Nicolas Gravel, Ph.D.

Neuroscientist and engineer: neuroimaging, modeling, acquisition hardware.

EXPERIENCE

NeuroSpin (INSERM–CEA) Dec 2024 – present
Research engineer, Cognitive Neuroimaging Unit

- Investigation of how retinotopically organized visual cortex supports higher-order cognition in congenital blindness, using fMRI and connective-field modeling.
- Reproducible pipelines (GLM, mixed-effects models, decoding) on a Linux compute server.
- Mentored 1 PhD student.

OIST (Okinawa, Japan) and Institute of Neuroscience of la Timone (INTS), Marseille, France Apr – Nov 2024
Guest scientist

- Infra-slow EEG during embodied interaction (OIST); retinotopically constrained network analysis (Institute of Neuroscience of la Timone (INTS)).

Freie Universität Berlin Apr 2019 – Mar 2024
Postdoctoral researcher, Neural Dynamics of Visual Cognition

- High-performance pipeline on parallel computing resources; machine learning on Human Connectome Project fMRI and electrophysiology data.
- Laminar LFP collaboration with the Fries lab (Ernst Strüngmann Institute).
- Mentored 3 PhD students.

Groningen University Medical Center Jun 2013 – Sep 2018
Doctoral researcher, Experimental Ophthalmology

- Anatomical MRI techniques and fMRI analysis methods; mentored 4 MA and 2 PhD students.
- Visiting researcher: brain-network modeling (Universitat Pompeu Fabra, Barcelona, 2016–17); fMRI-compatible eye tracking (Universidad Católica de Chile, 2018–19).

Universidad Católica de Chile, Santiago Mar 2010 – Mar 2012
Research assistant, Neuronal Circuits Laboratory

- Electrophysiological recording and closed-loop control equipment for rodent behavioural experiments; embedded applications in LabVIEW, ATmega microcontrollers and FPGA.

EDUCATION

University of Groningen, The Netherlands 2013 – 2018
Ph.D., Behavioral and Cognitive Neuroscience. Thesis: The Neuroanatomical Organization of Intrinsic Brain Activity Measured by 7T fMRI in the Human Visual Cortex

Universidad de Chile, Santiago 2004 – 2009
Licentiate in Sciences, Biology (equivalent to B.Sc. and M.Sc.); specialization in neuroscience

SKILLS

Computational modeling, artificial intelligence, hardware and software development (Python, Matlab, others)

Instrumentation, microcontrollers, data acquisition & visualization

Analog and digital electronics, printed circuit board design

Education, basic and applied research, sustainable technologies, accessibility

AWARDS

Alexander von Humboldt fellowship for postdoctoral research, DE

Advanced Human Capital Scholarship for post-doctoral research, CL

Professor Mulder Stitching Scholarship for doctoral research, NL

Advanced Human Capital Scholarship for doctoral research, CL

Abel-Tasman Scholarship for young talents in the biomedical sciences, NL

LANGUAGES

Spanish, *native*

English, *advanced (C2 proficiency)*

German, *intermediate (B2)*

PUBLICATION LIST

nicogravel.github.io