Tristan Bruel

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Education

Université de la Côte d'Azur - Laboratoire Lagrange — Nice, France
Ph.D. thesis 'Binary black hole mergers : connecting stellar physics and global star formation' — 2021–Current
Advisor: Astrid Lamberts

Université Toulouse III - Paul Sabatier — Toulouse, France
M.S. in Astrophysics, Space science and Planetology — 2020–2021

Ecole Polytechnique — Palaiseau, France
Highly competitive French engineering school (acceptance rate $< 8\%$) — 2017–2021

Research Experience

Observatoire de la Côte d'Azur — Nice, France
Research internship, Advisor: Marie-Anne Bizouard — Summer 2021

- Inference of proto-neutron star properties in core-collapse supernovae from a gravitational-wave detector network (published in Physical Review D)

Institut d'Astrophysique de Paris — Paris, France
Research internship, Advisor: Irina Dvorkin — Summer 2020

Talks and Visits

- Jul/2023 - Talk: Conference, Leuven, Belgium
- Nov/2022 - Talk: Virgo Week, Pisa, Italy
- Oct/2022 - Visit: Katelyn Breivik at Center for Computational Astrophysics, New York, USA
- Sep/2022 - Visit: Carl Rodriguez at Carnegie Mellon University, Pittsburgh, USA
- Jun/2022 - Talk: Annual Meeting of French Astronomers (SF2A), Besançon, France

Workshops and Schools

- Dec/2022 - Gravitational Wave Physics and Astronomy Workshop (GWPAW), Melbourne, Australia (Poster)
- Jul/2022 - Gravitational Waves: A new window to the Universe (MaNiTou), Marseille, France
- Jan/2022 - Compact-Object Astrophysics in the Era of Multi-Messenger Astronomy, Saas-Fee, Switzerland

Honors and Awards

- 2022 Doctoral Travel Grant (500€) from Université de la Côte d'Azur

Areas of expertise

- Gravitational Wave Astrophysics, Binary Stellar Evolution, Star Formation, Post-processing of Cosmological Simulation, Gravitational Wave Data Analysis

Extracurricular Activities

- Chair of the Graduate Student Association
- Competitive triathlon - 2022 Nice IronMan

Publications

[1] **T. Bruel**, M.-A. Bizouard, M. Obergaulinger, P. Maturana-Russel, A. Torres-Forné, P. Cerdá-Durán, N. Christensen, J. A. Font, and R. Meyer, "Inference of protoneutron star properties in core-collapse supernovae from a gravitational-wave detector network", *Phys. Rev. D*, vol. 107, p. 083 029, 8 Apr. 2023.

[2] R. Srinivasan, A. Lamberts, M. A. Bizouard, **T. Bruel**, and S. Mastrogiovanni, "Understanding the progenitor formation galaxies of merging binary black holes", *Monthly Notices of the Royal Astronomical Society*, vol. 524, no. 1, pp. 60–75, Jun. 2023.

[3] S. Mastrogiovanni, A. Lamberts, R. Srinivasan, **T. Bruel**, and N. Christensen, "Inferring binary black holes stellar progenitors with gravitational wave sources", *MNRAS*, pp. 3432–3444, Oct. 2022.