

ACHIEVEMENTS & AWARDS

- Awarded **Gold Medal** by Honorable **Chief Minister of Andhra Pradesh** for academic excellence during Higher Secondary Studies [2007]
- Awarded "**Excellence Certificate**" for outstanding work as mentor given only to 6 of 168 mentors [2012]
- Awarded "**Sports Color**" **two times consecutively** and "**Special Mention**" for fetching highest number of points in General Championship(GC) for the hostel and making the hostel win overall GC [2009-12]

SUMMER INTERNSHIPS

Rallis India Ltd., a Tata Enterprise, Ankleshwar unit, Gujarat

[May '11-July'11]

Topic: Milling by Ultrasonication

- Established that Ultrasonication is not a viable option for industrial applications
- Suggested the use of **Hydrodynamic cavitation** instead of Ultrasonication and successfully reduced the particle size distribution from 200-900 millimeters to **2-6 micrometers**
- Proposed an alternate use for hydrodynamic cavitation in **waste water treatment** and achieved **56% reduction in COD** (using a specific oxidant for the first time ever)
- Presented the work to **Vice-president** to implement all this in the practice & was **appreciated** for the work

Amines and Plasticizers Ltd (APL), Turbhe, Mumbai

[May'10-July'10]

Topic: Studies in Ethanolamines

- Worked on qualitative, quantitative and **safety analysis** of their major product ethanolamines in R&D section
- Prepared a detailed report on the safety handling of reactants and transportation cum storage of Ethanolamines
- Was provided **excellent feedback** for the work

Rashtriya Chemicals and Fertilizers Ltd., Mumbai, Industrial Visit

[2008]

- Carefully examined unit operations and processes in the production of sulfuric acid and methanol
- Performed mass and energy balances to calculate the required quantity of raw material

KEY ACADEMIC PROJECTS

Master's Thesis: Enrichment and adsorption of benzene from its aqueous solution using mesoporous silica

[Jan'12 – present]

- Synthesized mesoporous silica material(SBA-15) and performed adsorption experiments for benzene-water system to adsorb benzene on silica particle
- Generated hydrophobic groups on the surface to allow better adsorption of benzene
- Characterized using FTIR, BET and TEM techniques to explore it's physical nature and check the effect

Production of Dioctyl phthalate (DOP)

[Jan'12 – Apr'12]

- Developed a process flow diagram and optimized the production conditions for Dioctyl phthalate using ASPEN and assessed the effect of various parameters on the product quality by parametric studies
- Designed and performed cost analysis of the reactor, distillation column and heat exchanger network
- Analyzed the Dioctyl phthalate market & performed profitability analysis for a 500 MTA of DOP

Safety in Industry: Quantitative Risk Assessment (QRA) at plant design stage [Jan'12-Apr'12]

- Investigated the data of various causes for accidents in chemical industry to estimate effect at design stage
- Performed a case study on QRA of gas pipeline system and predicted the various design factors which determine the frequency of the leaks and ruptures and also determined the consequences
- Ascertained the individual & societal risk involved at the design stage of the production plant

Molecular and Statistical Thermodynamics: Course Project

[Feb'10 – Mar'10]

- Carried out molecular simulation for a 3-D Lennard-Jones system in the micro canonical ensemble
- Simulated to obtain the macroscopic properties of the system

POSITIONS OF RESPONSIBILITIES

Institute Student Mentor

[2010-2012]

- Nominated as Institute Student Mentor for **3 consecutive years** to provide guidance to freshmen and address their concerns for a smooth passage of college life
- Initiated "**Self performance assessment mechanism**" to make students attentive of their performance in tests & class attendance and introduced **UG TA ship** which showed improved performance of mentees
- Guided **38 freshmen** and **academically weak students** on a **one-on-one basis**

Department Academic Mentor

[2011-2012]

- Part of 11 member team that concerns academically underperforming students
- Discussed and advised the students on their academic and extra-curricular endeavors
- Enhanced student-faculty interaction to help weak students by introducing **regular feedback mechanism**

Vice-Captain, Inter IIT, Athletics Team

[2011-2012]

- Led a team of **18** elegant athletes to represent IIT Bombay at the inter IIT sports meet
- Started practice sessions & selections for the team well before the meet to ensure enough time for practice
- Stood **1st (Gold)** among 15 IITs taken part in the sports meet

EXTRA CURRICULAR ACTIVITIES

Inter IIT Sports

[2008-12]

- Discovered the talent of being a runner after coming to IIT and Won **Bronze medal** in 1500m and secured the **4th** position in 5000m **thrice** in a row
- Part of IIT Bombay sports team which won Overall GC for **2 consecutive years** and the Institute Athletics Team for the last **4 years**

Inter Hostel Sports

- Won **3 Golds, 3 Silvers, 2 Bronze** positions in track events namely 800m, 1500m, and 5000meter races. And brought my hostel repo back by winning Overall sports GC for the **7th** consecutive time
- Won **1Gold and 3 Bronze** positions in 5 General Championship cross countries

UNDERGRADUATE TA TOPICS

- Simulations for designing a PID controller
- Preparatory Mathematics (includes Complex analysis, Algebra, Matrices and determinants)

TECHNICAL SKILLS

- **Programming Language:** C++, MATLAB, SciLab
- **Software Proficiency:** Microsoft Office, COMSOL, ASPEN, Fluent, ArgusLab
- **Operating system:** Windows, Linux

OTHER INTERESTS

- Participated in **COMSOL** and **Genetic Algorithm** workshops organized by Azeotropy'10 & '11 (An annual symposium of Chemical Engineering, IIT Bombay)
- Completed a yellow belt course in self defense **JUDO** [2011]
- Motivated the villagers and participated in **self renovation of roads** and **planting trees** program in my village organized by local sub-inspector of police
- Enthusiastically donated blood in the blood donation camp conducted by "**Meenatai Thackeray blood bank**"