Marc-Olivier Lalonde

mrlalond@asu.edu — (623) 341-2065

Education

Arizona State University — Tempe, AZ
PhD Exploration Systems Design, MSE Electrical Engineering, 4.0 CGPA — Aug. 2023 – Present

McGill University — Montreal, QC
BSc Honours Physics, 3.89 CGPA — Sep. 2019 – May 2023

Academic Awards

McGill University — Montreal, QC

Dean's Honour List, Faculty of Science	April 2020, April 2021
Faculty of Science Scholarship	April 2020, April 2021
McGill Space Institute Summer Undergraduate Research Award	May 2021
Tomlinson Engagement Award for Mentoring	September 2021
NSERC Undergraduate Student Research Award	May 2022
FRQNT Supplements of the NSERC Undergraduate Student Research Awards	October 2022

Experience

Graduate Student, Instrumentation Design — August 2023 – Present
Arizona State University — Tempe, AZ

- Electrical and Systems engineering for CubeSat avionics
- Antenna Deisgn for low frequency 21 cm cosmology experiments.
- Testing and integration of radio payload for antenna drone calibration efforts.

Student Researcher, Observational Cosmology — May 2021 – August 2023
McGill University — Montreal, QC

- Assembled and tested the back-end electronics for antennas used in 21cm cosmology experiments.
- Performed electromagnetic simulations for current antennas and antennas in development.
- Did field work for two summers in remote RFI quiet zones such as the Canadian High Arctic. This included setting up and testing antennas with accompanying electronics for year long data collection.
- Designing front-end electronics for an LWA antenna with on board calibration using noise diodes as calibration sources.

McGill Rocket Team Project Lead — September 2020 – July 2023
McGill University — Montreal, QC

- Responsible for the research and development of the antennas on board the rocket and in our ground station.
- Designed and tested antennas, circuits and printed circuit boards. Most notably, designed MRT's first student-researched-and-designed external antenna, planned to fly in 2024.
- Designed and manufactured parts using CADing software.
- Supervised and helped fellow students in my project.
- Wrote technical reports and documentation.

Extracurricular

McGill Physics Outreach Program — August 2020 – January 2022
McGill University — Montreal, QC

- Help organise and deliver presentations about physical phenomenon to elementary school students.

Skills

Design software: Altair Feko, Altium Designer, KiCAD, ADS, LTspice
Coding languages: Python, Java
Bilingual: French, English

Hobbies and Interests

Brazilian Jiu-Jitsu, Climbing, Biking, Skiing, Hockey, Skateboarding