

EDUCATION

Ramakrishna Mission Vivekananda Education and Research Institute Belur, West Bengal, India
M.Sc. in Physics, CGPA: 9.38/10.00 2021–2023

Elective Papers: Advanced Condensed Matter Physics,
Advanced Quantum Field Theory (audit)

Asutosh College, University of Calcutta Kolkata, West Bengal, India
B.Sc. (Honours) in Physics, CGPA: 8.060/10.00 2018–2021

Elective Papers: Advanced Statistical Mechanics, Advanced Classical Dynamics,
Nuclear and Particle physics, Laser and Fibre optics

Apeejay School, Salt Lake Kolkata, West Bengal, India
XII, Central Board of Secondary Education (CBSE), Percentage: 91.8 2018
X, Central Board of Secondary Education (CBSE), CGPA: 10.0/10.0 2016

RESEARCH EXPERIENCE

Master's thesis: Transport through quantum dot(s) 2022-2023

Supervisor: Dr. S. Tarat, Professor, Dept. of Physics, RKMVERI

- Studying the various approaches used to calculate current through a quantum dot or dots

Monte-Carlo simulation of 2D Ising model 2021

Final project for Phy 415: Computer Fundamentals and Computational Physics

Course Instructor: Dr. Sanjoy Biswas, Professor, Dept. of Physics, RKMVERI

- Implemented the metropolis algorithm to simulate the Ising model on a 2D lattice. Report: [Here](#)
- Used it to study the properties of spin systems under an external magnetic field, replicating some results of [10.1103/PhysRevB.42.856](#)

Computational Investigation of the Allen-Cahn and Cahn-Hilliard equation 2020-21

Supervisor: Dr. A.K. Bhattacharjee, Professor, Dept. of Physics, Asutosh College, University of Calcutta

- Developed code solving the nonlinear Allen-Cahn and Cahn-Hilliard equations using spectral methods
- Demonstrated increased accuracy using small lattice sizes. Report: [Here](#) Codes: [Link to github repository](#)

CONFERENCES/SEMINARS ATTENDED

- Workshop on “Ergodicity and it's breaking: A view from Many Body, QFT and Holography”, 16-18 March, 2023, RKMVERI
- *Lectures on Conformal Field Theory in $D > 2$ dimensions* by Dr. Ritam Sinha, RKMVERI

SCHOLARSHIPS AND AWARDS

- Qualified GATE in Physics 2023
- 1st prize in Quiz at the Delight Physics Lab, Kolkata, India 2020

- Times Spark Scholarship 2018
Awarded by Times of India
- 1st prize in Model Presentation (Senior level), Science Fair organised by Institute of Engineering and Management 2017
- Jit Paul Award 2017
Awarded to a student of class XI who has demonstrated over the last three years in his action, behaviour and work, human values enshrined in the Indian cultural tradition.

EXTRACURRICULAR ACTIVITIES

- Built an auto-levelling quadcopter using an Arduino Uno as a flight controller after taking the master's course Design and Fabrication laboratory.
- Speaker in a group presentation contest at the Delight Physics Lab, Kolkata, India and gave a presentation titled "Arrow of Time" based on unidirectional flow of time in February 2020
- Received invitation for undergraduate associateship in Physical Sciences at the Saha Institute for Nuclear physics, 2019 (*Could not attend due to conflicting exam schedule at my university*)
- Received invitation for National Initiative of Undergraduate Sciences (NIUS) camp, 2019 at Homi Bhabha Centre for Science Education, Tata Institute of Fundamental Research, Mumbai (*Could not attend due to conflicting exam schedule at my university*)
- Participated in Central Board of State Education (CBSE), State Level Science Exhibition in 2014 and 2015
- Captain of my high school chess team

SKILLS

- **Computational skills:** Python (Scipy, Numpy, Matplotlib), Fortran95, C++, Latex, Gnuplot, Origin

LANGUAGES

- Fluent in English, Bengali and Hindi