

Mahtab Alam

Chaibasa, Jharkhand-833201 — E-mail — +91 7004699365 — LinkedIn — India

RESEARCH INTEREST

I am interested in creating and testing **computational models** and studying their properties. Alongside theoretical aspects of designing, these models' experimental aspects also intrigue me like the **growth of 2-D materials** like MoS_2 or in general TMDCs' using various techniques, their characterization using different techniques like **Atomic Force Microscopy (AFM)**, **Scanning Electron Microscopy (SEM)**, **Raman Spectroscopy** etc. Currently, I am working on **Disorder in Honeycomb lattice systems**. I am also interested in **VLSI** design to make more efficient devices like low-noise amplifiers.

EDUCATION

Masters in Physics 2022 - 2024
Birla Institute of Technology, Mesra, 835215, India
9.08 CGPA,(0n a 10-point scale)

Bachelors in Physics 2019 - 2022
St. Xavier's College, Ranchi, 834002, India
8.51 CGPA (On a 10-point scale)

Intermediate 2017 - 2019
St. Xavier's English School and Junior College, Chaibasa, 833201, India
87.25 %.

COMPETITIVE EXAMS

IIT-JAM (Physics) Qualified in 2022
Score: 39.33
Rank: 1303

GATE (Physics) Qualified in 2024
Score: 36.67
Rank: 1806

EXPERIENCE

Disorder and Strain Effects in Honeycomb Lattice Systems

Making a computational model for 1-D chains and dimerized 1-D chains(SSH), 2-D structures like square, rectangular, and specifically **graphene** like systems and study the effects of different types of disorders in them.

Designing CMOS-based Devices in Cadence

Designing simple CMOS-based devices in cadence and T-cad, like simple inverters, NAND, and NOR gates, and studying their response.

Summer Internship at BIT, Mesra May 2024 - July 2024
Modeling DLA, Eden, and DLA+Eden-like cluster growth models and comparison with available literature.

WORKSHOPS

One Day National Workshop on Data Analytics for Efficient Decision Making

7th January

Birla Institute of Technology, Mesra, India

Workshop on Advances in Photonics and Spectroscopy

March

Birla Institute of Technology, Mesra, India

Short Term Training Program on Microelectronics and VLSI Design(MVD)- 2024

April

Birla Institute of Technology, Mesra, India

SKILLS

Programming Languages: Python, MATLAB, L^AT_EX, C, JAVA.

Softwares: Origin, Excel, LabView, Cadence, COMSOL.

Language Fluency: English (C1 or above), Hindi, Japanese(N5)

Sports: Captain of the Department of Physics Volleyball team(St. Xavier's College), Badminton, Cricket

Clubs: President of Science Club in School