

Jessica Campbell

Curriculum Vitae

Department of Astronomy & Astrophysics
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Research Interests

polarization; galactic magnetism; radio astronomy; 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

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)
J. L. Campbell, P. G. Martin, M. Rahman, S. Song, & L. Einstein, “*On the Bright Infrared Stars in the W3 Giant Molecular Cloud*”, to appear in ApJ (in prep)

Student Mentorship

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

Graduate

2017 – present **Ph.D. Thesis**, Dunlap Institute for Astronomy & Astrophysics, UofT and IAS
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)
Summer 2017 **Graduate Research Course**, Dunlap Institute for Astronomy & Astrophysics, UofT
“*A Magneto-ionic Radio Polarization Study of the Orion-Eridanus Superbubble Region, Loop III and the Intermediate Velocity Arch*” supervised by Bryan Gaensler
2016 – 2017 **Graduate Research Course**, Dunlap Institute for Astronomy & Astrophysics, UofT
“*Interstellar Extinction Towards OB Stars in the Molecular Interstellar Medium of W3*” supervised by Peter Martin

Undergraduate

Summer 2016 **Summer Undergraduate Researcher**, CITA, UofT
“*Bright Infrared Stars in the W3 Giant Molecular Cloud*” supervised by Peter Martin
Summer 2015 **Leiden/ESA Astrophysics Program for Summer Students**, Leiden Observatory, Leiden University
“*Astrochemical Conditions of the Low-Mass Protostar IRAS 16293-2422 using ALMA*” supervised by Mihkel Kama and Magnus Persson
2014 – 2015 **Undergraduate Research Course**, Department of Astronomy & Astrophysics, UofT
“*Using High-Resolution JCMT Imaging to Complement Herschel Observations in Regions of Massive Star Formation*” supervised by Peter Martin
Summer 2014 **Summer Undergraduate Research Program**, Dunlap Institute for Astronomy & Astrophysics, UofT
“*Connecting Local Galaxies to Damped Lyman Alpha Systems via 21-cm*” supervised by Brian Cherinka
2013 – 2014 **Undergraduate Research Course**, CITA, UofT
“*Molecular Line Tracers of Kinematics in Star-Forming Regions*” supervised by Rachel Friesen and Peter Martin
Summer 2013 **Summer Undergraduate Research Program**, Dunlap Institute for Astronomy & Astrophysics, UofT
“*Contraction Signatures Toward Dense Cores in the Perseus Molecular Cloud*” supervised by Rachel Friesen

Teaching Assistantships

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

Conferences

- 2019* **New Perspectives on Galactic Magnetism**; University of Newcastle upon Tyne, England
2019 **Big Apple Magnetic Fields**; Flatiron Institute, New York
2018 **The Milky Way in the Age of Gaia**; Institut d'Astrophysique Spatiale, France
2017 **GMIMS Science Workshop**; Dominion Radio Astrophysical Observatory, Penticton
2017 **Python in Astronomy Conference**; Lorentz Center, Leiden University
2016 **Canadian Conference for Undergraduate Women in Physics**; Dalhousie University, Nova Scotia

Conference Presentations

- Talks
2019 **New Perspectives on Galactic Magnetism**; University of Newcastle upon Tyne, England
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

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