

LAURIER GAUVIN

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EDUCATION

McGill University, Montreal, QC

- Bachelor of Electrical Engineering, Minors in Applied AI, Biomedical Engineering, and Software Engineering. GPA: 3.83.
- Bachelor of Bioengineering, Minors in Applied AI and Computer Science. *Changed majors.*

September 2023 – April 2026

September 2021 – April 2023

TECHNICAL SKILLS

- Programming Languages: Python, Java, C, SQL, VHDL, MATLAB.
- Programming Tools: Junit Testing, Git, Umple, Bash, IntelliJ, VS Code.
- Engineering Design Tools: Logisim, Simulink, SolidWorks.

EXPERIENCE

UNDERGRAD RESEARCHER, MCGILL STEM CELL BIOPROCESSING LAB, MTL, QC

- Design and develop an experimental setup to control and measure temperature and oxygen flow through a hydrogel, allowing gathering of diffusivity measurements.
- Implement and validate, using hydrogel diffusivity measurements gathered in vitro, a 3D oxygen flow model in COMSOL Multiphysics.
- Predict oxygen penetration in cell-hydrogel material and validate calculations using live/dead imaging, ImageJ analysis, and statistical analysis of results.
- Synthesize information from peer-reviewed articles to design oxygen-producing beads that can be used in pancreas transplants.
- Present and communicate findings with diverse audiences, including team members and stakeholders, leveraging others' expertise to enhance the project's overall success.

May 2022-August 2023

RESEARCH ASSISTANT, MCGILL ARTIFICIAL PANCREAS LAB, RI-MUHC, MTL, QC

- Record patient glucose and insulin to train insulin injection algorithm.
- Prepare blood samples (centrifuge and pipette) for freezing and subsequent analysis.
- Adjust Dexcom G6 and Dana Pump to maintain BG and insulin.

July 2021-September 2022

EMERGENCY ROOM & COVID TESTING CENTER COORDINATOR, MUHC, MTL, QC

- Organize patient tests and transport with physicians and receiving medical wards.
- Supervise patient room distribution (15 to 30 at once), ensuring timely medical attention.
- Manage calls from patients' family members, staff, and consulting physicians.
- Reassure and calm patients with testing anxiety.

January 2021 – December 2021

LIFEGUARD AND SWIM INSTRUCTOR, HILTON & NDG SPORTS CENTER, MTL, QC

*March 2019 –
December 2020*

- Maintain a safe environment, respond to emergencies, and apply appropriate first aid.
- Develop lesson plans for swimmers ranging from babies to adults.
- Collaborated with other swim instructors and staff to coordinate group activities, special events, and ensure consistent teaching standards.

WORKING PAPERS

- (Champion, K; Gauvin, L; Brassard, J; Leask, R; Hoesli, C). (2024). An accessible approach to assess oxygen diffusion through hydrogels commonly used for immobilized cell culture for applications such as diabetes cellular therapy.

PRESENTATIONS

- (2022). Studying Oxygen Diffusion in Hydrogels for Islet Transplantation Devices. McGill SURE (Summer Undergraduate Research in Engineering) Presentations, Montreal, Canada.
- (2023). Measuring Oxygen Diffusion in Cellular Encapsulation Devices Made Simple and Accessible. Quebec Centre for Advanced Materials Annual Meeting, Victoriaville, Canada.

ASSETS

- Bilingual: Native English and French.
- First AID: National Lifeguard and Standard First AID/AED certifications.

SCHOLARSHIPS

- McGill Summer Undergraduate Research in Engineering (SURE) Scholarship (2022)
- Douglas H Macaulay Scholarship in Engineering (2022)
- Diabetes Quebec Summer Research Scholarship (2023) – Declined
- Proteo Summer Research Scholarship (2023) – Declined
- Quebec Centre for Advanced Materials (QCAM) Summer Research Scholarship (2023)