

NAME: Dylan TERSTEGE

WORK ADDRESS: University of Calgary
157 Heritage Medical Research Building
Calgary, Alberta, Canada, T2N 1N4

QUALIFICATIONS:

Degree	Date	Institution
PhD in Neuroscience	2020 – Present	University of Calgary (with Dr. Jonathan Epp)
MSc in Neuroscience	2018 – Transferred to Doctoral Program	University of Calgary (with Dr. Jonathan Epp)
BSc in Biology and Psychology (Honours)	2014 - 2018	University of PEI

HONOURS AND AWARDS:

Duration	Source	Award	Amount (\$)
2023/12	Hotchkiss Brain Institute	Arun Anbazhagen Travel Award	\$1,000
2023/7	Hotchkiss Brain Institute	HBI Award for Excellence in Brain and Mental Health Research	\$2,000
2023/3	Hotchkiss Brain Institute	HBI Research Day Best poster award	\$200
2023/2	Hotchkiss Brain Institute	PhD Researcher of the Year (2022)	Non- monetary
2022/5 – 2025/4	Natural Sciences and Engineering Research Council of Canada	NSERC Postgraduate Scholarship - Doctoral	63,000
2022/7 – 2025/6	Alzheimer Society of Canada	Alzheimer Society Research Program Doctoral Award	66,000 (Declined)
2022/1 – 2022/12	University of Calgary	Keith Sharkey Travel Award	500
2021/11 – 2022/5	Brain Canada	CONP Scholar Award	10,417
2021/4 – 2021/10	Brain Canada	CONP Scholar Award	12,500
2014/9 – 2018/5	University of Prince Edward Island	Academic Entrance Scholarship	2,000/year
2014/9 – 2015/5	University of Prince Edward Island	Leaders of Tomorrow Award	2,000

PUBLISHED REFEREED PAPERS:

- 1. Terstege, D.J.,** Epp, J.R. (2023). PAW, a cost-effective and open-source alternative to commercial rodent running wheels. HardwareX. 16, e00499 (PhD work).
- 2. Terstege, D.J.,** Dawson, M., Jamani, N.F., Tsutsui, M., Epp, J.R., Sargin, D. (2023). Protocol for the integration of fiber photometry and social behavior in rodent models. STAR Protocols. 4(4). (PhD work).

- 3. Terstege, D.J.,** Epp, J.R. (2023). Parvalbumin as a sex-specific target in Alzheimer's disease research – A mini-review. *Neuroscience & Biobehavioral Reviews*. 134, 105370. (PhD work).
- 4. Dawson, M., Terstege, D.J.,** Jamani, N., Pavlov, D., Tsutsui, M., Bugescu, R., Epp, J.R., Leininger, G.M., Sargin, D. (2023). Sex-dependent roles of hypocretin/orexin neurons in social behavior. *Cell Reports*. 42(7). (PhD work).
- 5. Terstege, D.J.,** Epp, J.R. (2022). Network neuroscience untethered: brain-wide immediate early gene expression for the analysis of functional connectivity in freely behaving animals. *Biology*. 12(1), 34. (PhD work).
- 6. Moretti, J.*, Terstege, D.J.*,** Poh, E.Z., Epp, J.R., Rodger, J. (2022). Low intensity repetitive transcranial magnetic stimulation modulates brain-wide functional connectivity to promote anti-correlated c-Fos expression. *Scientific Reports* 12: 20571 (PhD work). * indicates co-first author(s)
- 7. Terstege, D.J.,** Durante, I.M., Epp, J.R. (2022). Brain-wide neuronal activation and functional connectivity are modulated by prior exposure to repetitive learning episodes. *Brain Structure and Function*. 16: 907707 (PhD work).
- 8. Terstege, D.J.,** Addo-Osafo, K., Teskey, G.C., Epp, J.R. (2022). New neurons in old brains: a cautionary tale for the analysis of neurogenesis in post-mortem tissue. *Molecular Brain*. 15(38). (PhD work).
- 9. Terstege, D.J.,** Oboh, D.O., Epp, J.R. (2022). FASTMAP: Open-source flexible atlas segmentation tool for multi-area processing of biological images. *eNeuro*. 9(2): ENEURO.0325-21.2022 (PhD work).
- 10. Evans, A.*, Terstege, D.J.*,** Scott, G.A., Tsutsui, M., Epp, J.R. (2022). Neurogenesis mediated plasticity is associated with reduced neuronal activity in CA1 during context fear memory retrieval. *Scientific Reports* 12: 7016 (PhD work). * indicates co-first author(s)
- 11. Scott, G.A., Terstege, D.J.,** Roebuck, A.J., Gorzo, K.A., Vu, A.P., Howland, J.G., Epp, J.R. (2021). Adult neurogenesis mediated forgetting of multiple types of memory in the rat. *Molecular Brain*. 14: 97 (PhD work).
- 12. Terstege, D.J.,** MacDonald, D.S., Tasker, R.A. (2021). Standardised ginseng extract G115® potentiates the antidepressant-like properties of fluoxetine in the forced swim test. *Acta Neuropsychiatrica*. 33(3) 141-147 (BSc work).
- 13. Scott, G.A.*, Terstege, D.J.*,** Vu, A.P.*, Law, S., Evans, A., Epp, J.R. (2020). Disrupted neurogenesis in germ-free mice: Effects of age and sex. *Frontiers in cell and developmental biology*. 8: 407 (PhD work). * indicates co-first author(s)

PUBLISHED PREPRINTS:

- 1. Terstege, D.J.,** Ren, Y., Sargin, D., Epp, J.R. (2023). Sex-dependent alterations to the functional properties of parvalbumin expressing neurons in the retrosplenial cortex during Alzheimer's disease. *BioRxiv* (<https://www.biorxiv.org/content/10.1101/2023.06.22.546142v1>). (PhD work).
- 2. Ramkumar, R.,** Edge-Partington, M., Adigun, K., Ren, Y., **Terstege, D.J.,** Khan, N.S., Rouhi, N., Jamani, N.F., Tsutsui, M., Epp, J.R., Sargin, D. (2023). Long-term impact of early life stress on serotonin connectivity. *BioRxiv* (<https://www.biorxiv.org/content/10.1101/2023.08.01.551573v1.full>). (PhD work).

SELECTED PRESENTATIONS AND PUBLISHED ABSTRACTS: (* is presenting author)
International:

1. **Terstege, D.J.***, Ren, Y., Galea, L.A.M., Sargin, D., Epp, J.R. (2023). Sex-dependent alterations to the functional properties of parvalbumin expressing neurons in the retrosplenial cortex during Alzheimer's disease. Society for Neuroscience Annual Meeting, Washington, DC, USA. Invited Talk. International Conference (PhD work).
2. **Terstege, D.J.***, Ren, Y., Galea, L.A.M., Sargin, D., Epp, J.R. (2023). Sex-dependent alterations to the functional properties of parvalbumin expressing neurons in the retrosplenial cortex during Alzheimer's disease. Molecular & Cellular Cognition Society Annual Meeting, Washington, DC, USA. Poster Presentation. International Conference (PhD work).
3. **Terstege, D.J.***, Ren, Y., Sargin, D., Epp, J.R. (2023). Sex-dependent alterations to the functional properties of parvalbumin expressing neurons in the retrosplenial cortex during Alzheimer's disease. International Behavioural Neuroscience Society Annual Meeting, Niagara Falls, ON, Canada. Invited Talk. International Conference (PhD work).
4. **Terstege, D.J.***, Ren, Y., Sargin, D., Epp, J.R. (2023). Sex-dependent alterations to the functional properties of parvalbumin expressing neurons in the retrosplenial cortex during Alzheimer's disease. Organization for the Study of Sex Differences Annual Meeting, Calgary, AB, Canada. Poster Presentation. International Conference (PhD work).
5. Ren, Y.*, Khoshbaf Khiabani, N., **Terstege, D.J.**, Epp, J.R. (2023). Sex differences in retrosplenial cortex parvalbumin interneurons: Implications for Alzheimer's Disease and cognitive decline. Hotchkiss Brain Institute Research Day, Calgary, Canada. Poster Presentation. Local Conference (PhD work).
6. Sargin, D.*, Dawson, M., **Terstege, D.J.**, Jamani, N., Tsutsui, M., Epp, J.R., Leininger, G.M. (2022). The role of hypocretin/orexin neurons in social behavior. Annual Meeting of the American College of Neuropsychopharmacology, Phoenix, AZ, USA. Poster Presentation. International Conference (PhD work).
7. **Terstege, D.J.***, Durante, I.M., Epp, J.R. (2020). Establishing a rodent behavioural model of cognitive reserve. International Behavioural Neuroscience Society Annual Meeting, Glasgow, United Kingdom. Virtual Poster Presentation. International Conference (PhD work).

National:

1. **Terstege, D.J.***, Oboh, D.O., Epp, J.R. (2022). FASTMAP: Open-source flexible atlas segmentation tool for multi-area processing of biological images. Canadian Association for Neuroscience Meeting, Toronto, Canada. Poster Presentation. National Conference (PhD work).
2. **Terstege, D.J.***, Evans, A., Scott, G.A., Tsutsui, M., Epp, J.R. (2022). Neurogenesis mediated plasticity is associated with reduced neuronal activity in CA1 during context fear memory retrieval. Canadian Association for Neuroscience Meeting, Toronto, Canada. Poster Presentation. National Conference (PhD work).
3. Dawson, M.*, **Terstege, D.J.**, Jamani, N., Tsutsui, M., Epp, J.R., Leininger, G.M., Sargin, D. (2022). Sex-dependent roles of hypocretin/orexin neurons in social behavior. Canadian Association for Neuroscience Meeting, Toronto, Canada. Poster Presentation. National Conference (PhD work).
4. Ramkumar, R.*, Edge-Partington, M., Jamani, N., Emond, J., **Terstege, D.J.**, Epp, J.R., Sargin, D. (2022). Impact of early life stress on serotonin neuron activity and behaviour.

Canadian Association for Neuroscience Meeting, Toronto, Canada. Poster Presentation. National Conference (PhD work).

5. **Terstege, D.J.***, Epp, J.R.*. (2021). A Flexible Atlas Segmentation Tool for Multi-Area Processing of Biological Images. UBC Tissue Clearing and Expansion Workshop, Vancouver, Canada. Invited Talk. Regional Conference (PhD work).

Local:

1. **Terstege, D.J.***, Ren, Y., Sargin, D., Epp, J.R. (2023). Sex-dependent alterations to the functional properties of parvalbumin expressing neurons in the retrosplenial cortex during Alzheimer's disease. Hotchkiss Brain Institute Research Day, Calgary, Canada. Invited Talk. Local Conference (PhD work).
2. Ren, Y.*, Khoshbaf Khiabani, N., **Terstege, D.J.**, Epp, J.R. (2023). Sex differences in retrosplenial cortex parvalbumin interneurons: Implications for Alzheimer's Disease and cognitive decline. Hotchkiss Brain Institute Research Day, Calgary, Canada. Poster Presentation. Local Conference (PhD work).
3. Dawson, M.*, **Terstege, D.J.**, Tsutsui, M., Jamani, N., Murari, K., Epp, J.R., Sargin, D. (2023). The role of hypocretin neurons in isolation-induced social deficits. Hotchkiss Brain Institute Research Day, Calgary, Canada. Poster Presentation. Local Conference (PhD work).
4. **Terstege, D.J.***, Ren, Y., Sargin, D., Epp, J.R. (2023). Sex-dependent alterations to the functional properties of parvalbumin expressing neurons in the retrosplenial cortex during Alzheimer's disease. Hotchkiss Brain Institute Research Day, Calgary, Canada. Poster Presentation. Local Conference (PhD work). *Poster Competition – 2nd Place Overall*
5. **Terstege, D.J.***, Evans, A., Scott, G.A., Tsutsui, M., Epp, J.R. (2022). Neurogenesis mediated plasticity is associated with reduced neuronal activity in CA1 during context fear memory retrieval. Hotchkiss Brain Institute Research Day, Calgary, Canada. Poster Presentation. Regional Conference (PhD work).
6. **Terstege, D.J.**, Oboh, D.O.*, Epp, J.R. (2022). FASTMAP: Open-source flexible atlas segmentation tool for multi-area processing of biological images. Hotchkiss Brain Institute Research Day, Calgary, Canada. Poster Presentation. Regional Conference (PhD work).
7. **Terstege, D.J.***, Durante, I.M., Epp, J.R. (2021). Brain-wide neuronal activation and functional connectivity are modulated by prior exposure to repetitive learning episodes. 2021 HBI Tech Day, Calgary, Canada. Invited Talk. Regional Conference. (PhD work)
8. **Terstege, D.J.***, Durante, I.M., Epp, J.R. (2021). Brain-wide neuronal activation and functional connectivity are modulated by prior exposure to repetitive learning episodes. 2021 Symposium on Promoting Healthy Brain Aging and Preventing Dementia: Research and Translation, Calgary, Canada. Poster Presentation. Regional Conference. (PhD work)
9. **Terstege, D.J.***, Durante, I.M., Epp, J.R. (2021). Repetitive learning alters memory resiliency and efficiency. Hotchkiss Brain Institute Research Day, Calgary, Canada. Poster Presentation. Regional Conference (PhD work).
10. **Terstege, D.J.***, Epp, J.R. (2019). Brain-wide cell detection and mouse brain atlas registration. BMB Methods Day, Calgary, Canada. Poster Presentation. Regional Conference (PhD work).
11. **Terstege, D.J.***, Epp, J.R. (2019). Brain-wide cell detection and mouse brain atlas registration. Hotchkiss Brain Institute Research Day, Calgary, Canada. Poster Presentation. Regional Conference (PhD work).

12. **Terstege, D.J.***, Tasker, R.A. (2018). Ginsenoside G115 is Antidepressant in the Rat. Science Atlantic Psychology Conference, Halifax, Canada. Poster Presentation. Regional Conference (BSc work).

OTHER RELEVANT EXPERIENCE:

- a. Mentorship: Over the past 5 years, I have mentored 8 undergraduate students. Each student joined the lab with varying prior lab experience and from diverse backgrounds, which gave me opportunities to build and shape their lab skills and research attitudes. Of these students, I was able to guide 4 into producing data for published manuscripts, and the remaining 4 have contributed to manuscripts which we will submit soon.
- b. Teaching: BIO1310-Teaching Assistant, UPEI (09/2016 – 12/2017); BIO1320-Teaching Assistant, UPEI (01/2017 – 05/2018); PSY2420-Teaching Assistant, UPEI (2017).
- c. Conference judge: Hotchkiss Brain Institute Summer Student Symposium 2021. Poster judge; Hotchkiss Brain Institute Summer Student Symposium 2022. Poster judge.