

AMAR DILIP VIBHANDIK

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Kaggle URL: <https://www.kaggle.com/amvibh>

SUMMARY:

- I have 2 years of industry and 4 years of academic post PhD work experience
- Experience of teaching, preparing lessons, leading class lectures, supervising lab projects, and conducting both independent and peer-based research.
- Adept at the graduation level education facility and guiding students for their project and conducting experimental practical's for calculation
- Ability for teaching students from a wide range of backgrounds and learning styles
- Experience of designing and handling of liquid-liquid extraction plants for the extraction of natural products
- Administered on line plant operation, also handled exothermic reactions
- Experience of setting up the detection analysis methods for different chemical samples using various sophisticated analysis methods as gas chromatography, UV-Visible spectrophotometry, HPLC and experience of quantification of phospholipids using Nuclear magnetic resonance spectroscopy.
- Sound knowledge of membrane-based water treatment processes, designing and optimisation of waste water treatment processes used to treat industry and sewage waste water.
- Handled heat-based refrigeration systems and troubleshooting
- Experience of drafting reports for environmental clearance.
- Good knowledge of preparation and characterisation of polymeric membrane
- Experience of modelling and simulation of refrigeration process using SCILAB
- Knowledge of various machine learning and deep learning algorithms for data prediction and forecasting

SKILLS:

|Teaching Skills| Training & Mentoring | Assessment & Evaluation | Student Management | Teaching Management | Student Counselling |Creative Lesson Planning | Learning Methodologies | Design of Waste Water Treatment and Chemical Processes| Chemical Reactor Design |Analysis of Chemical Product | Modelling and Simulation | Technology Transfer| Project Costing | Professional Development | Research Projects | administration of plant operation |Data Science | Product Analysis | Data Science| Effective Communication | Timeliness Administration | Troubleshooting | Results-Focused |

EDUCATION:

- Doctor of Philosophy in Chemical Engineering from Institute of Chemical Technology, Mumbai (2015)
- Master of Chemical Engineering from Institute of Chemical Technology, Mumbai (2010)
- Bachelor of Engineering in Chemical engineering from University of Pune, Pune (2008)

CERTIFICATION:

- Data Science Professional (2022)
- NIIT (Programming and web design course) 2003
- DMLT degree (2003)

PROFESSIONAL EXPERIENCE:

Faculty, Chemical Engineering Diploma Program

Veermata Jijabai Technology Institute, Mumbai, India

Sept. 2021 – Ongoing

- Teaching subjects as Stoichiometry, Heat transfer, Renewable energy technologies, Mechanical Operations, guided more than 12 students for their academic project, administrative work

Faculty, Chemical Engineering Diploma Program

Veermata Jijabai Technology Institute, Mumbai, India

2018 – May 2020

- Handled different subjects that include, Stoichiometry, Plant utilities, Chemical Engineering Thermodynamics, Chemical engineering, Professional practices, Heat Transfer, Plant Safety Operation

- Counselling of students, student admission and administrative work
- Guided 7 students for their final year diploma project

Senior Engineer | Vijay Perfumes Pvt. Ltd., Mumbai, India

2017 – 2018

- Involved in the production of pharmaceutical intermediates and Natural product extraction
- Involved in optimisation of chemical process, design of reactors and monitored various processes
- Engaged in managing various activities like Quality Assurance, Packaging and costing
- Performed Plant Administration, worker management

Product Development Manager, R & D | Oasis Nutraceutical Limited, Mumbai, India

2016 – 2017

- Designed and optimized liquid-liquid extraction process
- Performed development and optimization of analysis methods for the quantification of lecithin
- Involved in project costing and technology transfer from lab-scale to plant scale
- Performed quality check of product, analyze samples using HPLC and qNMR spectroscopy
- Executed troubleshoot and rectify problems in a plant operation
- Administered online plant operation

Teaching Assistant | Institute of Chemical Technology, Mumbai, India

2010 – 2015

- Mentored 5 summer interns in their projects
- Guided and helped students in their homework problems and also in subjects that are difficult to understand
- Carryout Engineering Graphics tutorials for undergraduate students

RESEARCH EXPERIENCE:

Institute of Chemical Technology, Mumbai, India

2010 – 2015

- Implemented removal of heavy metal ions like nickel, copper, chromium, zinc and organic substance as chlorobenzene from automobile industry wastewater simultaneously using Micellar Enhanced Ultrafiltration (MEUF)
- Designed and fabricated in-house lab scale setup of ultrafiltration process
- Handled surfactants like SDS, DOWFAX2A1 as the anionic surfactants and TWEEN-80, Triton X-100 and Brij 35 as the non-ionic surfactants
- Determined micellar properties as critical micelle concentration, counter ion binding coefficient, micelle size and interaction parameter for anionic surfactants and mixture with a non-ionic surfactant
- Optimization of the MEUF process operating parameters as non-ionic to ionic surfactant ratio, surfactant loading, transmembrane pressure and inlet flow rate and application of optimum parameters to batch and semi-batch MEUF process
- Engaged in the removal of surfactants from processed water using foam fractionation
- Cost Estimation done for the entire process
- Performed analysis of water samples using UV-visible spectroscopy, inductive coupled plasma spectroscopy, and HPLC method

Institute of Chemical Technology, Mumbai, India

2008-2010

- Engaged in the fitting of P, T, x data to NRTL equation for water-potassium formate and water-lithium bromide pairs
- Prepared a mathematical model for each unit operation containing in the refrigeration cycle
- Real-time simulation of heat-based refrigeration cycle at different operating conditions as at controlled evaporator temperature, controlled evaporator and absorber temperature and controlled evaporator, absorber and condenser temperature for a step-change in reboiler temperature
- Prepared SCILAB coding for data fitting and simulation of heat-based refrigeration cycle

AISSMS College of Engineering, Pune, India

2003-2008

- Optimized the parameters of trans-esterification reaction as the temperature of the reaction, oil to methanol ratio and reaction time for the preparation of bio-diesel from pongamia pinnata oil.

PUBLICATIONS:

Journals:

- Vibhandik A. D., Marathe K. V., (2014), Removal of Ni(II) ions from Wastewater by Micellar Enhanced Ultrafiltration using Mixed Surfactants. *Frontiers of Chemical Science and Engineering*, 8(1), 79-86
- Vibhandik A. D., Pawar S., Marathe K. V., (2015), Experiment and Simulation of the Simultaneous Removal of Organic and Inorganic Contaminants by Micellar Enhanced Ultrafiltration with Mixed Micelles. *Journal of Applied Polymer Science*, 132 (21), 41435
- Ghadge G., Chavan M., Divekar A., Vibhandik A., Pawar S., Marathe K., (2015), Mathematical Modelling for Removal of Mixture of Heavy Metal Ions from Waste-Water Using Micellar Enhanced Ultrafiltration (MEUF) process. *Separation Science and Technology*, 50, 365-372

CONFERENCES:

- Vibhandik A. D., Marathe K. V., Removal of Ni ion from waste water using MEUF, Oral presentation, CHEMCON 2012, Chandigarh
- Vibhandik A. D., Marathe K. V., Removal of ions from waste water by using MEUF, Poster presentation, International Conference on Advances in Chemical Engineering, IIT Roorkee 2013, Roorkee

ACCOMPLISHMENTS:

- Organizing committee member of National symposium on Smart synthesis techniques for smart materials and their application in science and engineering, held at VJTI on 3rd and 4th January 2020
- Attended conference, AICE 2019 Total water solution organized by American Water works Association India Chapter, at Mumbai on 13-14 December 2019
- Organizing committee member for CHEMCON 2013
- Received UGC-SAP (University Grant Commission) Government of India, Fellowship for procuring Doctor of philosophy
- Qualified the Graduate Aptitude Test of Engineering (GATE-2008)
- Member of American Water works association, India chapter, 2019-20

Dr. Amar D. Vibhandik