

Dr. Sandip Kumar Lahiri

•Personal web page: http://works.bepress.com/sandip_lahiri/



Education

- Professional Chemical Engineer with Doctorate degree (PhD) in Chemical Engineering
- Over 25 technical publications in leading international journals in chemical engineering covering subjects like modelling and simulation, artificial intelligence, process design, optimization, fault diagnosis, CFD etc.

Professional

- Wide international exposure in petrochemical companies.
- Over 18 years experience in production and technical services of leading petrochemical industries across globe
- Expertise in all aspects of production and technical services of ethylene oxide and ethylene glycol plant.
- Expertise in implementing APC (Advance process control) & fault diagnosis system in process plants .

Education

Bachelor degree (B.Ch.E.),
Chemical Engineering
Jadavpur University Kolkata,
India 1992

Master degree (M.Tech),
Chemical Engineering
Indian Institute of Technology
(IIT) Kharagpur, India 1994

Doctorate degree (PhD)
National Institute of Technology
(NIT), Durgapur, India. 2010

Experience

Process controller
1993 to 1996 3 years
Durgapur Projects Ltd, Durgapur, India

Manager
1996 to 2005 9 years
Reliance (formerly IPCL), Maharastra, India

Sr. Production Engineer
2005 to 2010 5 years
Jubail United Petrochemical Company, Sabic, Saudi Arabia

R&D Manager
2011 0.5 years
Engineers India Ltd, Delhi, India

Technical Consultant
2011 -till date 0.7 years
Scientific Design Company, USA

Nature of experience

Production & Petrochemical operation

- Provide production units with an appropriate level of technological support to ensure sustainable operation, analyze upsets and close production loss gaps so that units meet or exceed various commitments
- Experience in working in production dept of world largest ethylene glycol plant.
- Responsible for Operations / technical monitoring, unit capability performance, unit yields and the respective identification and resolution of issues so as to maintain and improve unit optimization.
- Provides support to the Operating team in maintaining optimum unit process performance and preventing and / or resolving process and operating problems
- Ensure through proactive monitoring and coordination with the shift leaders the delivery of the daily production plan efforts to assure that operational performance meets business needs
- With a key role in shutdown scope preparation, challenge and execution, act as leader for all shutdowns of the plants and involved in the development of the shutdown strategy together with the site Turnaround Engineering team.
- Experience in plant start-up, commissioning, catalyst loading etc for ethylene glycol plant.

Accomplishment

- **Development of a novel approach for process plant monitoring using PCA (awarded best paper in STM'08)**
- **Development of a software called 'Third Eye' to monitor and diagnosis fault of pumps, compressor, distillation tower, Control valves etc in real time basis.**

Technical Services & Consultancy

- Providing advice and technical consultancy to the operational units across globe on process engineering issues and act as licensor.
- P&ID development work based on Heat & Material balance and PFDs
- Familiarity with process simulation tools like ASPEN, PRO-II etc
- Familiarity with Distillation Column hydraulics calculation using speciality software.
- Hands on experience in different software like Fluent (CFD software), mat lab, DMC (APC software), Aspen IQ etc.
- Expertise in de bottlenecking related calculation and heat integration related calculation using pinch technology.
- Monitor and evaluate process operation, including the use of design tools (ASPEN) and online monitoring systems

- Challenging and guiding change in the installations.
- Act as pro-active interface between Production Units and Economics and the Planning Department
- Providing the engineering design/development input for Plant Changes and managing small capital projects
- Provide technical support to the business through participation in multifunctional team and direct contact with key members of the EO/Glycols SBU
- Support benchmarking studies
- Provide recommendations on changes to process operating conditions
- Monitor technical availability to identify opportunities for improvement
- Monitor variable cost performance within the business to identify opportunities for improvement
- Conduct strategic technical studies on behalf of the business

Accomplishment

- **Development of a novel approach for Ethylene oxide reactor fault diagnosis using PLS modelling.**
- **Development of modelling and optimisation scheme of Ethylene Oxide reactor using artificial neural network and differential evolution algorithm.**
- **Development of modelling and optimisation scheme of MEG product quality using PLS and Genetic algorithm.**
- **Develop software to predict the optimum changeover time of EO catalyst and also economic evaluation of different EO catalyst available in market.**

Advance Process Control

- Expertise in implementing APC in process plants starting from conceptual design stage to final implementation step using DMC plus software of Aspen.
- Expertise in building reliable soft sensors in plant using Aspen IQ software.
- Worked one year in APC group in Group manufacturing services in Reliance. (corporate technical services group, RIL)

Accomplishment

- **Develop numerous soft sensor for performance parameters and product quality parameters in ethylene glycol plant.**
- **Implemented APC project full life cycle in Paraxylene plant in RIL patalganga unit and EG plant ,Sabic**

Training

- Serves as the expert in developing, documenting and sharing operating knowledge of the unit processes
- Responsible for maintaining the Operating manual and Operating procedures accurate and to date.
- Provides process and operating skills coaching to Production
- Plays an active role in Operator training, Operator reviews and qualification
- Joint responsibility with the Training Co-coordinators to develop effective unit training material
- Develop leadership skills in a role as coach and mentor for less experienced staff
- Experience in training need assessment, gap analysis, training objective setting for an organization.
- Expertise in training program design, organizing, planning and effective training program delivery for shop floor operators and practicing engineers.
- Expertise in training simulator.

Accomplishment

- **Develop a full training plan and gap analysis for all levels of employee for a large petrochemical complex.**

Computer skills

- Language known: C, VB, ACCESS, FORTRAN, etc
- Technical expertise in simulators: Aspen plus, Pro-II, Hysis
- Expertise in : Aspen IQ, DMC plus, IP21, Exaquantum, Matlab, Fluent (CFD)

Publication in International Journals

- Publish over 25 research and application oriented papers in international journals.
- Please visit Personal web page: http://works.bepress.com/sandip_lahiri/ for more details.

Personal details

Contact Information

- Mobile number
- +973-36791498
- Current location : Bahrain
- mail: sk_lahiri@hotmail.com
- Date of birth : 02/01/70

Permanent address

- Flat-1B, Block-E
- Sherwood estate, Narendrapur, 169, NSC Bose road,
- Kolkata-700103, India

Current Salary

- **Present salary** :Rs 54 lakh (\$108,000) P.A.+ perks+ free medical
- **Expected salary**: Negotiable
- **Notice Period** : Two month