Daniella Morrone

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Education

University of Toronto — **Toronto, ON, Canada**
H.B.Sc. Astronomy & Physics Specialist, Minors in Mathematics and French Language — *2018 – 2023*

– 3.80/4.0 GPA in astronomy courses; 3.68/4.0 GPA in upper level courses.

Research Experience

Summer Research

Institute for Research on Exoplanets Trottier Grant, Université de Montréal — **Montreal, QC, Canada**
Advisor: Prof. Jonathan Gagné — *Summer 2022*

Summer Undergraduate Research Program, University of Toronto — **Toronto, ON, Canada**
Advisors: Dr. Lamiya Mowla & Dr. Kartheik Iyer — *Summer 2021*

– Developed a pipeline developed to measure morphological characteristics of galaxies in real observations (XDF), mock observations and simulations (SIMBA Simulations).

Summer Student Research Program, Sunnybrook Research Institute — **Toronto, ON, Canada**
Supervisor: Dr. JoAnne McLaurin — *Summer 2019*

– Performed immunostaining techniques and analysis of behavioural tests to characterize the behaviour and pathology of prodromal Alzheimer's Disease in the TgF344-AD Rat Model.

Undergraduate Thesis

Department of Astronomy & Astrophysics, University of Toronto — **Toronto, ON, Canada**
Advisors: Dr. Lamiya Mowla & Dr. Kartheik Iyer; Super-advisor: Prof. Yanqin Wu — *Fall 2021 & Winter 2022*

– Applying the pipeline developed in Summer 2021 (see above) to map the morphological evolution of galaxies in the Hubble eXtreme Deep Field (XDF) and SIMBA Simulations.

Scholarships & Awards

Trottier Excellence Grant — *2022*
Institute for Research on Exoplanets, $7,500

Walter John Helm Scholarship in Astronomy and Astrophysics — *2021*
University of Toronto, $1,763.43

Summer Undergraduate Research Program (SURP) Fellowship — *2021*
Dunlap Institute for Astronomy & Astrophysics, $9,595

Sunnybrook Research Institute (SRI) Summer Student Research Program — *2019*
Sunnybrook Research Institute, $6,978

Presentations

Conferences

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

What does morphology tell us? Employing galaxy morphology to decode galaxy evolution. — **Online**, *January 2022*
Canadian Conference for Undergraduate Women in Physics, Poster Presentation

Decoding galaxy evolution through the lens of galaxy morphology. — **Johns Hopkins University/Online**, *August 2021*
SDSS-V 2021 Collaboration Meeting, Lightning Talk

What does morphology tell us? Employing galaxy morphology to decode galaxy evolution. — **Johns Hopkins University/Online**, *August 2021*
SDSS-V 2021 Collaboration Meeting, Poster Presentation

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

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

Que nous dit la morphologie des galaxies? Procédure pour identifier les lacunes dans nos simulations actuelles. — **L'Acfas/Online**, *June 2021*
Vitrine de savoirs 2021, Sprint-présentations de la relève en recherche

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

Outreach

(***UPCOMING***) **Astronomy in the Movies: Fiction vs. Reality.** — **Girls SySTEM/Online**, *May 2022*
Girls SySTEM, Invited Talk

Let's Talk About Astronomy. — **St. Gregory Catholic Elementary School/Online**, *January 2022*
Grade 6 Class, Invited Talk

Teaching Experience

Teaching Assistant — **University of Toronto**, *2021-2022*
Department of Astronomy & Astrophysics

– **AST101 - The Sun and Its Neighbours**: Marked midterm and assignments for a first year course for non-science students about the Sun, planets, comets, and the formation of the solar system.

– **AST201 - Stars and Galaxies**: Communicated with students via email and discussion boards and marked midterm and assignments for a second year course for non-science students about properties and life cycles of stars, galaxies, and the Universe.

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.

Other Relevant Work & Volunteer Experience

Astronomy and Youth — **Star Chasers**, *February 2022*
Undergraduate Panelist

AstroTours — **University of Toronto**, *December 2021 - Present*
Volunteer

St. Mike's Grad Week — **University of Toronto**, *October 2021*
Panel Moderator

USMC Student Union Mental Health & Accessibility Committee — **University of Toronto**, *Fall 2021 & Winter 2022*
Committee Member

USMC Mentorship Program — **University of Toronto**, *Fall 2021 & Winter 2022*
Mentor, Academic Representative

USMC Orientation — **University of Toronto**, *Summer 2019, 2020, 2021*
Leader