

# Nicole Gromek

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nicolegromek.github.io

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## Education

### **Master of Science, Physics and Astronomy**

2022 - Present

*Thesis Supervisor: Prof. Ryan Cloutier*

McMaster University, Hamilton, Ontario

### **Honours Bachelor of Science (With Distinction)**

2017 - 2021

### **Majors in Astronomy & Physics, Minor in Chemistry**

University of Toronto Mississauga | CGPA: 3.39

### **International Baccalaureate Diploma Program**

2013 - 2017

St. Francis Xavier Secondary School, Mississauga, Ontario

## Research Projects & Experience

### **Master's Thesis Project**

2022 - Present

McMaster University | Supervisor: Prof. Ryan Cloutier

*Establishing an empirical calibration of chemical abundances in M dwarf spectra in binary systems with FGK stars using SPIRou.*

### **Summer Undergraduate Research Program - Astronomy**

2021

University of Toronto | Supervisor: Dr. Jennifer West

*Analyzed the magnetic field structure & polarization of the Cygnus Loop, a supernova remnant, using radio wavelength data from LOFAR, DRAO and GALFACTS.*

- Featured as **SURP Student Spotlight** - July 2021

## Awards & Scholarships

### **McMaster University Entrance Scholarship**

2022

- Amount: \$6,000

*Awarded to select students entering graduate studies at McMaster University.*

**University of Toronto Summer Undergraduate Research Award** 2021

- Amount: \$9,595

*Stipend provided for work done during the Summer Undergraduate Research Program.*

**Western University Summer Exploration Internship Award (Declined)** 2021

- Amount: \$7,500

*Stipend offered for research through the Summer Exploration Internship Program at the Institute for Earth and Space Exploration at Western University.*

**Canadian Conference for Undergraduate Women in Physics (CCUWiP) Sponsorship** 2021

*Awarded on a competitive basis to support students building networks, presenting research, and exploring career paths.*

**University of Toronto Scholar Award** 2017

- Amount: \$7,500

*Provides recognition to the University's most outstanding students at admission.*

**University of Toronto Mississauga Entrance Scholarship** 2017

- Amount: \$3,000

*Awarded to students admitted to UTM with an average between 92% - 95%.*

**Work Experience**

**Planetarium Presenter** 2022 - 2023

W. J. McCallion Planetarium - McMaster University

*Presented educational shows on topics in astronomy to wide range of audiences.*

**Teaching Assistant** 2022 - 2023

McMaster University

*Graded, taught material and clarified content for undergraduate physics courses.*

**Research Assistant** 2022

Dunlap Institute

*Performed literature review, data analysis and write-up for research project.*

**Seasonal Instructional Assistant**

2022

University of Toronto Mississauga

*Graded homework assignments, term tests and final projects for introductory astronomy courses containing over 150 students.*

**Tutor in Math and Sciences**

2019 - 2021

Tutor Doctor | Mississauga, Ontario

*Assisted students in learning and understanding subject material as well as preparing weekly notes, lesson plans and progress reports.*

**Conferences, Workshops & Presentations****Great Lakes Exoplanet Area Meeting (GLEAM) 2022**

2022

**Flash Talk and Attendee**

*Presented about research project at conference designed to connect researchers studying exoplanets and related fields in the Great Lakes region.*

**Science Communication Bootcamp**

2022

**Participant**

*A 3-day workshop series provided by U of T Libraries about using effective tools for science engagement, including science writing, social media and more.*

**Dunlap Institute Summer Undergraduate Research Program**

2021

**Online Poster Presentation**

*Poster presentation summarizing results and answering peer questions regarding summer research done in an online format via Zoom.*

**Canadian Conference for Undergraduate Women in Physics**

2020 &amp; 2021

**Delegate**

*National conference for undergraduate physics students to network, attend research talks, and learn more about graduate school and professions.*

**Stellar Stats Workshop**

2021 &amp; 2022

**Participant**

*Workshop designed to connect ideas in astronomy and statistics and encourage collaboration between the two fields.*

**Canada Planet Discussion Day**

2021 &amp; 2022

**Attendee**

*Day-long conference consisting of talks & discussions regarding topics in planets.*

**Canadian Astronomical Society (CASCA) AGM / General Meeting**

2022

**Attendee**

*A general meeting of Canadian astronomers presenting their research through talks and posters, networking and sharing results.*

**Sagan Exoplanet Summer Hybrid Workshop**

2022

**Participant**

*Series of talks, hands-on sessions and poster presentations regarding using GAIA data for exoplanet research.*

**Outreach & Extracurricular Activities*****Promoting Inclusivity in Physics & Astronomy (PIPA)*****Social Media Manager**

2022 - Present

*Managed the social media accounts and promoted events for PIPA, designed to ensure a supportive and diverse environment within the department.*

**Sidewalk Astronomy**

2022 - 2023

**Volunteer**

*Used telescope to show celestial objects to passing students in this outreach program at McMaster University.*

**Girls in STEM Workshop**

2022

**Volunteer**

*Conducted workshop on gravitational lensing for 8th graders for Girls in STEM day.*

**McMaster Undergraduate Physics Society**

2022

**Graduate Student Panelist**

*Sat on panel and shared experience about graduate school application process, as well as answering any questions from students.*

<b>Science Unlimited Summer Camp</b>	2022
<b>Volunteer</b>	
<i>Assisted in running workshops and telescope tours for summer camp students.</i>	
<b>U of T Talks: Interstellar Health</b>	2022
<b>Volunteer</b>	
<i>Created and hosted interactive workshop about Canadian contributions to astronomy.</i>	
<b>Doors Open Toronto</b>	2022
<b>Volunteer</b>	
<i>Operated solar observing station while answering questions from the general public.</i>	
<b>Science Rendezvous</b>	2022
<b>Presenter &amp; Volunteer</b>	
<i>UofT Astro presentation, including hosting the trivia section.</i>	
<b>Undergraduate Panel for Youth and Astronomy</b>	2022
<b>Panelist</b>	
<i>Answered questions and offered advice to high school students for a Youth and Astronomy event about how to study and be involved in astronomy at a university level.</i>	
<b>Pursue STEM</b>	2022
<b>Presenter &amp; Volunteer</b>	
<i>Ran a Parallax workshop for Pursue STEM, a program for Black high school students interested in STEM. Assisted with the interactive experimental portion and gave a lecture on the cosmic distance ladder.</i>	
<b>AstroTours @ U of T</b>	2021- 2022
<b>Volunteer</b>	
<i>Ran virtual interactive astronomy demonstrations for participants.</i>	
<b>Dunlap Institute Virtual Summer School for Instrumentation</b>	2021
<b>Facilitator</b>	
<i>Assisted in running workshops, answering questions and troubleshooting technical issues.</i>	

## ***Let's Talk Astrophysics Event***

2021

### **Volunteer**

*Guided high school students interested in astrophysics through online tutorials, answering questions & teaching coding procedures.*

## ***Erindale Physical and Chemical Sciences Society (ECPS)***

### **President**

2019 - 2020

*Led and managed an executive team to develop and run networking events, workshops and services providing academic support to undergraduate students at UTM.*

### **Physics Member at Large**

2018 - 2019

*Aided in designing, advertising and setting up events, provided feedback from the student membership to the society, as well as other miscellaneous responsibilities.*

## ***Open House - University of Toronto Mississauga***

2019

### **Volunteer**

*Presented to and answered questions of students and parents, set up exhibits, and ran physics experiment demonstrations for visitors in the physics lab.*

## ***Science Night - University of Toronto Mississauga***

2018 & 2019

### **Chemistry Experiment Coordinator**

*Engaged with prospective students, set up lab equipment and chemistry experiments for them to perform whilst providing assistance and supervision.*

## **Mentorships**

### ***McMaster Undergraduate Physics Society Mentorship Program***

2022 - 2023

- Ryan Primdahl

### ***Erindale Chemical and Physical Sciences Society Mentorship***

2018 - 2019

- Zara Zaman

## **Technical & Professional Skills**

- Proficient in **Python**, LaTeX, Microsoft Office: Word, Excel, PowerPoint
- Knowledgeable about Statistical Analysis Tools: R
- Fluent in Polish, Intermediate in French and Spanish