

## Curriculum Vitae – Anna J. G. O’Grady

PhD Candidate, Dunlap Institute for Astronomy and Astrophysics

David A. Dunlap Department of Astronomy and Astrophysics

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### PRIMARY RESEARCH INTERSTS

Massive Star Evolution	Core Collapse Supernovae Progenitors
Local Group Stellar Populations	Variability & Binarity in Massive Stars

### EDUCATION

<b>University of Toronto</b> , Toronto, ON, Canada	2016 – 2023
Ph.D. in Astronomy & Astrophysics	
Thesis: “Identification of super-AGB stars and Yellow Supergiant Binaries in the Magellanic Clouds”	
Advisors: Dr. Maria Drout & Dr. Bryan Gaensler	
<b>Memorial University</b> , St. John’s, NL, Canada	2012 – 2016
B.Sc. Honours in Physics and Applied Mathematics	
Thesis: “Perturbations of black hole horizons”	
Advisors: Dr. Ivan Booth & Dr. Hari Kunduri	

### RESEARCH APPOINTMENTS

<b>Ph.D. Candidate – Thesis Research</b> , University of Toronto	2017 – 2023
<b>Ph.D. Student – Graduate Research</b> , University of Toronto	2016 – 2017
Long timescale time domain astronomy with Drs. Bryan Gaensler & Maria Drout	
Generating variable star light curves in SNANA with Dr. Renée Hlôzek	
<b>Undergraduate Thesis and NSERC Research Award</b> , Memorial University	2015 – 2016
Perturbations of black hole horizons with Drs. Ivan Booth & Hari Kunduri	
<b>Dorrit Hoffleit Undergraduate Summer Research Award</b> , Yale University	2014
Analyzing intra-cluster light with Dr. Louise Edwards	

### SCHOLARSHIPS AND AWARDS

GM Women in Science and Mathematics Award	2022
Jiu Lin Allen Yen Award in Astronomy and Astrophysics	2021
Frank S. Hogg Memorial Fellowship Fund	2020
Lachlan Gilchrist Fellowship (3)	2018, 2020, 2021
Walter C. Sumner Memorial Fellowship (2)	2018 – 2019
Queen Elizabeth II Graduate Scholarship in Science and Technology (3)	2017 – 2019
University of Toronto Fellowship Award	2017
Ontario Graduate Scholarship	2016
Memorial University Undergraduate Summer Internship Program	2016
Memorial University Lou Visentin Award	2016
Dr. S.W. Brekon Scholarship in Physics	2015
NSERC Summer Undergraduate Research Award	2015
Dorrit Hoffleit Summer Undergraduate Research Award	2014
Dr. Hugh J. Anderson Scholarship in Physics (3)	2013 – 2015
Memorial University Faculty of Science Dean’s List	2012 – 2016

## PUBLICATIONS (2 first author, 6 nth author)

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### First author journal publications:

1. **O’Grady, Anna J.G.**, Drout, Maria R., Gaensler, B.M., Kochanek, C.S., Neugent, Kathryn F., Doherty, Carolyn L., Speagle, Joshua S., Shappee, B.J., Rauch, Michael, Götberg, Ylva, Ludwig, Bethany, Thompson, Todd A., 2022, “Cool, Luminous, and Highly Variable Stars in the Magellanic Clouds. II: Spectroscopic and Environmental Analysis of Thorne-Żytkow Object and Super-AGB Star Candidates”, *ApJ*, *accepted*, [arXiv:2211.12438](https://arxiv.org/abs/2211.12438)
2. **O’Grady, Anna J.G.**, Drout Maria R., Shappee, B.J., Bauer, Evan B., Fuller, Jim, Kochanek, C.S., Jayasinghe, T., Gaensler, B.M., Stanek, K.Z., Holoien, Thomas W.-S., Prieto, J.L., Thompson, Todd A., 2020, “Cool, Luminous, and Highly Variable Stars in the Magellanic Clouds from ASAS-SN: Implications for Thorne-Żytkow Objects and Super-Asymptotic Giant Branch Stars”, *ApJ*, 901, 2, (32pp) [9 citations]

### Nth author journal publications:

1. Aleo, P.D., et al. (incl **O’Grady, Anna J.G.**), 2022, “The Young Supernova Experiment Data Release 1 (YSE DR1): Light Curves and Photometric Classification of 1975 Supernovae”, *ApJ*, *submitted*
2. Drout, M.R., Götberg, Y., Ludwig, B.A., Groh, J.H., de Mink, S.E., **O’Grady, A.J.G.**, and Smith, N., 2022, “Discovery of the missing intermediate-mass helium stars in stripped binaries”, *Science*, *submitted*
3. Kilpatrick, C.D., et al. (incl **O’Grady, Anna J. G.**), 2022, “Type II-P Supernova Progenitor Star Initial Masses and SN2020jfo: Direct Detection, Light Curve Properties, Nebular Spectroscopy, and Local Environment”, *MNRAS*, *submitted*
4. Chan, Ho-Sang, Villar, V.A., Cheung, Siu-Hei, Shirley, Ho, **O’Grady, Anna J.G.**, Drout, Maria R., Renzo, Mathieu, 2022, “Searching for Anomalies in the ZTF Catalog of Periodic Variable Stars”, *ApJ*, 932, 2
5. Kessler, T., et al. (incl. **O’Grady, Anna J.G.**), 2019, “Models and Simulations for the Photometric LSST Astronomical Time Series Classification Challenge (PLAsTiCC)”, *PASP*, 131, 1003
6. Booth, I., Kunduri, Hari K., and **O’Grady, Anna J.G.**, 2017, “Unstable marginally outer trapped surfaces in static spherically symmetric spacetimes”, *Physical Review D*, 96, 2

## TELSCOPE TIME PROPOSALS

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### Awarded as PI:

- “*Confirmation of YSG Binaries in the Magellanic Clouds: Towards a Population of Supernova Progenitor Analogs*”
  - 18 hours, Gemini-South 8m with GMOS, 2022b (PI)

### Awarded as Co-I:

- “*The Nature of a New Class of Luminous Highly Variable Stars*”
  - 1 night, Magellan/Baade 6.5m, 2020A
- “*An APOGEE-2S Survey of Evolved Massive Stars in the Magellanic Clouds*”
  - 4 nights, du Pont 2.5m with APOGEE-2S NIR spectrograph
- “*Yellow Supergiants as Probes of Stellar Evolution and Mass Loss*”
  - 12 nights, Magellan/Clay 6.5m, 2017A,B; du Pont 2.5m, 2017B

## OBSERVING EXPERIENCE

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### Optical Echelle Spectrographs

- 18 nights, Magellan 6.5m (MIKE, MagE)

### Optical Long-Slit Spectroscopy and Photometry

- 4 nights, Magellan 6.5m (IMACS, LDSS)

## Optical Multi-Object Spectroscopy and Photometry

- 3 nights, du Pont 2.5m (WFCCD)

## CONFERENCE PRESENTATIONS

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### Invited Talks (1)

- AAS #238: Special Session on Thorne-Żytkow Objects, virtual 2021

### Contributed Talks (4)

- AAS #241: Dissertation Talk, Seattle USA 2023
- Spoken-WERRD symposium, virtual 2022
- GAPS: unsolved problems in red Giants And suPergiantS, virtual 2021
- CASCA General Assembly, virtual 2021

### Poster Presentation (4)

- IAUS #361: Massive Stars Near and Far, Ireland 2022
- CASCA General Assembly, virtual 2020
- RASC & AAVSO General Assembly, York University, Canada 2019
- Deaths and Afterlives of Stars, Space Telescope Science Institute, USA 2019

## COLLOQUIA & SEMINARS

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### Colloquia, Seminars, & other Academic Talks (9)

- University of Toronto: TASTY lunch seminar 2022
- Harvard Center for Astrophysics: Invited lunch seminar 2022
- California Polytechnic State University: Invited physics department colloquium 2021
- Grade 7-12 Physics Students invited discussion, Crescent Collegiate, NL 2021
- University of Arizona: Invited paper discussion 2020
- University of Hawaii: Invited paper discussion 2020
- Ohio State University: Invited astro-ph discussion 2020
- University of Toronto: Astro-ph discussion 2020
- Memorial University: Invited physics department colloquium 2019

## PUBLIC TALKS, OUTREACH, & MEDIA

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### Public Talks (5)

- Amateur Observer's Society of New York 2022
- University of Toronto: AstroTours Public Talk 2019 & 2022
- Royal Astronomical Society of Canada, St. John's Chapter 2019 & 2021

### Outreach Activities

- Dunlap Institute 2017 Solar Eclipse Viewing Volunteer 2017
- RASC & Dunlap Institute Canada 150 Star Party Volunteer 2017
- University of Toronto Math Dept. Girls in STEM Volunteer 2017
- AstroTours and Astro On Tap Volunteer 2016 – 2020

### Media, Published Interviews, Articles, & Press Releases

- “*Astronomer Searches for the Universe’s Largest Stars (That won’t turn Supernova) | Astronomy in Focus*”, Science Outreach Video, Imagine This & Dunlap Institute, 2022/01/12, <https://tinyurl.com/ogadyastro>
- “*Newfoundland and Labrador astronomy PhD student makes explosive discovery amongst the stars*”, Interview, Peter Jackson, Saltwire, 2021/06/04

- “*Stellar alumna: Astronomy scholar discovers new type of star*”, Interview, Kelly Foss, Memorial University Gazette, 2021/04/28
- “*On the Cusp of a New Understanding of the Stars*”, Article, Emily Deibert, Research2Reality, 2021/04/27
- “*U of T Student Discovers Rare Star Population*”, Press Release, Meaghan MacSween, Dunlap Institute, 2021/03/30

## LEADERSHIP AND SERVICE POSITIONS

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University of Toronto Graduate Astronomy Student Association Member	2016 – Present
<ul style="list-style-type: none"> <li>• Committees: Course &amp; Qualifier Satisfaction Survey (Chair), PRISM (LGBTQ+), Social</li> </ul>	
Memorial University Physics & Physical Oceanography Undergraduate Society	2015 – 2016
<ul style="list-style-type: none"> <li>• President</li> </ul>	
Atlantic Universities Undergraduate Physics & Astronomy Conference 2016	2015 – 2016
<ul style="list-style-type: none"> <li>• Co-chair of local organizing committee</li> </ul>	

## TEACHING EXPERIENCE

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AST 301 “Observational Astronomy”, Undergraduate Course, University of Toronto	
<ul style="list-style-type: none"> <li>• Teaching Assistant (4)</li> </ul>	2019 – 2022
AST 101/201 “The Sun and Its Neighbours/Stars and Galaxies”, Undergraduate Courses, University of Toronto	
<ul style="list-style-type: none"> <li>• Head Marker (5)</li> </ul>	2018 – 2022
<ul style="list-style-type: none"> <li>• Teaching Assistant (7)</li> </ul>	2016 – 2022

## PROFESSIONAL ORGANIZATIONS

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Canadian Astronomical Society   Société Canadienne D’Astronomie	2019 – Present
American Astronomical Society	2022 – Present