




Veronika Dornan

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ORCID





🌐 <https://dornanv.github.io/>

Education



- 2021 – 2025  **Ph.D. Astronomy, McMaster University.**
Supervisor: Dr Bill Harris
From Dwarfs to Giants: A Comprehensive Observational Understanding of The $M_{GCS} - M_h$ Relation.
- 2019 – 2021  **M.Sc. Astronomy, McMaster University.**
Supervisor: Dr Bill Harris
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.
Supervisor: Dr Catherine Lovekin
The Effects of Metallicity on Convective Overshoot Behaviour in Models of δ Scuti Variable Stars.

Research Publications

Published Journal Articles











- 1 V. Dornan and W. E. Harris, “Major Mergers Mean Major Offset: Drivers of Intrinsic Scatter in The $M_{GCS} - M_h$ Scaling Relation for Massive Elliptical Galaxies,” *arXiv e-prints*, arXiv:2505.24154, arXiv:2505.24154, May 2025.  DOI: 10.48550/arXiv.2505.24154. arXiv: 2505.24154 [astro-ph.GA].
- 2 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].
- 3 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].
- 4 V. Dornan and C. C. Lovekin, “The Effects of Metallicity on Convective Overshoot Behavior in Models of δ 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].

Invited Research Talks







- June 9th, 2025  **Mount Allison University**
The Evolution of Galaxies as Told through Their Globular Cluster Systems
- May 21st, 2025  **Waterloo Centre for Astrophysics**
The Evolution of Galaxies as Told through Their Globular Cluster Systems
- August 5th, 2024  **University of Surrey**
The Search for A Comprehensive Understanding of The GCS-Halo Mass Relation
- July 26th, 2024  **John Moores Liverpool University**
The Search for A Comprehensive Understanding of The GCS-Halo Mass Relation

Conference Presentations

Oral Presentations

- 2025  **Investigating the Globular Cluster System-Halo Mass Relation In The Dwarf Regime.**
Saint Mary's university, Halifax Clusters Workshop, national.
- 2025  **From Dwarfs to Giants: Studying Galaxy Evolution Using Globular Cluster Systems**
Saint Mary's university, Canadian Astronomical Society AGM, national.
- 2024  **Investigating the Globular Cluster System-Halo Mass Relation In The Dwarf Regime.**
Durham University, Small Galaxies Cosmic Questions Conference, international.
- 2024  **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.
- 2023  **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.
- 2019  **The Effects of Rotation and Metallicity on Convective Overshoot in Models of δ 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 δ Scuti Stars.** - Acadia University, Atlantic Universities Physics and Astronomy Conference, regional.
- 2018  **The Effects of Rotation and Metallicity on Convective Overshoot in Models of δ 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 δ Scuti Stars.** - McGill University, Canadian Astronomical Society AGM, national.

Awards and Achievements

- 2025  **Best Student Talk**, Canadian Astronomical Society 2025 AGM, CASCA Board.
- 2025  **Physics & Astronomy Graduate Support Award**, McMaster University, School of Graduate Studies.
- 2023  **Best Student Talk**, Canadian Astronomical Society 2023 AGM, Graduate Student Committee.
- 2023  **Teaching and Learning: Theory and Inquiry Certificate**, McMaster University, MacPherson Institute.

Awards and Achievements (continued)

- 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.
-  **Varma Scholarship**, Mount Allison University, Department of Physics.
-  **Physics Teaching Certificate**, Mount Allison University, Department of Physics.

Teaching Experience - Mount Allison University

Teaching Assistant - Undergraduate Courses

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
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Guest Lectures

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

Teaching Experience - McMaster University

Teaching Assistant - Undergraduate Courses

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 1Eo3 Intro E&M One semester	ASTRON 3Xo3 Galaxies and Cosmology One semester






Teaching Assistant - Graduate Courses

PHYSICS 782 Galactic Astronomy One semester
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Guest Lectures

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

Outreach, EDI, and Community Service

- 2019 – 2025  **W.J. McCallion Planetarium Presenter**, McMaster University
-  **Sidewalk Astronomy Volunteer / Coordinator**, McMaster University.
- 2021 – 2025  **Executive Member of PIPA**, Promoting Inclusion in Physics and Astronomy, McMaster University.
- 2022  **Hiring Committee Graduate Student Representative**, Department of Physics and Astronomy, McMaster University.
- 2022 – 2023  **EDI Committee Graduate Student Representative**, Department of Physics and Astronomy, McMaster University.

Outreach, EDI, and Community Service (continued)

- 2023 – 2025  **Graduate Student Committee Executive**, The Canadian Astronomical Society
-  **Education and Public Outreach Committee Member**, The Canadian Astronomical Society
- 2024  **Astronomer in Residence**, Killarney Provincial Park
-  **Graduate Research Symposium Day Chair**, Department of Physics and Astronomy, McMaster University.
- 2025 –  **Astrobites Author**, American Astronomical Society.

Invited Public Outreach Talks

- October 20th, 2024  **Professional Engineers of Ontario Annual General Meeting**
Annus Mirabilis: Why 2024 Has Been a Great Year for Backyard Astronomy.
- August 19th, 2024  **McMaster University**
Boom in The Night Sky: The Impending Explosion of The “Blaze Star”.
- June 26th, 2024  **Killarney Provincial Park**
Annus Mirabilis: Why 2024 Has Been a Great Year for Backyard Astronomy.
- May 31st, 2024  **Allan I. Carswell Observatory**
The Solar Cycle: Why 2024 Has Been a Great Year for Solar Astronomy.
- March 29th, 2024  **McMaster University**
The Ultimate Guide to Eclipses.