




# Veronika Dornan

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ORCID




https://dornanv.github.io/

## Education


- 2021 – . . . .  **Ph.D. Astronomy, McMaster University.**  
Thesis title: *A Comprehensive Observational Understanding of The  $M_{GCS} - M_h$  Relation.*
- 2019 – 2021  **M.Sc. Astronomy, McMaster University.**  
Thesis title: *Investigating the  $M_{GCS} - M_h$  Relation in High Mass Galaxies.*
- 2015 – 2019  **B.Sc. Honours Physics, Mount Allison University**, minors in astronomy and math.  
Thesis title: *The Effects of Metallicity on Convective Overshoot Behaviour in Models of  $\delta$  Scuti Variable Stars.*

## Research Publications

### Published Journal Articles






- 1 V. Dornan and W. E. Harris, “Utilizing Voronoi Tessellations to Determine Radial Density Profiles,” *The Astronomical Journal*, vol. 168, no. 2, 48, p. 48, Aug. 2024.  DOI: 10.3847/1538-3881/ad5447. arXiv: 2406.02390 [astro-ph.IM].
- 2 V. Dornan and W. E. Harris, “Investigating the  $M_{GCS}-M_h$  Relation in the Most Massive Galaxies,” *The Astrophysical Journal*, vol. 950, no. 2, 179, p. 179, Jun. 2023.  DOI: 10.3847/1538-4357/acbc3. arXiv: 2304.11210 [astro-ph.GA].
- 3 V. Dornan and C. C. Lovekin, “The Effects of Metallicity on Convective Overshoot Behavior in Models of  $\delta$  Scuti Variable Stars,” *The Astrophysical Journal*, vol. 924, no. 2, 130, p. 130, Jan. 2022.  DOI: 10.3847/1538-4357/ac3980. arXiv: 2111.12068 [astro-ph.SR].

## Guest Seminars

- July 26th, 2024  **John Moores Liverpool University**  
*The Search for A Comprehensive Understanding of The GCS-Halo Mass Relation.*
- August 5th, 2024  **University of Surrey**  
*The Search for A Comprehensive Understanding of The GCS-Halo Mass Relation.*

## Conference Presentations







### Oral Presentations

- 2024  **Investigating the Globular Cluster System-Halo Mass Relation In The Dwarf Regime.**  
Durham University, Small Galaxies Cosmic Questions Conference, international.
-  **Determining Globular Cluster System Distributions with Voronoi Tessellations.**  
University of Toronto, Globular Clusters and Their Tidal Tails Workshop, international.
- 2023  **Investigating The  $M_{GCS} - M_h$  Relation in The Most Massive Galaxies.**  
University of Michigan, Great Lakes Clusters and Streams Workshop, international.
-  **Investigating The  $M_{GCS} - M_h$  Relation in The Most Massive Galaxies.**  
University of British Columbia / NRAO, Canadian Astronomical Society AGM, national.
- 2022  **Globular Cluster System Radial Profiles: A Mosaic of Voronoi Tessellations.**  
McMaster University, McMaster Clusters Workshop, international.

## Conference Presentations (continued)

- 2019     **The Effects of Rotation and Metallicity on Convective Overshoot in Models of  $\delta$  Scuti Stars.**  
University of Ottawa, Canadian Conference for Undergraduate Women in Physics, national.
- 2019     **The Effects of Rotation and Metallicity on Convective Overshoot in Models of  $\delta$  Scuti Stars.**  
Acadia University, Atlantic Universities Physics and Astronomy Conference, regional.
- 2018     **The Effects of Rotation and Metallicity on Convective Overshoot in Models of  $\delta$  Scuti Stars.**  
University of Alberta, Canadian Undergraduate Physics Conference, national.

## Poster Presentations

- 2024     **Determining Globular Cluster System Distributions with Voronoi Tessellations.**  
University of Toronto / York University, Canadian Astronomical Society AGM, national.
- 2023     **Mapping Globular Cluster Systems with Voronoi Tessellations.**  
Northwestern University, MODEST Workshop, international.
- 2022     **Globular Cluster System Radial Profiles: A Mosaic of Voronoi Tessellations.**  
University of Waterloo, Canadian Astronomical Society AGM, national.
- 2021     **Globular Cluster Population Distributions in Massive Galaxies.**  
Virtual, Canadian Astronomical Society AGM, national.
- 2020     **Globular Cluster Population Distributions in Massive Galaxies.**  
York University, Canadian Astronomical Society AGM, national.
- 2019     **The Effects of Rotation and Metallicity on Convective Overshoot in Models of  $\delta$  Scuti Stars.**  
McGill University, Canadian Astronomical Society AGM, national.

## Awards and Achievements

- 2023     **Best Student Talk**, Canadian Astronomical Society 2023 AGM, Graduate Student Committee.
- 2023     **Teaching and Learning: Theory and Inquiry Certificate**, McMaster University, MacPherson Institute.
- 2019     **Tindall/Steinitz Award in Research**, Atlantic Universities Physics and Astronomy Conference 2019, Science Atlantic.
- 2018     **Departmental Academic Leadership Award**, Mount Allison University, Department of Physics.
- 2018     **Varma Scholarship**, Mount Allison University, Department of Physics.
- 2018     **Physics Teaching Certificate**, Mount Allison University, Department of Physics.

## Teaching Experience - Mount Allison University

### Teaching Assistant

#### PHYS 1051

Intro Physics I  
Two semesters

#### PHYS 1551

Intro Physics II  
Two semesters

#### PHYS 1031

Stars and Galaxies  
One semester

#### PHYS 3021

Life in The Universe  
One semester

## Guest Lectures

- PHYS 1551 - March 27th, 2018 - *Lecture on special relativity.*

## Teaching Experience - McMaster University

### Teaching Assistant

#### **ASTRON 1Fo3**

Intro Astronomy  
Four semesters

#### **PHYSICS 3No3**

Physical Optics  
One semester

#### **PHYSICS 1Ao3**

Intro Physics  
Two semesters

#### **ASTRON 2Bo3**

The Big Questions  
Four semesters

#### **ASTRON 2Eo3**

Planetary Astronomy  
Three semesters

#### **ASTRON 3Yo3**

Stellar Structure  
Two semesters

#### **PHYSICS 782**

Galactic Astronomy  
One semester (Grad-level)

#### **ASTRON 3Xo3**

Galaxies and Cosmology  
One semester

## Guest Lectures

- ASTRON 3Yo3 - November 15th, 2022 - *Lecture on massive star evolution.*
- ASTRON 3Yo3 - September 5th, 2024 - *Lecture on coding for astronomers.*

## Outreach and EDI

2019 – . . . .	■ <b>W.J. McCallion Planetarium Presenter.</b>
	■ <b>McMaster Sidewalk Astronomy Volunteer / Coordinator.</b>
2021 – . . . .	■ <b>Executive Member of PIPA</b> , Promoting Inclusion in Physics and Astronomy, McMaster University.
2023 – . . . .	■ <b>Executive Member of The CASCA Graduate Student Committee</b>
	■ <b>CASCA Education and Public Outreach Committee Member</b>
2024 – . . . .	■ <b>Killarney Provincial Park Astronomer in Residence.</b>
2022 – 2023	■ <b>EDI Committee Graduate Student Representative</b> , Department of Physics and Astronomy, McMaster University.
2022	■ <b>Hiring Committee Graduate Student Representative</b> , Department of Physics and Astronomy, McMaster University.

## Invited Public Talks

March 29th, 2024	■ <b>McMaster University</b> <i>The Ultimate Guide to Eclipses.</i>
May 31st, 2024	■ <b>Allan I. Carswell Observatory</b> <i>The Solar Cycle: Why 2024 Has Been a Great Year for Solar Astronomy.</i>
June 26th, 2024	■ <b>Killarney Provincial Park</b> <i>Annus Mirabilis: Why 2024 Has Been a Great Year for Backyard Astronomy.</i>
August 19th, 2024	■ <b>McMaster University</b> <i>Boom in The Night Sky: The Impending Explosion of The “Blaze Star”.</i>