

# SANDEEP VERMA

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## WORK

### SCHLUMBERGER DOLL RESEARCH

#### EXPERIENCE

Program Manager and Principal Research Scientists (CO<sub>2</sub> Mitigation Group, 2005 – Present)

- Design and construction of combined LNG and Zero Emission Power Plant
- Process and Product Development in garnering new IP for Schlumberger in the field of green power generation technologies
- Provide rapid response technical support to field projects in CO<sub>2</sub> sequestration
- Application of suitable thermodynamic cycles in active cooling of downhole tools

### YALE UNIVERSITY

(Part-time faculty, Department of Chemical Engineering, 1997-2005)

- CHE416 – Introduction to Engineering Design.

### UNILEVER RESEARCH LABORATORY

(Product Science Technology Platform, 1993 – 97)

- Led a three-scientist team on an exploratory project on defining the inadequate cleaning delivered by detergent formulations in the Emerging and Developing Markets.
- Pioneered introduction of mixed surfactant systems in unique product (NSD bars) using fundamental principles of microemulsion formation
- Managed a pilot plant for validation on new formulations

## EDUCATION

### PH.D. IN CHEMICAL ENGINEERING

(Prof. T. W. F. Russell, Dr. R. W. Birkmire, University of Delaware, August 1993)

- Reactor analysis of semiconductor thin film deposition. Designed, constructed and validated a CVD reactor for CuInSe<sub>2</sub> thin film deposition.
- Used ultra-high vacuum in deposition of thin film semiconductors with turbo-molecular pumps and residual gas analyzers
- Characterized the reactant gas phase pyrolysis chemistry and kinetics, established the reaction pathways to CuInSe<sub>2</sub> thin film formation and developed experimentally verified models for film growth.
- Developed thin film solar cells with an efficiency of 12%.
- Used XRD, SEM(EDS), AUGER(SIMS) and AAS as the characterisation techniques.

### UNIVERSITY OF DELAWARE

(Department of Chemical Engineering, Spring 1993)

- Teaching fellow for CHEG 325 - Chemical Engineering Thermodynamics.
- Taught the course under the supervision of Profs. S. I. Sandler and M. A. Paulaitis.

### B.TECH IN CHEMICAL ENGINEERING

(Indian Institute of Technology, Kanpur, May 1988)

- Senior Project: Computer Control of a Heat Exchanger
- Class rank 2nd (out of 31)

## HONORS & AWARDS

- **BILL N. BARON FELLOWSHIP** for Ph.D. dissertation, Institute of Energy Conversion and the Department of Chemical Engineering, University of Delaware, 1993.
- **(HOFFMANN-LA ROCHE SPONSORED) AICHE AWARD** for best paper, AICHE Annual Meeting, Miami, Florida, 1992
- **GRADUATE RESEARCH ASSISTANTSHIP**, Department of Chemical Engineering, University of Delaware, 1988-93.