

Shanika GALAUDAGE

Postdoctoral Researcher • shanika.galaudage@oca.eu • shanikagalaudage.github.io

Employment

- 2023 – **Postdoctoral Researcher** | Observatoire de la Côte d'Azur (Lagrange laboratory / Virgo ARTEMIS group)
2023 **Research Assistant** | Monash University + OzGrav

Education

- 2023 **Doctor of Philosophy** | Monash University – [gravitational waves](#), [compact binaries](#), [population studies](#)
Dissertation: Population studies of black holes & neutron stars: the emerging picture from GW astronomy
Supervisors: Eric Thrane and Ilya Mandel
- 2018 **Bachelor of Science Advanced – Research (Honours)** | Monash University – [1st class honours](#)
Thesis: Searches for X-ray pulsations from Gravitational Wave candidates
Supervisors: Duncan Galloway and Karl Wette

Publications

The following list includes collaboration publications that I have made a significant contribution to.

- 2024 Talbot, C., Farah, A., **Galaudage, S.**, Golomb, J., and Tong H., GWPopulation: Hardware agnostic population inference for compact binaries and beyond, [arXiv:2409.14143](#) (submitted to [JOSS](#))
- 2024 **Galaudage, S.** and Lamberts, A., Compactness peaks: An astrophysical interpretation of the mass distribution of merging binary black holes, [arXiv:2407.17561](#) (submitted to [A&A](#))
- 2024 LIGO/Virgo/KAGRA Collaboration, (incl. **Galaudage, S.**), Observation of Gravitational Waves from the Coalescence of a 2.5–4.5 M_⊙ Compact Object and a Neutron Star, [ApJL](#), 970, L34 – [Member of paper writing team](#)
- 2024 Sarin, N., Hübner, M., Omand, C. M. B., Setzer, C. N., Schulze, S., Adhikari N., Sagués-Carracedo, A., **Galaudage, S.**, Wallace, W. F., Lamb, G. P. and Lin, E., REDBACK: A Bayesian inference software package for electromagnetic transients, [MNRAS](#) 501, 1745
- 2024 Adamcewicz, C., **Galaudage, S.**, Lasky, P. D. and Thrane, E., Which Black Hole Is Spinning? Probing the Origin of Black Hole Spin with Gravitational Waves, [ApJL](#), 964, L34
- 2023 Ross, K., **Galaudage, S.**, Clark, T., Lowson, N., Battisti, A., Adam, H., Ross, A. K. and Sweaney, N., Invisible women: Gender representation in high school science courses across Australia, [AJE](#) – [Paper on gender and diversity representation in STEM curricula; in the top 5% of all research outputs ever tracked by Altmetric \(score of 615\)](#)
- 2023 LIGO/Virgo/KAGRA Collaboration, (incl. **Galaudage, S.**), Population of Merging Compact Binaries Inferred Using Gravitational Waves through GWTC-3, [PRX](#) 13, 011048 – [Member of paper writing team](#)
- 2022 Tong, H., **Galaudage, S.**, Thrane, E., Population properties of spinning black holes using the gravitational-wave transient catalog 3, [PRD](#) 106, 103019
- 2022 Farah, A. M., Fishbach, M., Essick, R., Holz, D. E., **Galaudage, S.**, Bridging the Gap: Categorizing Gravitational-Wave Events at the Transition Between Neutron Stars and Black Holes, [ApJ](#) 931, 2
- 2022 Essick, R., Farah, A. M., **Galaudage, S.**, Talbot, C., Fishbach, M., Thrane, E., Holz, D. E., Probing Extremal Gravitational-Wave Events with Coarse-Grained Likelihoods, [ApJ](#) 926, 34
- 2022 **Galaudage, S.**, Wette, K., Galloway, D. K., and Messenger, C., Deep searches for X-ray pulsations from Scorpius X-1 and Cygnus X-2 in support of continuous gravitational-wave searches, [MNRAS](#) 501, 1745
- 2021 **Galaudage, S.**, Talbot, C., Nagar, T., Jains, D., Thrane, E. and Mandel, I., Building better spin models for merging binary black holes: Evidence for non-spinning and rapidly spinning nearly aligned sub-populations, [ApJL](#) 921, L15
- 2021 **Galaudage, S.**, Adamcewicz, C., Zhu, X.-J., Stevenson, S. and Thrane, E., Heavy double neutron stars: birth, mid-life and death, [ApJL](#) 909, L19

- 2021 LIGO/Virgo Collaboration, (incl. **Galaudage, S.**), Population properties of compact objects from the second LIGO-Virgo Gravitational-Wave Transient Catalog, [ApJL](#) 913 L7 – [Member of paper writing team](#)
- 2020 **Galaudage, S.**, Talbot, C. and Thrane, E., Gravitational-wave inference in the catalog era: evolving priors and marginal events, [PRD](#) 102, 083026
- 2020 Romero-Shaw, I. M., et al., (incl. **Galaudage, S.**), Bayesian inference for compact binary coalescences with BILBY: validation and application to the first LIGO-Virgo gravitational-wave transient catalogue, [MNRAS](#) 499 3295

Awards, Prizes + Scholarships

- 2024 **Lindau Nobel Laureate Meeting participant** (1 of ~650 selected globally, 1 of 10 in France)
- 2022 **GWPAW Poster Prize** (\$1000 AUD; People's Choice out of 79 posters)
- 2022 **Postgraduate Publication Award** (\$5700 AUD) | Monash University
- 2022 **ACAMAR 7 Poster Prize** (\$1000 AUD; Best student poster from AUS institution of 12 posters)
- 2021 **LVK LAAC Poster Prize** (\$350 USD; Best poster data analysis/theory category out of 28 posters)
- 2021 & 22 **Outreach Superstar Award** | OzGrav
- 2019 – 22 **J. L. William PhD Scholarship** (\$5000 AUD / year) | Monash University
- 2018 **MoCA Prize** | Monash University – [Awarded to best Honours student in Astrophysics](#)
- 2018 **J. L. William Honours Scholarship** (\$5000 AUD) | Monash University

Funding + Grants

- 2024 **Franco-Australian Hubert Curien Partnership** (~\$8000 EUR) | Campus France + OzGrav
Co-PI of French team; Project Title: Investigating the lives of gravitational wave sources
- 2022 **Travel support** (~\$4000 USD) | Flatiron Institute
- 2018 **Travel award** (~\$1800 AUD) | OzGrav + Australian National University

Conferences, Presentations + Workshops

- 2024 **GEMMA2 workshop** | Sapienza University – [Invited Talk](#)
- 2024 **Gravitational Wave Astrophysics Conference** | Beijing Normal University – [Invited Talk](#)
- 2024 **Gravitational Wave and Cosmology group presentation** | University of Queensland – [Invited Seminar](#)
- 2024 **CAS colloquium** | Swinburne University of Technology – [Invited Seminar](#)
- 2024 **School of Physics and Astronomy colloquium** | Monash University
- 2024 **Inaugural OzGrav 2 “Detection” meeting** | OzGrav – [Invited Talk](#)
- 2023 **Populations of GW sources workshop** | GdR Gravitational Waves – [Contributed Talk](#)
- 2023 **GaiaUnlimited community workshop** | Osservatorio Astrofisico di Torino
- 2023 **Two in a Million conference** | ESO Garching – [Contributed Talk / Chair](#)
- 2023 **Gravitational-Wave Populations: What's Next?** | University Of Milano-Bicocca – [Invited Panellist](#)
- 2023 **Towards LISA Catalogues Workshop** | Observatoire de la Côte d'Azur – [Invited Talk](#)
- 2023 **Neutron Star / Gravitational Wave Group Presentation** | University of Melbourne – [Invited Talk](#)
- 2022 **GWPAW** | OzGrav – [Poster](#) – [Awarded People's Choice Poster Prize](#)
- 2022 **Astrophysics Colloquium** | CSIRO ATNF (Virtual) – [Invited Seminar](#)
- 2022 **Astrophysics Seminar** | Macquarie University (Virtual) – [Invited Seminar](#)
- 2022 **ECR Winter School Lecture and Workshop** | OzGrav – [Resources](#)
- 2022 **Annual Scientific Meeting** | Astronomical Society of Australia – [Contributed Talk](#)
- 2022 **Gravitational Wave Group Presentation** | Centre for Astrophysics - Harvard & Smithsonian – [Invited Talk](#)
- 2022 **GRITTS Seminar** | MIT LIGO Laboratory – [Invited Seminar](#)

- 2022 **Gravitational Wave Group Presentation** | Centre for Computational Astrophysics - Flatiron Institute
- 2022 **Strong Gravity Seminar** | Perimeter Institute (Virtual) – [Invited Seminar](#)
- 2021 **Public Webinar** | LIGO/Virgo/KAGRA Collaboration (Virtual) – [YouTube](#)
- 2021 **ACAMAR 7 Workshop** | ACAMAR (Virtual) – [Poster](#) – [Awarded Best Poster Prize](#)
- 2021 **Collaboration Meeting** | LIGO/Virgo/KAGRA (Virtual) – [Poster](#) – [Awarded Best Poster Prize](#)
- 2021 **Orange Pulsar Meeting** | Australasian Pulsar group (Virtual)
- 2021 **Nuclear burning in Massive Stars Workshop** | YITP + OzGrav (Virtual) – [Invited Talk](#)
- 2021 **Edoardo Amaldi Conference on Gravitational Waves** | OzGrav + IUPAP (Virtual) – [Contributed Talk](#)
- 2021 **Annual Scientific Meeting** | Astronomical Society of Australia – [Contributed Talk](#)
- 2021 **Open Data Workshop #4** | LIGO (Virtual) – [Invited Talk](#)
- 2021 **Gravitational Wave group presentation** | University of Queensland (Virtual) – [Invited Talk](#)
- 2021 **ECR Australia Seminar series** | ASTRO3D (Virtual) - [YouTube](#)
- 2021 **Annual Meeting** | Australian National Institute for Theoretical Astrophysics (Virtual) – [Contributed Talk](#)
- 2020 **Public Webinar** | LIGO/Virgo Collaboration (Virtual) – [YouTube](#) – [Invited Speaker](#)
- 2020 **School of Physics and Astronomy colloquium** | Monash University (Virtual)
- 2020 **Annual Scientific Meeting** | Astronomical Society of Australia (Virtual) – [Contributed Talk](#)
- 2019 **Annual Scientific Meeting** | Astronomical Society of Australia – [Contributed Talk](#)
- 2018 **Annual Scientific Meeting** | Astronomical Society of Australia – [Contributed Talk](#)

Media

- 2024 **Ils et elles ont rencontré des Nobel** | [TheMetaNews](#)
- 2024 **Infographic on differences between LVK and IPTA used in a magazine** | [Cosmos Magazine](#)
- 2021 **Record number of new gravitational waves offers game-changing window into universe** | [The Guardian](#)
- 2021 **More gravitational waves detected than ever before** | [Cosmos Magazine](#) [article archived]
- 2020 **Black hole mergers? 44 confirmed, and counting** | [Cosmos Magazine](#)

Service

- 2022 – **Referee** | ApJ, PRD, MNRAS and A&A
- 2020 – **IncludeHer - Board member** | IncludeHer Movement – [Website](#)
- 2020 – 22 **Media Advisory Committee – ECR representative** | OzGrav
Acted as a representative for Early Career Researchers (ECR) to ensure fair opportunity for ECRs to be included in OzGrav media press releases for large collaboration science efforts.
- 2020 **Gravitational Wave Group Meeting Chair** | Monash University
- 2019 – 21 **Women in Physics and Astronomy Student Co-chair** | Monash University
Acted as a mentor for undergraduate students in minority groups and organised events to help create connections between the women in the department.

Outreach

- 2024 **STEM Webinar Guest “Life as a postdoc abroad”** | Mac. Robertson Girls' High School (Virtual)
- 2024 **Public Talk on gravitational waves titled “Cosmic CSI”** | OzGrav
- 2024 **Various EPO materials for announcement of GW230529** | LIGO + Virgo + KAGRA
- 2024 **Behind the Scenes Interview** | LIGO India – [YouTube](#)
- 2017 – 24 **Girls in Physics Breakfast STEM Guest** | VicPhysics

- 2023 **Lagrange Science Day** | Observatoire de la Côte d'Azur (Lagrange laboratory)
- 2023 **Panellist at Intl. Women's Day Breakfast** | Mac. Robertson Girls' High School
- 2023 **School Presentation on 'Ripples in Space Time and Life'** | Haileybury College
- 2019 – 23 **Various talks, science demonstrations + articles** | OzGrav – [Outreach Superstar Award 2021 & 2022](#)
- 2022 **Cosmic lighthouses and continuous gravitational waves** | Space Australia – [Article](#)
- 2021 **Public talk on 'Where stars go to die'** | Astronomical Society of Victoria (Virtual) – [YouTube](#)
- 2021 **Looking into the past with gravitational waves and spinning black holes** | Space Australia – [Article](#)
- 2021 **Gravitational waves and population studies** | Astrophiz – [Podcast](#)
- 2021 **STEM Webinar Guest "Life as a PhD student"** | Mac. Robertson Girls' High School (Virtual)
- 2021 **School Presentation** | St Leonard's College (Virtual)
- 2021 **Investigating the lives of double neutron stars** | Space Australia – [Article](#)
- 2020 **Gravitational-wave workshop for students** | OzGrav + Monash Astrophysics

Teaching + Mentoring

- 2024 **Mentor** | Front Space
Acted as a mentor for highschool and undergraduate students from underprivileged schools and/or minority groups with research activities (e.g. literature review studies, coding projects).
- 2018 – 22 **Teaching Associate** | Monash University

ASP1010 - Earth to cosmos, Introductory astronomy	PHS1001 - Foundation physics
ASP2062 - Introduction to astrophysics	PHS1011 - Classical physics and relativity
ASP3051 - Relativity and cosmology	PHS1022 - Fields and quantum physics
BMS1031 - Medical biophysics	
- 2021 **Undergraduate mentorship** | Tushar Nagar – [Honours project](#) (with Prof. Ilya Mandel and Prof. Eric Thrane)
- 2020 **Undergraduate mentorship** | Christian Adamcewicz – [Second year project](#) (with Prof. Eric Thrane)