

# Raphael Vallat

Research scientist (PhD)

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📄 [raphaelvallat.github.io](https://raphaelvallat.github.io)  
French, 26 years old

## Education

### Diploma

- 2018–pres Post-doctoral position, University of California Berkeley  
Lab: Walker lab  
Supervisor: Pr. Matthew Walker
- 2017 PhD in Neuroscience, *with honors*, Lyon 1 University  
Lab: Lyon Neuroscience Research Center (CRNL)  
Supervisor: Perrine Ruby, PhD
- 2014 Master degree in Neuroscience, *cum laude*, Lyon 1 University
- 2012 Bachelor degree of Cognitive Sciences, *ranked 1st*, Lyon 2 University
- 2009 Scientific baccalaureate, *cum laude*

### Fellowship and awards

- 2014–17 Three-year PhD fellowship, from the French Ministry of Higher Education and Research
- 2012–14 Two-year merit scholarship, from the French Ministry of Education

### Teaching activities (200h)

- 2014–17 Neurobiology / Neuroanatomy, 1st and 2nd year of Bachelor Degree  
Social science, 1st year of Medicine  
Neuro-imaging, Master degree in Neuroscience  
Supervision of two master students (Research master in Neuroscience)  
Elected representative of the non-permanent members in CRNL council

## Skills

### Software development

- 2018–pres Pingouin: an open-source statistical package in Python
- 2017–pres Sleep: an open-source Python software for visualization, analysis and staging of sleep data.

### Neurosciences

- Methodology Polysomnography, actigraphy, resting-state and task fMRI, combined EEG-fMRI, behavior
- Analysis Signal processing, sleep scoring, machine-learning  
Functional and connectivity MRI analyses (*CONN Toolbox*, *SPM*, *FSL*, *Nilearn*)
- Programming Python, Matlab,  $\text{\LaTeX}$ , HTML, Shell, R, Presentation

## Formations

- 2016 fMRI course (3 days) organized by the Neuroscience and Cognition Doctoral School, Lyon, FR
- 2015 Second Brain Connectivity course (4 days) organized by the Grenoble Institute of Neuroscience, FR
- 2014 EEG-fMRI workshop (2 days) organized by Brain Products GmbH, Lyon, FR

## Outreach

- 2016 Organizer of the Doctoral Day of the Lyon Federative Research Structure in Health
- 2015 Invited oral presenter for a general public conference on sleep and dreams (1h, at Lyon town hall)  
Organizer of a thematic week on neuroscience for 6 high-school students  
Organizer and chairman of "*Les Saisons du CRNL*" conference on neurosciences and society

## Languages

- French Mother tongue
- English Fluent

## Publications

### Peer-reviewed articles

- 2018 Vallat R., Eskinazi M., Nicolas A. & Ruby P. Sleep and dream habits in a sample of French students. *Journal of Sleep Research*. <http://dx.doi.org/10.1111/jsr.12659>
- 2017 Vallat R., Lajnef T., Eichenlaub J.-B., Berthomier C., Jerbi K., Morlet D., & Ruby P. (2017). Increased Evoked Potentials to Arousing Auditory Stimuli during Sleep: Implication for the Understanding of Dream Recall. *Frontiers in Human Neuroscience*, 11. <https://doi.org/10.3389/fnhum.2017.00132>  
Vallat R., Chatard B., Blagrove M. & Ruby P. Characteristics of the memory sources of dreams: a new version of the content-matching paradigm to take mundane and remote memories into account. *Plos One*, 12. <https://doi.org/10.1371/journal.pone.0185262>  
Combrisson E.\*, Vallat R.\*, Eichenlaub J.-B., O'Reilly C., Lajnef T., Guillot A., Ruby P. & Jerbi K. Sleep: an open-source python software for visualization, analysis and staging of sleep data. *Frontiers in Neuroinformatics*, 11. <https://doi.org/10.3389/fninf.2017.00060> \*Co-first authors

### Oral presentations and posters

- 2017 Combrisson E.\*, Vallat R.\*, Eichenlaub J.-B., O'Reilly C., Lajnef T., Guillot A., Ruby P. & Jerbi K. Sleep: an open-source python software for visualization, analysis and staging of sleep data. *Poster/abstract for WSC conference (Czech Republic)*  
Vallat R., Nicolas A. & Ruby P. Brain functional connectivity upon awakening from sleep predicts between-subject differences in dream recall frequency (*Oral presentation at IASD conference (USA)*)
- 2016 Vallat R., Meunier D., Nicolas A & Ruby P. Sleep inertia and functional connectivity between brain regions at awakening: an EEG-fMRI study. *Oral presentation at IASD conference (Netherlands), Poster/abstract for ESRS conference (Italy) and FENS conference (Denmark)*
- 2015 Vallat R., Eichenlaub J.-B., Morlet D. & Ruby P. Increased Evoked Potentials to Arousing Auditory Stimuli during Sleep: Implication for the Understanding of Dream Recall. *Oral Presentation for NPSA (Netherlands) and IASD (USA) conference, Poster/abstract for ASSC conference (France)*

## Interests

Music Guitar and string instruments (12 years, self-learner), music composition  
Sports Swimming (10 years), martial arts (7 years), ski, hiking, climbing

## List of referees

Post-doc PI: Matthew Walker (mpwalker@berkeley.edu)

CRNL director: Olivier Bertrand (olivier.bertrand@inserm.fr)

PhD supervisor: Perrine Ruby (perrine.ruby@inserm.fr)