ISOBEL ROMERO-SHAW

gravitational-wave astrophysics PhD student

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Significant Employment

Since Nov. 2018 — **Astrophysics PhD Student**
Monash University, Australia
(*2 years and 9 months*)

Since Nov. 2018 — **Teaching Assistant**
Monash University, Australia
(*2 years and 9 months*)

2016, 2017, 2018 — **Summer Internships**
Altran Intelligent Systems, UK
(*4 months, 2 months, 5 months*)

2017 — **Astrophysics & Space Research Summer Student**
University of Birmingham, UK
(*2 months*)

Prizes, Awards & Scholarships

2020 — **Membership in Sixth Cohort of Homeward Bound**
Homeward Bound: Transformational Leadership Initiative for Women in STEMM

2020 — **Outreach Superstar Award**
OzGrav Centre of Excellence for Gravitational Wave Discovery

2020 — **Best Poster**
Royal Astronomical Society Early Career Researcher Poster Competition

2019 — **Best Student Poster Award**
OzGrav Centre of Excellence for Gravitational Wave Discovery

2019 — **Best Student Talk Award**
Astronomical Society of Australia

2018 — **J.L.William International Scholarship**
Monash University

2018 — **RTP International Postgraduate Research Scholarship**
Monash University

2018 — **Nolan Merril Prize for best performance in Master's Project**
University of Birmingham, School of Physics & Astronomy

2018 — **Best Project Poster Prize**
University of Birmingham, School of Physics & Astronomy (peer-nominated)

Research Works

Below, I list academic papers that I have contributed to significantly. For a full list of publications that I have contributed to, please see my Google Scholar profile.

2021 — **Signs of eccentricity in two gravitational-wave signals may indicate a sub-population of dynamically assembled binary black holes**
I. Romero-Shaw, P. D. Lasky, E. Thrane
Submitted to ApJ Letters

2021 — **Implications of Eccentric Observations on Binary Black Hole Formation Channels**
M. Zevin, I. Romero-Shaw, K. Kremer, E. Thrane, P. D. Lasky
Submitted to Physical Review Letters

2020 — **Gravitational Waves as a Probe of Globular Cluster Formation and Evolution**
I. Romero-Shaw, K. Kremer, P. D. Lasky, E. Thrane, J. Samsing
Published in MNRAS

2020 — **GW190521: Orbital Eccentricity and Signatures of Dynamical Formation in a Binary Black Hole Merger Signal**
I. Romero-Shaw, P. Lasky, E. Thrane, J. Calderon Bustillo
Published in ApJ Letters

2020 — **Bayesian inference for compact binary coalescences with BILBY: Validation and application to the first LIGO-Virgo gravitational-wave transient catalogue**
I. Romero-Shaw, C. Talbot, S. Biscoveanu, V. D'Emilio, G. Ashton et al.
Published in MNRAS

2020 — **On the origin of GW190425**
I. Romero-Shaw, N. Farrow, S. Stevenson, X-J. Zhu, E. Thrane
Published in MNRAS Letters

2019 — **Searching for eccentricity: signatures of dynamical formation in the first gravitational-wave transient catalogue of LIGO and Virgo**
I. Romero-Shaw, P. Lasky, E. Thrane
Published in MNRAS

Higher Education

University of Birmingham, UK

2014–18 — **M.Sci. Physics with Honours, Class I**
Integrated Undergraduate Masters

2013–14 — **Engineering & Physical Sciences Foundation Year**
Required for entry into Physics degree without Mathematics A-Level

Committee & Representative Roles

Since 2020 **Student Representative, ANITA Steering Committee**

Since 2019 **Co-chair, Women in Physics and Astronomy group, Monash University**

2018–20 **Treasurer, Optical Society Chapter, Monash University**

2017–18 **Student Representative Panel Member, Board of Misconduct, University of Birmingham**

2016–18 **Secretary, Art Society, University of Birmingham**

2013-18 **Physics Student Representative, University of Birmingham**

2016 **University of Birmingham representative, Women's Engineering Society conference, Aston University**

Public Software Projects

2018 **MAGIC**
Gravitational-wave interferometer noise simulation
↯ pypi.org/project/ifomagic

2018 **Space Py Quest**
Toy model of gravitational-wave interferometer noise adjustment& detection
↯ github.com/gwoptics/SpacePyQuest

2016 **Birds**
3D simulations of birds flocking, fleeing predators and chasing prey
↯ github.com/IsobelMarguarethe/birds

References

✉ Associate Professor Paul Lasky
paul.lasky@monash.edu

✉ Professor Eric Thrane
eric.thrane@monash.edu

✉ Professor Ilya Mandel
ilya.mandel@monash.edu

Recent Education & Outreach

2021 **Guest on Astrophiz podcast: Gravitational Wave Detectors and Black Holes**

2021 **Guest on Storytellers of STEMM podcast: Gravitational Waves**

2021 **Virtual talk on Eccentricity in Gravitational-Wave Transients at Royal Astronomical Society Ordinary Meeting**

2021 **Virtual talk on Space Words at Cambridge Festival (UK)**

2021 **Guest on Listening to the Cosmos (LIGO India) podcast**

2020 **Virtual talk for Brownies (Girlguiding UK) on Constellations**

2020 **Published Illustrated Children's book *Planetymology: Why Uranus is not called George and other facts about space and words***

2020 **Virtual talk on Space Words at Mount Burnett Observatory, Melbourne**

2020 **Virtual talk on Space Words for OzGrav online public lecture series**

2019 **Public talk on Globular Clusters at Mount Burnett Observatory, Melbourne**

Hobbies, Interests & Activities

- In 2020, I was selected to be part of the sixth cohort of Homeward Bound: a leadership development initiative for women in STEMM. As part of this project, I take part in bi-weekly leadership development workshops.
- I am teaching myself Spanish using Duolingo. I started this at the beginning of 2020 and am now on an unbroken 553-day practising streak!
- I am a ferocious reader - I love science fiction and classics, but also enjoy non-fiction, particularly books about anthropology.
- I am working to produce a colouring book featuring influential women in physics.
- My creative pursuits recently include drawing, pottery, and making polymer clay jewellery. I'm also keen on baking and like to experiment with vegan cakes.
- I enjoy running, biking and hiking. From 2021–2022 I am attempting run, hike and bike over a distance equal to the widest point of Antarctica (5339 km) in one year.