CURRICULUM VITAE

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Current Position:

Curator (Science Communicator), Nehru Science Centre, Mumbai,
National Council of Science Museums, Ministry of Culture, Govt. of India

Experience:

2019	Post-Doctoral Researcher, Indian Institute of Astrophysics, Bengaluru.
2018 – 2019	Guest Lecturer, Acharya Prafulla Chandra College (West Bengal State University) – PG Course
2018 – 2019	Guest Lecturer, Surendranath College (University of Calcutta) – UG Course
2018 – 2019	Guest Lecturer, Panihati Mahavidyalaya (West Bengal State University) – UG Course

Academics:

2020	Ph.D (Science) from University of Calcutta Thesis Title: "Multi-Wavelength Studies Of Novae" *Affiliation:* Dept. of Astrophysics & Cosmology, S. N. Bose National Centre for Basic Sciences, Kolkata.
2011	M.Sc.(10+2+3+2) in Physics from Jadavpur University
2009	B.Sc.(10+2+3) in Physics from Jadavpur University
2006	XII th (10+2) from WBCHSE
2004	X th (10) from WBBSE

Current Role:

As a science communicator, the role involves designing and developing exhibits, audio-visual demonstrations, and teaching aids that make complex scientific concepts accessible to diverse audiences. Responsibilities include designing galleries on various science and technology subjects, ensuring they are interactive and engaging for visitors. The role also involves organizing educational programs, workshops, and delivering popular science lectures to foster public understanding of scientific advancements. Outreach activities are a key part, including conducting sky observation sessions and engaging with underrepresented communities to promote science literacy.

Additionally, being the National Coordinator for the Indian National Junior Astronomy Olympiad Programme in 2023 and 2024, responsibilities included overseeing student selection and preparation. In 2023, serving as Team Leader for the International Olympiad on Astronomy & Astrophysics for Juniors (IOAA_jr) involved guiding and mentoring the Indian team on a global stage.

This role combines creativity, education, and leadership to inspire interest in science and technology across diverse platforms.

Research Area:

In the course of my research, I studied observational properties of Novae. I regularly took spectroscopic observations of various classical and recurrent novae during their outburst and quiescence phases, using 2m HCT (Himalayan Chandra Telescope) in the optical and Near Infra-red region and reduced and analyzed those data using IRAF and TIRSPEC pipeline. I used photoionization code CLOUDY to model those data and determined the physical parameters and elemental abundances of the systems. I used the codes pyCloudy and SHAPE for 3D morpho-kinematic study of novae. Besides these, I also reduced and analyzed some satellite data of nova RS Ophiuchi from the Chandra satellite in the X-ray region and worked on some problems in theoretical cosmology.

Awards/Honours/Grants:

2016	Best Oral Presentation award for the talk entitled "Photoionization modelling of novae spectra" in Bose-Fest 2016, at S N Bose National Centre for Basic Sciences, Kolkata.
2015	Best Poster Presentation, for poster titled "Abundance analysis of the Recurrent Nova RS Ophiuchi (2006 outburst)" at Bose-Fest 2015, at S N Bose National Centre for Basic Sciences, Kolkata.
2011	Graduate Aptitude Test in Engineering (GATE) [Physics; All India Rank 292, Score 452]
2010	National Eligibility Test (NET) [Physical Sciences; Lectureship Rank 72]

List of Publications:

1. **Anindita Mondal**, Ramkrishna Das, G C Anupama, and Soumen Mondal, "Photoionization modelling of quiescence phase spectra of novae & symbiotic star", Monthly Notices of the Royal Astronomical Society (MNRAS), 492, 2326 (2020). DOI: 10.1093/mnras/stz3570

2. **Anindita Mondal**, Ramkrishna Das, Gargi Shaw, and Soumen Mondal, "Photoionization model grid of novae: estimation of physical parameters", Monthly Notices of the Royal Astronomical Society (MNRAS), 483, 4884 (2019). DOI: 10.1093/mnras/sty3361

3. **Anindita Mondal**, G C Anupama, U S Kamath, R K Das, G Selvakumar, and S Mondal, "Optical spectroscopy of the recurrent nova RS Ophiuchi - from the outburst of 2006 to quiescence", Monthly Notices of the Royal Astronomical Society (MNRAS), 474, 4211 (2018). DOI: 10.1093/mnras/stx2988

4. Subhajit Saha, **Anindita Mondal**, and Christian Corda, "Ideal gas with a varying (negative absolute) temperature: An alternative to dark energy?", International Journal of Theoretical Physics, 57(5), 1417-1424 (2018) DOI: 10.1007/s10773-018-3670-1

5. **Anindita Mondal** and Subhajit Saha, "A closer look at the Barboza-Alcaniz equation of state parametrization", Romanian Journal of Physics, 63, 106, (2018).

6. Subhajit Saha and **Anindita Mondal**, "Thermodynamic implications of the gravitationally induced particle creation scenario", The European Physical Journal C 77, 196 (2017). DOI: 10.1140/epjc/s10052-017-4746-4

7. Ramkrishna Das and **Anindita Mondal**, "Abundance analysis of the recurrent nova RS Ophiuchi (2006 outburst)", New Astronomy, 39, 19 (2015). DOI: 10.1016/j.newast.2015.02.004

8. S Mondal, R K Das, N M Ashok, D P K Banerjee, S Dutta, S Ghosh, **A Mondal** & A Nandi, "Near Infrared photometric and spectroscopic observations of the bright optical transient J212444.87+321738.3", The Astronomer's Telegram # 4931 (2013).

References:

1. Dr Ramkrishna Das, Assistant Professor, Department of Astrophysics & Cosmology, S. N. Bose National Centre for Basic Sciences, Kolkata 700 106, West Bengal, India.
   [Email: ramkrishna.das@bose.res.in] [Ph.D. Thesis Supervisor]

2. Dr Soumen Mondal, Associate Professor, Department of Astrophysics & Cosmology, S. N. Bose National Centre for Basic Sciences, Kolkata 700 106, West Bengal, India.
   [Email: soumen.mondal@bose.res.in] [Ph.D. Thesis Joint-supervisor]

3. Prof G C Anupama, Former Senior Professor, Indian Institute of Astrophysics, Bengaluru 560 034, Karnataka, India.
   [Email: gca@iiap.res.in] [Post-Doctoral Mentor]

4. Gargi Shaw, DST Women Scientist, Tata Institute of Fundamental Research, Mumbai 400 098, Maharashtra, India.
   [Email: gargi.shaw@tifr.res.in] [Research Collaborator]

Date: 9th September, 2024