Shanika Galaudage

PhD candidate, Monash University • shanika.galaudage@monash.edu • shanikagalaudage.github.io

Education

Doctor of Philosophy | Monash University — Feb 2019 – Aug 2022 (expected)
Dissertation: *Gravitational-wave inference in the catalogue era*
Supervisor: Eric Thrane

Bachelor of Science Advanced – Research (Honours) | Monash University — 2018
Majors: Astrophysics and Physics – 1st class honours
Thesis: *Searching for X-ray pulsations from continuous gravitational-wave candidates*
Supervisors: Duncan Galloway and Karl Wette (ANU)

Awards & Scholarships

J. L. William PhD Scholarship | Monash University — 2019

Research Training Program (RTP) Stipend | Australian Government — 2019

Monash Centre for Astrophysics (MoCA) Prize | Monash University — 2018
Awarded to the top Astrophysics honours student.

ECR / Student Travel Award | OzGrav — 2018

J. L. William Honours Scholarship | Monash University — 2018

Publications

Below is a list of publications I have made a significant contribution to. I am an author on numerous publications as part of the LIGO Scientific Collaboration.

Galaudage, S., Adamcewicz, C., Zhu, X.-J., Stevenson, S. and Thrane, E. **Heavy double neutron stars: birth, mid-life and death**, ApJL 909 (2021) L19 [arXiv:2011.01495]

Galaudage, S., Talbot, C. and Thrane, E. **Gravitational-wave inference in the catalog era: evolving priors and marginal events**, PRD 102 (2019) 083026 [arXiv:1912.09708]

The LIGO Scientific Collaboration; the Virgo Collaboration, **Population properties of compact objects from the second LIGO-Virgo Gravitational-Wave Transient Catalog** Accepted ApJL (2020) [arXiv:2010.14533]
Member of paper writing team; significant contribution to analyses

Romero-Shaw, I. M., Talbot, C., Biscoveanu, S., D'Emilio, V., Ashton, G., Berry, C. P. L., Coughlin, S., Galaudage, S., *et al.* **Bayesian inference for compact binary coalescences with BILBY: validation and application to the first LIGO-Virgo gravitational-wave transient catalogue**, MNRAS 499 (2020) 3295
Bilby and BilbyPipe developer; key contribution to online Bilby (pipeline from trigger to parameter estimation)

Conferences, Presentations & Workshops

Open Data Workshop #4 | LIGO (Virtual) – Invited Talk — May 2021
Parameter Estimation with Bilby

Gravitational Wave group presentation | University of Queensland (Virtual) – Invited Talk — Apr 2021
Population properties of binary black holes: Results from LIGO/Virgo O3a

ECR Australia Seminar series | ASTRO3D (Virtual) – *YouTube* — Mar 2021
Population properties of binary black holes: Results from LIGO/Virgo O3a
A series showcasing Australia's Early Career Researchers to international audience.

Collaboration Meeting | LIGO/Virgo/KAGRA (Virtual) – *Poster* – Honourable Mention — Mar 2021

Annual Meeting | Australian National Institute for Theoretical Astrophysics (Virtual) — Feb 2021
Heavy Double Neutron Stars: birth, midlife and death

Public Webinar | LIGO/Virgo Collaboration (Virtual) - *YouTube* — Nov 2020
Presented results from LIGO/Virgo publications alongside a panel of experts.
Population Properties of Compact Objects from the Second LIGO-Virgo Gravitational-Wave Transient Catalog

School of Physics and Astronomy colloquium | Monash University (Virtual) — Oct 2020
Population properties of binary black holes: Results from LIGO/Virgo O3a

Annual Scientific Meeting | Astronomical Society of Australia (Virtual) — Jul 2020
Gravitational Wave inference in the catalogue era

Annual Scientific Meeting | Astronomical Society of Australia — Jul 2019
Selection Effects in Gravitational Wave Astronomy

Parameter Estimation F2F workshop | LIGO PE Group — Feb 2019

Annual Scientific Meeting | Astronomical Society of Australia — Jul 2018
Searching for X-ray pulsations from Low Mass X-ray Binaries

Leadership & Mentoring

Media Advisory Committee – ECR representative | OzGrav — 2021
Role involves ensuring voices of Early Career Researchers are heard and represented for media related opportunities

Women in Physics and Astronomy Committee | Monash University — 2020 – 2021
Role involves organising events and coordinating a mentoring program as well as creating a supportive environment for women in physics and astronomy.

Palladian Mentoring Program | Mac. Robertson Girls' High School — 2020

Science Peer Mentoring Program | Monash University — 2018

Advanced Research Mentoring Program | Monash University — 2017 – 2018

Global Leadership Advanced Research Program | Monash University — Jul 2017
Winter intensive unit for inter-disciplinary research and development of leadership skills

Science Future Leaders Program | Monash University — 2015

Outreach & Engagement

Media Article | Space Australia – *Article* May 2021

Podcast | AstroPhiz – *SoundCloud* Apr 2021
Discussion of research and issues of diversity & inclusion to a general audience.

Social Media Coordinator | Space Australia (Freelance role) 2021 – present
Communicate Australian space news with general public.

Victoria representative & Social Media Manager | IncludeHer Movement 2020 – present
A campaign to improve representation of women in high-school STEM courses.

MySci Program Volunteer | OzGrav and Monash Astrophysics Feb 2020
Create & deliver a workshop for year 11/12 students about gravitational waves.

Outreach team member | OzGrav 2019 – present

Teaching Experience

Teaching Associate | Monash University 2018 – present

- ASP1010 - Earth to cosmos, Introductory astronomy
- ASP2062 - Introduction to astrophysics
- ASP3051 - Relativity and cosmology
- PHS1001 - Foundation physics
- PHS1011 - Classical physics and relativity
- PHS1022 - Fields and quantum physics
- BMS1031 - Medical biophysics