Ligneul Romain

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Romain Ligneul

PhD

Donders' Institute – Center for Cognitive Neuroimaging – Nijmegen

Post-doctoral fellow – Motivational & Cognitive Control group

Research training

2015- Nijmegen, Netherlands

Donders Institute, DCCN , Radboud University

Post-doctoral fellowship *Motivational & Cognitive Control group (PI: Pr Roshan Cools)*

A neurocomputational approach of controllability and executive control in humans
(fMRI, Modeling)

2010 - 2014 Lyon, France

Institut des Sciences Cognitives, CNRS UMR5229

PhD thesis *(supervised by J-C Dreher). Team Reward and Decision Making*

Neural basis of social competition and social hierarchy in humans
(fMRI, EEG, iEEG, Modeling)

Other researches

- Appraisal of controllable and uncontrollable stressors (iEEG)
- Reinforcement of curiosity (with Tiffany Morisseau)
- Risk-preferences in pathological gambling (with Guillaume Sescousse)

2009 - 2010 *Département d'études cognitives, ENS* Paris

Master internship *(A-C Bachoud-Lévi & I Trinkler). Team NPI*
Investigating the nature of the spontaneous facial mimicry using EEG-EMG.

2008-2009 *Institut du Fer-à-Moulin, INSERM* Paris

Master internship *(J-A Girault). Team Neurotransmission & Signalisation*
Intracellular phosphorylation pathways modulated by atypical antipsychotics in mice

Teaching

2013-

Introduction to evolutionary approaches of cognition. Department of medicine (3h/year). Université de Lyon 1.

2013-2014 **ATER – University Lyon 1***(Attaché Temporaire d'Enseignement et de Recherche)*

Humanities & ethics for medical students (60h/year). Department of medicine. Université de Lyon 1.

Epistemology & philosophy of science. Undergraduate course. Department of cognitive science (20h/year). Université de Lyon 2.

The concept of randomness in human cognition. Undergraduate course. Faculty of sciences (15h/year). Université de Lyon 1.

2011-2013

Cognitive neurosciences. Undergraduate course. Department of psychology (90h/year). Université catholique de Lyon.

2011-2012

Introduction to cognitive psychology. Undergraduate course. Department of psychology (42h/year). Université de Lyon 2.

Student supervision

T. Razafindranaly (M1, Lyon 1), L. Rizzolo (M1, Lyon 2), T. Quillien (M1, ENS-Lyon), J. Girardot (M1, Lyon 1), Lea Le Poder (M1, Lyon 1).

Education

2008-2010

MS in cognitive science	ENS / Paris V / EHESS	Paris
ENS Diploma	Département d'études cognitives, Ecole Normale Supérieure	Paris

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2005-2008 Université Versailles Saint-Quentin (UVSQ) Versailles

BS in Biology

Université Paris-La Sorbonne (Paris IV) Paris

2006-2009

BS in Philosophy

Languages

French (native), English, German (novice).

Matlab, Psychtoolbox, Presentation, Python, R, UNIX shell.

Techniques

fMRI: SPM8/12, functional connectivity, design optimization, multivariate analyses (basics).

EMG, EEG & intracranial EEG: event-related potentials, time frequency analysis, connectivity (basics).

Behavior: computational modeling, psychophysics (basics).

Other: Statistica / SPSS, vector graphics (Inskape), sound synthesis and edition (Sound Forge, Ableton), ELISA assay, dissection (basics), immunohistochemistry (basics), confocal microscopy (basics).

Scientific communications

Peer-reviewed publications

Ligneul R*, Sescousse G*, Barbalat G, Domenech P & Dreher JC (2012). Shifted Risk Preferences in Pathological Gambling, *Psychological Medicine*, **43** (05), 1059-1068.

Forthcoming publications

Ligneul R, Obeso I, Ruff C, & Dreher JC. Dynamical representation of dominance relationships in the human medial prefrontal cortex. *In prep.*

Ligneul R, Girard R & Dreher JC. Social brain and social divides. *In prep.*

Breton A, Ligneul R, & Van Der Henst JB. Electrophysiological signatures of the interplay between social status and gender: an EEG study. *In prep*

Ligneul R, Petton M, & Dreher JC. Sensitivity of the amygdala for social dominance in faces. *In prep*

Posters

Ligneul R, Sescousse G, Dreher JC. *Pathological gambling assessed with prospect theory.* Alpine Brain Imaging Meeting, 2011. Champéry.

Ligneul R, Girard R, Scheiber C, Dreher JC (2013). *Social hierarchies in the brain: learning the value of others through reinforcement.* Société des Neurosciences, 2013. Lyon.

Girard R, Ligneul R, Wydoodt P, Dreher JC (2013). *Dissociating brain choice signals in group versus individual decision-making*. Société des Neurosciences, 2013. Lyon.

Ligneul R, Girard R, Dreher JC (2013). *Defeats drive the emergence of social hierarchies in the brain.* Presented in: Symposium on Biology of Decision-Making, 2013, Paris. Society for Neuroeconomics, 2013, Lausanne. Society for Neurosciences, 2013, San Diego.

Talks

Neuroimaging studies on reward and decision-making processes in pathological gambling. Expert Workshop on Gambling (Istituto Superiore di Sanita), 2012. Rome.

La théorie de la sélection des groupes neuronaux. Journée interdisciplinaire du Pôle Philosophie & SHS – UCLy, 2012. Lyon.

Inter-individual competition and social hierarchy in fMRI. Journée scientifique de l'école doctorale NSCo, 2013. Lyon.

Decision-making under competitive social stress. 4ème conférence annuelle de l'Association Française d'Economie Expérimentale, 2013. Lyon

Media / General audience

Sescousse G & Ligneul R (2014). *Pourquoi jouons-nous? Dans le cerveau d'un joueur (Why do we gamble ? In a gambler's brain)*
http://www.cite-sciences.fr/fr/conferences-du-college/programme/c/1248139940837/-/p/1239022827697/.
Cité des Sciences, Paris. Conference.

Dreher JC, Ligneul R & Sescousse G (2013). *Dans l'enfer du jeu*.
Cerveau et Psycho, n°60, p 48-54.

Neurobehavioral responses to social competition in the human primate
http://www.sfn.org/Press-Room/News-Release-Archives/2013/NEW-LINKS-BETWEEN-SOCIAL-STATUS-AND-BRAIN-ACTIVITY
Press conference, Society for Neurosciences, San Diego 2013.

Funding / Grants

2015 – 2017: Postdoctorant grant from the Fyssen Foundation.

Project: Theoretical and empirical approaches of the role played by controllability for the regulation of human behavior.

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