



## EDUCATION

Year	Degree/Exam	Institute	CGPA/Marks
2021	M.SC(5YR)	IIT Kharagpur	8.74 / 10
2016	Board of Intermediate Education AP	Sri Chaitanya Educational Institutions	97.8%
2013	Board of Secondary Education AP	Dr.KKR Gowtham International School	9.8 / 10

## AWARDS AND ACHIEVEMENTS

- Selected for **2020 University of Alberta Research Experience (UARE) Summer program** under Dr. Alex Brown for project 'Design Of Fluophores For Biological Imaging'
- Department Rank - 2** among the fourth year Undergraduate students of Department of Chemistry, IIT Kharagpur.
- A fellow at **INSPIRE** programme, a scholarship awarded based on merit to promote sciences in India

## INTERNSHIPS AND PROJECTS

### Summer Research Internship at University of Hyderabad

[May '19-July '19]

**Principal Investigator:** Dr. Susanta Mahapatra, Professor, University of Hyderabad

- Elucidation of structure and reactivity of chemical systems using computational chemistry
- Used Gaussian 09 software to find minimum geometry configuration in the Potential Energy Surface
  - Estimated the Transition state of reactions, Normal mode analysis, Intrinsic reaction coordinates, Natural Bond Orbital analysis and calculated Rate constant, Equilibrium constant
- Predicted the minimum energy path of a reaction and constructed Walsh diagram and verified Woodward-Hoffmann rule
- Applied **Multi-configuration time-dependent Hartree** (mctdh) calculations on NOCl, pyrazine, hexafluorobenzene

### MSc project on Global optimization using machine learning tools

**Principal Investigator:** Dr. Pratim Kumar Chattaraj, Professor, IIT Kharagpur

- Global optimization using algorithms like Particle swarm optimization, Firefly algorithm, Genetic algorithm, Situated annealing
- Implemented new Bonobo algorithm on carbon clusters for finding the global optimized structures

### Group project on Computational Design of Bidentate NHC-Cobalt Catalyst for the Hydrogenation of Hindered Alkenes

Tried to device a viable mechanism route to catalysis that can account for a highly efficient alkene reduction selectively when other hetero atoms and carbon-heteroatom multiple bonds are present in the system

## COURSEWORK INFORMATION

**Department subjects:** Introduction to Quantum Chemistry & Spectroscopy | Molecular Thermodynamics & Kinetics | Analytical & Environmental Chemistry | Strategies & Methods in Organic Synthesis | Computational Chemistry | Group Theory for Chemist | Computational Chemistry Laboratory | Principles of Organic synthesis | Drug Design and Development | Solid state chemistry | Molecular Spectroscopy & Molecular Structure | Structures & Functions of Biomolecules | Principle of organometallics & Bioinorganic chemistry | Biochemical Laboratory | Spectroscopic methods of Structure determination | Light-induced phenomena in Materials | Computational Structural Biology | Quantum methods in molecular simulations | Supramolecular Chemistry

**Computer Science subjects:** Programming and Data Structures | Programming and Data Structures Laboratory | Design & analysis of Algorithms | Design & analysis of Algorithms Laboratory | Algorithms Laboratory | Machine Learning | High Performance Parallel Programming | Systems Programming | Discrete Structures | Principles of programming language

**Other Courses:** Real Analysis | Numerical Solution of Ordinary and PDE | Basic Electronics | Basic Electronics Laboratory | Applied Organisational Psychology | German | Technology Entrepreneurship | Probability & Statistics | Finalcial and Legal Aspects od Business

\*Ongoing Courses

## SKILLS AND EXPERTISE

**Computer Languages:** C | Python | HTML | OpenMP | MPI | Cuda | C++

**Software Tools:** Microsoft Powerpoint | Microsoft Word | Microsoft Excel | Gaussian | PyMOL | SolidWorks | Latex

## POSITIONS OF RESPONSIBILITY

### Secretary|Fine Arts and Modeling|Sarojini Naidu Indira Gandhi Hall of Residence

[2017-2018]

- Nominated by the Executive Council as the Secretary, Fine Arts and Modeling, Sarojini Naidu/Indira Gandhi Hall of Residence.
- Successfully managed a budget of INR 80,000 and the logistics and inhouse tasks of the Illumination and Rangoli competitions
- Organised **Gold** winning **Rangoli** competition which saw a participation of 22 halls
- Managed the Interhall General Championship Competitions like Cartooning, Sketching, Thermocol and Clay modelling

## EXTRA CURRICULAR ACTIVITIES

- Part of Silverwinning inter-hall volleyball team, Sarojini Naidu Indira Gandhi Hall of Residence IIT Kharagpur [2016-2017]
- Part of Silverwinning inter-hall volleyball team, Sarojini Naidu Indira Gandhi Hall of Residence IIT Kharagpur [2017-2018]
- One of the members of bronze winning inter-hall Hindi drams SN/IG Hall, IIT Kharagpur [2016-2017]
- Member of English Dramatics team SN/IG Hall, Inter Hall Dramatics Event, IIT Kharagpur [2017-2018]
- Actor, Director, Scriptwriter of 8 full-length stage plays at Telugu dramatic society -Prasthanam
- Involved in social service and community development activities like Primary Education, Swachh Bharat Abhiyan, Road Construction, National Integrity Rally and Blood Donation Camps as a member of, National Service Scheme