

# Adelle Jane Goodwin

Australia

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## EDUCATION

**Monash University**, Melbourne, Australia  
*Doctor of Philosophy (Astronomy & Astrophysics)* 2017 –  
Thesis: On the Nature of Neutron Stars in Accreting Systems  
Supervisors: Prof Duncan Galloway and Prof Alexander Heger

**Monash University**, Melbourne, Australia  
*Bachelor of Science Advanced with Honours* 2013 – 2017  
Awarded first class honours for the thesis: Thermonuclear X-ray bursts from accretion  
powered millisecond pulsars

## AWARDS & PRIZES

**Australian Postgraduate Award** academic merit based, \$81,000, *Monash University*  
2017 – 2020

**JL Williams PhD top up scholarship** academic merit based, \$15,000, *Monash University*  
2017 – 2020

**ICRAR Summer Studentship** academic merit based, \$6,000  
*International Centre for Radio Astronomy, Western Australia* 2015 – 2016

**JL Williams Honours Scholarship** academic merit based, \$5,000  
*Monash University* 2015

**Monash University Extension Studies Program** academic merit based,  
*Monash University* 2012

## PUBLICATIONS

In 2.5 years I have published 6 peer-reviewed publications including 3 as first-author and 1 as second-author, as well as 3 Astronomer's Telegrams. These publications have accumulated more than 20 citations.

**Goodwin A. J.**, Galloway D. K., Heger A., Cumming A., Johnston Z., *A Bayesian Approach to Matching Thermonuclear X-ray Burst Observations with Models*, 2019, MNRAS, 486, 4149, <https://arxiv.org/pdf/1907.00996>

**Goodwin A. J.**, Galloway D. K., in't Zand J. J. M., Kuulkers E., Bilous A., Keek L., *XMMU J181227.8-181234: a new ultracompact X-ray binary candidate*, 2019, MNRAS, 486, 4149, <https://arxiv.org/pdf/1904.10970>

**Goodwin A. J.**, Heger A., Galloway D. K., *Neutrino Losses in Type I Thermonuclear X-Ray Bursts: An Improved Nuclear Energy Generation Approximation*, 2019, ApJ, 870, 64, <https://arxiv.org/pdf/1808.02225>

**Goodwin A. J.** and Woods T. E., *The binary evolution of SAX J1808.4-3658: Implications of an evolved donor on the progenitor system*, 2019, MNRAS (in preparation, pre-print avail. upon request)

Galloway D. K., Johnston Z., **Goodwin A.**, Heger A., 2019, IAUS, 121, IAUS..339

Janowiecki S., Cortese L., Catinella B., **Goodwin A. J.**, 2018, MNRAS, 476, 1390

Galloway D. K., **Goodwin A. J.**, Keek L., 2017, PASA, 34, e019

**Astronomer's Telegrams:**

**Goodwin A. J.**, Russell D. M., Galloway D. K., in't Zand J. J. M., Heinke C., Lewis F., Baglio M. C., 2019, ATel, 12993, 1

Russell D. M., **Goodwin A. J.**, Galloway D. K., in't Zand J. J. M., Lewis F., Baglio M. C., 2019, ATel, 12964, 1

in't Zand J. J. M., Galloway D. K., Kuulkers E., **Goodwin A.**, 2017, ATel, 10567, 1

**OBSERVING PROPOSALS**

I have applied for observing time with 5 international X-ray space telescopes, with 2 proposals as the principle investigator and 3 as a co-investigator. I have a 100% success rate for these proposals.

**INTEGRAL/XMM-Newton**, *Co-I, ToO proposal, successful* 2018, 2019

**NICER**, *PI, ToO proposal, 2 of 3 sources successful* 2019

**Swift**, *PI, ToO monitoring proposal, successful* 2019

**AstroSAT**, *Co-I, ToO proposal, successful* 2019

**INVITED TALKS**

**Seminar Speaker**, *McGill Space Institute, McGill University* (invited by Prof Andrew Cummings) 2019

I have also been invited to attend two focussed conferences where participation is limited to 20–40 of the world's experts in thermonuclear X-ray bursts. These have been held at the Lorentz Centre (Leiden, Netherlands) and the Monash Prato Centre (Prato, Italy).

**CONFERENCE TALKS**

**ASA annual science meeting, contributed talk**, *Sydney, Australia* 2016

**International Nuclear Physics Conference, contributed talk**, *Adelaide, Australia* 2016

**Burst Environment and Nuclear Reactions Meeting, contributed talk**, *Prato, Italy* 2018

**ANITA conference, contributed talk**, *Melbourne, Australia* 2019

**Leiden Thermonuclear Burst workshop, contributed talk**, *Leiden, Netherlands* 2019

I have also given poster presentations at 3 international conferences.

**SERVICE AND OUTREACH**

**Webmaster**  
*Monash Centre for Astrophysics* 2018 – 2020

**Conference Organiser**  
*BERN18, Prato, Italy* 2018

**Conference Organiser**  
*ANITA workshop and summer school, Melbourne, Australia* 2019

**Conference Organiser**  
*JINA-CEE junior and main conferences, East Lansing, America* 2019

**School Science Night Volunteer**  
*Frankston Primary School* 2017 – 2018

	<b>Relay for Life Telescope Volunteer</b> <i>Murrumbidgee, Melbourne, raising money for cancer research</i>	2018
	<b>Astrolight festival volunteer</b> <i>Scienceworks Museum, Melbourne</i>	2017 – 2018
	<b>Scientific Expert Panel</b> <i>Emerging Sciences Victoria, John Monash Science School</i>	2019
<b>TRAVEL GRANTS</b>	<b>Registration fee waiver and per diem conference funding (merit based)</b> International Nuclear Physics Conference (Australia)	2016
	Nucleii in the Cosmos conference (Italy)	2018
	Burst Environment and Nuclear Reactions Meeting (Italy)	2018
	Frontiers First Summer School and Frontiers (America)	2019
	Lorentz Centre thermonuclear burst meeting (Netherlands)	2019
	<b>Astronomical Society of Australia Travel Grant (merit based), Italy</b>	2018
	<b>JINA-CEE funded travel to visit the NSCL/FRIB at MSU and Prof Hendrick Schatz for 2.5 weeks, East Lansing, America</b>	2019
	<b>McGill University funded travel to visit Prof Andrew Cumming for 2.5 weeks, Montreal, Canada</b>	2019
	<b>University of Amsterdam funded travel to visit Prof Anna Watts for 3 weeks, Amsterdam, Netherlands</b>	2019
<b>SKILLS</b>	<b>Programming languages</b> Proficient in Python, Fortran 90, C++, and html/CSS programming. Basic usage of Matlab and Mathematica.	
	<b>Software experience</b> Experience using stellar evolution programs such as MESA, Kepler, and Window to the Stars. Experience using X-ray data analysis software HEASoft.	
	<b>Telescope Data</b> I have analysed data from X-ray telescopes including <i>Swift</i> , <i>RXTE</i> , <i>INTEGRAL</i> , <i>Bep-poSAX</i> , and <i>XMM-Newton</i> .	
	<b>Supercomputer Experience</b> I have experience using supercomputers such as the Monash Monarch cluster.	
<b>TEACHING</b>	<b>Teaching Associate, Astrophysics and Physics</b> I have taught 1st, 2nd, and 3rd year undergraduate astrophysics courses, 1st year undergraduate physics courses, and 1st year undergraduate biophysics courses at Monash University.	2016–2019
	<b>Individual Tutor, Astrophysics</b> Indigenous Engagement Unit, Monash University	2018 – 2019
<b>REFERENCES</b>	<b>Ass Prof Duncan Galloway</b> <i>PhD supervisor</i> duncan.galloway@monash.edu	alexander.heger@monash.edu
	<b>Prof Alexander Heger</b> <i>PhD supervisor</i>	<b>Prof Andrew Cumming</b> <i>Collaborator</i> andrew.cumming@mcgill.ca