

Jessica Campbell

Curriculum Vitae

Department of Astronomy & Astrophysics
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Research Interests

polarization; radio astronomy; galactic magnetism; interstellar medium; dust extinction; early star formation

Education

Ph.D., Astronomy & Astrophysics 2016 – 2021
Department of Astronomy & Astrophysics, University of Toronto, Toronto, ON
Preliminary thesis entitled “*Polarimetry and 21 cm HI as a Probe of Galactic Magnetism in a Multiphase Turbulent ISM*” supervised by Bryan Gaensler (UofT) and Susan Clark (IAS)

H.B.Sc., Astronomy & Physics 2011 – 2016
University of Toronto, Toronto, ON
Undergraduate thesis entitled “*Using High-Resolution JCMT Imaging to Complement Herschel Observations in Regions of Massive Star Formation*” supervised by Peter Martin

Honours and Awards

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| 2018 – 2019 | University of Toronto Fellowship (\$11,742), UofT |
| 2017 – 2018 | University of Toronto Fellowship (\$11,742), UofT |
| 2016 – 2017 | University of Toronto Fellowship (\$15,855), UofT |
| 2016 – 2017 | DAA Fellowship (\$8,891), Department of Astronomy & Astrophysics, UofT |
| Summer 2016 | CITA Undergraduate Summer Research Award (\$8,400), Canadian Institute for Theoretical Astrophysics, UofT |
| Winter 2016 | Reinhardt Fund Award , Department of Astronomy & Astrophysics, UofT |
| Winter 2016 | Conference Travel Grant , Dunlap Institute for Astronomy & Astrophysics and Department of Astronomy & Astrophysics, UofT |
| Summer 2015 | Leiden/ESA Astrophysics Program for Summer Students Fellowship , Leiden Observatory, Leiden University |
| Summer 2014 | Summer Undergraduate Research Program Award (\$8,000), Dunlap Institute for Astronomy & Astrophysics, UofT |
| Summer 2013 | Summer Undergraduate Research Program Award (\$10,000), Dunlap Institute for Astronomy & Astrophysics, UofT |

Refereed Publications

J. L. Campbell, R. K. Friesen, P. G. Martin, P. Caselli, J. Kauffmann, & J. E. Pineda, “*Contraction Signatures Toward Dense Cores in the Perseus Molecular Cloud*”, 2016, ApJ, 819, 143C (17 pages)

Student Mentorship

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| 2018 – 2019 | James Lane (University of Victoria), incoming PhD student |
| 2017 – 2018 | Colleen Gilhuly (Queen’s University), incoming PhD student |
| | Victor Chan (University of Toronto), incoming PhD student |

Research Experience

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| Graduate | |
| <i>2017 – present</i> | Ph.D. Thesis , Dunlap Institute for Astronomy & Astrophysics, UofT and IAS Preliminary thesis entitled “ <i>Polarimetry and 21 cm HI as a Probe of Galactic Magnetism</i> ” supervised by Bryan Gaensler (UofT) and Susan Clark (IAS) |
| <i>Summer 2017</i> | Graduate Research Course , Dunlap Institute for Astronomy & Astrophysics, UofT “ <i>A Magneto-ionic Radio Polarization Study of the Orion-Eridanus Superbubble Region, Loop III and the Intermediate Velocity Arch</i> ” supervised by Bryan Gaensler |
| <i>2016 – 2017</i> | Graduate Research Course , Dunlap Institute for Astronomy & Astrophysics, UofT “ <i>Interstellar Extinction Towards OB Stars in the Molecular Interstellar Medium of W3</i> ” supervised by Peter Martin |
| Undergraduate | |
| <i>Summer 2016</i> | Summer Undergraduate Researcher , CITA, UofT “ <i>Bright Infrared Stars in the W3 Giant Molecular Cloud</i> ” supervised by Peter Martin |
| <i>Summer 2015</i> | Leiden/ESA Astrophysics Program for Summer Students , Leiden Observatory, Leiden University “ <i>Astrochemical Conditions of the Low-Mass Protostar IRAS 16293-2422 using ALMA</i> ” supervised by Mihkel Kama and Magnus Persson |
| <i>2014 – 2015</i> | Undergraduate Research Course , Department of Astronomy & Astrophysics, UofT “ <i>Using High-Resolution JCMT Imaging to Complement Herschel Observations in Regions of Massive Star Formation</i> ” supervised by Peter Martin |
| <i>Summer 2014</i> | Summer Undergraduate Research Program , Dunlap Institute for Astronomy & Astrophysics, UofT “ <i>Connecting Local Galaxies to Damped Lyman Alpha Systems via 21-cm</i> ” supervised by Brian Cherinka |
| <i>2013 – 2014</i> | Undergraduate Research Course , CITA, UofT “ <i>Molecular Line Tracers of Kinematics in Star-Forming Regions</i> ” supervised by Rachel Friesen and Peter Martin |
| <i>Summer 2013</i> | Summer Undergraduate Research Program , Dunlap Institute for Astronomy & Astrophysics, UofT “ <i>Contraction Signatures Toward Dense Cores in the Perseus Molecular Cloud</i> ” supervised by Rachel Friesen |

Teaching Assistantships

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| <i>Winter 2019</i> | Life on Other Worlds (AST251) |
| <i>Fall 2018</i> | Great Moments in Astronomy (AST210) |
| <i>Winter 2018</i> | Life on Other Worlds (AST251) |
| <i>Fall 2017</i> | Great Moments in Astronomy (AST210) |
| <i>Winter 2017</i> | Stars and Galaxies (AST201) |
| <i>Fall 2016</i> | Stars and Galaxies (AST101) |
| <i>Winter 2016</i> | The Sun and its Neighbours (AST201) Great Astronomical Issues (PMU199) |
| <i>Winter 2015</i> | Stars and Galaxies (AST201) |

Conferences

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| <i>2019</i> | Big Apple Magnetic Fields , Flatiron Institute, New York |
| <i>2018</i> | The Milky Way in the Age of Gaia , Institut d’Astrophysique Spatiale, France |
| <i>2017</i> | GMIMS Science Workshop , Dominion Radio Astrophysical Observatory, Penticton |
| <i>2017</i> | Python in Astronomy Conference , Lorentz Center, Leiden University |
| <i>2016</i> | Canadian Conference for Undergraduate Women in Physics , Dalhousie University, Nova Scotia |

Conference Presentations

- Talks
- 2019 **Big Apple Magnetic Fields**; Flatiron Center for Computational Astrophysics, New York
- 2018 **Milky Way in the Age of GAIA**; Institut d'Astrophysique Spatiale, France
- Posters
- 2016 **Canadian Conference for Undergraduate Women in Physics**; Dalhousie University, Nova Scotia

Professional Service

- 2018 – 2019 **Dunlap Management Committee Student Representative**, Dunlap Institute for Astronomy & Astrophysics, UofT
- 2017 – 2018 **Values Statement Committee**, Department of Astronomy & Astrophysics, UofT
- 2017 – 2018 **Indigenous Astronomy Workshop Committee**, Department of Astronomy & Astrophysics, UofT
- 2016 – 2018 **CUPE Local 3902 Unit 1 Representative**, Graduate Astronomy Students Association, UofT
- 2015 – 2018 **Dunlap Diversity Committee**, Dunlap Institute for Astronomy & Astrophysics, UofT
- Summer 2017 **Dunlap Summer School Admissions Committee**, Dunlap Institute for Astronomy & Astrophysics, UofT
- 2017 – 2018 **Mediation Committee**, Graduate Astronomy Students Association, UofT
- 2017 – 2018 **Graduate Course Committee**, Graduate Astronomy Students Association, UofT
- 2017 – 2018 **Mental Health Committee**, Graduate Astronomy Students Association, UofT
- 2016 – 2017 **Dunlap Associate**, Dunlap Institute for Astronomy & Astrophysics, UofT

Professional Development

- 2015 – 2019 **Teaching Assistants' Training Program (TATP)**, UofT
Courses include:
Women in STEM: Teaching and Learning Roundtable
Teaching Dossiers and Statements of Teaching Philosophy
Creating a Culture of Accessibility
Active Learning in Discussion-based Classrooms
PowerPoint and Beyond – Using Visual Aids in the Classroom
- 2017 **ALMA Community Day Event**, National Radio Astronomy Observatory and Department of Astronomy & Astrophysics, UofT
- 2017 **Dunlap Annual Retreat**, Dunlap Institute for Astronomy & Astrophysics, UofT
- 2016 **Dunlap Annual Retreat**, Dunlap Institute for Astronomy & Astrophysics, UofT
- 2016 **CUPE Unit 1 Local 3902 Stewards' Training**, CUPE, UofT

Media Coverage

- 2017 **Road Trip! U of T Students and Faculty Chase Total Solar Eclipse**, *UofT News*, University of Toronto ([link to article](#))

Public Outreach

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| <i>2013 – 2017</i> | AstroTours Volunteer , UofT |
| <i>2015 – 2016</i> | Director of Outreach , Astronomy and Space Exploration Society, UofT |
| <i>Fall 2015</i> | Fall Campus Day , UofT |
| <i>2013 – 2014</i> | Director of Outreach , Astronomy and Space Exploration Society, UofT |
| <i>Summer 2015</i> | Science Rendezvous Solar Telescope Operator , UofT |
| <i>Summer 2014</i> | Science Rendezvous Solar Telescope Operator , UofT |
| <i>2013 – 2014</i> | Current in Space News Producer , The Star Spot podcast |
| <i>Summer 2013</i> | Sidewalk Astronomy Solar Telescope Operator , UofT |