

LAURA BURNETT

Neuroscience Research Scientist | Software Development & Data Pipelines | Interdisciplinary Synthesis

✉ leburnett3@gmail.com 🌐 leburnett.github.io 🔄 github.com/leburnett 📍 London, UK

PROFILE

Neuroscience and biomedical research scientist with ten years' experience designing studies and running end-to-end statistical analysis on large, complex datasets; from data wrangling and analysis plans through to modelling, evaluation and communication. My research has addressed questions related to treatments for enteric neuropathies, brain development, and decision-making in autism models. A confident programmer, I value learning from and supporting my peers and am committed to FAIR principles (Findable, Accessible, Interoperable, Reusable) at every stage of my work.

RESEARCH & ANALYTICAL EXPERIENCE

Postdoctoral Researcher

HHMI Janelia Research Campus 📅 Aug 2023 – May 2026 📍 Ashburn, VA, USA

- Built multiple extensive, end-to-end pipelines handling everything from stimulus generation and synchronised data acquisition to cleaning, statistical analysis and figure generation.
- Built an open, interactive web resource that made a complex dataset accessible to a broad audience, accompanying a landmark study published in *Nature* (2025).
- Collaborated within a large, multidisciplinary team, coordinating analysis across specialists and contributing to a shared codebase with Git through pull requests and code review.
- Led an internal group project on understanding fruit fly behaviour in 3D visual environments and contributed to an external collaboration on the molecular mechanisms of motion processing.

PhD Researcher

Institute of Science and Technology Austria (ISTA) 📅 Sep 2016 – May 2023 📍 Klosterneuburg, Austria

- Led an ambitious, multi-year project on rapid decision-making in mouse models of autism that required forming a new collaboration between two research groups.
- Synthesised data across distinct research areas (*visual neuroscience, decision-making and autism*) to identify points of overlap and develop novel research questions.
- Designed experiments and built quantitative pipelines to make sense of large, noisy behavioural and electrophysiological datasets and distil meaningful insights.
- Played an instrumental role in setting up a new lab as a founding member, developing critical organisational, management and leadership skills.

Earlier research roles

UCL Institute of Child Health, University of Melbourne & The Florey Institute 📅 2014 – 2016
📍 London, UK & Melbourne, Australia

Four research placements across three institutions investigating enteric neuropathies and neural development; led to publications in *Neuron*, *Nature Communications* & *Developmental Biology*.

COMMUNICATION, OUTREACH & LEADERSHIP

- **Mentoring & supervision:** mentored 11+ students (graduate, undergraduate and high-school); active member of a women & non-binary mentoring group at HHMI Janelia (since 2023).
- **Public-health communication:** co-founded "Wissen Schafft's" (2021), a multilingual YouTube series to explain viruses and the immune system to the public and tackle misinformation.
- **Public engagement:** designed and led "Seeing is believing? Vision & optical illusions" at a school summer camp on countering misinformation (2021, 2022).
- **Representation & stakeholders:** elected Graduate Student Association Representative, ISTA (2018–2020), representing students' interests and aligning them with institutional priorities.
- **Speaking:** invited presentations at international conferences and internal and external symposia (FENS Forum; Champalimaud Centre; BOKU Vienna; Janelia).

EDUCATION

MSci Natural Sciences - Neuroscience (First Class Honours)

University College London (UCL) 📅 Sep 2015 – May 2016 📍 London, UK

BSc Natural Sciences - Organic chemistry and Biomedical sciences (First Class Honours)

University College London (UCL) 📅 Sep 2012 – May 2014 📍 London, UK
University of Melbourne (study abroad) 📅 July 2014 – July 2015 📍 Melbourne, Australia

SELECTED PUBLICATIONS

Six peer-reviewed publications • h-index 5 • 360+ citations (Google Scholar).

1. **Burnett LE**, Koppensteiner P, Symonova O, et al. Shared behavioural impairments in visual perception and place avoidance across different autism models. *PLoS Biology*. 2024;22(6):e3002668.
2. Nern A, Loesche F, Takemura S, **Burnett LE**, et al. Connectome-driven neural inventory of a complete visual system. *Nature*. 2025;641(8065):1225–1237.

CORE SKILLS

Statistics & analysis

Statistical analysis & modelling • regression • hypothesis testing • outcome evaluation

Programming & data

Python • SQL • MATLAB • HTML, CSS & JavaScript • version control (Git/GitHub) • pull-request-driven development • data wrangling • reproducible workflows • data visualisation • dashboard generation

Communication

Scientific writing • reports & presentations • interactive visualisations • translating complexity for diverse audiences

Leadership

Project management • mentoring & supporting junior colleagues • multidisciplinary collaborations • led a coding support group

SELECTED ACHIEVEMENTS

- 🏆 **Made complex data accessible**
Built an open, interactive web resource used across the research community.
- ★ **Collaboration success**
Formed and contributed to 3 distinct cross-group collaborations that resulted in 2 peer-reviewed publications with an additional publication under review.
- 🔗 **Code reused by others**
A tool I built to fill a gap in an existing connectome-analysis Python package (*neuprint-python*) was adopted into another group's toolkit (*connectome_interpreter*) acknowledged in their [2025 preprint](#).

FUNDING & AWARDS

Travel grant, Austrian Neuroscience Association, FENS (2022).

OeAD research scholarship: competitive, self-authored proposal (2016).

Dean's List, University of Melbourne (2014).

LINKS

Personal Website: leburnett.github.io

Code: github.com/leburnett

LinkedIn: linkedin.com/in/laura-burnett

Scholar: [Laura E. Burnett](#)

REFERENCES

Reference contact information is available upon request.