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Jessica L. Campbell

Curriculum Vitae

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Research Interests

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

Education

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

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

Refereed Publications

4. **J. L. Campbell**, P. G. Martin, et al., “*Bright Infrared Stars and Interstellar Extinction in the W3 Giant Molecular Cloud*,” 2022, 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 (31 pages, accepted)
2. A. J. M. Thomson, T. L. Landecker, N. M. McClure-Griffiths, et al. incl. **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, [MNRAS](https://arxiv.org/abs/2105.08851), **507**, 3495T (24 pages)
1. **J. L. Campbell**, R. K. Friesen, P. G. Martin et al., “*Contraction Signatures Toward Dense Cores in the Perseus Molecular Cloud*,” 2016, [ApJ](https://arxiv.org/abs/1605.08851), **819**, 143C (17 pages)

Scientific Presentations

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

Teaching and Mentorship

Student Supervision	
2020 – 2021	Parampreet Singh ; co-supervised with Jennifer West, undergraduate thesis (AST425Y)
Student Mentorship	
2018 – 2019	James Lane ; incoming PhD student, UofT
2017 – 2018	Colleen Gilhuly ; incoming PhD student, UofT Victor Chan ; incoming PhD student, UofT
Teaching Assistantships	
Fall 2021	Stars and Planets (AST221)
Summer 2021	Stars and Galaxies (AST201)
Winter 2021	Galaxies and Cosmology (AST222)
Fall 2020	Practical Astronomy (AST325)
Winter 2020	Galaxies and Cosmology (AST222)
Fall 2019	Stars and Planets (AST221)
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)

Research Experience

Graduate	
2017 – 2023	Ph.D. Thesis , 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	Graduate Research Course , 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	Graduate Research Course , DADDAA & Dunlap, UofT “ <i>Interstellar Extinction Towards OB Stars in the Molecular Interstellar Medium of W3</i> ” supervised by Peter Martin

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

Academic Service

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

Outreach

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

Media Coverage

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