

# Jessica L. Campbell

## Curriculum Vitae

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David A. Dunlap Department of Astronomy & Astrophysics  
University of Toronto  
50 St. George Street, M5S 3H4  
Toronto, Ontario, CA  
AB 223

Website: [astro.utoronto.ca/~campbell](http://astro.utoronto.ca/~campbell)  
GitHub: [github.com/astrosica](https://github.com/astrosica)  
LinkedIn: [linkedin.com/in/astrosica](https://www.linkedin.com/in/astrosica)  
Email: [campbell@astro.utoronto.ca](mailto:campbell@astro.utoronto.ca)

## Research Interests

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Galactic magnetism; multi-phase interstellar medium; radio polarization; dust extinction; star formation

## Education

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**Ph.D.**, Astronomy & Astrophysics, DADDAA & Dunlap, UofT Sept 2016 – Jan 2023  
Preliminary thesis entitled “*A Multi-Frequency View of Magnetic Fields and Interstellar Dust Extinction in the Milky Way Galaxy*” supervised by Bryan Gaensler, Susan Clark, and Peter Martin

**H.B.Sc.**, Astronomy & Physics, UofT Sept 2011 – June 2016  
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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2021	<b>CASCA Poster Prize</b> , CASCA Board
2021	<b>Ontario Graduate Scholarship</b> (\$15,000), DADDAA, UofT
2020	<b>‘You Lead, We Follow’ Award</b> , Dunlap, UofT
2020	<b>CASCA Poster Prize</b> , CASCA Board
2020	<b>CASCA Poster Prize</b> , CASCA GSC
2019	<b>Reinhardt Fund Award</b> , DADDAA, UofT
2018	<b>‘Above and Beyond’ Award</b> , Dunlap, UofT
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>DADDAA Fellowship</b> (\$8,891), DADDAA, UofT
2016	<b>CITA Undergraduate Summer Research Award</b> (\$8,400), CITA, UofT
2016	<b>Reinhardt Fund Award</b> , DADDAA, UofT
2016	<b>Conference Travel Grant</b> , Dunlap & DADDAA, UofT
2015	<b>Leiden/ESA Astrophysics Program for Summer Students Fellowship</b> , Leiden Observatory, Leiden University
2014	<b>Summer Undergraduate Research Program Award</b> (\$8,000), Dunlap, UofT
2013	<b>Summer Undergraduate Research Program Award</b> (\$10,000), Dunlap, UofT

## Refereed Publications

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4. **J. L. Campbell**, P. G. Martin, et al., “*Bright Infrared Stars and Interstellar Extinction in the W3 Giant Molecular Cloud*,” 2021, to appear in *ApJ* (in prep)
3. **J. L. Campbell**, S. E. Clark, B. M. Gaensler, A. Marchal, et al., “*A Comparison of Multi-phase Magnetic Field Tracers in a High-Galactic Latitude Region of the Filamentary Interstellar Medium*,” 2021, to appear in *ApJ* (34 pages, under review)
2. A. J. M. Thomson, T. L. Landecker, N. M. McClure-Griffiths, et al. including **J. L. Campbell**, “*The Global Magneto-Ionic Medium Survey (GMIMS): The brightest polarized region in the Southern sky at 75 cm and its implications for Radio Loop II*,” 2021, to appear in *MNRAS* (25 pages, accepted)
1. **J. L. Campbell**, R. K. Friesen, P. G. Martin et al., “*Contraction Signatures Toward Dense Cores in the Perseus Molecular Cloud*,” 2016, *ApJ*, 819, 143C (17 pages)

## Scientific Presentations

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Invited Talks .....	
July 2021	<b>DRAO Seminar Series</b> ; Dominion Radio Astrophysical Observatory ( <i>virtual</i> )
June 2021	<b>AAS 238</b> ; Arecibo Observatory - Legacy and Future Splinter Session ( <i>virtual</i> )
Contributed Talks and Posters .....	
May 2021	<b>CASCA</b> (poster); NRC Herzberg Astronomy and Astrophysics Research Center ( <i>virtual</i> )
May 2020	<b>CASCA</b> (poster); York University ( <i>virtual</i> )
June 2019	<b>New Perspectives on Galactic Magnetism</b> ; University of Newcastle upon Tyne, England
Jan. 2019	<b>Big Apple Magnetic Fields</b> ; Flatiron Center for Computational Astrophysics, NY
Nov. 2018	<b>Milky Way in the Age of GAIA</b> ; Institut d'Astrophysique Spatiale, France
2016	<b>CCUWiP</b> (poster); Dalhousie University, NS
Workshops .....	
Oct. 2017	<b>GMIMS Science Workshop</b> ; Dominion Radio Astrophysical Observatory, BC
May 2017	<b>Python in Astronomy Conference</b> ; Lorentz Center, Leiden University

## Teaching and Mentorship

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Student Supervision .....	
2020 – 2021	<b>Parampreet Singh</b> ; co-supervised with Jennifer West, undergraduate thesis (AST425Y)
Student Mentorship .....	
2018 – 2019	<b>James Lane</b> ; incoming PhD student, UofT
2017 – 2018	<b>Colleen Gilhuly</b> ; incoming PhD student, UofT
	<b>Victor Chan</b> ; incoming PhD student, UofT
Teaching Assistantships .....	
Fall 2021	<b>Stars and Planets</b> (AST221)
Summer 2021	<b>Stars and Galaxies</b> (AST201)
Winter 2021	<b>Galaxies and Cosmology</b> (AST222)
Fall 2020	<b>Practical Astronomy</b> (AST325)
Winter 2020	<b>Galaxies and Cosmology</b> (AST222)
Fall 2019	<b>Stars and Planets</b> (AST221)
Summer 2019	<b>Life on Other Worlds</b> (AST251)
Winter 2019	<b>Life on Other Worlds</b> (AST251)
Fall 2018	<b>Great Moments in Astronomy</b> (AST210)
Winter 2018	<b>Life on Other Worlds</b> (AST251)
Fall 2017	<b>Great Moments in Astronomy</b> (AST210)
Winter 2017	<b>Stars and Galaxies</b> (AST201)
Fall 2016	<b>Stars and Galaxies</b> (AST101)
Winter 2016	<b>The Sun and its Neighbours</b> (AST201)
	<b>Great Astronomical Issues</b> (PMU199)
Winter 2015	<b>Stars and Galaxies</b> (AST201)

## Research Experience

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Graduate .....	
2017 – 2023	<b>Ph.D. Thesis</b> , DADDAA & Dunlap, UofT Preliminary thesis entitled “ <i>Polarimetry and 21 cm HI as a Probe of Galactic Magnetism in a Multi-phase Interstellar Medium</i> ” supervised by Bryan Gaensler and Susan Clark
2017	<b>Graduate Research Course</b> , DADDAA & Dunlap, 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
2016 – 2017	<b>Graduate Research Course</b> , DADDAA & Dunlap, UofT “ <i>Interstellar Extinction Towards OB Stars in the Molecular Interstellar Medium of W3</i> ” supervised by Peter Martin

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

## Academic Service

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2020	<b>Graduate Panel Discussion</b> ; ASU, UofT ( <i>virtual</i> )
2020	<b>SURP Graduate Student Panel Discussion</b> ; DADDAA, UofT ( <i>virtual</i> )
2020	<b>Graduate Student Panel Discussion</b> ; ASU, UofT
2019 – 2020	<b>TMT Statement Committee</b> ; GASA, UofT (elected)
2019 – 2020	<b>People Representing Intersectional Spectral Minorities</b> ; GASA, UofT (elected)
2018 – 2020	<b>Dunlap Management Committee (student rep)</b> ; DADDAA, UofT (elected)
2017 – 2018	<b>Values Statement Committee</b> ; DADDAA, UofT
2017 – 2018	<b>Indigenous Astronomy Workshop Committee</b> ; DADDAA, UofT
2016 – 2018	<b>CUPE Local 3902 Unit 1 Representative</b> ; GASA, UofT (elected)
2015 – 2018	<b>Dunlap Diversity Committee (DDC)</b> ; Dunlap, UofT
2017	<b>Dunlap Summer School Admissions Committee</b> ; Dunlap, UofT
2017 – 2018	<b>Mediation Committee</b> ; GASA, UofT (elected)
2017 – 2018	<b>Graduate Course Committee</b> ; GASA, UofT (elected)
2017 – 2018	<b>Mental Health Committee</b> ; GASA, UofT (elected)
2016 – 2017	<b>Dunlap Associate</b> ; Dunlap, UofT

## Outreach

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2020	<b>GSC’s Grad Highlights</b> , CASCA ( <a href="#">link to article</a> )
2013 – 2017	<b>AstroTours Volunteer</b> , UofT
2015 – 2016	<b>Director of Outreach</b> , Astronomy and Space Exploration Society, UofT
2015	<b>Fall Campus Day</b> , UofT
2013 – 2014	<b>Director of Outreach</b> , Astronomy and Space Exploration Society, UofT
2015 – 2014	<b>Science Rendezvous Solar Telescope Operator</b> , UofT
2013 – 2014	<b>Current in Space News Producer</b> , The Star Spot podcast
2013	<b>Sidewalk Astronomy Solar Telescope Operator</b> , UofT

## Media Coverage

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2017	<b>Road Trip! UofT Students and Faculty Chase Total Solar Eclipse</b> ; <i>UofT News</i> , UofT ( <a href="#">link to article</a> )
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