

Daniella Morrone

✉ daniella.r.morrone@gmail.com • 🌐 [daniellamorrone.github.io](https://github.com/daniellamorrone)

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

Teaching Technician

David A. Dunlap Department of Astronomy & Astrophysics, University of Toronto

Toronto, ON, Canada

December 2024 –

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.

Curriculum Developer

Kapapamahchakwew - Wandering Spirit School; Canadian Institute for Theoretical Astrophysics

Toronto, ON, Canada

September - December 2024

Develop curriculum for after-school coding and astronomy club for students of any grade, including tutorials for and use of Python coding language, Raspberry Pi, and SeeStar telescopes.

Educational Content Developer

Discover the Universe/À la découverte de l'univers; Dunlap Inst. for Astronomy & Astrophysics

Canada

June 2023 - December 2024

Help with development and implementation of educational programs and creation of social media communications. Offer training to teachers and create educational content about the total solar eclipse of April 2024; coordinated 37 workshops held through the Toronto Public Library system and led/co-led 31 eclipse training events.

Outreach Project Supervisor

Visions of Science; Dunlap Institute for Astronomy and Astrophysics

Toronto, ON, Canada

July – August 2024

Develop a high-school level outreach project. Supervise and support a student working on the project.

Course Administrative Assistant

David A. Dunlap Department for Astronomy and Astrophysics; University of Toronto

Toronto, ON, Canada

December 2023 – January 2024

Aid in administrative work for astronomy courses, such as Teaching Assistant evaluations and academic offence documentation.

Research Project Supervisor

Visions of Science; Dunlap Institute for Astronomy and Astrophysics

Toronto, ON, Canada

July – August 2023

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

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| Father Robert Madden, CSB Leadership Award (USMC, University of Toronto) | 2023 |
| 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

Science Teachers Association of Ontario Ignites Conference 2024

Exoplanets in the Classroom: free resources to enhance your Space unit!

Burlington, ON, Canada

November 2024

University of Toronto Astronomy Speakers Bureau; TPL S. Walter Stewart Branch

Astronomy in the Movies: Fiction vs. Reality.

Toronto, ON, Canada

November 2024

Association of Science Teachers Nova Scotia Conference

Exoplanets in the Classroom: free resources to enhance your Space unit!

Halifax, NS, Canada

October 2024

University of Toronto Astronomy Speakers Bureau; TPL Richview Branch

Astronomy in the Movies: Fiction vs. Reality.

Toronto, ON, Canada

September 2024

University of Toronto Astronomy Speakers Bureau; Occasional Teachers Conference

Astronomy in the Movies: Fiction vs. Reality.

Toronto, ON, Canada

June 2024

Canadian Astronomical Society Conference TO 2024

The Westar Program Launch.

Toronto, ON, Canada

June 2024

University of Toronto Astronomy Speakers Bureau; TPL Mimico Centennial Branch

Finding our place in the cosmos: How the Earth, the Sun, and the Solar System compare to the rest of the known universe.

Toronto, ON, Canada

April 2024

University of Toronto Astronomy Speakers Bureau; TPL Don Mills Branch

Finding our place in the cosmos: How the Earth, the Sun, and the Solar System compare to the rest of the known universe.

Toronto, ON, Canada

April 2024

École élémentaire catholique L'Envol, Grade 4-5 Class

The Sun, The Stars and the Planets Beyond.

Trenton, ON, Canada/Online

June 2022

UofT Talks Presents Interstellar Health: Medicine to New Heights

Dunlap Institute for Astronomy & Astrophysics Workshop.

Toronto, ON, Canada/Online

June 2022

Girls SySTEM

Astronomy in the Movies: Fiction vs. Reality.

Toronto, ON, Canada/Online

May 2022

St. Gregory Catholic Elementary School, Grade 6 Class
Let's Talk About Astronomy.

Toronto, ON, Canada/Online
January 2022

Conference Talks

A Moment of Science, Please x URSA Research Fair (University of Toronto) **Toronto, ON, Canada**
Identifying Exoplanet Candidates in Gaia Data Release 3. *April 2023*

Undergraduate Research Conference (University of Toronto) **Toronto, ON, Canada**
Identifying Exoplanet Candidates in Gaia Data Release 3. *January 2023*

iREx Final Presentation Day (Université de Montréal) **Montréal, QC, Canada**
Identifying Exoplanet Candidates in Gaia Data Release 3. *August 2022*

Undergraduate Research Conference (University of Toronto) **Toronto, ON, Canada/Online**
Mapping the Mass-Light Evolution of Galaxies in the Hubble eXtreme Deep Field and SIMBA Simulations. *February 2022*

SDSS-V 2021 Collaboration Meeting (Johns Hopkins University) **Baltimore, MD, USA/Online**
Decoding galaxy evolution through the lens of galaxy morphology. *August 2021*

SURP Midterm Presentation (University of Toronto) **Toronto, ON, Canada/Online**
What does morphology tell us? Understanding galaxy evolution through the lens of galaxy shapes and sizes. *July 2021*

Vitrine des savoirs 2021 (L'Acfas, University of Alberta) **Edmonton, AB, Canada/Online**
Que nous dit la morphologie des galaxies? Procédure pour identifier les lacunes dans nos simulations actuelles. *June 2021*

Conference Posters

Canadian Conference for Undergraduate Women in Physics (Canadian Association of Physicists) **Online**
What does morphology tell us? Employing galaxy morphology to decode galaxy evolution. *January 2022*

SDSS-V 2021 Collaboration Meeting (Johns Hopkins University) **Baltimore, MD, USA/Online**
What does morphology tell us? Employing galaxy morphology to decode galaxy evolution. *August 2021*

SURP Poster Presentation (University of Toronto) **Toronto, ON, Canada/Online**
What does morphology tell us? Employing galaxy morphology to decode galaxy evolution. *August 2021*

407 ETR Summer Student Poster Competition (Sunnybrook Research Institute) **Toronto, ON, Canada**
Behavioural and Pathological Characterization of Prodromal Alzheimer's Disease in TgF344-AD Model. *August 2019*

Volunteer Experience

Coding the Cosmos **Toronto, ON, Canada**
Activity Co-Head - Dunlap Institute for Astronomy & Astrophysics *October 2024 –*

University of Toronto Astronomy Speakers Bureau **Toronto, ON, Canada**
Speaker - University of Toronto, Department of Astronomy & Astrophysics *November 2023 –*

Coding the Cosmos **Toronto, ON, Canada**
Notebook Developer, Workshop Volunteer, Panelist - Dunlap Institute for Astronomy & Astrophysics *April - July 2024*

Astronomy on Tap **Toronto, ON, Canada**
Volunteer - Dunlap Institute for Astronomy & Astrophysics *March, July 2024*

St. Mike's Grad Week **Toronto, ON, Canada**
Panelist - USMC, University of Toronto *February 2024*

The Bentway Northern Lights Project **Toronto, ON, Canada**
Activity Planner - Dunlap Institute for Astronomy & Astrophysics *November 2023 - January 2024*

Astronomy on Tap **Toronto, ON, Canada**
Promotional and Social Media Moderator - Dunlap Institute for Astronomy & Astrophysics *November 2023*

Henderson Brewery's Cygnus X-1 Ides Launch **Toronto, ON, Canada**
Planetarium Presenter - Dunlap Institute for Astronomy & Astrophysics *October 2023*

Rexdale Community Hub STEM Club Back To School event **Toronto, ON, Canada**
Booth Moderator - Dunlap Institute for Astronomy & Astrophysics *August 2023*

Visions of Science Expo **Toronto, ON, Canada**
August 2023

Presentation Judge - Visions of Science

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

- Seare Gared (High-School Student)

July - August 2024

Interactive Sky Map: How constellations change from culture to culture.

- 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

University of Toronto

- Ruchira Ray Verma (University of Toronto, Undergraduate)

Fall 2021 & Winter 2022

- Erica Rose (University of Toronto, Undergraduate)

Summer 2021 - Winter 2022

- Jing-Zu Tate Li (University of Toronto, Undergraduate)

Summer 2021 - Winter 2022

- Joshua Thoppil (University of Toronto, Undergraduate)

Summer 2021 - Winter 2022

- Jou Glasheen (University of Toronto, Undergraduate)

Summer 2021 - Winter 2022

- Megh Agarwal (University of Toronto, Undergraduate)

Summer 2021

Mentee – Astronomy Undergraduate Mentorship Program

University of Toronto

- Ayush Pandhi (University of Toronto, Astronomy PhD candidate)

Fall 2022 & Winter 2023

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

Fall 2021 & Winter 2022
Fall 2020 & Winter 2021

Technical Skills

- Have experience with **HTML**, and web management softwares **WIX** and **WordPress**.
- Familiar with social media platforms **Facebook**, **Instagram**, **Twitter/X**, and **YouTube**.
- Significant use of **Canva**, **Camtasia**, **Microsoft Suite**, and **Google Workspace**.
- Proficient in **Python**, and comfortable using **LaTeX**, **Git**, and **macOS** command line.
- Speak, write, and read **English** (Native proficiency), **French** (Working proficiency), **Spanish** (Elementary proficiency).

Workshops & Training

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: 4 Seasons of Indigenous Learning (*October 2024–*); Connected North's Best Practices (*August–September 2024*); The Indigenous Learning Series (INDG-001) at the University of Toronto (*March–June 2024*); CASCA Indigenous Engagement Protocols Workshop (*February 2024*); 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

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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| CTV Accessible Eclipse Article: <i>'You can hear it': Those with low vision can enjoy the eclipse with interactive tools</i> | 2024 |
| GlobalNews Feature: <i>Video</i> | 2024 |
| The Bentway: <i>Northern Lights Astronomy Feature</i> | 2023 |
| University of St. Michael's College: <i>SMC Alumni Spotlight</i> | 2023 |
| Introduction Blog Post for À la découverte de l'univers/Discover the Universe: <i>French / English</i> | 2023 |
| Institute for Research on Exoplanets: <i>Website Profile, Facebook Interview & Internship Lookback</i> | 2022 |
| Leadership Award for Outstanding Exhibition of College Spirit and Pride: <i>Instagram & Facebook Interview</i> | 2022 |
| Astronomy and Youth: <i>Meet Our University Student Panel</i> | 2022 |
| St. Gregory Catholic Elementary School: <i>Blog Post & Newsletter</i> | 2022 |
| SURP Project Showcase: <i>Poster & Research Summary</i> | 2021 |
| SURP Student Spotlight: <i>Student of the Week interview</i> | 2021 |
| Meet the SMC Mentorship Team 2021-2022: <i>Facebook & Instagram</i> | 2021 |
| L'Acfas Vitrines des savoirs 2021: <i>Event program & Presentation</i> | 2021 |
