

**Education**

- PhD, Chemical Engineering, Massachusetts Institute of Technology (MIT), USA, 2012 to date
- B.Tech, Chemical Engineering, Indian Institute of Technology (IIT) Delhi, India, 2008-2012

**List of Conference Acceptance**

- Gupta, A. and Roy, S., 2012. Euler-Euler Simulations of Bubble Flow with Quadrature Method of Moments: Experimental Validation. Oral presentation at International Symposium of Chemical Reaction Engineering (ISCRE) 22, 2012
- Gupta, A. and Roy, S., 2011. Modeling of flow in rectangular bubble columns using Euler-Euler CFD and Quadrature Method of Moments (QMOM): Experimental validation. Oral Presentation at National Chemical Engineering Conference, CHEMCON 2011.

**List of Publications**

- Gupta, A., & Roy, S. (2012). Euler-Euler Simulation of Bubbly Flow in a Rectangular Bubble Column: Experimental Validation with Radioactive Particle Tracking. Chemical Engineering Journal.
- Gupta, A. and Singh, S.N. (2013). Performance Evaluation of a New Static Mixer, submitted

**List of Patents**

- Singh, S.N., and Gupta, A., (2013). Design of a new static mixer based on swirl, Provisional Indian Patent

**Academic Performance**

- CGPA during Graduate Program: 5.0/5.0
- CGPA during Undergraduate Program: 9.726/10.0 (highest CGPA across all departments)

**Honors and Awards**

- President's Gold Medal for highest CGPA across all departments, IIT Delhi, 2012
- 2<sup>nd</sup> Prize, Technical Paper Presentation, CHEMCON-largest annual conference conducted by Indian Institute of Chemical Engineers (IChE), Bangalore, 2011
- R.Vibhakar Memorial Award for academic excellence across all departments, IIT Delhi, 2012
- Kalpana Chawla Scholarship for significant research contributions, IIT Delhi, 2012
- Freedom of House award for contributions to hostel life, Satpura Hostel, IIT Delhi, 2012
- Semester Merit Award for all semesters for being amongst top 7%, IIT Delhi, 2008-2012
- Technology Development Project Initiation Award for Students (TDP-IAS) by Industrial R&D Unit, IIT Delhi, 2010
- Summer Undergraduate Research Award (SURA) by Industrial R&D Unit, IIT Delhi, 2010
- Gold Medal and Certificate of Merit for being amongst Top-35 in Indian National Physics Olympiad (INPhO), India, 2008
- Merit Certificate for Distinctive Performance in National Science Talent Search Exam (NSTSE), India, 2005, 2007 & 2008
- National Talent Search Examination (NTSE) Scholarship, India, 2006

## Internships

- Technology Division, Haldor Topsoe, Lyngby, Denmark (May 2011 – July 2011)
  - Performed Steady State and Dynamic Simulations on Hydrotreating Unit using Pro-II and Dynsim
  - Received a letter of appreciation for performance and deliverables accomplished.

## Work Experience

- Research Assistant, Chemical Engineering Department, IIT Delhi (July 2012 – August 2012)
  - Worked in a project related to CFD of Multiphase Flows
- Teaching Assistant, Chemical Engineering Department, IIT Delhi (Jan 2012 - May 2012)
  - Served as a Teaching Assistant to a semester-long course titled “Chemical Engineering Process and Design.”
- Teacher and Counselor, Vidyamandir Classes Pvt. Ltd, Delhi (May 2008 – Jan 2011)
  - Delivered 150 lectures in topics like Calculus, Vector, 3-D geometry, Thermodynamics etc. to high school students preparing for Joint Entrance Examination (JEE).

## Position of Responsibility

- House Secretary, Satpura Hostel, IIT Delhi, 2011-2012
  - Head, Student Body of Hostel, managed hostel affairs of over 400 students
  - Received a Certificate of Excellence from the House Master of Hostel
- Student Mentor, Chemical Engineering Department, IIT Delhi, 2010-2011
  - Mentored 10 freshmen of Chemical Engineering Department for one year

## Technical Skills

- Statistical and Data Analysis: MS Excel.
- Programming: C/C++, Java, Matlab.
- Engineering Software Tools: Fluent, Gambit, ICEM-CFD, Pro-II, Dynsim, Matlab and Solid Works

## Projects

- MIT Thesis (Feb 2013- Present)
  - Working on formation, structure and stability of nanoemulsions for Enhanced Oil Recovery
- IITD Thesis (August 2011- May 2012)
  - Modeled bubbly flow in rectangular bubble columns using population balance modelling
  - Analysed the relative importance of various controlling forces in bubbly flows
- Performance Evaluation of a New Static Mixer (May 2010 – May 2012)
  - Compared mixing characteristics of a proposed new static mixer with Kenics static mixer
- Bottling of Sugarcane Juice: Process Design and Economics (Jan 2011 – May 2011)
  - Proposed a flow sheet, performed material and energy balance and calculated cost effectiveness

## Other Interests

- Winner Bronze Medal, Inter Hostel Table Tennis Tournament, IIT Delhi, 2008 & 2009
- Writing Hindi Articles, active contributor in Board of Students Publication, IIT Delhi, 2008-2012
- Keen interests in RND, Teaching, Philosophy and Spirituality