

Dr Chloé Guillaume

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Academic Career

Junior Research Fellow (since October 2025)

Postdoctoral Research Associate (since April 2023)

University of Cambridge (UK), Department of Physiology, Development and Neuroscience, Galliano Laboratory, Homerton College

Research project: "Role of morphologically and developmentally diverse dopaminergic neurons in olfactory circuit processing"

Research techniques: Electrophysiology patch-clamp *ex vivo*; Behavioural tests; Chemo- and Opto-genetic

Ph.D. in Neuroscience (October 2019 - January 2023)

Nantes University (France), Doctoral School of Biology & Health, Pathophysiology and Nutritional Adaptations Laboratory, Instituto de Neurociencias d'Alicante (Spain)

Research project: "Role of Cholecystokinin in the corticostriatal pathway plasticity"

Research techniques: Electrophysiology patch-clamp *ex* and *in vivo*; Optopatch-clamp; Behavioural tests

M.Sc. in Neuroscience (September 2017 - August 2019)

University of Strasbourg (France), Cognitive Neuroscience Program, ICube Laboratory

Research project: "Study of the neural networks of sugar perception in children"

Research techniques: fMRI; Sensibility and Habits Assessment

B.Sc. in Life Science (September 2014 - August 2017)

Nantes University (France), Advanced Biology Training, Pathophysiology and Nutritional Adaptations Laboratory

Research project: "Diet effect on Hypothalamic networks"

Research techniques: Immunohistochemistry

Scientific outputs

A low-cost and open-source olfactometer to deliver single odours and blends in multi-animal rodent behavioural studies

Connor Doyle, Jieni Wang, Elisa Galliano, **Chloé Guillaume**

Manuscript in preparation

Modulating the modulators: chemogenetic dissection of bulbar dopaminergic contributions to olfactory behaviour

Chloé Guillaume, Ailie McWhinnie, Sonu Peedikayil Kurien, Connor Doyle, Edina Horvath-Gulacsi, Elisa Galliano

→ Poster presentation at **ECRO 2025 – International Conference about Research in Chemosensory Science** (Bilbao – September 2025)

An automated device designed for olfactory or multisensorial based operant conditioning of freely moving animals

Chloé Guillaume, Harin Wijayathunga, Jieni Wang, Yasho Agarwal, Jasper Poort, Elisa Galliano
Manuscript in preparation

→ Oral presentation at **ECRO 2025 - International Conference about Research in Chemosensory Science** (Bilbao – September 2025): *“Accessible and automated behavioural testing in freely moving mice: open-source tools for multisensory conditioning and odour-driven behaviour”*

→ Data blitz at Cambridge Neuroscience Symposium (8 April – Cambridge)

→ Oral presentation at **UK Semio-chemistry Network annual meeting** (Cambridge – July 2024): *“An automated device designed for olfactory or multisensorial based operant conditioning of freely moving animals and remotely controlled”*

→ Poster presentation at **ISOT 2024 – International Conference about Research in Chemosensory Science** (Reykjavik – June 2024): *“An automated device designed for olfactory or multisensorial based operant conditioning of freely moving animals and remotely controlled”*

Maternal low protein diet alters the development of reward circuits from childhood to adulthood by reshaping its function

Julie Paradis, **Chloé Guillaume**, Morgane Frapin, Dimitri Meistermann, Anthony Pagniez, Pierre de Coppet, Valérie Amarger, Patricia Parnet, Vincent Paillé

bioRxiv 2025.02.28.639479; doi: <https://doi.org/10.1101/2025.02.28.639479>

Mitral, tufted, and everything in between: electrophysiological classification of bulbar projection neurons in the mouse

Sana Gadiwalla, **Chloé Guillaume**, Li Huang, Samuel JB White, Pétur Henry Petersen, Elisa Galliano. eNeuro 4 February 2025, DOI:10.1523/ENEURO.0407-24.2025

→ Poster presentation at **ECRO 2023 – International Conference about Research in Chemosensory Science** (Nijmegen – September 2023): *“Mitral, tufted, and everything in between: electrophysiological classification of bulbar projection neurons in the mouse”*

Reactivating an engram: Context Matters

Connor Doyle, **Chloé Guillaume**

Journal of Neuroscience 17 July 2024, 44 (29) e0650242024; DOI: 10.1523/JNEUROSCI.0650-24.2024

Cholecystokinin modulates corticostriatal transmission and plasticity in rodents.

Chloé Guillaume, María Sáez, Blandine Castellano, Patricia Parnet, Ramon Reig, Vincent Paillé
eNeuro 14 February 2025, DOI: 10.1523/ENEURO.0251-24.2025

→ Oral presentation at **Scientific Days – Nantes University** (Nantes – June 2021): "*Cholecystokinergic signalling in striatal plasticity*"

→ Poster presentation at **IFM 2024 – Institut du Fer à Moulin Colloquium** (Paris – Septembre 2024) and **FENS Forum 2022 – International Neuroscience Conference** (Paris – July 2022) and **NeuroFrance 2021 – International Neuroscience Meeting** (Strasbourg – May 2021): "*Cholecystokinin involvement in corticostriatal transmission and plasticity*"

Can excessive food intake be considered an addiction?

Chloé Guillaume, Vincent Paillé

French Neuroscience Society - La lettre des Neurosciences n°61, November 2021

Children's perception of sugar

Chloé Guillaume, Luc Marlier

Oral presentation at **Young Cognition Researchers' Day of Ecole Normale Supérieure** (Paris – March 2019)

Diet effect on the hypothalamus orexigenic and anorexigenic neuronal network development

Chloé Guillaume, Patricia Parnet

Oral presentation at **Nantes University Bachelor in Life Science Congress** (Nantes – June 2017)

Awards & Grants

- **Junior Research Fellowship** obtained from Homerton College to conduct my research; 4 years of salary and research allowance (October 2025)
- **Avrith Travel Grant** obtained to attend at ECRO 2025 conference (July 2025)
- **Scientific meeting grant** from The Company of Biologist to organize workshop with Cambridge Open Lab hub (October 2024)
- **Travel grant** obtained from ECRO to assist at ISOT 2024 conference (May 2024)
- **Young Investigator Award** from CyNexo at ECRO 2023 – 20k€ (September 2023)
- **Travel grant** obtained from ECRO to assist at ECRO 2023 conference (July 2023)
- **Agreenium excellence label for my Ph.D.** delivered by EIR-A committee (March 2023)
- **Mobility grant** obtained from the Nantes doctoral school for a 3-month project at the *Instituto de Neurociencias d'Alicante* (March 2022)
- **Mobility grant** obtained from INRAE for a 3-month project at the *Instituto de Neurociencias d'Alicante* (March 2022)

- **Awarded at the Nantes doctoral school competition** (national grant obtained main funding for my PhD) (June 2019)
- **First prize of the Jury** for my presentation at the Nantes University Bachelor in Life Science Congress (June 2017)

Outreach and public engagement

Symposium Open-Access Tools and Innovation for olfactory experimentation

Organizer of this symposium for ECRO 2025 – International Conference about Research in Chemosensory Science (Bilbao – September 2025)

Seminar Scent and Imagination

Co-convenor of an interdisciplinary seminar organized with funds awarded by the Centre for Research in the Arts, Humanities and Social Sciences (University of Cambridge) (4th June 2025)

Cambridge Open Lab

Founder of the UK hub of an international Open Lab Network (started with the Nencki Open Lab in Poland) (From May 2024)

Darwin Lunch Seminar

Seminar presentation at the seminar series of Darwin College; *"The sense of smell: from an overlooked research field to new approaches"* (May 2024)

The Mental Sciences Club

Panelist at the session about *Neuroplasticity and Multiple realizability* organized by the Department of History and Philosophy of Sciences at University of Cambridge (February 2024)

ChalkTalk at Darwin College

Member of the organization committee (from December 2023)

Brain awareness week

Public Conference in High Schools and University (March 2023)

Nan'These Association

Founder and Chairwoman of the association for the PhD student in Biology and Health in Nantes (August 2020 – November 2022)

Science communication and eloquence competition "Three minutes thesis"

Winner of the jury's first prize at the Nantes final (March 2022)

Researchers' sleepless night & Le Labo des Savoirs

Participation in videos and podcast for public communications (January 2021 – July 2021)

Doctoneuro Association

In charge of pedagogical missions and school interventions in Strasbourg area (September 2018 – August 2019)

Teaching experiences

University of Cambridge, Department of Physiology, Development and Neuroscience

NST IA Physiology of Organisms: “Sensing the Environment”, Four-Lecture Series (May 2025, Sabbatical Cover)

The Brilliant Club

Tutor for Scholars Programme (From September 2024)

Cambridge Advance Online

Tutor for the class Functional Neuroanatomy (From April 2024)

Nantes University – PhAN Lab

Undergraduate student supervision for research project (November 2021 – May 2022)

Nantes University

Physiology, Neurosciences and Biochemistry Teaching Assistant (January 2020 - July 2022)

- Practical class in Animal Physiology (Third year students)
- Practical class in Neurosciences (Second year students)
- Tutorials in Biochemistry (First year students)

University of Strasbourg

Behavioural Test demonstrator for Third year B.Sc. Psychology (January 2018 - May 2018)

Training

Managing Projects to Achieve Results

Unit CMI 513 (June 2025)

Research Project Management

My Consultants Inspiring Development (August 2024)

Workshop of **Ideas in Neuroscience**: Rethinking Naturalistic Behavior

School of Ideas – Nencki Open lab (February 2024)

Modern Approach to Behavioural analysis - NeuroKit at Geneva

Cajal Advance Neuroscience Training (November 2023)

Introduction to Python

France Université Numérique (September 2023)

Graphical Representation for science publication and communication

Gabriele Hess-Fernandez (April 2021)