COURSE OF MY (PROFESSIONAL) LIFE

EDUCATION

Western University *Sept 2018 - Present*
PhD, Neuroscience

Western University *Sept 2013 - Apr 2018*
BSc, Honours Double Major in Genetics and Physiology

AWARDS

NSERC Postgraduate Scholarship - Doctoral (PGS-D), $63,000 CAD	May 2021 - Aug 2024
Axion Biosystems Travel Award for GRC 2022, $500 USD	May 2022
Ontario Graduate Scholarship (OGS), $15,000 CAD (Declined)	May 2021
Axion Biosystems Travel Award for SfN 2019, $500 USD	Oct 2019
Thales Student Innovation Case Competition Grand Prize, $20,000 CAD	Nov 2018
Laurene Paterson Estate Scholarship, $1000 CAD	Sept 2017
Dean's Honor List	May 2016/2017/2018

ACADEMIC WORK EXPERIENCE

Graduate Teaching Assistant Sept 2019 - May 2023
Western University

Graduate teaching assistant for "Physiology of Senses" instructed by Dr. Tutis Vilis (2019), "Human Physiology" instructed by Professor Tom Stavraky (2020-2021), "Human Physiology" instructed by Dr. Christine Bell (2021-2022), "Human Physiology" instructed by Dr. Pierre Thibeault (2022-2023), and "Introduction to Psychology as a Social Science" instructed by Dr. Shelley Cross-Mellor (2023).

Kramer Lab Jan 2016 - May 2018
Research Assistant *Western University*

- Investigated the role of epigenetic regulation in learning and memory in the context of intellectual disabilities.
- Research project: "Primer design and optimizing gene knockdown using qPCR in *drosophila* transgenic RNAi lines"

RESEARCH CONTRIBUTIONS

Manuscripts to a Refereed Journal

- In Preparation/ Submission

1. **Pradeepan, K. S.**, McCready, F., Wei, W., Ellis, J., Martinez-Trujillo, J., (2023). Calcium dependent reverberating super bursts in human Rett Syndrome excitatory neuronal networks. *Manuscript in preparation for submission to Neuron.*

- Accepted

1. Mok, R.S., Zhang, W., Sheikh, T.I., **Pradeepan, K.**, Fernandes, I.R., DeJong, L.C., Benigno, G., Hildebrandt, M.R., Mufteev, M., Rodrigues, D.C., Wei, W., Piekna, A., Liu, J., Muotri, A.R., Vincent, J.B., Muller, L., Martinez-Trujillo, J., Salter, M.W., Ellis, J., (2022). Wide spectrum of neuronal and network phenotypes in human stem cell-derived excitatory neurons with Rett syndrome-associated MECP2 mutations. Translational Psychiatry, 12(450). https://doi.org/10.1038/s41398-022-02216-1
2. Corrigan, B.W., Gulli, R.A., Doucet, G., Roussy, M., Luna, R., **Pradeepan, K. S.**, Sachs, A.J., Martinez-Trujillo, J. (2022) Distinct neural codes in primate Hippocampus and Lateral Prefrontal Cortex during associative learning in virtual environments. *Neuron*, S0896-6273(22)00361-0, https://doi.org/10.1016/j.neuron.2022.04.016
3. McCready, F.P., Gordillo-Sampedro, S., **Pradeepan, K.**, Martinez-Trujillo, J., Ellis, J. (2022) Multielectrode Arrays for Functional Phenotyping of Neurons from Induced Pluripotent Stem Cell Models of Neurodevelopmental Disorders. *Biology*, 11(2):316, https://doi.org/10.3390/biology11020316.
4. **Pradeepan K**. (2019) Present state of brain machine interfaces. *Health Science Inquiry 2019*. 2019

Conferences and Presentations

- International.

1. **Pradeepan, K. S.**, Mok, R., McCready, F., Zhang, W., Salter, M.,, Ellis, J., Martinez-Trujillo, J., Muller, L., (2022, Nov). *Emergence of reverberating bursts in human stem cell derived neuronal networks of Rett Syndrome.* Poster was presented at the Society for Neuroscience 2022 Meeting, San Diego, CA, USA.

2. **Pradeepan, K. S.**, Benigno, G., Zhang, W., Mok, R., Martinez-Trujillo, J., Muller, L., Salter, M., Ellis, J.,(2022, May).*Modeling from single cell electrophysiology to neuronal network interactions in human induced pluripotent stem cell derived Rett Syndrome and isogenic controls.* Poster was presented at the Gordan Research Conference for Fragile X and Autism-Related Disorders, Barga, Lucca, Italy.

3. **Pradeepan, K. S.**, Benigno, G., Zhang, W., Mok, R., Martinez-Trujillo, J., Muller, L., Salter, M., Ellis, J., (2022, May). *Modeling from single cell electrophysiology to neuronal network interactions in human induced pluripotent stem cell derived Rett Syndrome and isogenic controls.* Oral talk was presented at the Gordan Research Seminar for Fragile X and Autism-Related Disorders, Barga, Lucca, Italy.

4. **Pradeepan, K. S.**, Benigno, G., Mok, R., Martinez-Trujillo, J., Muller, Ellis, J., (2021, Nov). *Computational modelling of iPSC-derived Rett Syndrome Neuronal Networks.* Virtual poster was presented at the Society for Neuroscience 2021 Meeting.

5. **Pradeepan, K. S.**, Benigno, G., Mok, R., Martinez-Trujillo, J., Muller, L., Ellis, J.,(2021, May). *Electrophysiological characterization of Rett Syndrome in iPSC-derived neuronal networks using computational network modeling* . Virtual poster was presented at the Canadian Association for Neuroscience 2021 Meeting.

6. **Pradeepan, K. S.**, McCready, F., Martinez-Trujillo, J., Ellis, J.,(2019, Oct).*Developmental population-level differences in iPSC-derived excitatory networks of SHANK2 ASD.* Dynamic poster was presented at the Society for Neuroscience 2019 Meeting, Chicago, IL, USA.

· Regional.

1. **Pradeepan, K. S.**, McCready, F., Wei, W., Ellis, J., Martinez-Trujillo, J., (2023, May). *A hyperexcitability phenotype in human stem cell derived neuronal networks of Rett Syndrome.* Oral talk was presented at Developmental Disabilities Research Day 2023, London, ON, Canada.

2. **Pradeepan, K. S.**, McCready, F., Wei, W., Ellis, J., Martinez-Trujillo, J., (2023, May). *A hyperexcitability phenotype in human stem cell derived neuronal networks of Rett Syndrome.* Poster was presented at the Canadian Association for Neuroscience 2023 Meeting, Montreal, QC, Canada.

3. **Pradeepan, K. S.**, Benigno, G., Zhang, W., Mok, R., Martinez-Trujillo, J., Muller, L., Salter, M., Ellis, J., (2022, June). *Modeling from single cell electrophysiology to neuronal network interactions in human induced pluripotent stem cell derived Rett Syndrome and isogenic controls.* Virtual oral talk was presented at Developmental Disabilities Research Day 2022, London, ON, Canada.

4. **Pradeepan, K. S.**, Mok, R., Benigno, G., Martinez-Trujillo, J., Ellis, J., Muller,L.(2021, May). *Electrophysiological characterization and neuronal network modelling of Rett Syndrome in iPSC-derived neuronal networks.* Virtual poster was presented at London Health Research Day 2021.

5. **Pradeepan, K. S.**, Khaki, M., Mok, R., Martinez-Trujillo, J., Ellis, J.,(2019, May). *Analyzing the electrophsyiological effects of Rett Syndrome on neuronal network development using machine learning.* Poster was presented at the Canadian Association for Neuroscience 2019 Meeting, Toronto, ON, Canada.

6. **Pradeepan, K. S.**, (2019, Mar). *Making neurons to study autism.* Oral presentation at Kiwanis Senior's Center, London, ON, Canada.

· Institutional.

1. Martinez-Trujillo, J., **Pradeepan, K. S.**, (2022, Jan). *Electrophysiological differences in patient-derived Rett Syndrome model.* Oral talk was presented at Schulich School of Medicine and Dentistry Psychiatry Grand Rounds, London, ON, Canada.

2. Martinez-Trujillo, J., **Pradeepan, K. S.**, Benigno, G., Muller, L.,(2020, May). *Electrophysiological characterization of human stem cell derived networks of excitatory neurons in Rett Syndrome.* Oral presentation at Developmental Disabilities Research Day 2020, London, ON, Canada.

3. **Pradeepan, K. S.**, Khaki, M., Mok, R., Martinez-Trujillo, J., Ellis, J.,(2019, May). *Analyzing the electrophysiological effects of Rett Syndrome on neuronal network development using machine learning.* Poster was presented at Developmental Disabilities Research Day 2019, London, ON, Canada.

4. **Pradeepan, K. S.**, Khaki, M., Mok, R., Martinez-Trujillo, J., Ellis, J.,(2019, May). *Analyzing the electrophysiological effects of Rett Syndrome on neuronal network development using machine learning.* Poster was presented at Clinical Neurological Sciences Research Day 2019, London, ON, Canada.

5. **Pradeepan, K. S.**, Khaki, M., Mok, R., Martinez-Trujillo, J., Ellis, J.,(2019, Apr). *Analyzing the electrophysiological effects of Rett Syndrome on neuronal network development using machine learning.* Poster was presented at Neuroscience Research Day 2019, London, ON, Canada.

6. **Pradeepan, K. S.**, (2019, Mar). *Population analysis for the development of iPSC-derived glutamatergic networks.* Oral presentation for Robarts Research Institute Data Club, London, ON, Canada.

7. **Pradeepan, K. S.**, (2019, Feb). *Inspiration from the brain: modeling neuron network development.* 3 Minute Thesis 2019, London, ON, Canada.

ACADEMIA-RELATED ACTIVITIES

Scientific Outreach and Public Communication

· Society of Neuroscience Graduate Students (SONGS) Dorsal Column Writer — Sept 2019 - Jan 2023

- "Invisible Injuries: Diagnosing concussions in young male athletes", Dorsal Column Student Journal, 2022
- "Confronting trauma – How MDMA may be helping patients with severe PTSD", Dorsal Column Student Journal, 2021
- "The Uncertainty of Rett Syndrome", Dorsal Column Student Journal, 2020
- ""Hand-in-hand" – How the brain handles a missing body part", Dorsal Column Student Journal, 2019

· Science Rendezvous Neuroscience Organizer — Feb 2021 - May 2022
· Let's Talk Science — Jan 2019 - May 2021
· Mentorship Committee Member — Jan 2019 - Aug 2020
· GradCast #240 Podcast - "Making Neurons to Study Autism" — Oct 2019
· Thames Valley Science & Engineering Fair — Apr 2019
· Retiring with Strong Minds presentation - Kiwanis Senior's Center — Mar 2019
· Be Al U CaN B Genetics in-class (grade 7/8) presentation - Mr. Gardiner at Abdereen P.S. — Feb 2019

Projects

· Burst Reverberation Toolbox (BRT) for Advanced Electrophysiological Analysis — May 2023 - Present
· Neural Statistics Compiler for Axion Biosystems MEA data — May 2023 - Present
· NDD-Ephys-dB — September 2022 - Present
· Primate Cell Type Database Prototype — November 2019 - January 2020

Leadership and Organization

· University Consulting Group Team Lead (London Community Foundation) — September 2022 - December 2022
· Society of Neuroscience Graduate Students Presentation Workshop Chair — July 2020 - September 2022
· Society of Graduate Students Neuroscience Councillor — September 2020 - July 2022
· University Consulting Group Consultant (Athletes for Hope) — January 2022 - May 2022
· Graduate Program Reviewer — January 2022 - March 2022
· Robarts Association of Trainees and Students Council — May 2019 - June 2021