

James Chiella

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EDUCATION

University of Toronto, Master of Science in Pharmacology 2026 – Present
Supervisor: Dr. Thomas Prevot

University of Toronto, Honours Bachelor of Science, High Distinction 2026
Majors in Neuroscience and Biochemistry, Minor in Chemistry, cGPA: 3.99/4.0

AWARDS & SCHOLARSHIPS

Canada Graduate Research Scholarships – Master’s (CGRS-M), Canadian Institutes of Health Research (CIHR) 2026
National merit-based scholarship to conduct a graduate research project (\$27,000).

Victoria College Award for Postgraduate Study 2026
Merit-based award issued by Victoria College to graduating students pursuing postgraduate studies (\$2,500).

Undergraduate Research Opportunity Program Award, University of Toronto 2026
Scholarship to conduct summer research; awarded in the General Medical category (\$7,140).

Dr. Lorus J. and Dr. Margery J. Milne Research Award, University of Toronto 2026, 2025 & 2024
Merit-based award issued by Victoria College to fund undergraduate summer research projects. Three-time recipient of this award (\$4,000).

Dean’s List Scholar, University of Toronto 2026, 2025, 2024 & 2023
Designation awarded to Faculty of Arts & Science students with high academic distinction. Four-time recipient of this award.

Alfred and Isabel Bader Scholarship, University of Toronto 2025, 2024 & 2023
Awarded to Victoria College students who achieve excellence in their studies. Three-time recipient of this award (\$3,000).

Johnson Scholarship, Johnson Insurance 2022
Entrance scholarship awarded after acceptance to University of Toronto (\$1,000).

University of Toronto Scholar, University of Toronto 2022
Provides recognition to outstanding incoming University of Toronto students on admission (\$7,500).

The Helga and Frank Peroutka Scholarship, University of Toronto 2022
Entrance scholarship issued by Victoria College to outstanding incoming first-year students (\$5,000).

RESEARCH INTERESTS

- Biochemical and neurobiological mechanisms underlying psychiatric illness
- Neurotransmitter systems (in particular, the GABAergic system)
- Psychosis, schizophrenia, mood disorders (depression, bipolar disorder)

RESEARCH EXPERIENCE

Centre for Addiction and Mental Health, Toronto, ON

2025 – 2026

Research Practicum Student – Supervisor: Dr. Toshifumi Tomoda

- Investigated the role of monoamine oxidase A in mitochondrial function and bioenergetics as well as sleep disturbances, using a transgenic mouse model
- Conducted electroencephalography (EEG) experiments in mice
- Developed new wet lab skills, including immunohistochemistry and plasmid preparation

Centre for Addiction and Mental Health, Toronto, ON

2024 – 2025

Research Placement Student – Supervisor: Dr. Thomas Prevot

- Investigated the cell- and region-specific expression of different α subunits of the GABA_A receptor in a chronic stress mouse model of depression
 - Sectioned mouse brains for analysis using cryostat
 - Conducted RNAscope assays and imaged slides
 - Analyzed data using Excel PowerQuery and GraphPad Prism
- Investigated the role of the $\alpha 5$ subunit of the GABA_A receptor in mediating the procognitive effects of a novel benzodiazepine-type agent
 - Handled mice to improve welfare and reduce resistance to experimenters
 - Conducted Morris water maze, Y maze, and PhenoTyper behavioural experiments on mice
- Presented progress updates and results at weekly lab and group meetings

Hospital for Sick Children, Toronto, ON

2023 – 2024

Research Assistant – Supervisor: Dr. Andrea Kassner

- Designed and developed two automated image processing pipelines to analyze functional MRI images
 1. from neurofibromatosis patients, to study a novel biomarker for cerebrovascular disease
 2. to calculate cerebrovascular reactivity (CVR) as a measure of vascular function in the brain
- Presented weekly updates and literature summaries to colleagues in lab meetings

Sunnybrook Health Sciences Centre, Toronto, ON

2022

High School Summer Research Student – Supervisor: Dr. Kullervo Hynynen

- Analyzed quality assurance data from a focused ultrasound system currently used for the clinical treatment of essential tremor
- Performed data analysis on MRI data and evaluated overall stability of the ultrasound system using programs written in MATLAB

ABSTRACTS & PRESENTATIONS

- Prevot, T. D. (Presenter), Marceau-Linhares, C., **Chiella, J.**, Gao, A., Marcotte, M., Sibille, E., Mezo-Gonzalez, C. (2026, June 28). *Chronic stress induces region- and cell-type-specific changes in GABAA receptor α -subunit expression in mice*. CINP 2026 Congress, Glasgow, Scotland, United Kingdom.
- Mezo-Gonzalez, C. (Presenter), Marceau-Linhares, C., **Chiella, J.**, Marcotte, M., Tomoda, T., Sibille, E., Prevot, T. D. (2025, November 16). *Uncovering chronic stress-driven changes in GABAA receptors linked to anxiety and cognitive function*. Neuroscience 2025, San Diego, California, United States.
- Prevot, T. D. (Presenter), Bernardo, A., Mezo-Gonzalez, C., Chen, J., Marcotte, M., Wong, K., Marceau-Linhares, C., Pina-Leblanc, C., Bouchet, A., **Chiella, J.**, Sharmin, D., Mondal, P., Cook, J., Sibille, E. (2025, June 18). *Selective potentiation of α 5-GABAA receptors contributes to reduction of cognitive burden and neuronal loss in aging mice*. CINP-AsCNP 2025 Joint Congress, Melbourne, Australia.
- Sare, D., **Chiella, J.**, Sinopoli, K. J., Kassner, A. (Presenter). (2023, September 18). *Physiological Fluctuations in White Matter from Rs-fMRI Are Increased in Patients with Neurofibromatosis Type 1*. ISMRM Workshop on White Matter, Analysis, Translation, Experimental Validation, Evaluation, & Reproducibility, Nashville, Tennessee, United States.
- Sare, D., **Chiella, J. (Presenter)**, Sinopoli, K. J., Kassner, A. (2023, August 16). *Physiological Fluctuations in White Matter from Rs-fMRI Are Increased in Patients with Neurofibromatosis Type 1*. SickKids Summer Research Day 2023, Toronto, Ontario, Canada.
- Chiella, J. (Presenter)**, Jones, R., Hynynen, K. (2022, August 16). *Retrospective Analysis of Quality Assurance Data from the ExAblate Neuro MRgFUS Brain System*. Sunnybrook Focused Ultrasound High School Summer Research Program, Toronto, Ontario, Canada.

CONFERENCE & SEMINAR ATTENDANCE

University of Toronto Collaborative Program in Neuroscience Research Day	2026, 2025
Mulsant-Pollock Research Day	2026
NEURONTO	2025
University of Toronto Temerty Research Showcase	2025
University of Toronto Visions in Pharmacology	2025
University of Toronto Department of Psychiatry Research Day	2025, 2024
Southern Ontario Neuroscience Association Annual Meeting	2025
CAMH Centre for Youth Bipolar Disorder World Bipolar Day Research Symposium	2025
CAMH Campbell Family Mental Health Research Institute Research Day	2024
SickKids Summer Research Day	2023
SickKids Summer Research Seminar Series	2023

Sunnybrook Research Institute Summer Student Poster Competition	2022
Sunnybrook Summer Research Seminar Series	2022

RESEARCH SKILLS

WET LAB & ANIMAL WORK

- RNAscope
- Immunohistochemistry
- Cryostat
- Confocal microscopy
- Certified in mouse handling techniques
- Transgenic mouse colony management
- Mouse behavioural testing, including PhenoTypers, Morris water maze, Y maze, unpredictable chronic mild stress (UCMS) protocols

SOFTWARE & ANALYSIS

- SoftMouse: *mouse colony management*
- SlideBook, Fiji/ImageJ: *confocal microscopy*
- QuPath: *microscopy image processing*
- GraphPad Prism: *statistics and graph generation*
- FMRI Software Library: *fMRI image processing*
- Python, R (certificate from Compute Ontario), MATLAB
- Windows, Linux, VSCode, Git, GitHub
- Microsoft Office, including Excel and Power Query

CO-CURRICULAR ACTIVITIES

University of Toronto Human Biology Mentorship Program	2024 – 2025
• Mentored a first-year student in life sciences • Ran monthly check-in meetings to answer questions and provide advice and guidance throughout first year	
CAMH Biomedical Research Awareness Day 2025	January 2025
• Participated in brainstorming and planning meetings • Ran event booth alongside colleagues	
Victoria College Chorus, Member-at-Large	2022 – Present
• Participating in rehearsals twice per week, with two concerts per year • Member of the club executive, working on logistics and planning for concerts and other events throughout the year	