

# Gwendolyn Eadie | CV

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## Current Position

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### Moore, Sloan & WRF Innovation in Data Science Postdoctoral Fellow

Department of Astronomy, eScience Institute, and the Center for Data-Intensive Research in Astrophysics & Cosmology (DIRAC)

University of Washington  
Sep 2017 – present

## Education

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### Degrees

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#### PhD Physics & Astronomy

Supervisor: William Harris

McMaster University

Sep 2013 – Aug 2017

#### MSc Physics, Engineering Physics, & Astronomy

Supervisors: Lawrence Widrow, Stéphane Courteau

Queen's University

Sep 2010 – Mar 2013

#### BSc Physics, Minor in Publishing

Honours Thesis in Astronomy

Supervisors: Harvey Richer (UBC) & Michael Thewalt (SFU)

Simon Fraser University

Sep 2005 – Jun 2010

### Credentials

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#### Teaching and Learning Scholar Certificate

MacPherson Institute

McMaster University

Sep 2016 – May 2017

#### Teaching and Learning Foundations Certificate

MacPherson Institute

McMaster University

Sep 2015 – May 2016

## Academic Awards & Honours

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### J.S. Plaskett Medal

Gold medal, 700 CAD, prize lecture, and travel expenses to annual meeting  
Canadian Astronomical Society & Royal Astronomical Society of Canada

May 2018

CASCA & RASC

### Moore, Sloan, and WRF Innovation in Data Science Fellowship

65,000 USD per year and 25,000 USD research budget  
eScience Institute and Department of Astronomy

Sep 2017 – Aug 2019

University of Washington  
Seattle, WA

### NextProf: Science Participant

Competitive program, all travel expenses covered  
Physics & Astronomy Departments

May 2018

University of Michigan  
Ann Arbor, MI

at McMaster University.....

<b>Nominated and short-listed, Fall 2017 Valedictorian</b>	<b>Oct 2017</b>
<b>Alexander Graham Bell Canadian Graduate Scholarship (CGS)</b> <i>35,000 CAD per year, National</i> Natural Sciences & Engineering Research Council	<b>May 2016 – Aug 2017</b>
<b>NSERC Postgraduate Scholarship (upgraded to CGS in 2016)</b> <i>21,000 CAD per year, National (upgraded to CGS in 2016)</i> Natural Sciences & Engineering Research Council	<b>May 2015 – May 2016</b>
<b>Marauder Scholar</b>	<b>2015 – 2016</b>
<b>Ontario Graduate Scholarship</b> <i>15,000 CAD, Provincial</i>	<b>Sep 2014 – Aug 2015</b>

at Queen's University.....

<b>Queen Elizabeth II Grad. Scholarship in Science &amp; Technology</b> <i>15,000 CAD, Provincial</i>	<b>Sep 2010 – Aug 2011</b>
<b>Graduate Entrance Tuition Award</b> <i>6,248 CAD</i>	<b>Sep 2010 – Aug 2011</b>
<b>Graduate Award</b> <i>3,760 CAD</i>	<b>Sep 2010 – Aug 2012</b>
<b>Ontario University Athletics Academic All-Star</b> <i>Academic and athletic-based award, Provincial level</i>	<b>Sep 2010 – Apr 2011</b>

at Simon Fraser University.....

<b>Convocation Speaker, BSc. Graduating Class</b>	<b>June 2010</b>
<b>Midgley &amp; Stryjak Celebration of Life Award</b> <i>1000 CAD, Service to the SFU Community and the Community at Large</i>	<b>June 2010</b>

Conference Awards.....

<b>Best Student Presentation</b> <i>200 CAD and certificate</i> Canadian Astronomical Society (CASCA) Board of Directors	<b>CASCA Annual Meeting</b> <i>Jun 2017</i> Edmonton, AB
<b>Best Student Presentation</b> <i>Certificate</i> CASCA Student Board	<b>CASCA Annual Meeting</b> <i>Jun 2017</i> Edmonton, AB
<b>Best Poster Presentation</b> <i>as voted by participants</i>	<b>Galaxy Halos Conference</b> <i>Puerto Ayora, Ecuador, Mar 2017</i>
<b>Student Travel Grant</b> <i>750 USD</i> International Astronomical Union	<b>IAU XXIX General Assembly</b> <i>Aug 2015</i> Honolulu, HI
<b>Honourable Mention Presentation</b> <i>25 USD</i> Section on Physical & Engineering Sciences	<b>Joint Statistical Meetings</b> <i>Aug 2015</i> Seattle, WA
<b>Yates Scholarship Travel Award</b> <i>500 CAD</i> School of Graduate Studies	<b>McMaster University</b> <i>May 2015 - Aug 2015</i> Seattle, WA
<b>Best Student Poster</b> <i>500€</i>	<b>European Southern Observatory Workshop</b> <i>Garching, Germany, Oct 2014</i>

ESO Workshop Organizing Committee

**Best Presentation**

25 CAD

Department of Physics & Astronomy, McMaster University

**Honourable Mention Presentation**

25 USD

ASA Section on Physical & Engineering Sciences

**Honourable Mention Student Presentation**

Certificate

CASCA Board of Directors and CASCA Student Board

Garching, Germany

**Graduate Student Symposium Day**

Sept 2014

Hamilton, ON

**Joint Statistical Meetings**

Aug 2014

Boston, MA

**CASCA Meeting**

June 2014

Quebec, QB

## Publications

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### Peer-Reviewed Journal Articles.....

1. (accepted, *The Astrophysical Journal*) **Eadie, G.**, B. Keller, and W. Harris (2018). "Estimating the Milky Way's Mass via Hierarchical Bayes: A Blind Test on MUGS2 Simulated Galaxies".
2. **Eadie, G.**, A. Springford, and W. Harris (2017). "Erratum: "Bayesian Mass Estimates of the Milky Way: Including Measurement Uncertainties with Hierarchical Bayes" (2017, ApJ, 835, 167)", *The Astrophysical Journal*, 838, 76.
3. **Eadie, G.**, A. Springford, and W. Harris (2017). "Bayesian Mass Estimates of the Milky Way: Including Measurement Uncertainties with Hierarchical Bayes", *The Astrophysical Journal*, 835(2), 167.
4. Harris, W., S. Ciccone, **G. Eadie**, et al. (2016). "Globular Cluster Systems in Brightest Cluster Galaxies. III: Beyond Bimodality", *The Astrophysical Journal*, 835(1), 101.
5. **Eadie, G.** and W. Harris (2016). "Bayesian Mass Estimates of the Milky Way: The Dark and Light Sides of Parameter Assumptions". *The Astrophysical Journal*, 829(1), 108.
6. **Eadie, G.**, W. Harris, and L. Widrow (2015). Estimating the Galactic Mass Profile in the Presence of Incomplete Data. *The Astrophysical Journal*, Volume 806(1) 54.

### Conference Proceedings.....

1. **Eadie, G.**, W. Harris, L. Widrow, and A. Springford (2015). "Tracing the Galactic Halo: Obtaining Bayesian mass estimates of the Galaxy in the presence of incomplete data", Volume 11, Symposium S317, *Proceedings of the International Astronomical Union*, pp 296-297.
2. **Eadie, G.**, W. Harris, and A. Springford, (2015). "Incomplete Data and Measurement Error in the Galactic Mass Estimation Problem". *2015 Joint Statistical Meetings (JSM) Proceedings*, American Statistical Association (ASA), pp 792-799.
3. **Eadie, G.** (2014). "Measuring the Mass of a Galaxy: An evaluation of the performance of Bayesian mass estimates using statistical simulation". *2014 JSM Proceedings*, ASA, pp 3442-3454.

### Dissertations.....

1. **Eadie, G.** (2017). "Lights in Dark Places: Inferring the Milky Way Mass Profile using Galactic Satellites and Hierarchical Bayes". McMaster University, Doctoral Thesis.
2. **Eadie, G.** (2013). "Measuring the Mass of a Galaxy: An evaluation of the performance of Bayesian mass estimates using statistical simulation". Queen's University at Kingston. Master's Thesis.
3. **Eadie, G.** (2010). "A PAndAS Project: Measuring structural parameters of globular clusters in M31." Simon Fraser University. BSc Honours Thesis.

## Magazine Articles.....

Volunteer magazine columnist (2011-2017) for *Vista*, the monthly publication of the Seniors Association Kingston Region. Over 40 articles written, below is a small sample.

1. **Eadie, G**, "2017 Total Solar Eclipse", *Vista*, 41(6), 2017.
2. **Eadie, G**, "Return of the census: Mapping over a billion stars with Gaia", *Vista*, 40(9), 2016.
3. **Eadie, G**, "Observing Saturn and Mars in July", *Vista*, 40(7), 2016.
4. **Eadie, G** and Springford, A, "Neutron Stars and Pulsars", *Vista*, 40(6), 2016.
5. **Eadie, G**, "Nobel Prize goes to Queen's University Physics Professor", *Vista*, 40(1):15, 2016.

## Teaching Awards & Nominations

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<b>Invited Panelist (declined, postdoc began Sep 1, 2017)</b> <i>Teaching &amp; Learning Forum, MacPherson Institute</i>	<b>Sep 2017</b> <i>McMaster University</i>
<b>Nominated, Leppmann Teaching Assistance Excellence Award</b> <i>Graduate Students Association</i>	<b>Sep 2015 – Aug 2016</b> <i>McMaster University</i>
<b>SGPS Teaching Assistant/Teaching Fellow Excellence Award</b> <i>500 CAD, School of Graduate &amp; Professional Students</i>	<b>Sep 2012 – Mar 2013</b> <i>Queen's University</i>
<b>Certificate of Achievement for Excellence in Teaching</b> <i>Alma Mater Society</i>	<b>Sep 2012 – Mar 2013</b> <i>Queen's University</i>
<b>Finalist (top 10), Knapper Award for Excellence in Teaching</b> <i>Alma Mater Society</i>	<b>Mar 2013</b> <i>Queen's University</i>

## Teaching & Work Experience

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<b>Mentoring undergraduate student's ASTR 499 research project</b> <i>Department of Astronomy</i>	<b>2018 – present</b> <i>University of Washington</i>
<b>Guest Lectures on Bayesian Statistics, ASTR 324 (Invited)</b> <i>Department of Astronomy</i>	<b>May 2018</b> <i>University of Washington</i>
<b>Intro to Astronomy Lecture, Physics 190 (Invited)</b> <i>Department of Physics</i>	<b>Apr 2018</b> <i>Simon Fraser University</i>
<b>Guest Lectures on Hierarchical Bayes, ASTR 598 (Invited)</b> <i>Department of Astronomy</i>	<b>Mar 2018</b> <i>University of Washington</i>
<b>Guest Lecture, Integrated Science Course</b> <i>Physics &amp; Astronomy Department</i>	<b>Nov 2016</b> <i>McMaster University</i>
<b>Guest Lecture, Arts &amp; Science Course 2D06 (Invited)</b> <i>Physics &amp; Astronomy Department</i>	<b>Nov 2016</b> <i>McMaster University</i>
<b>3D Theatre Coordinator</b> <i>Origins Institute</i>	<b>Jan 2015 – Aug 2016</b> <i>McMaster University</i>
<b>Teaching Assistant for tutorials and labs</b> <i>Physics &amp; Astronomy Department</i>	<b>Sep 2013 – Apr 2017</b> <i>McMaster University</i>
<b>Summer Research Assistant</b> <i>Department of Mathematics &amp; Statistics</i> Supervisor: David J. Thomson, FRSC	<b>Jul 2013 – Aug 2013</b> <i>Queen's University</i>
<b>Teaching Assistant for tutorials, labs, and marking</b> <i>Physics, Engineering Physics, &amp; Astronomy Department</i>	<b>Sep 2010 – Mar 2013</b> <i>Queen's University</i>

**Summer Research Assistant (after BSc)**

*Department of Physics & Astronomy*  
 Supervisors: Harvey Richer, FRSC and Kristin Woodley

**Jun 2010 – Aug 2010**  
*University of British Columbia*

**Service & Administrative Duties**

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**Steering Committee Member**

*Working Group on Astroinformatics and Astrostatistics*

**Aug 2018 – present***American Astronomical Society*

at the [University of Washington](#).....

**Postdoc representative at department meetings**

*Department of Astronomy*

**Apr 2018 – present***Seattle, WA***Chair, Visitors Committee**

*DIRAC Institute*

**Jul 2018 – present***Seattle, WA*

at the annual [Joint Statistical Meetings \(JSM\)](#).....

**Co-organizer for astrostatistics invited session**

*“Astronomical(ly) Big Data: how to find and mine astronomy data”*

**proposal submitted Sep 2019***Denver, CO***Co-organizer for astrostatistics invited session**

*“Hierarchical Bayes in a Hierarchical Universe”*

**2017 – 2018***Vancouver, BC***Organizer of JSM Table, Astrostatistics Interest Group**

*Joint Statistical Meetings*

*American Statistical Association Astrostatistics Interest Group*

**2017 – 2018***Vancouver, BC***SPEED Session Chair, Statistical Education**

*Joint Statistical Meetings*

**Jul 2017***Baltimore, MD*

at [McMaster University](#).....

**Designed Conference Program**

*Great Lakes Cosmology Workshop,*

**May – Jun 2016***Hamilton, ON***President and Executive Committee Member, GWIPA**

*Graduate Women in Physics & Astronomy (GWIPA)*

**Sep 2013 – Aug 2017****Graduate Student on LOC, Whidden Lecture Series**

*Organized Graduate Student Poster and Q&A Session with speaker*

**Feb 2016***McMaster University***LOC member, CASCA 2015 Annual Meeting**

*Grad student rep., designed conference program, recruited volunteers*

**Sep 2014 – May 2015***Hamilton, ON***Chair & Organizer, CASCA 2015 Graduate Student Workshop**

*Invited guest speaker, recruited volunteers, chaired meetings, delegated tasks*

**May 2015***Hamilton, ON***Graduate Student Representative, Department Meetings**

*Department of Physics, Engineering Physics & Astronomy*

**Sep 2011 – Aug 2012***Queen’s University***Volunteer & Public Outreach Activities**

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**Organizer and Volunteer, Girls in Science Days**

*GWIPA’s annual science workshop for Grade 10 girls*

**2014 – 2017***McMaster University***Volunteer, Let’s Talk Science**

*Activities at McMaster Children’s Hospital and “Science of Sports Day”*

**Apr 2015, Jun 2016***McMaster University*

<b>Volunteer, Mac Athlete's Care</b> <i>Visit with children</i>	<b>Mar 2015</b> <i>McMaster Children's Hospital</i>
<b>Telescope Volunteer, McMaster Sidewalk Astronomy</b> <i>"Westfield Heritage Village Victorian Star Party"</i>	<b>Sep 2014, Apr 2015, May 2016</b> <i>Rockton, ON</i>
<b>Volunteer, Math Quest Camp</b> <i>Guest speaker, led lesson and activities on projectile motion</i>	<b>Aug 2013</b> <i>Queen's University</i>
<b>Telescope Volunteer, Queen's Observatory Open House</b> <i>Various public outreach events</i>	<b>Sep 2010 - Aug 2013</b> <i>Queen's University</i>
<b>Volunteer, Starry-Nights @ SFU</b> <i>Observing nights and telescope workshop for school groups</i>	<b>Fall 2009 – Summer 2010</b> <i>Simon Fraser University</i>
<b>Founder and President, SFU Astronomy Club</b> <i>Organizing club events, funding applications, observing nights</i>	<b>Sept 2008 – Dec 2009</b> <i>Simon Fraser University</i>

## Select Presentations

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<b>Colloquia</b> .....	
<b>Astronomy Department</b> <i>University of Washington</i>	<b>May 2018</b> <i>Seattle, WA</i>
<b>Physics &amp; Astronomy Department</b> <i>University of British Columbia</i>	<b>Sep 2016</b> <i>Vancouver, BC</i>
<b>Herzberg Institute for Astrophysics</b> <i>Natural Research Council of Canada</i>	<b>Sep 2016</b> <i>Saanich, BC</i>
<b>Conferences</b> .....	
<b>Invited Talk</b> <i>Astrostatistics Session, Joint Statistical Meetings</i> Section on Bayesian Statistical Sciences, Astrostatistics Special Interest Group	<b>Aug 2018</b> <i>Vancouver, BC</i>
<b>Invited Talk</b> <i>Astrostatistics, IMS Annual Meeting on Probability &amp; Statistics</i>	<b>Jul 2018</b> <i>Vilnius, Lithuania</i>
<b>Invited Talk</b> <i>Joint Research Conference on Statistics in Quality, Industry and Technology</i>	<b>Jun 2018</b> <i>Sante Fe, NM</i>
<b>Oral Presentation</b> <i>Northwest Astronomy Teaching Exchange</i>	<b>Sep 2017</b> <i>Seattle, WA</i>
<b>Two Oral Presentations: Research &amp; Education Talks</b> <i>Canadian Astronomical Society (CASCA) Annual Meeting</i>	<b>Jun 2017</b> <i>Edmonton, AB</i>
<b>Press Conference (Invited) &amp; Dissertation Talk</b> <i>229th Meeting of the American Astronomical Society</i>	<b>Jan 2017</b> <i>Grapevine, TX</i>
<b>Contributed Talks</b> <i>Joint Statistical Meetings, American Statistical Association</i>	<b>Jul 2014; Jul 2016</b> <i>Boston, MA; Chicago, IL</i>
<b>Astrostatistics Invited Talk (2015); Invited Poster (2017)</b> <i>Joint Statistical Meetings, American Statistical Association</i>	<b>Jul 2015; Jul 2017</b> <i>Seattle, WA; Baltimore, MD</i>
<b>Oral &amp; Poster Presentations</b> <i>Statistical Challenges in Modern Astronomy VI Conference</i>	<b>Jun 2016</b> <i>Pittsburgh, PA</i>

<b>Oral Presentations</b> <i>CASCA Annual Meetings</i>	<b>Jun 2014; May 2015; May 2016</b> <i>Quebec, QB; Hamilton, ON; Winnipeg, MB</i>
<b>Poster Presentation</b> <i>International Astronomical Union XXIX General Assembly</i>	<b>Aug 2015</b> <i>Honolulu, HI</i>
<b>Topics in Astrostatistics Seminar (Invited)</b> <i>Harvard University</i>	<b>Mar 2015</b> <i>Boston (via Skype), MA</i>
<b>Guest Speaker on Public Outreach (Invited)</b> <i>Centre for Research in Astrophysics Quebec</i>	<b>Aug 2014</b> <i>Montreal, QB</i>
<b>Seminars</b> .....	
<b>Seminar on Bayesian Statistics</b> <i>DIRAC Institute, Department of Astronomy, UW</i>	<b>Sep 2018</b> <i>Seattle, WA</i>
<b>Cosmology Seminar (Invited)</b> <i>Department of Physics, Simon Fraser University</i>	<b>Oct 2017</b> <i>Burnaby, BC</i>
<b>Guest Lecture, Physics Undergraduate Seminar (Phys 201)</b> <i>Physics Department</i>	<b>Oct 2017</b> <i>Burnaby, BC</i>
<b>Astro Lunch Seminar</b> <i>Department of Astronomy, University of Washington</i>	<b>Dec 2016</b> <i>Seattle, WA</i>
<b>Seminar Talk</b> <i>Department of Physics &amp; Astronomy, University of Victoria</i>	<b>Sep 2016</b> <i>Victoria, BC</i>
<b>Astronomy Seminar</b> <i>Department of Astronomy, Columbia University</i>	<b>Jan 2016</b> <i>New York, NY</i>
<b>Astronomy Seminar (Invited)</b> <i>Department of Physics &amp; Astronomy, University of Waterloo</i>	<b>Oct 2015</b> <i>Waterloo, ON</i>
<b>Public Speaking</b> .....	
<b>Guest Speaker</b> <i>Monthly meeting of undergraduate club</i>	<b>Mar 2017</b> <i>McMaster Astronomy Club</i>
<b>Invited Speaker and Panelist</b> <i>Thinklandia Festival</i>	<b>Sep 2016</b> <i>Victoria, BC</i>
<b>Invited Speaker</b> <i>Science Literacy Week, McMaster Science Café</i>	<b>Sep 2016</b> <i>Hamilton, ON</i>
<b>Invited Guest Speaker</b> <i>Royal Astronomical Society of Canada</i>	<b>Jun 2014, Jan 2015</b> <i>St. Catherine's, ON</i>
<b>Guest Speaker</b> <i>Queen's Observatory Open House</i>	<b>Dec 2011, Jul 2013</b> <i>Kingston, ON</i>

## Interviews & Media

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1. “McMaster figure skaters depend on #physics to become champions”, video produced by Matt Terry and Sarah Jones, **McMaster Daily News**, Feb 17, 2017. (Video collaboration)
2. “Milky Way weighs in light, using a well-worn technique” by Calla Cofield, **Space.com**, Jan. 17, 2017. (Telephone interview)
3. “Absolutely every bit of our Galaxy” by Nicholas Bakalar, **The New York Times**, Jan. 16, 2017. (Telephone interview)
4. “How much does the Milky Way Weigh?” by Michelle Z. Donahue, **National Geographic**, May 31, 2016. (Telephone Interview)
5. “Milky Weigh: our galaxy has the mass of 700bn suns, say scientists” by Tim Radford, **The Guardian**, May 31, 2016. (E-mail Interview)
6. “Ice dancer turned astrophysicist studies Milky Way’s mysterious dark matter” by Judi Pattison, **McMaster Daily News**, Sept. 8, 2015. (In-person Interview)

## Other Fun Stuff

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<b>Most Valuable Player</b> <i>McMaster Varsity Figure Skating Team</i>	<b>Mar 2017</b> <i>McMaster University</i>
<b>National Champion (Solo) and Silver Medallist (Team)</b> <i>Skate Canada Adult Figure Skating Championships</i>	<b>Apr 2016</b> <i>Oakville, ON</i>
<b>OUA Gold, Silver, and Bronze medallist</b> <i>Queen’s and McMaster Varsity Figure Skating Team</i>	<b>Sep 2010 – Feb 2017</b> <i>Queen’s and McMaster Universities</i>
<b>Volunteer Coach, McMaster Figure Skating Team</b> <i>Pairs, dance, singles, and synchronized skating events</i>	<b>Sep 2013 – Mar 2014</b> <i>McMaster University</i>
<b>Finalist (top 4), Marion Ross Trophy</b> <i>Female Athlete of the Year</i>	<b>March 2013</b> <i>Queen’s University</i>