

EMMETT JAMES THOMPSON, PhD

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PROFILE SUMMARY.

- **I am a Neuroscientist with expertise in memory consolidation and sleep.**
I am an experienced research scientist. I have expertise using animal models, neural recordings, brain imaging, and in-vivo perturbations to study the brain.
- **I am a passionate and experienced teacher and manager.**
I always look for opportunities to work closely with other people. I enjoy it, and I have experience working with and communicating complex ideas to students and professionals across a range of ages and levels of expertise.
- **I am a proficient and skilled data analyst.**
My scientific training has given me an intuition for data. I have experience in high level data engineering, analysis, statistics, and visualisation.

EDUCATION.

University College London	PhD - Neuroscience	Sept 2018 - Nov 2023
University College London	MSci - Neuroscience - First-class (hons)	Sept 2014 - May 2018

PROFESSIONAL EXPERIENCE.

2023-present: Senior research fellow Sainsbury Welcome Centre, UCL, London
Postdoctoral research investigating neural processes during sleep which support memory formation.

2018-2023: Graduate researcher Sainsbury Welcome Centre, UCL, London
PhD research in the Stephenson-Jones laboratory. Investigating subcortical circuit mechanisms for procedural learning and memory.

2018 Consultant scientist Everna Biotechnologies, London
Advising on scientific literature and possible drug discovery targets related to human lysosomal proteases.

2015-2018 Research intern: UCL, London

- 2017-18. Wolfson institute of Biomedical research. Functional roles of long-range connections in sensory cortex.
- 2016. Institute of Behavioural Neuroscience. Computational properties of grid cells when navigating in three dimensions
- 2015. Stanewsky laboratory for Biological Rhythms. CRISPR based genetic modification of circadian clock mechanisms.

TEACHING EXPERIENCE.

2018-2024: Project supervisor
One-to-one supervisor for 4 postgraduate Masters students. Teaching practical research skills, data analysis, scientific communication, writing and critical thinking.

2020: Teaching assistant
Leading small seminars and assisting practical experimental and coding lessons for undergraduate Neuroscience students.

2019: PhD seminars and practical's

Leading small seminars and practical demonstrations for first year PhD students

2015-2018: Tutoring

Science & Maths tutor for Harrison Allen & Tutors Green. Teaching students from primary school, secondary school, college, and undergraduate university level.

SKILLS, TOOLS, AND TECHNOLOGIES.

Data analysis & modelling.	<i>Python, Julia, Matlab, Bash/Linux, scientific computing (HPC systems), FIJI (image analysis). High level statistics, statistical modelling, machine learning and point process modelling.</i>
Design, graphics & production.	<i>Illustrator, PremierPro, Photoshop</i>
3D CAD, prototyping & manufacture.	<i>Autodesk, 3D-printing, laser cutting/engraving, machining.</i>
Spoken Languages.	<i>English (native speaker), French (B2, Conversational)</i>

RESEARCH PUBLICATIONS.

- **Thompson EJ** et al. Replay of procedural experience is independent of the hippocampus. (in preparation). 2024
- **Thompson EJ**. Subcortical circuits for procedural learning and memory (PhD Thesis). UCL library. 2023
- Greenstreet F et al. (inc. **Thompson EJ**) Action prediction error: a value-free dopaminergic teaching signal that drives stable learning. 2022 (in preparation).
- Dalgleish HW et al. (inc. **Thompson EJ**). How many neurons are sufficient for perception of cortical activity? *Elife*. 2020

INVITED TALKS & AWARDS.

2023	-	<i>Neuroplastics network (University of Oxford)</i>
	-	<i>Cortex lab, invited speaker (London, UCL)</i>
	-	<i>International Basal ganglia conference (Stockholm)</i>
	-	<i>COSYNE conference (Montreal - 1 of 30 talks selected from 978 applications)</i>
2022	-	<i>Federation of European Neuroscience Societies (Paris)</i>
	-	<i>Xalon Lecture series (London, Bartlett School of Architecture)</i>
2016	-	<i>Welcome Trust Biomedical Vacation scholarship</i>

OTHER EXPERIENCE.

Symposia organised:

- *Neural Interfaces for Neurobiological Insights (2021): Brain-machine interfaces.*
- *Generalization and abstraction (2020): neural underpinnings of higher cognitive functions*

Animal technician:

Full scientific animal procedures licence EL/1, PIL A, B & C. Trained veterinary microsurgeon (brain). Rodent husbandry and scientific procedures with animal models.

President of UCL Neuroscience Society (2017-2018):

Lead an organisation that runs academic talks, symposiums, conferences, and networking.

Sport:

In my glory days (2015) I was 400m champion of all London universities and have represented my county at national athletics level. I am also a keen (though far less successful) hockey, football, and squash player.