

Daniella Morrone

✉ daniella.r.morrone@gmail.com • 🌐 daniellamorrone.github.io

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

Manage the Westar Exchange Program. Arrange CASCA astronomers to visit underserved communities across Canada. Collaborate with the Westar subcommittee and other similar outreach groups to establish and maintain long-term relationships with various Canadian communities.

Canada

October 2023 –

Educational Content Developer

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

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.

ON & QC, Canada

June 2023 –

Research Project Supervisor

Visions of Science; Dunlap Institute for Astronomy and Astrophysics

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

Toronto, ON, Canada

July – August 2023

Teaching Assistant

Department of Astronomy & Astrophysics, University of Toronto

- *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.

Toronto, ON, Canada

2021 – 2023

Research Experience

Undergraduate Theses (University of Toronto)

Department of Astronomy & Astrophysics

Advisor: Prof. Jeremy Webb

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

Toronto, ON, Canada

Fall 2022 & Winter 2023

Department of Astronomy & Astrophysics

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

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

Toronto, ON, Canada

Fall 2021 & Winter 2022

Summer Research

Institute for Research on Exoplanets Trottier Grant

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

Identifying astrometric exoplanet candidates in Gaia Data Release 3.

Montréal, QC, Canada

Summer 2022

Summer Undergraduate Research Program

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

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

Toronto, ON, Canada

Summer 2021

Summer Student Research Program

Supervisor: Dr. JoAnne McLaurin - Sunnybrook Research Institute

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

Toronto, ON, Canada

Summer 2019

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

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

Conference Talks

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

Conference Posters

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

Volunteer Experience

Rexdale Community Hub STEM Club Back To School event <i>Booth Moderator - Dunlap Institute for Astronomy & Astrophysics</i>	Toronto, ON, Canada <i>August 2023</i>
Visions of Science Expo <i>Presentation Judge - Visions of Science</i>	Toronto, ON, Canada <i>August 2023</i>
Visions of Science Empower Student Visit <i>Panelist - Visions of Science, Dunlap Institute for Astronomy & Astrophysics</i>	Toronto, ON, Canada <i>July 2023</i>
Age of the Universe Workshop <i>Notebook Developer, Workshop Volunteer, Panelist - Dunlap Institute for Astronomy & Astrophysics</i>	Toronto, ON, Canada <i>May - July 2023</i>
Science Rendezvous <i>Telescope Volunteer - Science Rendezvous 2023, University of Toronto</i>	Toronto, ON, Canada <i>May 2023</i>
Astronomy Education Conference <i>Workshop Assistant - Astronomy Education Conference 2023, University of Toronto</i>	Toronto, ON, Canada <i>May 2023</i>
Pursue STEM Workshop <i>Workshop Volunteer - Department of Physics, University of Toronto</i>	Toronto, ON, Canada <i>May 2023</i>
Physics Research Panel <i>Undergraduate Panelist - Second Year Learning Community, University of Toronto</i>	Toronto, ON, Canada <i>November 2022</i>
USMC Student Union Electoral By-Laws Review Committee <i>Committee Member - University of Saint Michael's College (USMC), University of Toronto</i>	Toronto, ON, Canada <i>July 2022 - April 2023</i>
Astronomy and Youth <i>Undergraduate Panelist - Star Chasers</i>	Toronto, ON, Canada/Online <i>February 2022</i>
AstroTours <i>Volunteer - Department of Astronomy & Astrophysics, University of Toronto</i>	Toronto, ON, Canada/Online <i>December 2021 - February 2022</i>
St. Mike's Grad Week <i>Panel Moderator - USMC, University of Toronto</i>	Toronto, ON, Canada/Online <i>October 2021</i>
USMC Student Union Mental Health & Accessibility Committee <i>Committee Member - USMC, University of Toronto</i>	Toronto, ON, Canada <i>Fall 2021 & Winter 2022</i>
USMC Mentorship Program <i>Mentor, Academic Representative - USMC, University of Toronto</i>	Toronto, ON, Canada <i>Fall 2021 & Winter 2022</i>
USMC Student Union Formal Event Committee <i>Committee Member - USMC, University of Toronto</i>	Toronto, ON, Canada <i>Spring 2020</i>
USMC Orientation <i>Leader (2019-2021), Marshal (2022) - USMC, University of Toronto</i>	Toronto, ON, Canada <i>Summer 2019, 2020, 2021, 2022</i>

Mentorship & Supervision

Project Supervisor – Visions of Science	Dunlap Institute for Astronomy and Astrophysics
– Awa Diomande (High-School Student) Characterizing exoplanet habitability via physical properties (with Avery Brown and Katerina Benevides)	July - August 2023
– Ahmed Hussein (High-School Student) Characterizing exoplanet habitability via physical properties (with Avery Brown and Katerina Benevides)	July - August 2023
– Jordyn Bellamy (High-School Student) Characterizing galaxy type via the light they emit (with Avery Brown and Katerina Benevides)	July - August 2023
– Bruno Santisteban (High-School Student) Characterizing galaxy type via the light they emit (with Avery Brown and Katerina Benevides)	July - August 2023
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

- 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

Proficient in **Python** and have experience with **HTML**. Comfortable using **LaTeX** and **Git**. Have experience with **macOS** command line. Speak **English** with Native proficiency and **French** with Working 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: 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

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 Vitaines des savoirs 2021: <i>Event program & Presentation</i>	2021