

# Nilanjana Nandi

PHD · DEPT. OF PHYSICS · IISER TIRUPATI

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| 📞 0009-0003-5505-2166 | 🇮🇳 **Nationality:** Indian | 📅 **Date of Birth:** November 27, 1996

## Education

### Indian Institute of Science Education and Research, Tirupati

Andhra Pradesh (AP), India,  
517619

SENIOR RESEARCH SCHOLAR, DEPT. OF PHYSICS

Aug 2021 - present

- Supervisor: Dr. Arunima Banerjee (<https://www.iisertirupati.ac.in/arunima/>)
- Thesis title: *Dynamics of ultra-diffuse galaxies*

### Rashbehari Siksha Prangan (C.U. Rajabazar Science College Campus), University of Calcutta

West Bengal (WB), India, 700009

MASTER OF SCIENCE

2017 - 2019

- Subject: Physics

### Raja Peary Mohan College, University of Calcutta

WB, India, 712258

BACHELOR OF SCIENCE

2014 - 2017

- Honours: Physics
- General: Mathematics, Chemistry

### Singur Mahamaya High School, West Bengal Council of Higher Secondary Education

WB, India, 712409

HIGHER SECONDARY (10+2)

2014

### Singur GMM Girls' High School, West Bengal Board of Secondary Education

WB, India, 712409

SECONDARY EXAMINATION (10+)

2014

## Professional Experience

- 2022- **Prime Minister's Research Fellow**, IISER Tirupati
- 2021-2022 **CSIR-NET Junior Research Fellow**, IISER Tirupati
- 2018 **Project Assistant**, Project supervisor: Dr. S. K. Prasad, CAPSS, Bose Institute, India
- 2017 **Project Assistant (funded by DST-Inspire Scholarship)**, Project supervisor: Dr. Saikat Biswas, CAPSS, Bose Institute, India

## Performance in National Examinations

- 2021 **Qualified Joint Entrance Screening Test**, Percentile - 92.3
- 2019 **Qualified Graduate Aptitude Test in Engineering**, Percentile - 94.2
- 2018 **Qualified Joint CSIR - UGC National Eligibility Test (NET)**, for Junior Research Fellowship
- 2017 **Qualified Joint CSIR - UGC National Eligibility Test (NET)**, for Lectureship

## Publications

**Nandi, N.** & Banerjee, A., *The dynamical lineage of ultra-diffuse galaxies from TNG50-1*, arxiv:2506.22074, Submitted

**Nandi, N.**, Banerjee, A., & Narayanan, G., *The dynamical lineage of HI-rich, ultra-diffuse galaxies*, Astronomy & Astrophysics, 693, A207 (2025)

- Roy, S., **Nandi, N.**, et al., *Study of performances of a Straw tube detector with high rate*, Nuclear Instruments and Methods in Physics Research A: Accelerators, Spectrometers, Detectors and Associated Equipment, Elsevier, 2019, 936, 488–490, 10.1016/j.nima.2018.08.056
- Roy, S., **Nandi, N.**, et al., *Study of the rate handling capacity of a straw tube detector*, CBM progress report, 2017, ISBN 978-3-9815227-5-4, 12th issue, 74, 10.15120/GSI-2018-00485
- Nandi, N.**, Roy, S., et al., Characterization of the Straw tube detector, Proceedings of the DAE-BRNS symposium on nuclear physics, 2017, V. 62, 1032–1033

## Fellowships & Grants

2022-	<b>Contingency Grant, Prime Minister's Research Fellowship</b> , Ministry of Education, Govt. of India	Approx. Rs. 9,50,000 in total
2021-2022	<b>Contingency Grant, CSIR Junior Research Fellowship</b> , Council Of Scientific And Industrial Research, Human Resource Development Group, Ministry of Science and Technology, Government of India	Rs. 20,000
2017	<b>Inspire Scholarship (for summer internship)</b> , Department of Science and Technology, Govt. of India	Rs. 20,000
2014	<b>Inspire Scholarship</b> , Department of Science and Technology, Govt. of India	Rs. 3,00,000 in total

## Conferences

- 2025**, *10 Years of Ultra-Diffuse Galaxies: Past Perspectives and Future Prospects*, Centro de Ciencias de Benasque Pedro Pascual, Benasque, Spain, Oral presentation
- 2024**, *42nd annual meet of Astronomical Society of India (ASI)*, Indian Institute of Science, Bangalore, India, Poster presentation
- 2024**, *Star formation studies in India*, S N Bose National Center for Basic Sciences, Kolkata, India, Poster presentation
- 2023**, *ChalCA V 2023 : Challenges and Innovations in Computational Astrophysics V*, Virtual meeting organized by IAU Commission B1: Computational Astrophysics
- 2023**, *IAUS379 : Dynamical Masses of Local Group Galaxies*, Leibniz Institute for Astrophysics, Potsdam, Germany
- 2023**, *41st annual meet of Astronomical Society of India (ASI)*, Indian Institute of Technology, Indore, India, Oral presentation

## Workshops

- 2024**, *Manipal Astrostatistics School*, MAHE-MCNS, Manipal University, Mangalore, India
- 2024**, *(Sub)millimeter Astronomy*, 42nd annual meet of Astronomical Society of India, Indian Institute of Science, Bangalore, India
- 2023**, *Machine Learning in Astronomy*, 41st meet of Astronomical Society of India, Indian Institute of Technology, Indore, India
- 2023**, *Think Parallel : Parallel Programming for Engineers and Scientists*, Centre for Development of Advanced Computing (C-DAC), MeitY, Govt. of India, Online

## Teaching Experience

2025	<b>Mathematical Methods I</b> , PMRF Teaching Assistant (online mode), Acharya Prafulla Chandra Roy Government College (Ongoing)	WB, India
2025	<b>Workshop on basic computational tools for scientific applications</b> , PMRF Teaching Assistant (online mode), Raja Peary Mohan College	WB, India
2025	<b>Optics</b> , PMRF Teaching Assistant (online mode), Acharya Prafulla Chandra Roy Government College	WB, India
2024	<b>Newtonian mechanics with examples</b> , PMRF Teaching Assistant (online mode), National Programme on Technology Enhanced Learning (NPTEL)	
2024	<b>Workshop on basic computational tools for scientific applications</b> , PMRF Teaching Assistant (online mode), Raja Peary Mohan College	WB, India
2024	<b>Quantum Mechanics</b> , PMRF Teaching Assistant, Sree Rama Engineering College	AP, India
2024	<b>Solid State Physics, Crystallography</b> , PMRF Teaching Assistant, Sree Venkateswara Engineering College	AP, India
2023	<b>Optics, Semiconductors</b> , PMRF Teaching Assistant, Sree Venkateswara Engineering College	AP, India
2023	<b>Quantum Mechanics I</b> , Teaching Assistant, IISER Tirupati	AP, India
2022	<b>Quantum Mechanics</b> , PMRF Teaching Assistant, Sree Venkateswara Engineering College	AP, India
2022	<b>Electricity &amp; Magnetism</b> , Teaching Assistant, IISER Tirupati	AP, India

## Outreach & Professional Development

### SERVICE AND OUTREACH

2025	<b>Science day</b> , Activities : Hands-on demonstration on astronomical data processing, IISER Tirupati
2024	<b>Hands-on demonstration on machine learning techniques implemented in astrophysics</b> , SRM University, Andhra Pradesh, India
2024	<b>Science day</b> , Activities : Oral presentation on Galaxies, Hand-outs for visiting students, IISER Tirupati
2024	<b>Physics day</b> , Oral presentation, IISER Tirupati
2024	<b>Women in STEM</b> , Oral presentation, IISER Tirupati
2023	<b>Research methods implemented in astrophysics</b> , Short-term training organised by Andhra Pradesh State Government, Andhra Pradesh, India
2023	<b>Physics day</b> , IISER Tirupati, Poster

**RESEARCH INTEREST** The Broad research area of my interest is theoretical and computational astrophysics mainly focusing on the galaxies in the low-luminosity regime. Currently I am working on numerical studies and analytical modelling of galactic to study their dynamics.

### TECHNICAL SKILLS

Coding languages : Python, Fortran, C, R

Simulation & Analytical modelling of galaxies and statistical analysis (softwares used : AGAMA, RAMSES, DICE, SimSpin)

### PROFESSIONAL MEMBERSHIPS

Student member of Astronomical Society of India (Student Membership ID - S1072), 2023 - 2028