

# Curriculum Vitae

## Personal Information

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<b>First Name</b>	Radhika	<b>E-mail</b>	Radhika.AchikanathChirakkara@anu.edu.au
<b>Family Name</b>	Achikanath Chirakkara	<b>Date of Birth</b>	16 November 1997

## Education

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<b>PhD (Current Affiliation)</b>	Research School of Astronomy and Astrophysics (RSAA), Australian National University (ANU); Supervised by Dr. Amit Seta and Dr. Christoph Federrath,
<b>Undergraduate &amp; Masters</b>	BS-MS Dual Degree from the Indian Institute of Science Education and Research Pune, India completed in 2020 ( <b>CGPA - 9.6/10</b> , Graduated with Distinction)
<b>School Education</b>	Class 12 <sup>th</sup> , Central Board of Secondary Education (CBSE), India <b>94.6 %</b> (2015); Class 10 <sup>th</sup> , Central Board of Secondary Education (CBSE), India ( <b>95 %</b> ) (2013)

## Fellowships and Awards

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- **Australian Government Research Training Program (AGRTP) Stipend Scholarship** (\$34000 p. a.)
- **ANU RSAA Supplementary Research Scholarship** (\$5000 p. a.)
- **Member of the Astronomical Society of Australia** (2023 -)
- **RSAA International Travel Award**, \$2400 (2023)
- **Australian HPC-AI Talent Program Scholarship** 2023 (100KSU on NCI Gadi, \$10000)
- **ANU Full Residential Scholarship** 2023
- **RSAA International Travel Award**, \$1650 (2022)
- **Visiting Scholar at the Hamburg Observatory**, University of Hamburg (July 2019 - March 2020)
- **Future Research Talent fellowship** awarded by the ANU to undertake a research project at the Research School of Astronomy and Astrophysics (May-June 2019)
- **Working Internships in Science and Engineering (WISE)** scholarship awarded by the German Academic Exchange Service (DAAD) (June-July 2018)
- **Academic Team Member** at the 10<sup>th</sup> **International Olympiad on Astronomy & Astrophysics (IOAA - 2016)** (December 2016)
- **National Initiative on Undergraduate Science (NIUS)** awarded by the Homi Bhabha Centre for Science Education (HBCSE), Tata Institute of Fundamental Research (TIFR) (2016 - 2017)
- **Kishore Vaigyanik Protsahan Yojana (KVPY)** fellowship awarded by the Indian Institute of Science (2015 - 2020)

## Seminars and Talks

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- International Centre for Radio Astronomy Research/University of Western Australia seminar, Perth, Australia (Nov 2023)
- Group meeting talk at the Sydney Institute for Astronomy, University of Sydney, Sydney, Australia (Nov 2023)
- Astronomical Society of Australia, Early Career Researcher (ASA - ECR) symposium at the University of New South Wales, Sydney, Australia (Nov 2023)
- Talk at the Australasian Leadership Computing Symposium 2023 (June 2023)
- IAU meeting “Challenges and Innovations in Computational Astrophysics IV” (Nov 2022)
- Guest Lecture at RSAA, Astrophysical Gas Dynamics (ASTR 4012) (Oct 2022)
- Conference Talks at the Nordic Institute for Theoretical Physics, Stockholm (May 2022)
- Australian National Institute for Theoretical Astrophysics (ANITA) science workshop (Feb 2022)
- IAU Symposium 362 “Predictive Power of Computational Astrophysics as a Discovery Tool” (Nov 2021)
- National Topical Conference on “Chandra’s Contribution in Plasma Astrophysics”, JNU (Oct 2021)
- Virtual Nordic Dynamo Seminar, Nordic Institute for Theoretical Physics (Sept 2021)
- Astronomical Society of Australia, Annual Science Meeting (July 2021)

## Workshops and Conferences

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- Australasian Leadership Computing Symposium 2023 (June 2023)
- NCI-NVIDIA HPC-AI Hackathon (June 2023)
- Summer training school on “Plasmas in extreme environments: from astrophysics to the laboratory” at Les Houches school of physics (May 2023)
- 14<sup>th</sup> International School for Space Simulations (Sept 2022)
- Magnetic field evolution in low density or strongly stratified plasmas, Nordic Institute for Theoretical Physics, Stockholm (May - June 2022)
- Australian National Institute for Theoretical Astrophysics (ANITA) summer school (Feb 2022)
- Kavli Institute for Astronomy and Astrophysics Forum on Gas in Galaxies for Early Career Scientists (Nov 2021)
- Royal Astronomical Society Specialist Discussion Meeting on Galactic Magnetic Fields (Oct 2021)
- Harley Wood School of Astronomy (July 2021)
- National Initiative on Undergraduate Science Camp held at the Homi Bhabha Centre for Science Education, India (Jun 2016), National Science Camp (Vijyoshi), Indian Institute of Science, Bangalore, India (Dec 2015)

## Synergistic Activities/Positions

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- Organiser of Student Writing Retreat 2023 - Research School of Astronomy and Astrophysics, ANU
- Student mentor/ambassador for the ANU Future Research Talent Programme 2023
- Co-organiser of the Mount Stromlo Student Seminar 2022, Research School of Astronomy and Astrophysics, ANU
- Active member of the Women in Astrophysical Fluids and Plasmas Forum (since 2021)

## Computational Proficiency

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- Programming Experience: Fortran, Python, Interactive Data Language (IDL), MATLAB, Bash
- Codes/Softwares: FLASH Code (Numerical code for compressible hydrodynamic and magnetohydrodynamic flow simulations), PENCIL Code (High-order finite-difference code for compressible fluid dynamics (CFD) with magnetohydrodynamics (MHD))
- Acquainted with HEASoft and XSPEC (X-Ray Data Analysis) and have worked with astronomical data from the Solar and Heliospheric Observatory (SOHO)'s - LASCO and EIT, Astrosat and Observatory of Paris - Meudon

## Teaching and Mentorship

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- Tutor and grader for PHYS1101, Semester 2 (2023), Undergraduate course offered by the Research School of Physics, Australian National University
- Mentor for the MSATT Astronomy program at the Mount Stromlo Observatory (2023 -)

## List of Publications

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1. Radhika Achikanath Chirakkara, Christoph Federrath, Pranjal Trivedi, Robi Banerjee (2021). “**Efficient highly-subsonic turbulent dynamo and growth of primordial magnetic fields**”. *Phys. Rev. Lett.* Vol. 126 Issue 9
2. Radhika Achikanath Chirakkara, Amit Seta, Christoph Federrath, Matthew W Kunz (2023). “**Critical magnetic Reynolds number of the turbulent dynamo in collisionless plasmas**”. *Monthly Notices of the Royal Astronomical Society*, *stad3967*
3. Radhika Achikanath Chirakkara, Christoph Federrath, Amit Seta, Matthew W. Kunz (2024, *Manuscript in preparation*). “**AHKASH: a new hybrid particle-in-cell code for simulations of astrophysical collisionless plasma**”.
4. Radhika Achikanath Chirakkara, Mayank Singh, Rajeev S. Bhalerao (*Manuscript in preparation*). “**Non-relativistic reduction of the relativistic imperfect fluid dynamics to second order**”.