

# Jessica Campbell

## Curriculum Vitae

Department of Astronomy & Astrophysics  
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## Research Interests

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

## Education

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

## Refereed Publications

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**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	<b>James Lane</b> (University of Victoria), incoming PhD student
2017 – 2018	<b>Colleen Gilhuly</b> (Queen’s University), incoming PhD student
	<b>Victor Chan</b> (University of Toronto), incoming PhD student

## Research Experience

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### 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 Multi-phase 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

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- 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

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- 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

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- 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

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- 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

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- 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

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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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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