

# Vikram Seshadri

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## Education

- **North Carolina State University** Raleigh, NC  
*Doctor of Philosophy, Chemical Engineering (CGPA: 3.97/4)* *Currently Pursuing*
  - **Courses:**  
Chemical engineering process modelling, Chemical reaction engineering, Thermodynamics, Transport phenomena, Introduction to quantum chemistry, Mass spectrometry, Statistical physics
- **Indian Institute of Technology Madras** Chennai, India  
*Master of Science, Chemical Engineering (CGPA: 10/10)* *2007-2009*
  - **Selected Courses:**  
Chemical reactor theory, Chemical and catalytic reaction engineering, Numerical techniques for engineers, Mathematical methods for chemical engineering, Modern control theory, Finite element methods for engineers, Introduction to research
- **Shanmuga Art Science Technology and Research Academy** Thanjavur, India  
*Bachelor of Technology, Chemical Engineering (CGPA:9.48/10)* *2003-2007*
  - **Selected courses:**  
Fluid mechanics, Thermodynamics, Heat transfer, Mass transfer, Environmental engineering, Process control, Applied mathematics for chemical engineering

## Projects

- **Undergraduate Project**  
Adsorption studies of various industrial dyes on guava leaf powder (a low cost adsorbent)
- **Graduate Project**  
Model Predictive control for shell oil fractionator as a part of the course 'Modern control theory'.  
Ignition of hydrogen and hydrogen assisted combustion of various fuels in a microchannel coated with platinum catalyst.
- **PhD project**  
Discovering elementary mechanism of pyrolysis of biomass related compounds such as glucose, cellobiose and cellotriose.

## Publications

- V.Ponnusami, S.Vikram and S.N.Srivatsava, Guava (*Psidium guajava*) leaf powder: Novel adsorbent for removal of methylene blue from aqueous solutions, *Journal of Hazardous Material*,152(2008)276-286.
- Vikram Seshadri and Niket. S. Kaisare, Ignition strategies for fuel mixtures in catalytic microburners, *Combustion Theory and Modelling*,14(2010)23-40.
- Vikram Seshadri and Niket. S. Kaisare, Simulation of hydrogen and hydrogen-assisted propane ignition in pt catalyzed microchannel, *Combustion and Flame*,157(2010)2051-2062.

- Vikram Seshadri and Niket. S. Kaisare, Simulation of ignition characteristics of various fuels in a catalytic microreactor, *European Combustion Meeting* (accepted).

#### Awards & Scholarships

- Kulapathi Shri G.Sesha Iyengar award for securing first rank in B.Tech Chemical engineering, 2007
- Best Outgoing student of chemical engineering department, 2007
- Dean's List for being in the top 2% of the batch, 2005-2006
- Dean's List for being in the top 2% of the batch, 2004-2005
- Scholarship for being in the top 2 - 10%, 2003-2004
- Ministry for Human Resources Development (Govt. of India) scholarship for postgraduate students

#### Positions of responsibility held

- An Executive member of the Chemical Engineering department's student association **SCHEMA** in 2006-07.
- Secretary of *SCHEMA* in the year 2005-06.
- Was an event coordinator for the event *ISSA(N)C NEWTON*, a mathematical modeling event in the technical festival **DAKSH 2007** at SASTRA University.

#### Academic experience

- Teaching assistant for Process control laboratory (Fall 2007)
- Teaching assistant for the course Process analysis and simulation (Spring 2008), Computational techniques(Fall 2008)
- Delivered lectures for the courses Process analysis and simulation, Computational techniques and Modern control theory
- Teaching assistant for undergraduate course on Process control (Spring 2010)
- Teaching assistant for graduate course on Chemical reaction engineering (Fall 2010)

#### Software & programming skills

- C, C++, FORTRAN, MATLAB, Scilab
- Gaussian, Chemkin, Chemrate

#### Summer courses & workshop

- *Environmental Studies* as a regular course during the year 2003-2004.
- Course in *Automobile testing* during May-June 2004 at SASTRA University.
- Course in *Visual Basic* during May-June 2005 at SASTRA University.
- Indo-US Workshop on transport in new hydrophilic materials bridging macroscopic and microscopic processes from December 8-11, 2008.

#### Industrial training

- In-plant Training at Aarathi Industries Private Limited (Amine Division), Gujarat (8-18 June 2005)  
Studied various equipments and control methods which were present in that industry.