

# Aditya Vijaykumar

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EMPLOYMENT	<b>CITA Postdoctoral Fellow</b> <b>Canadian Institute for Theoretical Astrophysics (CITA), Toronto</b> <b>Graduate Student</b> <b>International Centre for Theoretical Sciences (ICTS-TIFR), Bengaluru</b> <b>Fulbright-Nehru Doctoral Research Fellow</b> <b>Department of Physics, The University of Chicago</b>	Sep 2023 - Present Aug 2018 - Aug 2023 Aug 2022 - Mar 2023
EDUCATION	<b>International Centre for Theoretical Sciences (ICTS-TIFR), Bengaluru</b> PhD in Physics. Mentor: Prof. Ajith Parameswaran. Thesis Title: <i>Exploring gravity, astrophysics, and cosmology with gravitational waves</i> <b>Birla Institute of Technology and Science (BITS), Pilani</b> M.Sc. (Hons.) Physics and B.E. (Hons.) Mechanical Engineering	2018 - 2023 2013 - 2018
GRANTS AND AWARDS	<ol style="list-style-type: none"><li>1. <b>Justice Oak Award for Outstanding thesis in Astronomy 2024</b>, Astronomical Society of India (ASI)</li><li>2. <b>V. V. Narlikar Best Thesis Award 2024</b>, Indian Association for General Relativity and Gravitation (IAGRG)</li><li>3. <b>Fulbright-Nehru Doctoral Research Fellowship 2022</b>, US Department of State and Government of India</li><li>4. <b>Co-PI, IndiaBioscience Outreach Grant 2022</b>, <i>Communicating Science Through Theatre</i>, (100,000 INR)</li><li>5. <b>Graduate Fellowship 2018-2023</b>, ICTS-TIFR</li><li>6. <b>S.N. Bhatt Memorial Excellence Fellowship 2018</b>, ICTS-TIFR</li><li>7. <b>Summer Research Fellowship 2016</b>, Indian Academy of Sciences</li><li>8. <b>INSPIRE-DST Scholarship for Higher Education 2013-2018</b>, Government of India</li></ol>	
PUBLICATION SUMMARY	<ul style="list-style-type: none"><li>• <b>NASA-ADS Library</b></li><li>• <b>25 short-author list papers</b>, including <b>18 as first/second author</b>.</li><li>• <b>6 LIGO-Virgo-KAGRA Collaboration papers</b> with significant contributions, including <b>1 as chair of the paper writing team</b></li></ul>	
TALKS SUMMARY	<ul style="list-style-type: none"><li>• <b>9 invited conference talks</b></li><li>• <b>21 seminars</b></li><li>• <b>10 contributed talks</b></li></ul>	
SELECTED SERVICE	<b>LIGO-Virgo-KAGRA Collaboration</b> <ul style="list-style-type: none"><li>• Paper writing team chair for the GWTC-4.0 populations paper</li><li>• Parameter estimation study team lead for the GW231123 massive binary black hole</li><li>• Developer of <code>bilby</code> and <code>bilby_pipe</code> software packages</li><li>• Eccentric parameter estimation taskforce member</li><li>• Low-latency parameter estimation expert rota</li><li>• Elected postdoctoral member, LIGO Academic Advisory Committee (LAAC)</li></ul> <b>Journal Referee</b> <ul style="list-style-type: none"><li>• Nature • Physical Review D • Astrophysical Journal Letters • Astrophysical Journal • Machine Learning: Science and Technology</li></ul>	

INVITED CONFERENCE TALKS	1. Gravitational Wave Physics and Astrophysics Workshop, Atlanta	December 2025
	2. The Lifecycle of Stellar Black Holes, KITP, Santa Barbara	November 2025
	3. Future of Gravitational Wave Astronomy, ICTS, Bengaluru	October 2025
	4. European Physical Society Conference on High Energy Physics, Marseille (virtual)	July 2025
	5. Scientific Machine Learning in Gravitational Wave Astronomy, ICERM, Providence	June 2025
	6. Lyman Break Galaxies Workshop, Toronto	May 2025
	7. PAX Meeting, London, UK (panelist)	July 2024
	8. The Quest for Precision Gravitational-wave Cosmology, KICP, Chicago	September 2022
	9. Second Chennai Symposium on Gravitation and Cosmology, Chennai (virtual)	February 2022
LIST OF SEMINARS	1. Weinberg Institute Seminar, UT Austin	November 2025
	2. Strong Gravity Seminar, Perimeter Institute	November 2025
	3. Astrophysics and Relativity Seminar, ICTS	July 2025
	4. TAPIR Seminar, Caltech	March 2025
	5. Seminar, UCLA	March 2025
	6. IGC seminar, Penn State University	October 2024
	7. Gravitational wave seminar, IUCAA	August 2024
	8. Gravity Exploration Institute seminar, Cardiff University	July 2024
	9. CIERA seminar, Northwestern University	June 2024
	10. GRAPPA seminar, University of Amsterdam	May 2024
	11. Strong seminar, Niels Bohr Institute	April 2024
	12. CITA Seminar, University of Toronto	January 2024
	13. TASTY Seminar, University of Toronto	January 2024
	14. IUCAA gravitational wave seminar, Pune	July 2023
	15. Physics seminar, IISER Pune	July 2023
	16. Physics seminar, IIT Gandhinagar	June 2023
	17. Gravitational wave seminar, Seoul National University (virtual)	October 2022
	18. IGC seminar, Penn State University	August 2022
	19. Lorentz Institute seminar, Leiden (virtual)	June 2020
	20. IUCAA gravitational wave seminar, Pune	September 2019
	21. Albert Einstein Institute seminar, Hannover	July 2019
CONTRIBUTED TALKS	1. APS Meeting, Anaheim, CA	March 2025
	2. Midwest Relativity Meeting, Ann Arbor, MI	November 2024
	3. CASCA Meeting, Toronto	June 2024
	4. Gravitational waves: A new ear on the chemistry of galaxies, Leiden	April 2024
	5. Globular Clusters and their Tidal Tails, Toronto	May 2024
	6. Joint CITA-PI Gravitational waves meeting	October 2023
	7. Pune-Mumbai Cosmology Meeting	August 2023
	8. ICTS In-house Symposium, Bengaluru	February 2020
	9. International Conference on Gravitation & Cosmology, Mohali	December 2019
	10. GR22 and Amaldi3, Valencia	July 2019
MENTORSHIP	1. Sarah Han (University of Toronto)	May 2025 - Present
	2. Cissy Kuang (University of Toronto)	May 2025 - Present
	3. Ben Stadel (University of Alberta)	May 2024 - Present
	4. Neha Sharma (ICTS, Bengaluru)	Oct 2023 - Present
	5. Avinash Tiwari (IUCAA, Pune)	May 2023 - Present
	6. Kaustubh Gupta (IISER, Pune → Swinburne University)	May 2022 - May 2023
	7. Adhrit Ravichandran (IIT Roorkee → UMass Dartmouth)	Sep 2021 - Aug 2022
	8. Kruthi Krishna (IISc → Radboud University)	Sep 2020 - Aug 2021

## TEACHING

- Instructor and organizer, **LIGO-Virgo Collaboration Gravitational-Wave Open Data Workshop #5 and #6** at ICTS.
- Tutor for the **Numerical Relativity** graduate course, ICTS, Jan-April 2022.
- Co-organizer and tutor, **ICTS Workshop on Parameter Estimation with bilby**, ICTS, Bengaluru, India, August 2020 (Online)
- Tutor, **Light and Beyond—Summer Course for Undergraduate Students by Prof. Rajaram Nityananda**, June 2020 (Online)
- Tutor, **LIGO-Virgo Collaboration Gravitational-Wave Open Data Workshop #3**, May 2020 (Online)
- Tutor for the following mini-courses, **ICTS Summer Schools on Gravitational Wave Astronomy**, ICTS, Bengaluru, India:
  1. *Compact binary evolution, rates and population modelling*, June 2022.
  2. *Astrophysical Stochastic GW Foreground*, July 2021.
  3. *Numerical Hydrodynamics*, May 2020.
  4. *Advanced General Relativity*, July 2019.

## OUTREACH

- Interactive session with school students, The Academy School, Pune, August 2025.
- Talk on gravitational-wave astronomy, ASX Symposium, University of Toronto, March 2025.
- Talk on gravitational-wave astronomy, University of Toronto Undergraduate Astronomy Union Seminar, November 2024.
- Co-PI of the *IndiaBioscience Outreach Grant* to communicate science using stage theatre.
- Panelist at the *Bengaluru: The Astronomy City*, a Q&A event organized for **National Science Day**, February 2022.
- Mediator for the **Contagion Exhibition**, Science Gallery Bengaluru, April-July 2021.
- Moderated a discussion with Prof. Smitha Vishveshwara on her collaborative science theatre project *Quantum Voyages* as a part of **Cosmic Zoom Online Exhibition**, April 2021
- Articles on the **ICTS blog**:
  1. **A Conversation with ICTS Scientists Studying the Indian Monsoon**, November 2019
  2. **Summer School on Gravitational Wave Astronomy**, November 2019
- Talk titled *The Whats, Whys and Hows of Gravitational-wave Astronomy*, **BMS College of Engineering, Bengaluru**, November 2019
- Talk titled *Gravitational Waves - A New Tool for Cosmology!* at **Vigyan Samagam**, Visvesvaraya Industrial and Technological Museum, Bengaluru, India, August 2019
- Biweekly interactive outreach sessions in rural primary schools, 2019

## REFERENCES

1. Prof. Maya Fishbach, CITA, [fishbach@cita.utoronto.ca](mailto:fishbach@cita.utoronto.ca)
2. Prof. Parameswaran Ajith, ICTS-TIFR, [ajith@icts.res.in](mailto:ajith@icts.res.in)
3. Prof. Daniel E. Holz, The University of Chicago, [holz@uchicago.edu](mailto:holz@uchicago.edu)
4. Prof. Benjamin Farr, University of Oregon, [bfarr@uoregon.edu](mailto:bfarr@uoregon.edu)
5. Prof. Shasvath J. Kapadia, IUCAA, [shasvath.kapadia@iucaa.in](mailto:shasvath.kapadia@iucaa.in)