

ZENIA ZURAIQ

ACADEMIC BACKGROUND

Indian Institute of Science
Ph.D. (Theoretical Physics) | Aug 2022 – Present | CGPA 9.1/10

National Institute of Technology, Tiruchirappalli (NIT-T)
M.Sc. (Physics) | Sep 2020 – Jun 2022 | CGPA 9.79/10

Stella Maris College, University of Madras
B.Sc. (Physics) | Jun 2017 – Aug 2020 | CGPA 9.32/10

St. John's English School and Junior College, Chennai
Class XII Board Exam (AISSCE, CBSE) | May 2017 | 97.4%
Class X Board Exam (AISSE, CBSE) | May 2015 | CGPA 10/10

ACADEMIC HIGHLIGHTS

- **Prime Minister's Research Fellowship (PMRF)** awardee – direct entry (Aug 2022)
- **AIR 36**, CSIR NET-JRF Jun 2021 (out of 28135 candidates)
- **AIR 51**, GATE-PH 2022 (out of 19375 candidates)
- **AIR 198**, JEST 2022 (96.12 Percentile)
- **AIR 669**, IIT-JAM 2020 (out of 16379 candidates)
- **Gold Medalist**, M.Sc. Physics, NIT-T (Batch of 2022)
- **Silver Medalist**, B.Sc. Physics, Stella Maris College (Batch of 2020)

ADDITIONAL COURSES AND CERTIFICATES

Data Driven Astronomy (Coursera) | Learning Physics through Simple Experiments (IIT-K Course) | Statistical Mechanics (NPTEL)

SKILLS

Languages Known: English, Malayalam, Hindi, Tamil

Programming Languages: Python, C++, MATLAB

Tools: LaTeX, MS Office

OS: Windows, Linux

Hobbies: Playing Guitar, Reading, Writing

CONTACT ME AT

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I am an aspiring theoretical astrophysicist, currently pursuing my Ph.D. from the Indian Institute of Science, Bangalore, as a Prime Minister's Research Fellow.

RESEARCH INTERESTS

Theoretical astrophysics of compact stars:
Massive, magnetised compact sources (super-chandrasekhar white dwarfs, massive neutron stars) – theory and simulation; modelling neutron star matter through constraining the high density nuclear equation of state

CONFERENCES, WORKSHOPS, MEETINGS

Fifth Zeldovich Meeting (Yerevan, Armenia) | Jun 12 – 16, 2023

Talk : Exploring massive neutron stars towards mass gap: Constraining the high density nuclear equation of state

3rd Conference on Plasma Simulations (Raman Science Center, IIA, Leh) | Jul 13 – 15, 2023

Poster: Simulating magnetised super-Chandrasekhar white dwarf using STARS

OUTREACH

SPARC Public School, Bengaluru

Taught Class IX introductory astronomy | Aug 2023 – Dec 2023

PMRF OUTREACH TALKS: Christ University, Bangalore

1. Overview of Fermionic Compact Stars I : Non-interacting stars and white dwarfs | Feb 2023

2. Overview of Fermionic Compact Stars II : Introducing Interactions | Apr 2023

IISc Open Day 2023

Public Talk | Sun and Solar System | Mar 2023

Kendriya Vidyalaya, IISc

Taught Class XI NCERT Physics | Jan 2023 – Jun 2023

INTERNSHIPS AND SUMMER SCHOOLS

IIA Summer Programme

Indian Institute of Astrophysics, Bangalore | Jul 2021

Vigyan Vidushi

Tata Institute of Fundamental Research, Mumbai | May – Jun 2021

Introductory Summer School in Astronomy and Astrophysics

Inter-University Centre for Astronomy and Astrophysics Pune | May 2021

National Institute on Undergraduate Sciences (NIUS) Camp, Batch 15.1

Tata Institute of Fundamental Research, Mumbai | Jun 2018

Summer Intern

IUCNN, Mahatma Gandhi University, Kottayam | May 2018

SHORT-TERM RESEARCH PROJECTS

PROJECT: STUDY OF THE MAGNETISED CATAclysmic VARIABLE (CV) SYSTEM, BY CAM

Guide: Dr. Vikram Rana (Raman Research Institute) | Jan 2023 – Apr 2023

PROJECT: OBSERVATION OF 21CM LINE USING CUSTOM MADE RADIO TELESCOPE FROM MILKY WAY GALACTIC PLANE

Guide: Dr. R. Justin Joseyphus (NIT-T) | Jan 2022 – Aug 2022

M.SC. THESIS: EFFECTS OF FERMION MASS AND STRONG TWO-BODY INTERACTIONS ON THE MASS-RADIUS RELATIONSHIP OF NON-ROTATING COMPACT STARS

Guide: Dr. Somnath Mukhopadhyay (NIT-T) | Dec 2021 – May 2022

PROJECT: SYNTHESIS, CHARACTERIZATION AND PHOTOCATALYTIC EVALUATION OF COBALT FERRITE NANOPARTICLES FROM MORINGA OLEIFERA

Stella Maris College, Chennai | Jul 2019 – Oct 2019

UNDERGRADUATE DISSERTATION: INVESTIGATION ON THE OPTICAL PROPERTIES OF TITANIUM NANOPARTICLES IN THE TREATMENT OF WASTE WATER

Guide: Dr. Belina Xavier (Stella Maris College) | Jun 2019 – Aug 2019