



1 Advertisement

Post Title: Research Assistant

School/department: Brighton and Sussex Medical School.

Hours: Full time considered up to a maximum of 1 FTE. Requests for flexible working options will be considered (subject to business need).

Location: Falmer campus, Brighton, United Kingdom

Contract: fixed term for 1 year

Reference: 10893

Salary: starting at £32,411 to £36,333 per annum, pro rata if part time

Placed on: 21 February 2023

Closing date: 04 April 2023. Applications must be received by midnight of the closing date.

Expected interview date: 20 & 21 April 2023.

Expected start date: May 2023 or as soon as possible thereafter.

Project: Hox genes and the diversification of neural networks

The Berni lab is recruiting a motivated Research Assistant to work on projects aiming to investigate the diversification of neuronal networks. The laboratory is situated at the University of Sussex, close to the vibrant city of Brighton, and offers state-of-the-art facilities and a dynamic research environment.

Your work will focus on describing the organisational principles within neuronal networks that have driven the diversification of motor outputs in *Drosophila*.

You will use serial Electron microscopy reconstruction dataset with the custom software developed by our collaborator Albert Cardona (University of Cambridge, LMB-MRC) to trace and thus reconstruct the interneurons from neuronal circuits that generate specialised motor patterns. This work will radically push forward our understanding of how a motor networks diversify.

Candidates with a BSc or MSc degree in a bio-medical/neuroscience subject and with experience in neuronal anatomy analysis are encouraged to apply. Expertise working with genetic model systems and a good understanding of statistics and experimental design are desirable. The successful candidate should be capable of working independently on this project, whilst integrated into an interactive and supportive research group, with opportunity to develop and contribute ideas to the project.

The Berni lab is part of Sussex Neuroscience, a highly collaborative and interdisciplinary community of over 50 neuroscience researchers that organises a wide range of scientific and career development activities.

Please contact Dr Jimena Berni (J.Berni@sussex.ac.uk) for informal enquiries.

Visit our website: <https://www.bsms.ac.uk/about/contact-us/staff/dr-jimena-berni.aspx>

The University is committed to equality and valuing diversity, and applications are particularly welcomed from women and black and minority ethnic candidates, who are under-represented in academic posts in Science, Technology, Engineering, Medicine and Mathematics (STEMM) at Sussex.

For full details and how to apply see our [vacancies page](#)

www.brighton.ac.uk/jobs www.bsms.ac.uk

The University of Sussex values the diversity of its staff and students and we welcome applicants from all backgrounds.

Please note: The University requires that work undertaken for the University is performed from the UK.

2. The School / Division

Please find further information regarding the school/division at <https://www.bsms.ac.uk/about/contact-us/staff/dr-jimena-berni.aspx>

3. Job Description

Job Description for the post of: Research Assistant
Department: Neuroscience
Section/Unit/School: Brighton and Sussex medical School
Location: Falmer campus, Brighton, United Kingdom
Grade: 6
Responsible to: Senior Research fellow

Animals, mouse, fly or humans, generate different stereotyped movements associated with different specialized body parts along their body axes. Each specialised body part is matched and controlled by similarly specialised neural circuitry. How neural networks diversify remains unknown and is the centre of this investigation.

The successful candidate will focus on describing the organisational principles within neuronal networks that have driven the diversification of motor outputs in *Drosophila*. They will use serial Electron microscopy reconstruction dataset with the custom software developed by our collaborator Albert Cardona (University of Cambridge, LMB-MRC) to trace and thus reconstruct the interneurons from neuronal circuits that generate specialised motor patterns. This work will radically push forward our understanding of how a motor networks diversify.

You will work in a highly collaborative and supportive team studying the role of Hox genes for the specification of neuronal networks in the *Drosophila* motor system, with opportunity to develop and contribute ideas to the project.

References:

1. The complete connectome of a learning and memory centre in an insect brain. Eichler K,, Cardona A. Nature. 175-182 (2017).
2. Optimal search patterns generated autonomously in free-moving animals without brain activity. *eLife* 2019; 8:e50316. doi: 10.7554/eLife.50316. David W. Sims, Nicolas E. Humphries, Nan Hu, Jimena Berni.

3. Berni J. Genetic dissection of a regionally differentiated network for exploratory behavior in *Drosophila* larvae. *Current Biology* 25(10), 1319-26 (2015).
4. MicroRNA-encoded behavior in *Drosophila*. Picao-Osorio J, Johnston J, Landgraf M, Berni J, Alonso CR. *Science*. 350(6262), 815-20 (2015).

4. Person Specification

Essential Experience/Attributes

- Relevant BSc or MSc degree in a bio-medical sciences subject.
- Experience in neuronal anatomy (neuronal reconstruction or immunostaining and confocal).
- Experience with image processing and analysis.
- Desire to understand circuit basis of brain function and behaviour.
- Good communication skills (written and oral).
- Ability to work on own initiative, as well as collaboratively in a supportive team.

Desirable

- Experience of working with genetic model systems.
- Basic understanding of neuroscience.
- Understanding of statistics and experimental design.
- Experience writing and communicating scientific results.