



## Dr. Vishal Suresh Chandane

Professional with PhD in Chemical Engineering targeting assignments in Research & Development, preferably in Chemical, Pharmaceuticals & Fertilizers Industry

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### ❖ Education

- 2017: Ph.D in Chemical Engineering from Visvesvaraya National Institute of Technology, Nagpur
- 2014: M.Tech. in Chemical Process Design from National Institute of Technology, Raipur
- 2011: B.Tech. in Chemical Technology from Laxminarayan Institute of Technology, Nagpur
- 2006: 12th from Sindhi Hindi Jr. College with 82.83%
- 2004: 10th from Nagsen Vidyalaya with 77.06%

### ❖ Academic Experience

Currently associated with Shri Guru Gobind Singhji Institute of Engineering and Technology (SGGSIE&T), Nanded as Assistant Professor since August 2018.

### ❖ Industrial Experience

1) Jul'17-Jul'18 with Mitsui Kinzoku Components India Pvt. Ltd., Bawal, Haryana as Assistant Manager (R&D)

#### Key Work Areas:

- Executed various R&D projects; provided R&D laboratory support through collaboration with other scientists, both internally and externally
- Implemented lab scale-up and optimization strategies
- Planned and organized day-to-day research activities and resolved procedural problems
- Conducting research activities for developing & testing new products and also improving the existing products as per the feedback of customers and senior officials
- Leading the entire gamut of project activities till handover in compliance with safety, health and quality standards

#### Highlight of work:

- Developed Catalytic Converter for automobiles as prescribed by Technology Centre and Customer; reduced by keeping the emission norms in controlled way
- Executed material development as per latest emission norms, slurry preparation, coating technology, material & catalyst characterization
- Supervised the activities of all divisions in the production & supporting department through constant monitoring and dialogue with the division, suppliers & customers
- Gained exposure in the management of research activities including raw material & sophisticated instruments

2) Jun'11-Aug'12 with Adani-Wilmar Ltd. Mundra, Kutch, Gujarat as Process Engineer

#### Highlights of Work:

- Managed day-to-day activities of production shifts which included manpower, production, quality & maintenance of 1000 TPD Alpha Laval Refinery
- Gained exposure of working on refining of Soybean Oil, Palm Oil, Cottonseed Oil, Mustard Oil, Groundnut Oil & Sunflower Oil
- Gained knowledge of Hydrogenation of oils & Fractionation of Refined Palm Oil

### ❖ Technical Skills

- Scanning Electron Microscopy (SEM) using JSM IT100, Jeol
- BET Surface Area Analysis using Belsorp-mini-II
- Particle Size Analyzer using Microtrap S3500
- UV-Visible Spectrophotometer using UV-1800, Shimadzu

- Karl Fischer Titrator using Micro-processor based Karl Fischer Titrator (Optics Technology, India).
- Pervaporation Membrane Reactor Using In-Situ And Ex-Situ Pervaporation Reactor
- Membrane Casting Unit Using Flat Sheet Membrane Casting Unit

## ❖ IT Skills

**Scientific Software:** CAD, SAP, Chemdraw, Chem-3D, Origin, Adobe Photoshop, MATLAB, Design Expert, Minitab, Statistical

**Analysis Tools:** Linear & Non-Linear Regression & Fittings, Response Surface Methodology, Anova, Artificial Neural Network

## ❖ Thesis

### In Ph.D.

**Organization:** Visvesvaraya National Institute of Technology, Nagpur

**Duration:** July 2014-July 2017

**Title:** Performance Study for Intensification of Homogeneous/Heterogeneous Catalyzed Esterification Coupled With Pervaporation

### Research:

Worked for Ph.D. thesis focusing on the intensification of esterification reaction. The work involved optimization of esterification process by response surface methodology, development of heterogeneous catalyst and process intensification for the esterification reaction by pervaporation reactor.

### In M.Tech.

**Organization:** National Institute of Technology, Raipur

**Duration:** 2012-2014

**Title:** Adsorption of Safranin Dye from Aqueous Solutions Using a Low Cost Agro Waste Material-Soybean Hull

### In B.Tech.

**Organization:** Laxminarayan Institute of Technology, Nagpur

**Duration:** 2007-2011

**Title:** Development of Novel Polymeric Surfactants from Rosinated Maleinised Ricebran Oil

## ❖ Publications

### From M.Tech. Work

1. Vishal Chandane, V.K. Singh, Adsorption of Safranin dye from Aqueous Solutions Using A Low Cost Agro Waste Material-Soybean hull, Taylor and Francis, Desalination and water treatment, (2016), 57 4122-4134. (Impact Factor- 1.631).

### From Ph.D. Work

2. Vishal S. Chandane, Ajit P. Rathod, Kailas L. Wasewar, Shriram S. Sonawane, Esterification of Propionic Acid with Isopropyl Alcohol via Ion Exchange Resins: Optimization and Kinetics, Springer, Korean Journal of Chemical Engineering, (2017), 34(1), 249-258. (Impact Factor- 2.476).
3. Vishal S. Chandane, Ajit P. Rathod, Kailas L. Wasewar, Enhancement of esterification conversion using pervaporation membrane reactor, Elsevier, Resource-Efficient Technologies, (2016), 2, S47-S52.
4. Vishal S. Chandane, Ajit P. Rathod, Kailas L. Wasewar, Shriram S. Sonawane, Response Surface Optimization and Kinetics of Isopropyl Palmitate Synthesis using Homogeneous Acid Catalyst, Degruyter, International Journal of Chemical Reactor Engineering, (2016), 15 (3). (Impact Factor- 1.059).
5. Vishal S. Chandane, Ajit P. Rathod, Kailas L. Wasewar, Shriram S. Sonawane, Optimization of Process Conditions and Kinetic Modeling for the Esterification of Propionic Acid with Benzyl Alcohol Using an Ion-Exchange Resin Catalyst, Springer, Korean Journal of Chemical Engineering, (2017), 34(4), 987996. (Impact Factor- 2.476).
6. Vishal S. Chandane, Ajit P. Rathod, Kailas L. Wasewar, Shriram S. Sonawane, Efficient Cenosphere based Catalyst for the Esterification of n-Octanol with Acetic Acid, Elsevier, Comptes Rendus Chimie, (2017), 20(8), 818-826. (Impact Factor- 2.366).
7. Vishal S. Chandane, Ajit P. Rathod, Kailas L. Wasewar, Coupling of In-situ Pervaporation for the Enhanced Esterification of Propionic Acid with Isobutyl Alcohol over Cenosphere based Catalyst, Elsevier, Chemical Engineering and Processing: Process Intensification, (2017), 119, 16-24. (Impact Factor- 3.031).
8. Vishal S. Chandane, Ajit P. Rathod, Kailas L. Wasewar, Shriram S. Sonawane, Synthesis of Cenosphere Supported Heterogeneous Catalyst and Its Performance in Esterification Reaction, Taylor and Francis, Chemical Engineering Communications, (2018), 205 (2), 238-248. (Impact Factor- 1.431).

9. Vishal S. Chandane, Ajit P. Rathod, Catalytic Esterification over Carbon based Solid Acid Catalyst: Optimization by Response Surface Methodology, *Research Journal of Chemistry and Environment*, (2017), 21 (11), 7-13. (Impact Factor- 0.636).
10. Vishal S. Chandane, Ajit P. Rathod, Kailas L. Wasewar, Pervaporation Combined Esterification of Caproic Acid with Isobutyl Alcohol - Comparative Study of Conventional, In-situ and Ex-situ Reactor, *Chemical Engineering and Technology*, (2019), 42 (5), 1002-1010 (Impact Factor- 2.418).

## ❖ Conference Presentations

1. Vishal S. Chandane, Ajit P. Rathod, Kailas L. Wasewar, Ex-situ Pervaporation Reactor for Intensification of Esterification Reaction, at International conference on Membrane Based Separations, "MEMSEP 2017", from 21-23 February 2017, NIT Trichy, Tamilnadu, India.
2. Vishal S. Chandane, Ajit P. Rathod, Kailas L. Wasewar, Coupling Membrane Pervaporation for Enhanced Esterification of Lactic Acid and Isobutyl Alcohol, "CHEMCON 2016", 27-30th December 2016, Chennai, India.
3. Vishal S. Chandane, Ajit P. Rathod, Kailas L. Wasewar, Enhancement of Esterification Conversion using Pervaporation Membrane Reactor, at "TECHNOSCAPE 2016", 20-21st October, 2016, VIT University, Vellore, India.
4. Ajit P. Rathod, Vishal S. Chandane, Process optimization by Response Surface Methodology of Isopropyl palmitate synthesis catalyzed by p-toluene sulfonic acid at World Research Journals Conference from 7-8th December 2015, Dubai, UAE.
5. Vishal S. Chandane, Ajit P. Rathod, Kailas L. Wasewar, Production of isoamyl propionate by pervaporation-assisted esterification, International Conference on Membrane Based Separation, "MEMSEP-2015", 21-23rd March, 2015, M. S. University Baroda, Gujarat, India.
6. Vishal Chandane, Development of novel ecofriendly polymeric surfactant from renewable sources, Proceedings of National Conference on Green Chemistry & Engineering, "NCGCE-2013", 22nd March, 2013, VNIT, Nagpur, Maharashtra, India.
7. Vishal Chandane, National level project competition entitled "Innovations and Inventions- 2011", Shri Shankarprasad College of Engineering, March 5-6, 2011, Wardha, Maharashtra, India.
8. Vishal Chandane, National Conference entitled Recent Innovations in Oil and Food Technology, "RIOFT-2010", 23rd August, 2010, UDCT Jalgaon, and Maharashtra, India

## ❖ Conference/Workshop Attended

1. Attended International Transportation Electrification Conference "ITEC" on Electric vehicle ecosystem- resetting the future of mobility in India, held at The Westin, Pune on 13-15th December, 2017.
2. Attended 10th International Conference on enabling cleaner and greener india progressing towards BS VI Norms "ECT" held at Hotel Eros, New Delhi on 2-3rd November 2017.
3. Attended SAE India Two wheeler conference on Green wheeler for safe and sustainable mobility held at PES University, Bengaluru, Karnataka, on 4-5th August 2017.
4. Participated in Short Term Training Program on Application of natural computing techniques (ANN, GA, AA) in chemical engineering, "ANCTChe-2016", held at VNIT Nagpur, on 4-8th March 2016.
5. Participated in Short Term Training Program on Recent trends in nano-membrane technology, "RTNMT-2016", held at VNIT Nagpur, on 24-28th February 2016
6. Participated in Short Term Training Program on Recent trends in chemical and biochemical engineering, "RTCBCE-2016", held at VNIT Nagpur, on 27-31st January 2016.
7. Participated in Short Term Training Program on Computational Modelling with Comsol Multiphysics, held at VNIT Nagpur, on 21-25th May 2016. 8
8. Participated in Workshop on Academic Ethics and IPR, held at National Institute of Technology, Raipur, 4-5 April, 2014.