# Dr. Jaykumar B. Bhsarkar

Assistant Professor Chemical Engineering Laxminarayan Institute of Technology **Cell Phone**: 9864345404 **Personal Email**: jaykumar.ppt@gmail.com



# Academic Qualifications:

B. Tech. (Chem. Engg.), Sant Gadge Baba Amravati University, Amravati: May 2008

M. Tech. (Chem. Tech. Pulp and Paper Tech.), Indian Institute of Technology, Roorkee: May 2010

Ph. D. (Chem. Engg.), Indian Institute of Technology, Guwahati: January 2016

## **Research Interests:**

Wastewater Treatment, Advance Oxidation Process, Process Intensification, Sonochemistry, Cavitation bubble dynamics, Biomass Delignification

## **Positions Held in Past: (Professional (Teaching) Experience)**

- **03 June 2019 Till date**: Assistant Professor in Chemical Engineering Department of Laxminarayan Institute of Technology, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur.
- **02 May 2017 to 27 May 2019:** Assistant Professor (Sr.) in Chemical Engineering Department of Vellore Institute of Technology, Vellore.
- **13 June 2016 to 13 Apr. 2017:** Assistant Professor in Chemical Engineering Department of Pravara Rural Engineering Colloge, Loni.
- **5 August 2015 to 10 June 2016:** Associate Professor Assistant professor, Department of Chemical Engineering, M.G.M. College of Engineering and Technology, Navi Mumbai.

## Administrative Experience:

- Oct 2019 Till Date: Coordinator, Institute Innovation Startup Policy at Laxminarayan Institute of Technology, Nagpur
- August 2021 Till date: Member, Research promotion committee, at Laxminarayan Institute of Technology, Nagpur
- August 2021 Till date: Member, UG admission committee, at Laxminarayan Institute of Technology, Nagpur
- August 2021 Till date: Member, Outreach and extension committee, at Laxminarayan Institute of Technology, Nagpur
- August 2012 Till date: Officer-in-charge, M.Tech. R.T.M. Nagpur University Examination.

## **Awards and Honors:**

- Young Scientist Award in Chemical Engineering Category by Venus International Foundation 2017.
- Indo Asian Best Scientist Award in Chemical Engineering by International Multidisciplinary Reasearch Foundation Hyderabad 2021.
- **Best Poster award** entitled "Ultrasound Assisted Oxidative Desulfurization of DBT using TOAB as a Phase transfer agent," in National course on "Emerging Micropollutant in the environmental: Occurance, Transportation, Monitoring and Treatment."IIT Guwahati. (2-5 March 2015)

## **Research Projects:**

 2019-23:Mechanistic Investigation in Sono-Fenton/peroxyacid system for oxidative desulfurization of crude oil FUNDED BY S.E.R.B. New Delhi PROJECT COST: 10.39 Lakhs (EEQ/2019/000288)

#### **List of Publications:**

#### **Research Papers Published in Refereed International Journals**

- 1. J.B.Bhasarkar, S.Chakma, V.S.Moholkar, Mechanistic features of oxidative desulfurization using sono-fenton- peracetic acid (Ultrasound/ Fe2+ -CH3COO H2O2) system, Industrialand Engineering Chemistry Research 52 (2013);9038-9047.
- 2. Sankar Chakma, J. B. Bhasarkar, V. S. Moholkar, Preparation, characterization and application of sonochemically doped fe3+ into znonanoparticles,IJRET,2 (2013);177-183.
- J. B. Bhasarkar, S. Chakma, V. S. Moholkar, Investigations in Physical Mechanism of the Oxidative Desulfurization Process Assisted Simultaneously by Phase Transfer Agent and Ultrasound, UltrasonicSonochemistry. 24 (2014); 98-106. J.B.Bhasarkar, PritamKumarDikshit, V.S.Moholkar, Ultrasound Assisted Biodesulfurization of Liquid Fuel using Free and Immobilized Cells of Rhodococcus rhodochrous MTCC 3552: A Mechanistic Investigation. Bioresource Technology. 187 (2015);369-378.
- 4. J. B. Bhasarkar, Arup Jyoti Borah, Pranab Goswami, V.S.Moholkar, Mechanistic Analysis of Ultrasound Assisted Enzymatic Desulfurization of Liquid Fuels Using Horseradish Peroxidase. Bioresource Technology. 196 (2015); 88-98.
- 5. J. B. Bhasarkar, V. S. Moholkar, Ultrasound Assisted Oxidative Desulfurization of Dibenzothiophene Using Htmab as a Phase Transfer Agent. IJSR (2015) ISSN:2319-7064,101-107.
- 6. J.B.Bhasarkar, MohitSingh, V.S.Moholkar, Mechanistic Insight in Phase Transfer Agent Assisted Ultrasonic Desulfurization, RSC Advances,5 (2015);102953-102964.
- Mayank Agarwal, Pritam Kumar Dikshit, Jaykumar B. Bhasarkar and Vijayanand S. Moholkar, Physical Insight into Ultrasound-Assisted Biodesulfurization using Free and Immobilized Cells of Rhodococcus rhodochrous MTCC 3552, Chemical Engineering Journal,295(2016);254-267.
- 8. Jaykumar B. Bhasarkar, RW Gaikwad, SL Bhagat. Modeling of Packed Bed Column for the removal of Cu (II) lons from Stimulated Acid Mine Drainage, Current Environmental Engineering 3 (2016);242-248.
- 9. J.B. Bhasarkar, Bibhuti Sahoo, DK Bal, Key Aspects Of Electric Vehicle Technologies An Overview, International Journal of Mechanical Engineering and Technology (2018), 9 (7), 1218–1222.
- Dharmendra Bal, Jaykumar Bhasarkar, Mechanistic investigation of Sono-Phosphotungstic acid/phase transfer agent assisted oxidative desulfurization of liquid fuel, Asia-Pacific Journal of Chemical Engineering (2019) ;e2271doi: 10.1002/apj.2271.
- 11. J. B. Bhasarkar, Dharmendra Bal, Kinetic investigation in controlled drug delivery system based on alginate scaffold with embedded voids, Journal of Applied Biomaterials & Functional Materials17 (2019);2280800018817462.
- Ambuj Gupta, J.B. Bhasarkar, Mohammed Rehan Chandan, A. Sheikh, Kiran Bandaru, D.K.Bal, Diffusion Kinetics of Vitamin B12 from Alginate and Poly(vinylacetate) Based Gel Scaffolds for Targeted Drug Delivery .J. Macromol.Sci., Part B, Phys. (2020)59 (11), 713-730.

- **13**. A Wani, **JB Bhasarkar**, RW Gaikwad, Photocatalytic Degradation of Sugar and Distillery Industry Effluent, Journal of The Institution of Engineers (India): Series E, (2021), 1-8.
- 14. DK Bal, JB Bhasarkar, Adsorptive degradation of hexavalent chromium from aqueous solution using coconut shell as a green adsorbent, Environmental Progress & Sustainable Energy,(2021) e13594.
- 15. RS Malani, AH Batghare, JB Bhasarkar, VS Moholkar, Kinetic Modeling and Process Engineering Aspects of Biodesulfurization of Liquid Fuels: Review and Analysis, Bioresource Technology Reports,(2021) 100668.
- 16. R Das, JB Bhasarkar, A Rastogi, R Saxena, DK Bal, Artificial neural network-based pore size prediction of alginate gel scaffold for targeted drug delivery, Neural Computing and Applications, (2022) 1-17.
- 17. PG Bansod, JB Bhasarkar, S Dharaskar, SM Kodape, Review of membrane technology applications in wastewater treatment and biofuels, Materials Today: Proceedings (2022) 61, 379-385.
- RW Gaikwad, AR Warade, SL Bhagat, JB Bhasarkar, Optimization and simulation of refinery vacuum column with an overhead condenser, Materials Today: Proceedings (2022) 57, 1593-1597.
- P Bansod, S Kodape, JB Bhasarkar, D Bhutada, Ceramic membranes (Al2O3/TiO2) used for separation glycerol from biodiesel using response surface methodology, Materials Today: Proceedings(2022) 57, 1101-1107

#### **Book Chapters in Edited Books**

- V.S.Moholkar, H.A.Chodhury, Suchi Singh, Swati Khanna, Amrita Ranjan, Sankar Chakma, J.B.Bhasarkar, Physical and chemical mechanisms of ultrasound in biofuels synthesis. Production of Biofuels and chemicals with ultrasound Springer book series Biofuels and Biorefineries, (2015). ISSN978-94-017-9623-1.
- 2. V.S.Moholkar, Pritam Kumar Dikshit, Sankar Chakma, Swati Khanna, Ritesh Malani, Arup JyotiBorah, J.B.Bhasarkar, Mechanistic Issues of Sono-Biodegradation .Biodegradation and Bioremediation. Environmental Sci.& Eng.Vol.8,457-502.
- Jaykumar Bhasarkar, Bharat A. Bhanvase, Vijay B.Pawade, Future Scope of Various Nanostructure Metal Oxides for Sustainable Energy Sources. Multifunctional Nanostructured Metal Oxides for Energy Harvesting and Storage Devices, CRC Press (2020), ISBN-9780429296871https://doi.org/10.1201/9780429296871.
- 4. JB Bhasarkar, DK Bal, Nanomaterial-based advanced oxidation processes for degradation of waste pollutants. Handbook of Nanomaterials for Wastewater Treatment, (2021) 811-831.
- 5. Bhaskar Bethi, Shirish H Sonawane, Bharat A Bhanvase, Jaykumar B Bhasarkar, Introduction to nanomaterials for wastewater treatment, Handbook of Nanomaterials for Wastewater Treatment, (2021) 3-25.

#### M.E./M.Tech. Students Guided: 6 Competed

As A Resource Person (Expert Talk, Invited Talk, Plenary lecture, Technical session Chair etc.): 5

**Reviewer For Journals: 50+** 

**Conferences, Workshops & Seminars Organized/Co-Ordinated: 3** 

**Conferences, Workshops and Seminars Attended: 23**