

Mrs. Sirisha Nallakukkala
Assistant Professor
Department of Chemical Engineering
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EDUCATIONAL BACKGROUND:

Master of Science in Chemical Engineering
MCNEESE STATE UNIVERSITY, LAKE CHARLES, LA, USA (December 2007) GPA 3.6/4.0

Bachelor of Technology in Chemical Engineering
GVPCOE, J.N.T. UNIVERSITY, Hyderabad, Andhra Pradesh, India (May 2005) GPA 3.5/4.0

PROFESSIONAL EXPERIENCE:

BMS COLLEGE OF ENGINEERING, BANGALORE, INDIA Aug 14 – Present
Assistant Professor in Department of Chemical Engineering

- Participated in teaching and coordinating the course and laboratory work.
- Conducted classroom-style and laboratory-based teaching.
- Supervising undergraduate students in performing experiments in Mechanical Operations, Mass Transfer
- Assisted in design, restructuring, & teaching of Heat transfer and Fluid Mechanics, Mass Transfer courses.

B.V.RAJU INSTITUTE OF TECHNOLOGY (B.V.R.I.T), NARSAPUR, MEDAK (DT), INDIA Aug 11 – June 14
Assistant Professor in Department of Chemical Engineering

- Participated in teaching and coordinating the course and laboratory work.
- Conducted classroom-style and laboratory-based teaching.
- Supervising undergraduate students in performing experiments in Heat Transfer, Mass Transfer and performing Simulation using CHEMCAD software.
- Assisted in design, restructuring, & teaching of Heat transfer and Fluid Mechanics, Mass Transfer courses.

DYNAMIC INDUSTRIES INCORPORATION, LAKE CHARLES, LA, USA January 08 – June 11
Process Engineer

- Working in collaboration with Fluor Corporation on Total Petrochemicals & Exxon Neft Gas (ENL) (Odoptu Sakhalin), BP Whiting OCC Project and Total Petrochemical projects. Hands on experience with Module development and plant growth. Generating new development reports for the projects based on various jobs (structural steel used, pipe fabricated and installed, hydro testing, painting, instrumentation etc). Performed heat and material balance, calculation of line sizing, preparation of equipment list and equipment data sheets. Develop process flow diagrams (PFDs) and (P&IDs).
- Experience in working on Smart Plant Review. Experience in working on RFI, NCR, CWPs, Lift plan weight Reports and on ITPs. Experience with process evaluations and implementation of operational improvements. Checks, logs & processes vendor & shop drawings. Assists craftsmen, foremen, & project supervisors with regards to construction-related issues identified on drawings.
- Perform field walk downs/inspections to review the work for conformance with the design drawings, prepare punch list; red-line drawings to show as-build conditions; perform engineering activities to develop/complete design. Experience in fabrication of Offshore Structures, fabrication of Downstream (Onshore) Process

MCNEESE STATE UNIVERSITY, LAKE CHARLES, LA, USA August 05 - December 07
Research Assistant/Teaching Assistant/Chemical Department

- Supported chemical engineering professor in all facets of classroom administration. Conducted classroom-style and laboratory-based teaching.
- Perform calibration & preventive maintenance on lab instrumentation including HPLCs, GCs writing SOPs

and protocols.

- Analyzing samples from various sources to provide information on compounds or quantities of compounds present; using analytical techniques & instrumentation, such as GC & HPLC.

GRADUATE RESEARCH PROJECT, MCNEESE STATE UNIVERSITY, LAKE CHARLES, LA August 05 - December 07
Dynamics of fault detection in Jacketed CSTRs

- Worked on statistical process which involves introduction of errors in the Tennessee- Eastman Process and then removing the errors by using the Hotelling T² square test and statistical software “Qualstat” and developed a dynamic model.
- Understanding the steady state behavior of various parameters based on the reaction using Matlab.
- Development of feedback control loops:
 - To maintain the outlet temperature at a desired level by adjusting the mass flow rate of cooling water in the jacket surrounding it and
 - To maintain the concentration of reactant A at a desired level by adjusting the volume of the reactor.
- There are various steady states but the main purpose is to maintain the process at a single steady state using controllers.
- Fault detection capability of Hotelling’s T² test using Qualstat.
- Identification of the variables associated with the faults using the decomposition techniques in Qualstat.

HINDUSTAN PETROLEUM CORPORATION LIMITED, INDIA

May 04 – August 04

Plant Engineering Summer Intern

- Secured prestigious 3-month internship and worked with process engineer on hydro cracking plant, worked on Desalting unit, Atmospheric distillation unit, Vacuum distillation unit, Catalytic reformer unit, Fluid catalytic cracking unit, Hydrotreater unit. Involved in the design of heat exchangers.
- Performed manual mass and heat transfer calculations to validate computer-generated results.
- Supported engineering development of PFD & P&IDs, start-up assistance, & troubleshooting of processes.

UNDERGRADUATE RESEARCH PROJECT, JNTU, INDIA

December 04 - May 05

Studies on flotation characteristics of coal

- Froth Flotation is a surface chemistry based process of separation of fine solids which has the advantage of the difference in wettability at solid particle surfaces.
- This process has been widely used in mineral processing industry. From the experimental data obtained it is found that with increase in recovery, froth rate increases up to optimum level for different particle sizes. With increase in concentration of collector (Kerosene) and frother (Pine oil), recovery decreases. With increase in particle size, froth rate or recovery decreases. As excess loader quantities were added into the cell, weight reduction occurred at some time intervals due to the forces produced by impeller motions inside the cell. This resulted in ash content reduction as combustibles increased.

TECHNICAL PROFICIENCIES

Platforms: Microsoft Windows

Languages: C, C++, SQL, .Net,

Software: PROII, Matlab, Qualstat, MS office Suite, Smart Plant Review, Simulink. Multivariate Statistical Process Control (MVSPC), CHEMCAD

PUBLICATIONS:

- International Journal of Advanced Research in Science and Engineering(IJARSE) ISSN-2319-8354 Vol. No.4, Special Issue(02), (page 67-76) February 2015 with IF 1.142 on “Review of action of cationic and anionic surfactants on corrosion inhibition of steel in acidic medium”