

# CHINMAY PATHAK

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## EDUCATION

**Master of Science, Chemical Engineering**  
Rutgers the state University of New Jersey  
Cumulative GPA 4.0/4.0

2012-2015  
New Brunswick, NJ

**Bachelor of Technology, Chemical Engineering**  
Visvesvaraya National Institute of Technology (VNIT)  
Cumulative GPA 8.75/10

2007-2011  
Nagpur, India

## RESEARCH PROJECTS

**(MS Thesis project) Characterization of Hetero-aggregates of alginate microparticles and chitosan nanoparticles using fluorescence spectroscopy**

- Quantify interaction regime boundaries (dispersed vs. aggregated morphologies) using a novel fluorescence spectroscopy technique
- Examine effect of varying pH values as well as alginate concentration on interaction regime boundaries

**Axial Dispersion in Rotating Cylinders for Single and Binary Systems (ERC-SOPS)**

- Studied and established relation between flowability and bed behavior (cascading, cataracting, centrifuging) for Acetaminophen, Lactose Monohydrate and MCC
- Determined axial dispersion coefficient from concentration versus axial position profiles measured for a series of time points

**Determination of size and charge density of surfactant micelles**

- Evaluated effect of surfactant addition on particle size distribution and zeta potential of zein protein particles in aqueous solution.
- Identified best surfactant resulting in reduced particle size from 1200 to 200 nm.

**Development and Characterization of Novel Insulation Material Using Industrial Waste**

- Developed effective insulating material with thermal conductivity 0.16 W/m.<sup>0</sup>K.
- Applied to pipes obtaining temperature difference of 20<sup>0</sup>C across insulation layer.

## SKILLS

- AutoCAD, MATLAB, MINITAB, Polymath, ChemCAD, ProPipe
- Design of Experiment, ANOVA
- Heat Exchanger Design, PFD, P&ID

## INTERNSHIPS

**Satyan Consulting Engineers, Pune**  
**Engineering Intern**

05/2010-06/2010

- Analysed PFD's, P&ID's, Floor Plan, Plant layout
- Introduced to ChemCAD, ProPipe.

## PRESENTATIONS & PUBLICATIONS

- "QSPR Studies on Viscosities of Aromatic compounds", 63<sup>rd</sup> Annual Session of Indian Institute of Chemical Engineers CHEMCON-2010, Annamalai University, Chennai, India
- "Viscosity co-Relation of Coolant with Temperature", International Conference on Challenges and Application of Mathematics in Science and Technology, NIT Rourkela, India

## RELEVANT COURSEWORK

- Statistical Analysis and Design of Pharmaceutical Operations
- Pharmaceutical Process Design
- Introduction to Colloid and Interface Science