



# Hugo Weissbart

PhD student

## Education

- 2015–present **PhD in Neurotechnology**, 4-years program, Centre for Doctoral Training (CDT), Imperial College London, UK.
- Title: *Decoding Speech Comprehension from Continuous EEG recordings*
  - Supervisor: Tobias REICHENBACH
  - Description: The main goal of the project is to measure brain activity in relation to linguistic processing allowing us to decode comprehension of speech. The core aspect of the project relies on machine learning in order to capture relevant speech features from sound and text data and to link them to brain oscillatory activity.
  - **Journal Article:** Hugo Weissbart, Katerina D. Kandylaki, and Tobias Reichenbach (Sept. 2019). "Cortical Tracking of Surprisal during Continuous Speech Comprehension", *Journal of Cognitive Neuroscience*.
- 2014–2015 **MRes in Neurotechnology**, Part of 4-years CDT, Imperial College London, UK.
- 2010–2014 **Double degree: Imperial College London & ISAE - SUPAERO.**
- **MSc Physics**, Distinction (80/100), Imperial College London, London, UK  
Graduation date: May 2014  
Courses: astrophysics, general relativity, cosmology and biophysics of nerve cells
  - **Diplôme d'ingénieur**, ISAE-SUPAERO, French Graduate School of Aerospace Engineering, Toulouse, France  
Graduation Date: November 2015  
- *Final year:* Major in Sciences of the Universe and Applied Mathematics (multi-scale physics modelling, high performance computing, optimization)
- 2008–2010 **Lycée Kleber**, Undergraduate Program in Physics, Mathematics and Technology, Strasbourg, France.  
An intensive two-year preparatory course in mathematics and physics for competitive entrance into France's leading school of science and engineering
- June 2008 **Scientific Baccalauréat**, passed with highest honors, Ribeaupvillé, France.  
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## Experience

- June–September 2013 **Master thesis**, Imperial College London, UK.
- Title: *Effects of Psilocybin on the human functional brain network*
  - Supervisor: Tim EVANS
  - Description: Application of graph theory to neuroscience. I used MEG data to build complex networks representing the functional connectivity of brain activity and compared graph theoretical metrics between conditions (with or without psilocybin).
- June 2012 **Second year project**, ISAE-SUPAERO, Toulouse, France.  
*Study of light-matter interaction in semi-conductor devices*  
Simulation and analysis of CMOS sensor interacting with high energetic photons.
- July 2011 **Volunteering mission**, "Djidjole" a humanitarian organization, Togo.  
In charge of a reforestation mission. Setting up animations for children.
- June 2011 **First year project**, ISAE-SUPAERO, Toulouse, France.  
Movie production: I have written and directed a short-movie fiction for the final year project (unusual case in an engineering school but the possibility existed during the first year.)
- Summer 2007–2012 **Small jobs experiences**, France, UK.  
Worked in various restaurants and pubs in different part of France and in London during summer for several years. I also experienced working as a cashier, a doorman, and a swimming-pool cloakroom ward. It was not only to earn a little pocket money, I certainly gain a lot across all these jobs on a personal account, from travelling alone, to dealing with different level of organization, other nationalities and varying responsibilities within each companies.

## Languages

<b>French</b>	Mother tongue	<b>Spanish</b>	Intermediate (level A2/B1)
<b>English</b>	Fluent (TOEFL-IBT: 104/120)	<b>Basque</b>	Beginner
<b>German</b>	Intermediate (level B1/B2)	<b>Romanian</b>	Beginner

## Computer skills

**OS** Windows, Linux, Mac

**Tools** Bash, LaTeX, Git, Office Suite

**Programming** Java, C, C++, Python, Matlab, R (worked essentially on Python, Matlab and C++ in the last years)

**Preferred Editor** VSCode, vim, Jupyter-notebook for prototyping

**Other** I am mainly working in Python, using common machine learning and statistics libraries `scikit-learn`, `pandas`. Most used Deep Learning framework: `PyTorch`.

## Activities and Interests

**Music** Guitar, Saxophone, recently been involved in making music from neural data during a hackathon, also started building my own audio synthesizer on Raspberry PI

**Sports** Gymnastic, dance, silks

**Misc.:** I co-created a humanitarian society in my school of engineering: we distributed food to homeless people, developed several partnerships with other local organizations and set up a year-long project with children with disabilities.

**Hobbies** Painting, reading and cinema (directed two short-movies by now)

**Driving License** Yes