Mouse2Human Postdoc Positions

Two full-time, two-year **senior postdoctoral positions** are available with the **Mouse Translational Research Accelerator Platform (MouseTRAP)** team at Western University in London, ON. These positions involve validating a harmonized battery of identical or near-identical cognitive tests that can be used in mouse models and human patients to characterize disease pathology and therapeutic targets. Successful candidates will work with principal investigators Dr. Tim Bussey, Dr. Adrian Owen, and Dr. Lisa Saksida.

About Us

The **Mouse2Human** team at MouseTRAP is building on preliminary work demonstrating that testing mice and humans on near-identical cognitive tasks is feasible and can reveal similar impairments in both groups. We are now scaling these efforts to validate the use of these tests in clinical settings for neurological conditions such as Alzheimer's disease (AD) and Parkinson's disease (PD). This project will involve:

- defining appropriate cognitive tasks for various disease pathologies as well as across the lifespan in healthy populations
- developing and refining cross-species touchscreen tasks that are validated in both mouse and humans
- designing and implementing experiments to demonstrate these tasks have predictive value in populations with neurological disorders, include investigating traditional cognitive assessments vs. touchscreen assessments in the context of MCI, AD, PD, etc.

Validating the predictive value of these tasks in affected populations is critical for developing **co-clinical trials**, where next-generation humanized mouse models and a specific battery of cognitive tests will be studied in parallel with human clinical cohorts.

Responsibilities

With the ultimate goal of creating a harmonized battery, **one position will be dedicated to mouse task validation, while the other will focus on human task validation**. Although these are distinct roles, the cross-species integration will require extensive cooperation and collaboration within the Mouse2Human team.

The selected candidates will leverage MouseTRAP, a groundbreaking platform designed to address the urgent and critical challenge of translating neurocognitive research from mouse models to human patients. This platform uses a touchscreen-based cognitive testing system that enables the flexible presentation of comprehensive test batteries, bridging the gap between pre-clinical studies and cognitive assessments in humans. This innovative approach ensures high translational relevance, advancing the understanding of neurodegenerative diseases that impact millions globally, and paving the way for targeted interventions.

Candidate Qualifications

We seek highly qualified candidates with the following qualifications:

- A Ph.D. in Psychology, Neuroscience, Pharmacology, or a related field.
- Expertise in cognitive testing, with preference for experience in mouse and human studies depending on the application stream.
- Strong computational skills, with proficiency in programming highly desirable.

Position Details

- **Appointment:** Two-year postdoctoral position.
- **Salary:** $50-70k per year plus benefits, commensurate with experience
- **Start Date:** Immediate availability preferred, but a start date as late as September 1, 2025,is acceptable.

About Western University

The Western University (www.uwo.ca) is a major educational and research center in Ontario with over 25,000 undergraduate and 5,000 graduate students. Cognitive neuroscience in health and disease is a major research focus at Western. London, also known as the Forest City, is an affordable and lively community close to the Great Lakes and two hours from Toronto. The city offers many options for outdoor and cultural activities.

Western is committed to employment equity and diversity in the workplace and welcomes applications from women, members of racialized groups/visible minorities, Indigenous persons, persons with disabilities, persons of any sexual orientation, and persons of any gender identity or expression.

Application Process

Please send the following materials to **Gregg Paisley**, BrainsCAN Administrative Officer, at **gpaisle@uwo.ca**:

- A statement of interest, indicated if you are perusing the mouse or human focused position.
- Curriculum Vitae.
- Names and contact information of at least two references.

The **first cohort of applications** will be reviewed starting **March 31**, **2025** with selected candidates notified for interviews no later than **April 15, 2025.**

Additional Information

For more information, visit:

- MouseTRAP Platform
- Touchscreen Cognition
- TCN Lab
- Creyos
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Key References

- Mar, A. C. et al. *The touchscreen operant platform for assessing executive function in rats and mice.* Nat Protoc 8, 1985–2005 (2013).
- Horner, A. E. et al. *The touchscreen operant platform for testing learning and memory in rats and mice.* Nat Protoc 8, 1961–1984 (2013).
- Oomen, C. A. et al. *The touchscreen operant platform for testing working memory and pattern separation in rats and mice.* Nat Protoc 8, 2006–2021 (2013).
- Beraldo, F. H. et al. *MouseBytes, an open-access high-throughput pipeline and database for rodent touchscreen-based cognitive assessment.* eLife 8, (2019).
- Nithianantharajah, J. et al. *Bridging the translational divide: identical cognitive touchscreen testing in mice and humans carrying mutations in a disease-relevant homologous gene.* Sci Rep 5, 14613 (2015).
- Sullivan, J. A. et al. *New Frontiers in Translational Research: Touchscreens, Open Science, and The Mouse Translational Research Accelerator Platform (MouseTRAP).* Genes Brain Behav. doi:10.1111/gbb.12705.