

# Dominique Makowski

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URL: <https://biblineuropsych.com/> (personal blog in French)

Born: October 19, 1991 – Clamart, France (25 years old)

Nationality: French (FRA)



## Current position

### *PhD Student*

Memory & Cognition Lab', Institute of Psychology, University of Sorbonne Paris Cité, Paris, France

Center for Psychiatry & Neuroscience, INSERM U894, Sainte-Anne Hospital, Paris, France

## Education

2014–17

DOCTOR OF PHILOSOPHY (PHD)

Neuropsychology & Cognitive Neuroscience, University of Sorbonne Paris Cité, Paris, France

*Thesis.* Transcending Reality: Neuropsychology of the Sense of Reality and its relationship with Emotion Regulation, Memory and Consciousness

*Supervisor.* Pr. Serge Nicolas

2014–17

COGNITIVE-BEHAVIORAL THERAPY (CBT) CERTIFIED PRACTITIONER

French Association for Cognitive-Behavioral Therapy (AFTCC), Paris, France

*Second year Thesis.* Cognitive and Behavioral Therapy of a Patient suffering from a Motivation Deficit in a Dysthymic Context and of another Patient suffering from Social Anxiety

*Supervisor.* Sophie Kindynis

2012–14

MASTER OF SCIENCE (MSC)

Neuropsychology & Cognitive Psychology, University of Sorbonne Paris Cité, Paris, France

*Second year Thesis.* Study of emotions in schizophrenia shed a light on the Paradox of Fiction

*Supervisor.* Pr. Pascale Piolino

*First year Thesis.* Cognitive Development of the Aesthetic Judgment in Children and Adults

*Supervisor.* Pr. Sandrine Rossi

2009–12

BACHELOR OF SCIENCE (BSc)

Psychology, University of Sorbonne Paris Cité, Paris, France

## Research topic and scientific interests

Several scientists and philosophers posit the high probability of us living in a simulated reality. In psychology, that question is somehow irrelevant, for most of us have an intuitive belief and feeling that they *are* in something interpreted as reality. The neurocognitive processes underlying this sense of reality is what drives my research. This topic is heavily connected with others levels of Self such as minimal consciousness, interoceptive awareness, reality monitoring, dreams and presence, and has an obvious echo in several neuropsychiatric diseases (such as schizophrenia or depersonalisation-derealization disorder). As it also shares a strong relationship with emotional processing, and modifications of the sense of reality might be at stake in some forms of voluntary or involuntary emotion regulation mechanisms (such as distancing, decoupling, defusion, decentering or fictional reappraisal).

More generally, my scientific interests also include the following topics:

- *Consciousness*. The different levels of Self and their neural correlates.
- *Emotion regulation*. The unicity and diversity of emotion regulation strategies, its processes and alteration in neuropsychiatric diseases.
- *Neuropsychological practice*. Developing tools that will improve the efficiency and accuracy of neuropsychological examination and diagnostic.
- *Neuroaesthetics*. The cognitive processes involved in the aesthetic experience and judgment.
- *Statistics, Programing and Methodology*. The application of cutting-edge statistical procedures on neuropsychological data. Also interested in scientific good practices and reportability (with a special focus on open-access, and reproducibility).
- *History of psychiatry/neuroscience*. The origin of modern neuroscience and psychology, with a special focus on the romantic era and *La belle époque* (19th - 20th centuries).
- *Philosophy*. Phenomenology, radical determinism, transhumanism and the links between oriental philosophies/religions (Buddhism and Hinduism) and modern knowledge.

## Experience

### Research

2012–13

INTERNSHIP

Developmental Psychology Lab', University of Sorbonne Paris Cité, CNRS UMR 8240, Paris, France

*Activity*. Designing and conducting experiments on the development of cognitive processes behind aesthetic judgment (in the field of neuroaesthetics) with children from 7 to 10 years old

*Supervisor*. Pr. Sandrine Rossi

2012

INTERNSHIP

Developmental Psychology Lab', University of Sorbonne Paris Cité, CNRS UMR 8240, Paris, France

*Activity*. Conducting experiments on emotions and mental rotation with healthy adults

*Supervisors*. Pr. Grégoire Borst & Pr. Olivier Houdé

2011      **INTERNSHIP**  
Memory & Cognition Lab', Institute of Psychology, University of Sorbonne Paris Cité, Paris, France  
*Activity.* Conducting studies on memory, salience and bizarreness effect with healthy adults  
*Supervisor.* Pr. Serge Nicolas

## Teaching

### ACADEMIC

2015–16      **TEACHING ASSISTANT**  
University of Sorbonne Paris Cité, Paris, France  
*Subject.* Differential cognitive psychology for first year students  
*Activity.* 96 hours, performed all regular duties of a T.A. for classes size of 40 including occasional lectures, office hours, and marking

2014–16      **TUTOR**  
University of Sorbonne Paris Cité, Paris, France  
*Activity.* Helping bachelor students on my free time (mainly Cognitive Psychology, Psychopathology and Neuroscience)

2014–15      **TEACHING ASSISTANT**  
University of Sorbonne Paris Cité, Paris, France  
*Subject.* Cognitive psychology for third year students  
*Activity.* 32 hours, performed all regular duties of a T.A. for for classes size of 40 including occasional lectures, office hours, and marking

2013–14      **TEACHING ASSISTANT**  
University of Sorbonne Paris Cité, Paris, France  
*Subject.* Introduction to the use of internet and online university services  
*Activity.* 16 hours

### SCIENTIFIC

2015–16      **INSTRUCTOR**  
EDA, ECG, Facial EMG: Theory and Practical Signal Acquiring  
*What.* Short within-lab' trainings (2h) for master and PhD's students on how to acquire electrophysiological (EDA, ECG, EMG) signal using Biopac® and the AcqKnowledge software  
*Where.* Memory & Cognition Lab'

2015–16      **INSTRUCTOR**  
The Anamnesis in Clinical and Experimental Psychology  
*What.* Short within-lab' trainings (2h) for master students on how to ask and handle sensitive personal information about patients or participants

*Where. Memory & Cognition Lab'*

2015–16

INSTRUCTOR

Introduction and Basic Statistics using R

*What.* Short within-lab' trainings (2h) for master and PhD's students on basic statistics using R

*Where. Memory & Cognition Lab'*

### **SUPERVISION**

I have supervised ten third-year psychology students during their lab internship, five master students (studying neuropsychology and cognitive psychology) for their master thesis.

### **ADDITIONAL TRAINING**

2016

ACADEMIC TEACHING CERTIFICATE

University of Sorbonne Paris Cité, Paris, France

*Four-days long training in pedagogy and innovative teaching*

## **Clinical Activity**

2013–14

INTERNSHIP

Department of adult psychiatry (Pr. Philippe Fossati)

Pitié-Salpêtrière Hospital, Paris, France

*Supervisor.* Dr. Séverine Hatif

*Activity.* Assessment and diagnostic of psychiatric or neurological illnesses among adults, as well as development and application of cognitive rehabilitation programs

2012–13

INTERNSHIP

Department of geriatric psychiatry (Dr. Thierry Gallarda)

Sainte Anne Hospital, Paris, France

*Supervisor.* Emmanuel Guiliano

*Activity.* Assessment and diagnostic of Psychiatric and Neurologic illnesses among an elderly population

2012–13

INTERNSHIP

Department of gerontology

La Porte Verte Hospital, Versailles, France

*Supervisor.* Sophie Fleury

*Activity.* Observation of the assessment and diagnostic of memory related deficits such as neurodegenerative diseases, somatic aging-related illnesses or depression

### **ADDITIONAL TRAINING**

2016

MASTER CLASS: MINDFULNESS BASED ON COMPASSION AND INSIGHT (MBCI)

Institute for psychiatry, Sainte Anne Hospital

*Two-days long training on mindfulness based rehabilitation*

2016

FIRST AID CERTIFICATE

University of Sorbonne Paris Cité, Paris, France

*Two-days long training*

# Communications

## Journal articles (peer reviewed)

Sperduti, M., **Makowski, D.**, & Piolino, P. (2016). *The protective role of long-term meditation on the decline of the executive component of attention in aging: a preliminary cross-sectional study*. Aging, Neuropsychology, and Cognition, 1-12.

Sperduti, M\*, Arcangeli, M\*, **Makowski, D.**, Wantzen, P., Zalla, T., Lemaire, S., Dokic, J., Pelletier, J., Piolino, P. (2016). *The paradox of fiction: Emotional response toward fiction and the modulatory role of self-relevance*. Acta psychologica, 165, 53-59.

**Makowski, D.**, Sperduti, M., Blanchet, S., Nicolas, S., Piolino, P. (2015). *Régulation Emotionnelle face au Déclin Cognitif dans le Vieillissement : Un Faux Paradoxe ? | Emotion regulation and the cognitive decline in aging: beyond the paradox*. Gériatrie et Psychologie Neuropsychiatrie du Vieillessement, 13 (3), 301-8.

## Technical publications (peer reviewed)

**Makowski, D.** (2016). Package 'neuropsychology': An R Toolbox for Psychologists, Neuropsychologists and Neuroscientists (0.2.5). Available from <https://github.com/neuropsychology/neuropsychology.R>. The Comprehensive R Archive Network (CRAN).

## Talks

**Makowski, D.**, Sperduti, M., Piolino, P. (2016). *"Being there" and Remembering it: Presence enhances Encoding in Memory*. International Congress On Memory (ICOM), 17-22 July 2016, Budapest, Hungary.

**Makowski, D.**, Sperduti, M., Piolino, P. (2016). *The Sense of Reality as a feature of proto-Consciousness, its Alteration and Generation induced by Fictional Worlds*. Literary States of Consciousness, 2 June, Paris, France.

**Makowski, D.**, Sperduti, M., Piolino, P. (2016). *Does Mindfulness ability differently affect Implicit and Explicit Emotion Regulation?* 2nd International Conference on Mindfulness (ICM), 11-15 May, Roma, Italy.

Sperduti, M., **Makowski, D.**, Piolino, P. (2016). *Does mindfulness enhances interoception? Dissociation between different interoceptive abilities*. 2nd International Conference on Mindfulness, 11-15 May, Roma, Italy.

**Makowski, D.**, Sperduti, M., Piolino, P. (2015). *Bon et Mauvais Régulateurs Emotionnels: Un Rôle Spécifique de l'Inhibition ?* 56è Congrès National de la Société Française de Psychologie (SFP), 2-4 September, Strasbourg, France.

**Makowski, D.**, Sperduti, M., Pelletier, J., Piolino, P. (2015). *Régulation émotionnelle et Self Control: De la recherche Fondamentale à l'Application Clinique*. 1er Congrès Francophone de TCC, 27-29 May, Lyon, France.

**Makowski, D.,** Sperduti, M., Arcangeli, M., Pelletier, J., Piolino, P. (2014). *From Philosophy to the Rehabilitation of Psychiatric Patients: Fiction/Reality, Emotion et Cognitive Control*. Journée d'hiver de l'IUPDP, 19 December, Boulogne-Billancourt, France.

**Makowski, D.** (2014). *L'émotion face à la fiction : l'étude de patients schizophrènes éclaire le paradoxe de la fiction*. 27 June, Fête de la Recherche, Boulogne-Billancourt, France.

**Makowski, D.,** & Rossi, S. (2013). *Le jugement esthétique chez l'enfant*. Journées Neurosciences, Esthétique, et Complexité, 28 September, Paris, France.

## Posters

**Makowski, D.,** Sperduti, Piolino, P. (2016). *I know it's not real...what does it change?* nCPN day, 16 September, Paris, France.

**Makowski, D.,** Sperduti, Piolino, P. (2015). *"J'avais l'impression d'y être" : Sentiment de présence et encodage en mémoire autobiographique*. Journée d'hiver de la Société de Neuropsychologie de Langue Française, 5 December, Paris, France.

Sperduti, M., **Makowski, D.,** & Piolino, P. (2015). *Interaction entre systèmes attentionnels et encodage en mémoire épisodique*. Journée d'hivers de la Société de Neuropsychologie de Langue Française, 5 December, Paris, France.

**Makowski, D.,** Sperduti, M., Arcangeli, M., Pelletier, J., Piolino, P. (2015). *I know it's not real...what does it change?* 12e colloque de la Société des Neurosciences, 19-22 May, Montpellier, France.

**Makowski, D.,** Sperduti, M., Arcangeli, M., Pelletier, J., Piolino, P. (2014) *Emotion Regulation by fiction is related to cognitive inhibition*. Journée d'hiver de la Société de Neuropsychologie de Langue Française, 5 December, Paris, France.

Sperduti, M., **Makowski, D.,** Vialatte, F., & Piolino, P. (2014). *The decline of Autobiographical Memory in aging, inhibition and the cingulate cortex: an activation and resting state fMRI study*. Journées d'Etudes du Vieillissement, 15-16 September, Caen, France.

Sperduti, M., **Makowski, D.** & Piolino, P. (2014). *The protective role of meditation on the cognitive decline in aging: a cross-sectional study*. Journées d'Etudes du Vieillissement, 15-16 Setpember, Caen, France.

**Makowski, D.,** Sperduti, M., Arcangeli, M., Pelletier & J., Piolino, P. (2013). *QUID du paradoxe de l'émotion face à la fiction ? Nouvelles données physiologiques comparant la réponse émotionnelle à des scènes réelles ou fictionnelles*. Journées de l'IUPDP, 19 December, Boulogne-Billancourt, France.

## Public popularization

**Magazine,** "Neuroanatomie de la réalité : quand le réel n'est plus", 2016, *Les yeux brouillés*, 1, 48-55.

**National TV,** *The effect of violent images on brain and body*, 2015, Testé sous contrôle médical, France 4

**Online journal,** "Avengers, l'ère d'Ultron" en 3D : aussitôt vu, aussitôt oublié ?, 2015, francetvinfos.fr

# Skills

## Language

**French:** Native proficiency

**Polish:** Native proficiency

**English:** Fluent (95/100 on the Oxford Placement Test)

**German:** Limited working proficiency

**Italian:** Limited working proficiency

## Neuroimaging

**Physiology** (Biopac® and AcqKnowledge® systems)

- Electrodermal Activity (EDA): Expert
- Electrocardiogram (ECG): Proficient
- Facial Electromyography (fEMG): Proficient
- Eye tracking: Familiar

**EEG** (Brain Vision®, Geodesic®, MNE, Fieldtrip)

- Event-Related Potentials (ERPs): Familiar
- Source localization: Theoretical knowledge, interest
- Time-frequency analysis: Theoretical knowledge, interest
- Micro-states analysis: Theoretical knowledge, interest

**MRI** (SPM, FSL)

- Functional (fMRI): Novice
- Connectivity: Theoretical knowledge, interest

### ADDITIONAL TRAINING

2016	INTRODUCTION TO EYE TRACKING Memory and Cognition Lab
2016	<i>one-day long (5h) training on signal acquisition and processing with the SMI system</i> HOW TO GET GREAT EDA (ELECTRODERMAL ACTIVITY) DATA Biopac webinar <i>one-day long (4h) training on acquiring and processing of EDA</i>
2015	fMRI AND CONNECTIVITY National Institute of Nuclear Sciences & Techniques (INSTN), Marseilles, France <i>Four-days long (32h) training with Dr. Jorge L. Armony on fMRI and connectivity</i>
2014-15	fMRI : PREPROCESSING AND ANALYSIS Sainte-Anne Hospital, Paris, France <i>Four-days long (32h) training with Dr. Sylvain Charron on fMRI data analysis</i>
2014	SIGNAL PROCESSING THEORY AND APPLICATION FOR EEG Ecole Supérieure de Physique et de Chimie Industrielle (ESPCI), Paris, France <i>Three-days long (24h) training with Dr. Francois Vialatte on signal theory and its application for EEG</i>

## Statistics / Data Science

I use **R** and **Python** for data analysis. My knowledge is oriented toward the fields of *modelling* (especially mixed-effects models, bayesian estimations, and structural equations) and *multivariate statistics* (variable number reduction and importance assessment, machine learning). I'm more generally interested in best practices in statistics (clear reporting, reproducibility, open-source solutions) and their use in psychology and neuroscience.

### CREATIONS AND CONTRIBUTIONS

- R package 'neuropsychology': See [technical publications](#)

### ADDITIONAL TRAINING

- 2015 STATISTICS AND R FOR THE LIFE SCIENCES  
Harvard University, MA, USA  
*EdX course (16h)*
- 2014 MACHINE LEARNING AND BRAIN-TO-COMPUTER INTERFACES  
Ecole Supérieure de Physique et de Chimie Industrielle (ESPCI), Paris, France  
*Two-days long (16h) training with Dr. Francois Vialatte on machine learning and its application for BCI*
- 2014 INTRODUCTION TO STATISTICS WITH R  
Paris Sud University, Paris, France  
*MOOC (40h)*

## Programming

I use **Python** on a daily basis and have a working knowledge of **Matlab**. I am currently learning **Julia**.

### CREATIONS AND CONTRIBUTIONS

- **Neuropsydia.jl**  
I try to recreate Neuropsydia (originally for python) for Julia (very early state).  
<https://github.com/neuropsychology/Neuropsydia.jl>
- **Neuropsydia.py**  
I created an open-source python module for creating neuropsychological experiments, tasks and questionnaires that also includes several statistical functions such as bootstrapped t-testing and bayesian regression fitting.  
<http://neuropsychydia.com>

### ADDITIONAL TRAINING

- 2016 SCIENTIFIC PROGRAMMING WITH PYTHON AND SOFTWARE ENGINEERING BEST PRACTICES  
Telecom ParisTech  
*Two-days (16h) long training on advanced python programing*
- 2016 P4N 2016: PYTHON FOR NEUROSCIENCE (AND PSYCHOLOGY)  
University of Nottingham, Nottingham, UK  
*Three-days long (24h) training with Dr. Jon Peirce, the creator of Psychopy*

## Media Processing

I use  $\LaTeX$  and Markdown for scientific reports. I'm also proficient with several media processing softwares such as Adobe Photoshop™, Adobe Illustrator™, Avidemux and the Window's Office™ suite.

## Miscellaneous

### Grants, honors & awards

2014 PhD ministerial scholarship (3 years - 80 000€)

### Other activities

2014-16 WEBMASTER  
[La bibliothèque du neuropsychologue](#)  
*A scientific and philosophic books review blog*

2009-12 ACTIVE MEMBER  
Student's Union, University of Sorbonne Paris Cité, Paris, France  
*In charge of organizing social events for students*

### Other interests

**Art:** hyperrealism (21st century), romanticism (18-19th century) and expressionism

**British culture during the romantic era:** literature, science, history, poetry, ...

**Music:** Piano and guitar