

# Aritra Mazumder

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**OBJECTIVE** I am a 5th year BS-MS student of IISER Kolkata. I am currently part of the National Center for High Pressure Studies (NCHPS) as a BS-MS project student under Prof. Goutam Dev Mukherjee and co-supervision of Prof. Swastika Chatterjee. I have a strong interest in the experimental aspects of condensed matter physics, thin films, hetero-structures, spectroscopic and ultra-fast studies of materials at extreme conditions of temperature and pressure

**EDUCATION** Indian Institute of Science Education and Research Kolkata: Integrated BS-MS (2014-) Major: Physics;  
Minor: Physics, Math and Earth Science  
CGPA: 9.24; Major CGPA: 9.44  
GRE Score: 329; TOEFL: 110; Subject GRE: 960;

**SKILLS**

- Programming languages known: Python, C, C++, Blue J, Scratch, HTML, LabVIEW, Arduino.
- Mathematics and graphing programs: Origin, Gnuplot, MATLAB.
- Soldering and have experience in welding and using lathe machine

**ACADEMICS/  
AWARDS**

- Attended the KVPY National Science (VIJYOSHI) camp 2014.
- Attended the summer school on Crystallography, Mineralogy, Thermodynamics and Mantle Petrology (Summer 2016).
- Came 1st in Inquivesta 2017 events Botprix (RC cars) and Thrust (Water rocket competition).
- Attended GIAN program on High pressure studies using optical spectroscopy (Summer 2017).
- Attended VSRP-2018 conducted by TIFR, Mumbai.

**SCHOLARSHIP** Received the Innovation in Science Pursuit and Inspired Research Fellowship Grant (INSPIRE) from Department of Science and Technology, Govt. of India (August 2014-present).

**Research  
Experience**

- Simulation of sand pile model and its analysis to verify Zipf's law, simulation of Conway's game of life and its application to biology, simulation of flocking pattern of birds in flight using python under the guidance of Prof. Rangeet Bhattacharya, Associate professor, IISER Kolkata. (software/program/language: python, origin, gnuplot)
- Helped design the experimental setup for four probe at high pressure and automation of data taking using LabVIEW and Keithley 2400 under the guidance of Prof. Goutam Dev Mukherjee, Associate professor, IISER Kolkata and Research Scholar Mr. Pinku Saha

- Worked on high pressure spectroscopy of topological insulators and dichroic crystals to study phase change using Raman spectrometer during Summer 2017 under the guidance of Prof. Goutam Dev Mukherjee, Associate professor, IISER Kolkata.
- Studied of variation in pressure in DAC chamber with distance from center using Ruby as pressure calibrant during Summer-2017 under the guidance of Prof. Goutam Dev Mukherjee, Associate professor, IISER Kolkata and Research Scholar Pinku Saha
- Worked with thin film superconductors of NbN and studied the variation of critical temperature and transition with reduction in thickness, effect of substrate and growth parameters under the guidance of Prof. Pratap Raychaudhuri, Professor, TIFR Mumbai and Research Scholar Mr. Surajit Dutta, Summer 2018.
- MS Thesis: Development of low temperature Raman setup to carry out study of effect of an-harmonic potential, thermal expansion and electron phonon coupling on Raman spectra. Carrying out DFT study of the same system and to corroborate the experimental and computational findings.

For files related to the project click [here](#).

## REFERENCE

Prof. Goutam Dev Mukherjee, Professor. Dept. of Physical Sciences (DPS) IISER Kolkata, Email: [goutamdev@iiserkol.ac.in](mailto:goutamdev@iiserkol.ac.in)