YSEULT HÉJJA-BRICHARD

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Education

- **2015-Present: PhD candidate (graduating in September 2019)** - Université Paul Sabatier and CerCo (CNRS), Toulouse, France.
  Supervisor: Benoit R. Cottereau, within the Eco-3D team.
  Title of the thesis: Adaptation to the 3D properties of the environment in the primate visual system.

  Synopsis: My PhD project aims to provide a better understanding of how the visual system in primates adapts to the 3D properties of natural scenes. I am investigating the relationship between the 3D properties of the environment and neural responses, conducting functional neuroimaging studies in two primate species (humans and macaques). I am also collecting psychophysics measurements to give insight into the link between visual perception, natural statistics and the brain activity.

- **2014-2015: Msc in Neuroscience, Cognition, and Behaviour (2nd year)** - Université Paul Sabatier, Toulouse, France
  - Research project: "Characterisation of the cortical networks involved in 3D orientation processing in primates." at CerCo, Toulouse. Supervised by Benoit R. Cottereau & Jean-Baptiste Durand.

- **2013-2014: Msc in Cognitive Psychology (1st year)** - Université de Grenoble-Alpes, France
  - Research project: "Role of the eyes in face categorisation: Interracial eye change impacts on the other-race effect in a categorisation task." at LPNC, Grenoble. Supervised by Olivier Pascalis.

  - Internship in Neuropsychology at the Hospital of Grenoble, France (January-February 2014)
  Clinical interviews and cognitive assessments of patients with movement disorders

- **2011-2013: Bsc in Psychology** – Université de Grenoble, France & Universität Leipzig, Germany
  (Erasmus year: 2012-2013)
  - Research assistant at the Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany - Department of social neuroscience (April-July 2013). Supervised by Natacha Mendes.
  In charge of the coding of chimpanzees' vocalisations and statistical analyses.

Research Skills

- **Technical Skills**

  - **Software:** Matlab, SPM12, R programming, Caret (monkey neuroimaging software - surface-based), EventIDE (stimulus presentation), LaTeX, Adobe Illustrator, Photoshop, Zotero, Github.

  - **Data analysis:** fMRI data analyses (whole-brain, ROI-based, and retinotopic analyses, MVPA), psychophysical data modelling, eye-tracking analysis (basics)

- **Teaching Experience**

  - Teaching assistant (2015-2018) for Bsc Biology students (2nd and 3rd year), Department of behavioural science and neuroscience, Université Paul Sabatier, Toulouse, France.
  Practical and lab works, tutorial classes: Behavioural ecology, behavioural neuroscience, nervous and cerebral functions, neurophysiology.
  Creation of original course content and new assessment methods; completion of extra-training in pedagogy to improve personal teaching methods

  - Co-Supervision of two Master's students in Neuroscience and in Psychology (2017-2018; 2019)

- **Lab Community Involvement**

  Student representative at the Lab Council (2017-present)
  Organisation of the Lab Winter School (2018); Co-organisation of the Annual 'CerCo Day' (2016)
  Ambassador for the Center for Open Science (2018-present)

  Development of an open and slow science associative laboratory with other young scientists (http://slowpen.science/)

- **Personal Implication in Science Popularisation**

  - Public presentation on the study of 3D vision in animals (Feb. 2017) "En tête à tête avec un jeune chercheur", Museum de Toulouse: "La vision 3D : mieux qu'au cinéma !"

  - Article written for the Museum of Natural sciences of Toulouse (March 2017, in French) about the evolution of 3D vision in animals - Yseult Héjja-Brichard & Benoit R. Cottereau "Evolution et vision : le vivant a de la profondeur !"

  - Communications manager and board member of InCOGnu - an organisation of students and young researchers in cognitive science in the Toulouse area.
  Organisation of monthly conferences, workshops for the general public (both adults and children) and participation in various events of science popularisation (Pint of Science, EuroScience Open Forum, Brain Awareness Week, National Forum of Cognitive Science).

Scientific Production

- **Publications**

  - **Héjja-Brichard, Y.**, Rima, S., Rapha, E., Durand, J.-B. & Cottereau, B.R. (*in preparation*). Stereomotion processing in the non-human primate brain.

  - Rima, S., Cottereau, B.L., **Héjja-Brichard**, Y., Trotter, Y. & Durand, J.B. (*in preparation*). A new visuotopic cluster in macaque posterior parietal cortex revealed by wide-field retinotopy.

  - Cottereau, B.R., Smith, A.T., Rima, S., Fize, D., **Héjja-Brichard, Y.**, Renaud, L., … & Durand, J.-B. (2017). Processing of Egomotion-Consistent Optic Flow in the Rhesus Macaque Cortex. *Cerebral Cortex*, 1-14. https://doi.org/10.1093/cercor/bhw412

- **International conferences attended**

  - **Héjja-Brichard, Y.**, Rima, S., Rapha, E., Durand, J.-B., Cottereau, B.R. (2018, November). Stereomotion processing in the non-human primate brain. Poster presented at the Society for Neuroscience, San Diego, USA.

  - **Héjja-Brichard, Y.**, Rima, S., Durand, J.-B., Cottereau, B.R. (2017, August). Stereomotion processing in the non-human primate brain. Poster presented at the European Conference on Visual Perception, Berlin, Germany.

- **Oral presentations**

  - **Héjja-Brichard, Y.** & Mercier M.R. (2018). Data visualisation in cognitive neuroscience: Functional neuroimaging and electrophysiology. Talk given for the Toulouse Data Vizualisation group, Toulouse [Slides]
  - **Héjja-Brichard, Y.** (2018). Open Science: Why and How? Talk given at the CerCo's Young Scientist Meeting, Toulouse [Slides]

Additional Skills and Interests

- **Languages:** French (native), English (full proficiency, Toefl iBT: 104/120), German (good command in speaking, level B2), Spanish (good command in speaking, level B1).

- **Methodological improvement –** Workshops in statistical analyses and ethics