

# Daniella Morrone

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## Education

### University of Toronto

*H.B.Sc. Astronomy & Physics Specialist, Minors in Mathematics and French Language*

3.84/4.0 GPA in program specific astronomy courses; 3.72/4.0 GPA in upper-level courses.

Toronto, ON, Canada

2018 – 2023

## Work Experience

### CASCA Westar Coordinator

Canadian Astronomical Society/Société canadienne d'astronomie

Canada

October 2023 –

Organize and manage CASCA's Westar Program. Collaborate with the Westar subcommittee and other similar outreach groups to connect astronomers and under-served Canadian communities, support reciprocal and long-term relationships with these communities, and foster a welcoming and communal environment of mutual sharing of astronomy knowledge.

### Educational Content Developer

Discover the Universe/À la découverte de l'univers; Dunlap Institute for Astronomy and Astrophysics

ON & QC, Canada

June 2023 –

Offer training to teachers and create educational content about the total solar eclipse of April 2024. Help with educational programs and create social media communications.

### Research Project Supervisor

Visions of Science; Dunlap Institute for Astronomy and Astrophysics

Toronto, ON, Canada

July – August 2023

Supervise and support four high-school students working on two research projects.

### Teaching Assistant

Department of Astronomy & Astrophysics, University of Toronto

Toronto, ON, Canada

2021 – 2023

- **AST199H1 - Astronomy at the Frontier** (Winter 2023): First year seminar course. Duties included grading assignments and co-leading class discussions with the professor.
- **AST201H1 - Stars and Galaxies** (Winter 2022, 2023): Second year course for non-science students. Duties included organizing and running weekly tutorial sections, invigilating midterm and final, marking, and communicating with students via email and online discussion boards.
- **AST101H1 - The Sun and Its Neighbours** (Fall 2021, 2022): First year course for non-science students. Duties included communicating with students via email and discussion boards, invigilating midterms, and marking.

## Research Experience

### Undergraduate Theses (University of Toronto)

#### Department of Astronomy & Astrophysics

Advisor: Prof. Jeremy Webb

Toronto, ON, Canada

Fall 2022 & Winter 2023

Assessing the ability of the Transiting Exoplanet Survey Satellite (TESS) to detect exoplanets in stellar streams.

#### Department of Astronomy & Astrophysics

Advisors: Dr. Lamiya Mowla & Dr. Kartheik Iyer; Course Supervisor: Prof. Yanqin Wu

Toronto, ON, Canada

Fall 2021 & Winter 2022

Measuring morphological characteristics of galaxies in the Hubble eXtreme Deep Field to assess galaxy evolution.

### Summer Research

#### Institute for Research on Exoplanets Trottier Grant

Advisor: Prof. Jonathan Gagné - Université de Montréal, Planétarium Rio Tinto Alcan

Montréal, QC, Canada

Summer 2022

Identifying astrometric exoplanet candidates in Gaia Data Release 3.

#### Summer Undergraduate Research Program

Advisors: Dr. Lamiya Mowla & Dr. Kartheik Iyer - University of Toronto

Toronto, ON, Canada

Summer 2021

Measuring morphological characteristics of SIMBA simulated galaxies to better understand galaxy evolution.

#### Summer Student Research Program

Supervisor: Dr. JoAnne McLaurin - Sunnybrook Research Institute

Toronto, ON, Canada

Summer 2019

Characterizing prodromal Alzheimer's Disease in the TgF344-AD rat model by analyzing behaviour and pathology.

## Scholarships & Awards

Father Robert Madden, CSB Leadership Award (USMC, University of Toronto)	2022
Award for Outstanding Exhibition of College Spirit and Pride (USMC, University of Toronto)	2022
Trottier Excellence Grant (Trottier Institute for Research on Exoplanets), \$8,000	2022
Walter John Helm Scholarship in Astronomy and Astrophysics (University of Toronto), \$1,763.43	2021
Orientation Leader of the Year Award (USMC, University of Toronto)	2021
Summer Undergraduate Research Program Fellowship (Dunlap Inst. for Astronomy & Astrophysics), \$9,595	2021
SRI Summer Student Research Program (Sunnybrook Research Institute), \$6,978	2019

## Presentations

### Outreach

<b>École élémentaire catholique L'Envol, Grade 4-5 Class</b> <i>The Sun, The Stars and the Planets Beyond.</i>	<b>Trenton, ON, Canada/Online</b> June 2022
<b>UofT Talks Presents Interstellar Health: Medicine to New Heights</b> <i>Dunlap Institute for Astronomy &amp; Astrophysics Workshop.</i>	<b>Toronto, ON, Canada/Online</b> June 2022
<b>Girls SySTEM</b> <i>Astronomy in the Movies: Fiction vs. Reality.</i>	<b>Toronto, ON, Canada/Online</b> May 2022
<b>St. Gregory Catholic Elementary School, Grade 6 Class</b> <i>Let's Talk About Astronomy.</i>	<b>Toronto, ON, Canada/Online</b> January 2022

### Conference Talks

<b>A Moment of Science, Please x URSA Research Fair (University of Toronto)</b> <i>Identifying Exoplanet Candidates in Gaia Data Release 3.</i>	<b>Toronto, ON, Canada</b> April 2023
<b>Undergraduate Research Conference (University of Toronto)</b> <i>Identifying Exoplanet Candidates in Gaia Data Release 3.</i>	<b>Toronto, ON, Canada</b> January 2023
<b>iREx Final Presentation Day (Université de Montréal)</b> <i>Identifying Exoplanet Candidates in Gaia Data Release 3.</i>	<b>Montréal, QC, Canada</b> August 2022
<b>Undergraduate Research Conference (University of Toronto)</b> <i>Mapping the Mass-Light Evolution of Galaxies in the Hubble eXtreme Deep Field and SIMBA Simulations.</i>	<b>Toronto, ON, Canada/Online</b> February 2022
<b>SDSS-V 2021 Collaboration Meeting (Johns Hopkins University)</b> <i>Decoding galaxy evolution through the lens of galaxy morphology.</i>	<b>Baltimore, MD, USA/Online</b> August 2021
<b>SURP Midterm Presentation (University of Toronto)</b> <i>What does morphology tell us? Understanding galaxy evolution through the lens of galaxy shapes and sizes.</i>	<b>Toronto, ON, Canada/Online</b> July 2021
<b>Vitrine des savoirs 2021 (L'Acfas, University of Alberta)</b> <i>Que nous dit la morphologie des galaxies? Procédure pour identifier les lacunes dans nos simulations actuelles.</i>	<b>Edmonton, AB, Canada/Online</b> June 2021

### Conference Posters

<b>Canadian Conference for Undergraduate Women in Physics (Canadian Association of Physicists)</b> <i>What does morphology tell us? Employing galaxy morphology to decode galaxy evolution.</i>	<b>Online</b> January 2022
<b>SDSS-V 2021 Collaboration Meeting (Johns Hopkins University)</b> <i>What does morphology tell us? Employing galaxy morphology to decode galaxy evolution.</i>	<b>Baltimore, MD, USA/Online</b> August 2021
<b>SURP Poster Presentation (University of Toronto)</b> <i>What does morphology tell us? Employing galaxy morphology to decode galaxy evolution.</i>	<b>Toronto, ON, Canada/Online</b> August 2021
<b>407 ETR Summer Student Poster Competition (Sunnybrook Research Institute)</b> <i>Behavioural and Pathological Characterization of Prodromal Alzheimer's Disease in TgF344-AD Model.</i>	<b>Toronto, ON, Canada</b> August 2019

## Volunteer Experience

### The Bentway Northern Lights Project

Activity Planner - Dunlap Institute for Astronomy & Astrophysics

Toronto, ON, Canada

November 2023 – January 2024

### Astronomy on Tap

Promotional and Social Media Moderator - Dunlap Institute for Astronomy & Astrophysics

Toronto, ON, Canada

November 2023

### Henderson Brewery's Cygnus X-1 Ides Launch

Planetarium Presenter - Dunlap Institute for Astronomy & Astrophysics

Toronto, ON, Canada

October 2023

### Rexdale Community Hub STEM Club Back To School event

Booth Moderator - Dunlap Institute for Astronomy & Astrophysics

Toronto, ON, Canada

August 2023

### Visions of Science Expo

Presentation Judge - Visions of Science

Toronto, ON, Canada

August 2023

### Visions of Science Empower Student Visit

Panelist - Visions of Science, Dunlap Institute for Astronomy & Astrophysics

Toronto, ON, Canada

July 2023

### Age of the Universe Workshop

Notebook Developer, Workshop Volunteer, Panelist - Dunlap Institute for Astronomy & Astrophysics

Toronto, ON, Canada

May - July 2023

### Science Rendezvous

Telescope Volunteer - Science Rendezvous 2023, University of Toronto

Toronto, ON, Canada

May 2023

### Astronomy Education Conference

Workshop Assistant - Astronomy Education Conference 2023, University of Toronto

Toronto, ON, Canada

May 2023

### Pursue STEM Workshop

Workshop Volunteer - Department of Physics, University of Toronto

Toronto, ON, Canada

May 2023

### Physics Research Panel

Undergraduate Panelist - Second Year Learning Community, University of Toronto

Toronto, ON, Canada

November 2022

### USMC Student Union Electoral By-Laws Review Committee

Committee Member - University of Saint Michael's College (USMC), University of Toronto

Toronto, ON, Canada

July 2022 - April 2023

### Astronomy and Youth

Undergraduate Panelist - Star Chasers

Toronto, ON, Canada/Online

February 2022

### AstroTours

Volunteer - Department of Astronomy & Astrophysics, University of Toronto

Toronto, ON, Canada/Online

December 2021 - February 2022

### St. Mike's Grad Week

Panel Moderator - USMC, University of Toronto

Toronto, ON, Canada/Online

October 2021

### USMC Student Union Mental Health & Accessibility Committee

Committee Member - USMC, University of Toronto

Toronto, ON, Canada

Fall 2021 & Winter 2022

### USMC Mentorship Program

Mentor, Academic Representative - USMC, University of Toronto

Toronto, ON, Canada

Fall 2021 & Winter 2022

### USMC Student Union Formal Event Committee

Committee Member - USMC, University of Toronto

Toronto, ON, Canada

Spring 2020

### USMC Orientation

Leader (2019-2021), Marshal (2022) - USMC, University of Toronto

Toronto, ON, Canada

Summer 2019, 2020, 2021, 2022

## Mentorship & Supervision

### Project Supervisor – Visions of Science

Dunlap Institute for Astronomy and Astrophysics

- Awa Diomande (High-School Student) July - August 2023  
Characterizing exoplanet habitability via physical properties (with Avery Brown and Katerina Benevides)
- Ahmed Hussein (High-School Student) July - August 2023  
Characterizing exoplanet habitability via physical properties (with Avery Brown and Katerina Benevides)
- Jordyn Bellamy (High-School Student) July - August 2023  
Characterizing galaxy type via the light they emit (with Avery Brown and Katerina Benevides)
- Bruno Santisteban (High-School Student) July - August 2023  
Characterizing galaxy type via the light they emit (with Avery Brown and Katerina Benevides)

**Mentor – University of Saint Michael’s College Mentorship Program**

- Ruchira Ray Verma (University of Toronto, Undergraduate)
- Erica Rose (University of Toronto, Undergraduate)
- Jing-Zu Tate Li (University of Toronto, Undergraduate)
- Joshua Thoppil (University of Toronto, Undergraduate)
- Jou Glasheen (University of Toronto, Undergraduate)
- Megh Agarwal (University of Toronto, Undergraduate)

**University of Toronto**

Fall 2021 & Winter 2022  
 Summer 2021 - Winter 2022  
 Summer 2021 - Winter 2022  
 Summer 2021 - Winter 2022  
 Summer 2021 - Winter 2022  
 Summer 2021

**Mentee – Astronomy Undergraduate Mentorship Program**

- Ayush Pandhi (University of Toronto, Astronomy PhD candidate)
- Simran Nerval (University of Toronto, Astronomy PhD candidate)
- Jacob Taylor (University of Toronto, Astronomy PhD candidate)

**University of Toronto**

Fall 2022 & Winter 2023  
 Fall 2021 & Winter 2022  
 Fall 2020 & Winter 2021

## Technical Skills

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Proficient in **Python**. Have experience with **HTML**, and web management softwares **WIX** and **WordPress**. Comfortable using **LaTeX**, **Git**, and **macOS** command line. Speak, write, and read **English** with Native proficiency and **French** with Working proficiency.

## Workshops & Training

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**Teaching Assistant Training:** Teaching Assistants’ Training Program (*September 2021*); Accessibility for Ontarians with Disabilities Act (*September 2021*)

**Astronomy Lectures & Workshops:** SURP Astro 101 Lecture Series & Professional Development Series (*Summer 2021*); CTA200H: Introduction to Computational Astrophysics (*Summer 2021*)

**Outreach Training:** LivingWorks ASIST (*November 2022*); LivingWorks safeTALK (*Summer 2022*); LivingWorks Start (*Summer 2020, 2021*); Identify, Assist, Refer Education Module (*Summer 2020, 2021, 2022*); Call it out: racism, racial discrimination human rights (*Summer 2021*); Equity & Diversity Training (*Summer 2020*)

## Relevant Coursework

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**Astronomy:** Astronomy Research, Computational Astrophysics, Introduction to Astrophysics

**Physics:** Classical & Quantum Mechanics, Electromagnetism & Electrodynamics, Thermal Physics

**Mathematics:** Ordinary & Partial Differential Equations, Complex Variables, Multivariable Calculus

## Media Appearances

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<i>The Bentway:</i> <a href="#">Northern Lights Astronomy Feature</a>	2023
<i>University of St. Michael’s College:</i> <a href="#">SMC Alumni Spotlight</a>	2023
<i>Introduction Blog Post for À la découverte de l’univers/Discover the Universe:</i> <a href="#">French</a> / <a href="#">English</a>	2023
<i>Institute for Research on Exoplanets:</i> <a href="#">Website Profile</a> , <a href="#">Facebook Interview</a> & <a href="#">Internship Lookback</a>	2022
<i>Leadership Award for Outstanding Exhibition of College Spirit and Pride:</i> <a href="#">Instagram</a> & <a href="#">Facebook Interview</a>	2022
<i>Astronomy and Youth:</i> <a href="#">Meet Our University Student Panel</a>	2022
<i>St. Gregory Catholic Elementary School:</i> <a href="#">Blog Post</a> & <a href="#">Newsletter</a>	2022
<i>SURP Project Showcase:</i> <a href="#">Poster</a> & <a href="#">Research Summary</a>	2021
<i>SURP Student Spotlight:</i> <a href="#">Student of the Week interview</a>	2021
<i>Meet the SMC Mentorship Team 2021-2022:</i> <a href="#">Facebook</a> & <a href="#">Instagram</a>	2021
<i>L’Acfas Vitaines des savoirs 2021:</i> <a href="#">Event program</a> & <a href="#">Presentation</a>	2021

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