

Michael Radica | Curriculum Vitae

Ph.D Student - Université de Montréal

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🌐 radicamc.github.io

General Information

- Nationality: Canadian
- Languages: English (Native), French (Intermediate)
- Affiliations: Canadian Astronomical Society (CASCA), Centre de Recherche en Astrophysique du Québec (CRAQ), Institute for Exoplanet Research (iREx)

Education

Université de Montréal <i>Ph.D. Physique</i>	Montréal, QC 2019-
McMaster University <i>M.Sc. Astrophysics</i>	Hamilton, ON 2017-2019
McMaster University <i>B.Sc. Honours Physics - Co-op</i>	Hamilton, ON 2012-2017

Research Experience

Université de Montréal <i>Ph.D. Thesis with Dr. David Lafrenière</i> ○ Studying atmospheres of exoplanets with JWST as a member of the NEAT project.	Montréal, QC 2019 - 2023
McMaster University <i>M.Sc. Thesis with Dr. Douglas Welch</i> ○ Developed a novel method to search for light echoes from core-collapse supernovae using the SITELLE instrument on the CFHT. Dissertation: <i>A Search for Supernova Light Echoes in NGC 6946 with SITELLE</i>	Hamilton, ON 2017 - 2019
Canada France Hawaii Telescope <i>Science Intern with Dr. Laurie Rousseau-Nepton</i> ○ Studied high resolution spectra from NGC 6822, using SITELLE, to quantify variations in dust extinction along different lines of sight.	Waimea, HI Sept - Dec 2017
University of Manitoba <i>Research Assistant with Dr. Chris O'Dea</i> ○ Performed analysis of emission from galaxy clusters to understand the connection between a cluster's X-Ray morphology and AGN feedback.	Winnipeg, MB May - Dec 2016
McMaster University <i>Honours Thesis with Dr. Laura Parker</i> ○ Studied the evolution of dark matter haloes comparable in mass to galaxies, within the Bolshoi Cosmological Simulation. Dissertation: <i>On the Segregation of Dark Matter Substructure in Simulations.</i>	Hamilton, ON Sept 2015 - Apr 2016
Queen's University <i>Research Assistant with Dr. Judith Irwin</i> ○ Wrote, and implemented python scripts to carry out data analysis, and quality control on radio emission images of galaxies, for the CHANG-ES Consortium.	Kingston, ON Jan - Sept 2015

Awards and Honours

- iREx Scholarship (\$1000) 2019 - 2020
- Ontario Graduate Scholarship (\$15000) 2019 (*rejected*)
- McMaster Symposium Day 1st Place Talk Oct 2018
- NSERC-Canada Graduate Masters Scholarship (\$17500) 2018 - 2019
- Ontario Graduate Scholarship (\$15000) 2017 - 2018
- CUPC 1st Place Astrophysics Talk Nov 2016
- CUPC 1st Place Astrophysics Talk Nov 2015
- McMaster University Dean's List 2013 - 2017
- McMaster University Dean's List Bursary (\$1000) 2013 - 2015
- McMaster University Entrance Scholarship (\$2500) Sept 2012

All values in Canadian Dollars

Succesful Observing Proposals

1. [A SITELLE Survey for Highly Broadened H-alpha P-Cygni Profiles in NGC 6946 from Core-Collapse Supernova Light Echoes](#)
Michael Radica, Douglas Welch, Laurie Rousseau-Nepton
CFHT Semester 2018B, PID: 18BC017

Presentations

- *NEAT Exploration of Exoplanet Atmospheres** at the CASCA Annual General Meeting (2020)
- *A Search for Supernova Light Echoes in NGC 6946 with SITELLE** at the CASCA Annual General Meeting (2019)
- *The Search for Supernova Light Echoes in NGC 6946* at the McMaster Symposium Day (2018)
- *A High Resolution Study of NGC 6822 with SITELLE* at the CFHT Fall Colloquium Series (2017)
- *The Evolution of Dark Matter Substructure in Simulated Galaxy Clusters* at the Canadian Undergraduate Physics Conference (2016)
- *Segregation of Dark Matter Substructure in the Bolshoi Simulation** at the McMaster Honours Thesis Poster Presentation (2015)
- *Studying Radio Haloes of Galaxies with CHANG-ES* at the Canadian Undergraduate Physics Conference (2014)
- *Quark Stars and Compact Stellar Remnants* at the McMaster Undergraduate Colloquium (2013)

* denotes a poster presentation

Committee Membership

- UdeM Representative, CASCA Graduate Student Committee (2020 -)

Workshop and Conference Participation

- CASCA Annual General Meeting 2020 Online
- CASCA Annual General Meeting 2019 Montréal, QC
- MkPy Workshop 2017 Hilo, HI
- Canadian Undergraduate Physics Conference 2016 Halifax, NS
- CASCA Annual General Meeting 2016 Winnipeg, MB
- Canadian Undergraduate Physics Conference 2015 Peterborough, ON

Technical Skills

- **Operating Systems:** Linux, OS X
- **Programming:** Python, C++
- **Astronomical Data Processing:** CIAO, CASA, IRAF, ds9, ORCS
- **Pubic Speaking:** I enjoy preparing and giving talks to all audiences, and have presented research at numerous conferences.

Teaching and Tutoring

- **Teaching Assistant** Université de Montréal (2020 -)
Marking of assignments (*en français*) for courses including:
 - Astrobiologie (Winter 2020)
- **Teaching Assistant** McMaster University (2017 - 2019)
Marking and organization of weekly tutorials for courses including:
 - Introduction to Physics for Engineers (Winter 2017)
 - Planetary Astronomy (Winter 2018, 2019)
 - Introduction to Astronomy (Fall 2018)
 - The Big Questions in Astronomy (Fall 2018)
 - Stellar Structure (Winter 2019)
- **Certified Tutor** McMaster University (2014 - 2019)
 - McMaster Physics Help Initiative (2014-2016)
 - McMaster Physics Help Center (Winter 2018)
 - Private Tutor (Fall/Winter 2019)

Outreach Activities

- McMaster Physics & Astronomy Graduate Student Mentor (2018 - 2019)
- McCallion Planetarium Presenter (2017 - 2019)
- McMaster Sidewalk Astronomy (2017 - 2019)
- McMaster Fall Preview Lab Tour Guide (2013)