioral Neuroscience, 8:203
- Meunier D, Fonlupt P, **Saive AL**, Plailly J, Ravel N, Royet JP (2014) Modular structure of olfactory memory functional networks. NeuroImage, 22; 95C:264-275
- Hudry J, Ryvlin P, **Saive AL**, Ravel N, Plailly J, Royet JP (2014) Lateralization of olfactory processing: Differential impact of right and left temporal lobe epilepsies. Epilepsy Behavior 37C, 184-190
- **Saive AL**, Ravel N., Thévenet M., Royet J.P., Plailly J (2013) A novel experimental approach to episodic memory in humans based on the privileged access of odors to memories. Journal of Neuroscience Methods, 213(1), 22-31
- Royet JP, Plailly J, **Saive A**L, Veyrac A, Delon-Martin C (2013) The impact of expertise in olfaction. Frontiers in Psychology, 13(4):928

Publications for general public

- Royet JP, **Saive AL**, Plailly J, Veyrac A, (2015) Being a perfumer, a question of natural tendency or traning? Jacquet, C. (Ed.), Contemporary olfactory art.
- Plailly J, **Saive AL**, Ravel N. (2016) Odor memory. La lettre des Neurosciences, 50 :21-23.

- Royet JP, **Saive AL**, Plailly J, Veyrac A (2014) French review of oenologists: The impact of the olfactory experience on cerebral reorganization, Vol(153), p.19-21
- Plailly J, Royet JP, **Saive AL** (2012) Memory. Philosophy Magazine - Hors série, Proust - A la recherche du temps perdu, Décembre : 40-43.

DETAILS

anne-lise.saive@institutpaulbocuse.com
Twitter
Github
GoogleScholar

......

Research & Innovation Center - Institut Lyfe

Château du Vivier - Ecully - France
Tel: +33 (0)4 72 18 02 20

Contact

Raphaëlle Mouillefarine
Partnerships Development
Send an email
+33 (0)4 26 20 97 63

Career

> PhD Position - HealthFerm - Social Science
> Social Science Research Scientist F/M
> PhD Position - Computational Neuroscience - Cognitive Neuroscience