CURRICULUM VITAE

ISOBEL ROMERO-SHAW

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HIGHER EDUCATION

NOV. 2018-21	Ph.D. Astrophysics, *Monash University.* Thesis topic: *Eccentricity in Gravitational-Wave Transients*. Supervisors: Assoc. Prof. Paul Lasky & Prof. Eric Thrane (expected November 2021)
2014–18	B.A. and M.Sci. Physics with Honours, Class I, *University of Birmingham.* Thesis topic: *Numerical Simulation of Gravitational-Wave Detector Noise Profiles.* Supervisor: Prof. Andreas Freise
2013–14	Engineering & Physical Sciences Foundation Year, *University of Birmingham*

RELEVANT EMPLOYMENT

2018-	Teaching Assistant, *Monash University*
2016–18	Software Engineer/Consultant, *Altran Intelligent Systems.* Three summer placements: 2016 (4 months), 2017 (2 months), 2018 (5 months)
2017	Astrophysics & Space Research Student, *University of Birmingham.* Summer placement. Theme: *Competing Models of Stellar Evolution.* Supervisor: Prof. Ilya Mandel

TALKS & SEMINARS

2021	CSIRO Australia Telescope National Facility, *Invited Seminar*
-	OzGrav Centre of Excellence for Gravitational-Wave Discovery, *Invited Talk*
-	Oxford University, *GalNUC Group, Contributed Talk*
-	Massachusetts Institute of Technology, *Invited Talk*
-	California Institute of Technology, *TAPIR Group, Invited Seminar*
-	Edoaro Amaldi Conference on Gravitational Waves, *Conference Talk*
-	Astronomical Society of Australia, *Conference Talk*
-	Australian National Institute for Theoretical Astrophysics, *Conference Talk*
-	Royal Astronomical Society Ordinary Meeting, *Invited Talk*
-	University of Queensland, *Invited Seminar*
-	Astro3D Centre of Excellence for All Sky Astrophysics in 3 Dimensions, *Seminar Series Talk*
2020	OzGrav Centre of Excellence for Gravitational-Wave Discovery, *Invited Talk*
-	University of Santiago de Compostela, *Invited Seminar*
-	Australian National Institute for Theoretical Astrophysics, *Conference Talk*
-	Monash University, *Invited Seminar*
2019	Astronomical Society of Australia, *Conference Talk.* Awarded "Best Student Talk" prize for the conference

PRIZES, AWARDS & SCHOLARSHIPS

2021	Norris Family Award, *Monash University, Faculty of Science.* Awarded for "Outstanding Author Contribution by a Graduate Research Student to a Published Scholarly Research Output"
2020	Homeward Bound Membership, *Transformational Leadership Initiative for Women in STEMM*
-	Outreach Award, *OzGrav Centre of Excellence for Gravitational Wave Discovery*
-	ECR Poster Prize, *Royal Astronomical Society*
2019	Student Poster Award, *OzGrav Centre of Excellence for Gravitational Wave Discovery*
-	Student Talk Award, *Astronomical Society of Australia*
2018	J.L. William International Scholarship, *Monash University*

PRIZES, AWARDS & SCHOLARSHIPS - CONT.

- RTP International Postgraduate Research Scholarship, *Monash University*
- Nolan Merril Prize, *University of Birmingham.* Awarded for "the highest-scoring M.Sci. project in the School of Physics & Astronomy"
- M.Sci. Student Poster Prize, School of Physics & Astronomy, *University of Birmingham*

ACADEMIC SERVICE

2020- Steering Committee Member, *Australian National Institute for Theoretical Astrophysics.*
2019- Referee, *Physical Review D, Monthly Notices of the Royal Astronomical Society, Astrophysical Journal, Astrophysical Journal Letters*
- Women in Physics & Astronomy Student Co-Chair, *Monash University*
2018 Board of Misconduct Student Rep., *University of Birmingham*

SUPERVISION & TEACHING

▷ Undergraduate Supervision:
- Teagan Clarke. Honours Project: *Gravitational Waves from Eccentric Binary Black Holes*

▷ Teaching Assistant:
- ASP1010: Introductory Astronomy
- ASP2062: Introduction to Astrophysics
- ASP3162: Computational Astrophysics & the Extreme Universe

OUTREACH

Publications & Articles

2020 *Planetymology: Why Uranus is not called George and other facts about space and words*, *Children's book,* etymology, ancient history and astronomy
2020 *The CO2 Elephant in the Room: Curbing the Carbon Footprint of Astronomy*, *Astrobites article*

Talks

2021 Royal Society of Victoria
- Cambridge Festival (UK)
- Denver Astronomical Society (US)
2020 Girlguiding (UK)
- Mount Burnett Observatory
- OzGrav Public Lecture Series
2019 Mount Burnett Observatory

Media Interviews

PODCASTS *Astrophiz*
- *Storytellers of STEMM*
- *Listening to the Cosmos (LIGO India)*

RADIO *Einstein A Go-Go, Triple R*
- *The Space Show, Southern FM*

ARTICLES *Space Australia*
- *Monash University Science*

PUBLIC SOFTWARE PROJECTS

▷ MAGIC: Gravitational-wave interferometer noise simulation. pypi.org/project/ifomagic

▷ Space Py Quest: Toy model of gravitational-wave interferometer noise profile adjustment & signal detection. github.com/gwoptics/SpacePyQuest, documentation

▷ Birds: 3D simulations of birds flocking, fleeing predators and chasing prey. github.com/IsobelMarguarethe/birds

RESEARCH PUBLICATIONS: SHORT-AUTHOR

[8] Signs of Eccentricity in Two Gravitational-Wave Signals may Indicate a Sub-Population of Dynamically Assembled Binary Black Holes — ***IRS***, *P. D. Lasky, E. Thrane.* Published in *ApJ Letters*, November 2021

[7] Implications of Eccentric Observations on Binary Black Hole Formation Channels — *M. Zevin,* ***IRS****, K. Kremer, E. Thrane, P. D. Lasky.* Accepted for publication in *ApJ Letters*, October 2021

[6] Gravitational Waves as a Probe of Globular Cluster Formation and Evolution — ***IRS****, K. Kremer, P. D. Lasky, E. Thrane, J. Samsing.* Published in *MNRAS*, July 2021

[5] An Interactive Gravitational-Wave Detector Model for Museums and Fairs — *S. Cooper et al. (incl.* ***IRS****).* Published in *Am. J. Phys.*, July 2021

[4] GW190521: Orbital Eccentricity and Signatures of Dynamical Formation in a Binary Black Hole Merger Signal — ***IRS****, P. Lasky, E. Thrane, J. Calderón Bustillo.* Published in *ApJ Letters*, October 2020

[3] Bayesian Inference for Compact Binary Coalescences with BILBY: Validation and Application to the Lead LIGO-Virgo Gravitational-Wave Transient Catalogue — ***IRS****, C. Talbot, S. Biscoveanu, V. D'Emilio, G. Ashton et al.* Published in *MNRAS*, September 2020

[2] On the origin of GW190425 — ***IRS****, N. Farrow, S. Stevenson, X-J. Zhu, E. Thrane.* Published in *MNRAS Letters*, May 2020

[1] Searching for Eccentricity: Signatures of Dynamical Formation in the First Gravitational-Wave Transient Catalogue of LIGO and Virgo — ***IRS****, P. Lasky, E. Thrane.* Published in *MNRAS*, October 2019

RESEARCH PUBLICATIONS: COLLABORATION PAPERS

I am an author on many LIGO-Virgo-KAGRA Collaboration papers and OzGrav papers. I list here collaboration publications that I have contributed to significantly in writing, analysis, and review. To see all papers upon which I am listed as an author, please visit my ADS bibliography.

[5] The Population of Merging Compact Binaries Inferred using Gravitational Waves through GWTC-3 — *The LIGO-Virgo-KAGRA Collaboration (incl.* ***IRS****).* Submitted for publication in *ApJ Letters*, November 2021

[4] GWTC-3: Compact Binary Coalescences Observed by LIGO and Virgo During the Second Part of the Third Observing Run — *The LIGO-Virgo-KAGRA Collaboration (incl.* ***IRS****).* Submitted for publication in *PRX*, November 2021

[3] Population Properties of Compact Objects from the Second LIGO-Virgo Gravitational-Wave Transient Catalog — *The LIGO-Virgo-KAGRA Collaboration (incl.* ***IRS****).* Published in *ApJ Letters*, May 2021

[2] GWTC-2: Compact Binary Coalescences Observed by LIGO and Virgo During the First Half of the Third Observing Run — *The LIGO-Virgo-KAGRA Collaboration (incl.* ***IRS****).* Published in *PRX*, April 2021

[1] Neutron Star Extreme Matter Observatory: A Kilohertz-Band Gravitational-Wave Detector in the Global Network — *The OzGrav Collaboration: K. Ackley et al. (incl.* ***IRS****).* Published in *PASA*, November 2020