Stem Cell Network | Réseau de Cellules Souches
Powering Regenerative Medicine
Propulsons la médecine régénératrice

Insights from the Network

Building Canada's Next Generation of Regenerative Medicine Innovators through Industry Internships

Now in its fourth year, the Stem Cell Network (SCN) is pleased to share that five interns have been selected to work with regenerative medicine (RM) biotech companies advancing innovative therapies toward the marketplace. Reflecting SCN's new focus on commercialization readiness, our partnership with Mitacs creates industry-based internship opportunities that prepare trainees to thrive at the research–industry interface. Since launching in 2022 with four inaugural placements, the program has continued to grow, offering young scientists a unique pathway to apply their skills in real-world biotech environments. This year, SCN spoke with the successful interns about their career journeys, projects, and future aspirations.

Marina Agueda Oyarzabal, Post-doctoral Fellow, Ottawa Hospital Research Institute
Company Match: Virano Therapeutics

Marina Agueda Oyarzabal is a postdoctoral fellow working in the Cancer Therapeutics Program at the Ottawa Hospital Research Institute (OHRI), where her research focuses on developing ways to improve cell and gene therapies for cancer. Her proximity to the clinic at OHRI has reinforced her desire to contribute to translational research and bring, new, safer, and more cost-effective therapies to patients.

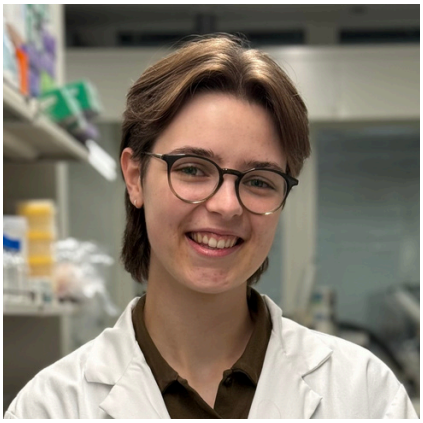
"I have always been driven by a deep scientific curiosity and the will to help people," said Marina. "I thrive in environments that require solving complex challenges, especially when they have the potential to make a real difference in people's lives."

Marina is interning at Virano Therapeutics. Virano is a genetic immunomodulation company, developing next-generation combination products which reprogram the immune system to transform the treatment of solid tumors and genetic diseases.

Her project, “Novel Vector Potentiators for AAV-mediated Surfactant B Deficiency Correction,” will allow her to continue strengthening her skills in translational research while building expertise in budget management, intellectual property, and the commercialization process of biotherapeutic products.

“This internship is a chance to bridge scientific discovery and clinical application,” said Marina. “I’m eager to expand my business-oriented skills and learn how to move therapies toward patients.”

Looking ahead, Marina aspires to become a key figure in Ontario’s biotherapeutics industry, applying her scientific expertise alongside strategic and communication skills to help move groundbreaking innovations from research to patients.



Rachel Gibbs, MSc Student,
University of Toronto
Company Match: Epiloid Biotechnology

Rachel Gibbs is an MSc Student in Medical Sciences at the University of Toronto and holds an Honours Bachelor of Science in Neuroscience. Her research focuses on direct lineage reprogramming of glial cells as a strategy for brain repair. Through her studies, Rachel has gained diverse experiences in neuroscience and regenerative medicine and is interested in shifting her focus to translational research, working on challenging biological questions that bring novel therapies to patients.

“My scientific interest was first sparked by interest in music,” said Rachel. “When I learned about neurotransmission in secondary school, I was fascinated by the coordination of billions of cells allowing me to perceive and process music notation, move my fingers, and emotional respond to sound. While my initial interests were in behavioural neuroscience, further research experiences introduced me to stem cell biology, leading to my pursuing graduate work in this field and convincing me of the exciting possibilities of translational research.”

Rachel is interning at Epiloid Biotechnology. Epiloid uses human brain organoids, or mini brains in a dish, to predict preclinical drug efficacy, helping to de-risk neurological drug development. Rachel’s project will focus on combining multiple biological data types from brain organoids and feeding this data into computational models to predict how well certain drugs work. The goal is to get a more accurate, system-wide picture of drug response, especially for complex brain disorders.

"I am eager to apply the skills I have learned through my academic experiences and expand the impact of my work by focusing on research in a highly collaborative environment with more direct therapeutic applications," said Rachel. "The SCN-Mitacs internship will provide me an invaluable opportunity to further my understanding of commercialization, while improving my technical skills."

Rachel's aspiration is to work in the biotech industry, researching novel regenerative therapies for neurological diseases and disorders.

Rasha Mghabghab, Ph.D. Student,
McGill University
Company Match: Telescope Therapeutics

Rasha recently completed a master's degree in molecular biology at the University of Montreal and is now pursuing a Ph.D. in pharmacology at McGill University. In her master's research, she developed liver organoids, or mini organs grown in a dish, from human induced pluripotent stem cells (iPSCs) to study Hereditary Tyrosinemia Type 1 (HT1), a rare genetic disorder that affects how the body breaks down certain proteins.

"My work has deepened my passion for research particularly in iPSC applications and regenerative medicine," said Rasha. "What excites me the most is its direct impact on patient health. Whether that's through drug screening or disease modeling, these approaches bring us closer to real clinical applications."

Rasha is interning at Telescope Therapeutics (TT), a Montreal-based biotech company that is revolutionizing preclinical drug development by harnessing the power of patient-derived iPSCs and advanced biosensor technologies. TT's mission is to transform how diseases are modeled, therapies are discovered, and drug efficacy is predicted. Rasha's project will focus on building a lab model of how scar tissue forms in the heart using reprogrammed human iPSCs. This "mini heart scar in a dish" will allow researchers to study how cardiac damage develops and how it might be treated.

"This internship is an unmatched opportunity for me to apply my skills in a setting where I can keep learning and contribute to meaningful discoveries," said Rasha. "iPSCs hold incredible promise for disease modeling, transplantation, and personalized therapies, and I'm eager to help make these advancements more practical, impactful, and accessible."

Looking ahead, Rasha aspires to build a career in stem cell and regenerative medicine, whether in academia or industry, at the intersection of research and commercialization. Her goal is to make a lasting contribution to the field by helping translate discoveries into therapies that improve patient lives.

Margaret (Maggie) Rusteika, MSc Student, University of Calgary
Company Match: Octane Orthobiologics

Maggie holds a Bachelor of Health Sciences (Honours) degree in Biomedical Sciences and is now completing a master's degree in biomedical engineering in the lab of Dr. Li-Fang (Jack) Chu at the University of Calgary. Her work focuses on understanding what controls developmental timing by investigating the role of oscillating genes in animal stem cells and 3D cell models that mimic early development. These genetic rhythms act like timers, helping stem cells decide when to stay flexible and when to become specialized cells.

"My undergraduate research experiences confirmed my love for stem cell science and regenerative medicine," said Maggie. "What excites me most is growing alongside this rapidly evolving field and helping translate its promise into real-world health solutions."

Maggie is interning at Octane Orthobiologics, a biotech company that develops automated, patient-specific living tissue implants and technologies to restore musculoskeletal function and improve recovery. Her project will study the effect of electromagnetic fields on blood and insulin levels, investigating how this technology might influence metabolic and physiological responses. Her work aims to generate data that could help optimize treatment approaches and inform future therapeutic applications in orthobiologics.

"The SCN-Mitacs internship is pivotal to my growth as a scientist," said Maggie. "It gives me a unique opportunity to explore the industry side of regenerative medicine while learning directly from experts in the field."

Maggie's career aspirations are fueled by her deep passion for science and a desire to make an impact. She looks forward to continuously learning and sharpening her skills, whether through advancing a career in biotech or returning to complete a Ph.D., with the goal of contributing to meaningful advancements in regenerative medicine.

Eve Racette, Ph.D. Candidate,
Queen's University
Company Match: Mediphage Bioceuticals

Eve Racette is a Ph.D. candidate in Neuroscience at Queen's University, where she is developing gene therapies for neurodevelopmental disorders. Her research focuses on understanding how genetic changes affect brain development and function and translating that knowledge into potential treatments. She has experience with a wide range of approaches, from molecular biology and behavioral testing to electrophysiology, giving her a strong foundation for work that bridges basic research and therapeutic application.

"What inspires me most about my research is the chance to bridge the gap between genetic discoveries and real therapeutic applications," said Eve. "I want to help move science from the lab bench to treatments that can make a difference in people's lives."

For her SCN-Mitacs internship, Eve is working with Mediphage Bioceuticals, a biotech company developing novel DNA vector technologies for gene and cell therapy. Her project, Application of Novel DNA Vectors in CNS Gene and Cell Therapy, will explore the potential of this platform for treating disorders of the central nervous system. By generating data on efficacy and delivery, her work may help inform future therapeutic applications of Mediphage's technology.

"The SCN-Mitacs internship offers me a unique opportunity to step into the biotech environment and apply my academic training to industry-driven innovation," said Eve. "It's helping me grow as both a scientist and a future contributor to the field of gene therapy."

Looking ahead, Eve is determined to advance gene therapies that move beyond symptom management toward curative treatments for neurodevelopmental disorders. Alongside her research, she is also committed to effective science communication, co-leading Think Twice, a neuroscience podcast that brings complex topics to the public. By combining rigorous research with public engagement, Eve aspires to drive meaningful change in both the scientific community and society at large.