

Rebecca Hamel

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EDUCATION

McGill University, Montréal, Québec

Enrolled: August 2024 — Expected Graduation: August 2026

MSc Physics

GPA: N/A

Thesis Subject: TBD

Supervisor: Dr. Daryl Haggard and Dr. John Ruan (Bishop's University)

Saint Mary's University, Halifax, Nova Scotia

Enrolled: September 2020 — Graduation: 16 May 2024

Honours Astrophysics

GPA: 3.90

Thesis Subject: Analysis of the Warm Absorber in NGC 6814

Supervisor: Dr. Luigi Gallo

RESEARCH EXPERIENCE

Analysis of the Warm Absorber in NGC 6814

Halifax, Nova Scotia

Saint Mary's University

September 2023 - Ongoing

Modeling the highly-ionised gas in the AGN NGC 6814 by analysing its high resolution spectra, and determining its characteristics such as composition, temperature, density, location, and kinematics.

Predicting the Performance of CASTOR for Kinematics in the Outskirts of Globular Clusters

Remote

Saint Mary's University

May 2022 - August 2022

Using Cluster Monte Carlo simulations and the CASTOR exposure time calculator to determine CASTOR's capacity to constrain the proper motions of globular cluster members and detect the presence of dark matter halos.

WORK EXPERIENCE

Academic Tutor

Remote, September 2016 – Ongoing

- Responsible for creating a learning program adapted to students.
- Tutored French, Mathematics, and Physics from the middle school up to university level.

Parité Sciences

Montréal, Québec

Student Intern

May 2023 - March 2024

- Organisation with the goal of reaching gender parity in STEM fields where women are under-represented.
- Responsible for analysing the results of surveys and involved in the new Atlantic expansion initiative.
- Provided feedback for further surveys to be conducted and produced new version of prior surveys to be distributed to undergraduate students in STEM.
- Conducted research on the impact of race on students pursuing careers in STEM in Canada.
- Gave presentations to high school science teachers in Nova Scotia on gender parity.

Cosmological Advanced Survey Telescope for Optical and Ultraviolet Research (CASTOR)

Remote

Social Media Manager

May 2022 – September 2023

- Proposed Canadian Space Agency mission that would image the skies at ultraviolet and blue-optical wavelengths.
- Responsible for generating multiple forms of social media content.
- Conducted video interviews with members of the CASTOR team and edited interviews to use as promotional material.
- Created social media posts to be diffused.

Trottier Institute of Research on Exoplanets (iREx)

Montréal, Québec

Science Communication Undergraduate Student Intern

May 2023 - August 2023

- Research Institute studying worlds outside of our solar system.
- Responsible for creating various forms of social media content.
- Conducted video interviews with other interns of the iREx team and edited interviews to use as promotional material.
- Created social media posts to be diffused.
- Gave various presentations to the general public in settings such as fairs, library presentations, etc.

Parc National du Mont Mégantic

Mont Mégantic, Québec

Astronomy Presenter

June 2021 - August 2021

- National Park in Quebec specializing in offering astronomy-related experiences to the general public.
- Responsible for entertaining visitors of the park and offering them an opportunity to learn about astronomy.
- Operated the observatory open to the general public for night-time observing.
- Gave detailed presentations on subjects such as the infrared, meteorite impacts, meteor showers, solar astronomy, etc. to groups of up to 30 participants.

Cadet Training Centre

Greenwood, Nova Scotia &

Remote

Cadet Instructor

June 2019 - August 2019 & June 2020 - August 2020

- Responsible for groups of up to 30 cadets between the ages of 14 to 18 years old.
- Adapted classes, organised, and lead cadets through various activities relating to outdoor survival skills.
- Managed administrative tasks and paperwork.

PRESENTATIONS

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| Astronomy and Physics Undergraduate Honours Presentations 2024 <i>Analysis of the Warm Absorber in NGC 6814</i> | Halifax, Nova Scotia April 2024 |
| Atlantic Undergraduate Physics and Astronomy Conference (AUPAC) 2024 <i>Analysis of the Warm Absorber in NGC 6814</i> | Sackville, New Brunswick February 2024 |
| Canadian Conference for Undergraduate Women in Physics (CCUWiP) 2024 <i>Analysis of the Warm Absorber in NGC 6814</i> | Montréal, Québec February 2024 |
| Canadian Conference for Undergraduate Women in Physics (CCUWiP) 2024 <i>Student EDIA Initiatives in Astronomy and Physics</i> | Montréal, Québec February 2024 |
| Association of Science Teachers <i>A Workshop On Achieving Gender Parity In Sciences And What Crucial Role Teachers Play All Grades</i> | Halifax, Nova Scotia October 2023 |
| The Saint Mary's University Undergraduate Astronomy & Physics Mini Symposium <i>iREx Outreach Initiatives - Summer review</i> | Halifax, Nova Scotia September 2023 |
| iREx Undergraduate Summer Intern Final Presentations <i>iREx Outreach Initiatives - Summer review</i> | Montréal, Québec August 2023 |
| Soirée d'astronomie <i>Évolution stellaire - Le cycle de vie des étoiles</i> | Granby, Québec August 2023 |
| Festival Eurêka <i>Presentations for iREx and Parité Science</i> | Montréal, Québec May 2023 |
| AUPAC 2023 <i>Predicting the Performance of CASTOR for Kinematics in the Outskirts of Globular Clusters</i> | Halifax, Nova Scotia February 2023 |
| The Saint Mary's University Undergraduate Astronomy & Physics Mini Symposium <i>Predicting the Performance of CASTOR for Kinematics in the Outskirts of Globular Clusters</i> | Halifax, Nova Scotia September 2022 |
| Parc National du Mont Mégantic <i>Presentation subjects: infrared light, meteorites and meteor showers, solar astronomy, etc.</i> | Mont Mégantic, Québec June 2021 - August 2021 |

VOLUNTEER EXPERIENCE

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| Astronomy on Tap Montréal <i>General Volunteer</i> | Montréal, Québec June 2023 |
| <ul style="list-style-type: none">• Event with worldwide recognition hosted by graduate astrophysics students with the goal of encouraging the general public to be interested in astronomy.• Handed out materials to participants and engaged with participants and answered their questions on general astronomy. | |
| Halifax Oyster Fest <i>General Volunteer</i> | Halifax, Nova Scotia November 2022 |
| <ul style="list-style-type: none">• Canada's largest oyster festival with worldwide recognition.• Served beverages and entertained VIP attendees. | |
| Royal Canadian Air Cadets <i>Cadet Volunteer</i> | Fredericton, New Brunswick September 2016 - June 2021 |
| <ul style="list-style-type: none">• Participated in various fundraisers such as bottle drives, ticket sales, Christmas tree selling.• All funds going to the cadet unit or the Canadian Legion. | |

AWARDS AND RECOGNITION

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| Saint Mary's University Faculty Union Scholarship for Academic Excellence <i>Saint Mary's University</i> | 1,500\$ December 2023 |
| Awarded to a student in their final year of studies in recognition for their academic performance and leadership. | |
| LeadSift Bursary for Women in STEM <i>Saint Mary's University</i> | 1,000\$ August 2023 |
| Awarded to a female student pursuing studies in a STEM field. | |
| Academic Achievement Scholarship <i>Saint Mary's University</i> | 2,000\$ July 2023 |
| Awarded to a student demonstrating high academic achievement | |
| Dean's List <i>Saint Mary's University</i> | May 2023 |
| To recognize a student demonstrating high academic achievement | |
| iREx Bureau Science Communication Grant <i>iREx</i> | 9,000\$ January 2023 |
| Awarded to a student showing promising skills in science communication and outreach. | |
| Commanding Officer's Recommendation <i>Royal Canadian Air Cadets</i> | July 2023 |
| Awarded to a cadet demonstrating high skills in leadership and teaching | |
| Entry Scholarship <i>Saint Mary's University</i> | 4,000\$ September 2020 - July 2021 |
| Awarded to a high school student demonstrating high academic achievement | |

Best Instructor Award*Royal Canadian Air Cadets*

May 2019

Awarded to a senior cadet demonstrating high skills in teaching

Volunteering Distinction*Royal Canadian Air Cadets*

May 2019

Awarded in recognition for exemplary work done with a neighbouring cadet unit.

Lord Strathcona Medal Recipient*Royal Canadian Air Cadets*

May 2019

Highest Award which can be bestowed upon a Cadet in recognition of exemplary performance in physical and military training.

Captain Les Hine Best Dress and Deportment Award*Royal Canadian Air Cadets*

May 2016 - May 2018

Awarded in recognition for high respect of both superiors and the cadet uniform.

EVENT ADMINISTRATION AND MEMBERSHIPS

President of the Saint Mary's University Astronomy and Physics Society*Saint Mary's University*

Halifax, Nova Scotia

September 2023 - Ongoing

- Organised the elections for the society and was elected as president.
- Responsible as an executive member to organise various activities and represent the society members as a whole.
- Planned events such as solar observing, night sky observing, field trips, study sessions, etc.

Executive Member of the Saint Mary's University Astronomy and Physics Department Equity, Diversity, Inclusion, and Accessibility Committee*Saint Mary's University*

Halifax, Nova Scotia

February 2023 - Ongoing

- Organised various events regarding EDIA initiatives, specifically for within the departments.
- Hosted social gatherings to discuss issues in EDIA, conducted surveys, and worked to create a communication system for the members of the department.

Co-organiser of AUPAC 2023*Saint Mary's University*

Halifax, Nova Scotia

January 2022 - February 2023

- Organised a 3-day long conference hosted at Saint Mary's University.
- The conference included various events such as keynote speaker presentations, a discussion panel, student research presentations, a graduate school fair, and many different social activities.
- In total, there were over 100 attendees at the conference.

SKILLS

- **Relevant Coursework:** High Energy Astrophysics, Galaxies and Cosmology
- **Programming:** Python, Fortran, Java
- **Software:** Spex, Xspec
- **Languages:** French, English
- **Communication:** Proficiencies in professional writing and public outreach presentations in various settings