

Mahmoud Bayat

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Date of birth: 12/01/1973



Engineering manager, Process manager

Profile

Chemical Engineer with a PhD degree in Kinetics/Crystallization. Process engineer of Petroleum Refining Processes. More than 15 years' experience in Basic and Detail engineering in refinery projects as process senior and engineering manager, Three years research experience in R&D of Iran petrochemical Company On fluosilicic acid recovery Pilot plant. Five years process R&D experience in consulting and developing pilot plants in fine chemicals and petroleum industries. Experienced in conducting bench scale testing, developing pilot plant, process design and engineering, modelling and simulation and process troubleshooting. **Strong insight to fill the gap between technical skills and discipline's interfaces such as process, safety, control system, electrical, piping, instrumentation and civil-structure.** Highly motivated, innovative, adaptable, self-training and flexible team-worker. Interested in Mounting and music.

Accomplishments

Professional

- Engineering manager of EPC project for DMC unit installed 1n 2nd gas refinery in south pars
- Project manager of Basic design of topping plant in Qeshm Island
- Project manager of Basic design of Caustic Treating unit (DMD) of Bid Boland gas refinery
- Feasibility study of topping plant with capacity of 30,000 BPD for Jay oil refinery Co.
- Developing of Topping process for Bitumen production from Asphaltenic Crude oils
- Developing a thermal method to remove asphalten and heavy metals from crude oils
- Directly involved in crude oil fouling simulation in Tehran refinery pre-heaters using CFD method.

Work Experience

Research Institute of Petroleum Industry (RIPI), Tehran, Iran

Nov.2005 - Present

- Basic design , Detail design, Procumbent service of DMC unit for 2-3 phases south pars
- Developing of Topping Plant as a beneficial process for asphaltenic crude oils
- Feasibility study of Topping plant with capacities of 25,000 and 50,000 bpd for Jey oil company
- Treatment of Received Condensate in distillation tower of atmospheric unit for Tehran refinery (Development of a new method for increasing gasoline production in refineries)
- Prediction of fouling rate in crude oil pre heaters using CFD for Tehran refinery(Preparing a software for prediction of fouling rate in crude oil pre heaters)
- Sludge recovery of tank no. 14 of Iranian oil pipelines and Telecommunication Company (Developing a new process for sludge recovery using hydro cyclone)
- Investigation on and Improving of Condensate injection line to CDU unit for Tehran refinery
- Basic Design of de mercaptanization units of Butane and C5+ for gas refinery of Bid Boland II
- Developing of a new process for crude oil deasphalting as Thermal deasphalting process (in progress)
- Preparing of more than 20 proposal at different subjects such mechanical cracking, hydro visbreaking pilot plant, Condensate refinery pilot plant, revamping of khangiran distillation unit, Automatic sludge recovery, desalter pilot plant and some other things.
- Basic Design of Qeshm Refinery (Bitumen production from heavy crude oil)

Sadr Sanat Company (EPC Contactor)

Oct. 2004 – Nov. 2005

- Head of Process on detail Eng. Of carbon fiber production Plant with capacity of 400kg/day

Research institute of National Petrochemical Company

Oct. 2000 – Feb. 2003

- EPC project of fluosilicic acid pilot plant , Razi petrochemical

Education**PhD in Chemical Engineering (Kinetics/Crystallization)**

1997–2003

Iran University of Science and Technology, Tehran, Iran*Thesis:* Investigation of Kinetics and crystallization of aluminum fluoride (A grade 18.5/20 in the thesis and 18/20 in total)**M.Sc. in Chemical Engineering 1995-1997**Sharif University of Technology, Tehran, Iran*Thesis:* Kinetics of heterogeneous reaction of sodium Hydrosulfite production (Grade 19.5/20 in the thesis & 17.7/20 in total)**B.Sc. in Chemical Engineering (Gas processes) 1991-1995**Sharif University of Technology, Tehran, Iran*Thesis:* Simulation of compression and absorption refrigerator units of Behran and Pars oil refineries using PROII

Skills

Consulting services: Process management of oil & gas downstream, Engineer management, Feasibility study, Conceptual and basic process design (incl. PFD and P&ID developing), Simulation and Modeling, process equipment selection and design

Process R&D: Kinetics of heterogeneous reactions, Crystallization of inorganic materials, Pilot plant development, , Oil and gas characterization, Computational fluid dynamics (CFD), Project results dissemination, Report writing and communication

Computer Skills

HYSYS (A: advanced), HYSYS Refinery(A), PROII (A), AutoCAD (A), Fluent (A), Gambit (A), MS Office (A)

Training Courses

- Shell & Tube Heat Exchanger Design with TASC, Research Institute of Petroleum Industry (RIPI), Tehran, Iran, 2005.
- CFD Simulation, Research Institute of Petroleum Industry (RIPI), Tehran, Iran, 2005.
- Petroleum refining simulation using HYSY Refinery, Research Institute of Petroleum Industry (RIPI), Tehran, Iran, 2006.

Languages

English (good); Persian (official language)

References

- Dr. H. Modarresi, Research Engineer of Fuel Processing, Topsoe, Lyngby, Denmark, hasm@topsoe.dk
- Dr. H. Hashemabadi, Iran University of Science and Technology, hashemabadi@iust.ac.ir

Publications

- Investigation on Asphaltene and Heavy Metal Removal from Crude Oil Using a Thermal Effect, Energy & Fuels, 2011,25
- Evaluation of gasoline evaporation during the tank splash loading by CFD techniques, International Communications in Heat and Mass Transfer,2010, 37
- Investigation of Temperature and Flow Fields in an Alternative Design of Industrial Cracking Furnaces Using CFD, Iranian Journal of Chemical Engineering,2010, 3
- CFD simulation and experimental study for two-phase flow through the trickle bed reactors, sock and dense loaded by trilobe catalysts, International Communications in Heat and Mass Transfer,2011, 38
- Prediction of self asphaltene precipitation in dead crude oil, Energy & Fuels, 2008,22
- Studying on the Jet fuel treating plant for maximum efficiency, Petroleum & coal, 48(3),2006
- New viscosity correlations for dead crude oil, Petroleum & coal, 2007,49(2)
- Increase in gasoline production capacity of oil refineries, 19th word petroleum congress, Madrid-Spain ,2008
- Investigation of the filtration rate of silica in aluminum fluoride production from silicic acid, Che. Eng.Sci., 2002
- The contribution of molecular diffusion in silica coating and chemical reaction in the overall rate of reaction of aluminum hydroxide with flusilicic acid, Iran. J.Chem.Chem.Eng., 2005
- Kinetics of zinc hydrosulfite slurry reaction, Scientia Iranica,2002
- Investigation of different stages of aluminum fluoride crystal growth, Iran. J. Chem. & Chem. Eng., vol24, 2005