


Dr. Pankaj Pardeshi



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Google Scholar link:
<https://scholar.google.com/citations?user=4eXcE8oAAAAJ&hl=en>

Adhoc Faculty with three years of experience successfully contributing to chemical engineering curriculum development and delivery. Driven to contribute to program outcomes by facilitating engagement and supporting learning objectives.

My research interest is in the area of membrane processes and technology. I specifically work on synthesis of polymeric membranes for forward osmosis (FO), electrochemical system and bio-electrochemical system (BES), and their application in food industry, chemical industry, wastewater treatment industry, energy production etc. Currently, I am working on the following projects:

- Synthesis and development of novel FO membrane for sugar industry, food industry, domestic wastewater treatment etc.
- Synthesis and development of novel cation exchange membrane for fuel cell, chlor-alkali industry, bio-electrochemical system etc.

Work History

2023-07 - Current

Tenure Faculty

Veermata Jijabai Technological Institute (VJTI), Mumbai, Maharashtra

2009-09 - 2010-08

Production Engineer

Sun Pharmaceutical Industries Limited, Ahmednagar, Maharashtra.



Education

- 2014-01 - 2019-07** **Ph.D.: Chemical Engineering**
S.V. National Institute Of Technology – Surat
- 2011-07 - 2013-06** **Master of Technology: Chemical Engineering**
S. V. National Institute Of Technology – Surat
- 2005-08 - 2009-06** **Bachelor of Engineering: Chemical Engineering**
P.R.E.C. Pune University – Loni



International Publications

1. Pardeshi, P. and Mungray, A.A., **2014**. Synthesis, characterization and application of novel high flux FO membrane by layer-by-layer self-assembled polyelectrolyte. **Journal of Membrane Science**, 453, pp.202-211.
2. Pardeshi, P. and Mungray, A.A., **2014**. High flux layer by layer polyelectrolyte FO membrane: toward enhanced performance for osmotic microbial fuel cell. **International Journal of Polymeric Materials and Polymeric Biomaterials**, 63(12), pp.595-601.
3. Pardeshi, P.M., Mungray, A.A. and Mungray, A.K., **2016**. Determination of optimum conditions in forward osmosis using a combined Taguchi–neural approach. **Chemical Engineering Research and Design**, 109, pp.215-225.
4. Pardeshi, P.M., Mungray, A.K. and Mungray, A.A., **2017**. Polyvinyl chloride and layered double hydroxide composite as a novel substrate material for the forward osmosis membrane. **Desalination**, 421, pp.149-159.
5. Pardeshi, P.M., Mungray, A.A., **2019**. Photo-polymerization as a new approach to fabricate the active layer of forward osmosis membrane. **Scientific Report**, 9, pp. 1-13.
6. Pardeshi, P.M. and Mungray, A.A., **2021**. Performance of photopolymerized active layer forward osmosis membrane in the osmotic microbial fuel cell. **Environmental Technology & Innovation**, pp.101669.



Patents

1. **Title of the Invention:** “PPEA/MAA active layer containing Forward osmosis membrane and a method of preparing thereof”
Patent No.: 353731 (Indian Patent)
Status: Granted (15/12/2020).
2. **Title of the Invention:** “Water deionization system”
Application No.: 358872-001
Status: Application Accepted and Published (29/04/2022).

3. **Title of the Invention:** "Water filtration and cooling system"
Application No.: 362653-001
Status: Application Accepted Published (29/07/2022).
4. **Title of the Invention:** "Industrial gas mixture separation apparatus"
Application No.: 365019-001
Status: Application Accepted and Published (16/05/2023).
5. **Title of the Invention:** "Capacitive deionization system for seawater desalination"
Application No.: 365453-001
Status: Application Accepted and Published (24/03/2023).
6. **Title of the Invention:** "Water Desalination System"
Application No.: 372222-001
Status: Application Accepted and Published (04/01/2023).
7. **Title of the Invention:** "Ultrasonication assisted wastewater treatment setup"
Application No.: 372302-001
Status: Application Accepted and Published (11/10/2023).
8. **Title of the Invention:** "Water Filtration Unit"
Application No.: 372773-001
Status: Application Accepted and Published (10/01/2023).



Students Guided

- **Name:** Mr. Omkar Prakash Shetye (M.Tech.)
Institute: Institute of Chemical Technology, Mumbai, Marathwada Campus Jalna, Maharashtra, India.
Topic: Capacitive Deionization



Reviewer in International Journals

- Sustainable Energy Technologies and Assessments (**Elsevier**)
- Journal of Water Process Engineering (**Elsevier**)



Consultancy

- **Project Title:** Adequacy report of effluent treatment plant
Name of Sponsoring Agency: Vivid Global Industries Ltd. Tarapur, Maharashtra
Amount Sanctioned: 2 Lakhs
Status: Completed (03/02/2020 to 02/03/2020)
- **Project Title:** Performance assessment report of ZLD system of effluent treatment plant
Name of Sponsoring Agency: Vivid Global Industries Ltd. Tarapur, Maharashtra

Amount Sanctioned: 3.54 Lakhs

Status: Completed (21/12/2020 to 01/02/2021)



Accomplishments

- GATE Scholarship, University Grants Commission, 2011-2013
- MHRD Scholarship, Ministry of human resources & development, from 2014.
- **International Travel Grant Award by Science and Engineering Research Board (SERB-DST), Government of India for Oral paper presentation** at SYDNEY, AUSTRALIA ACEM-2016, (INTERNATIONAL FORWARD OSMOSIS SUMMIT 2016) during 2nd December to 4th December 2016.
- Qualified **Trinity London ROCK & POP Grade 1 Drum Set** exam with distinction.
- **Paper Presentation** at International Conference on Waste Management "RECYCLE-2018" at Indian Institute of Technology Guwahati, Guwahati, India dated 22-24 February 2018.



References

Dr. Alka A. Mungray

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Declaration

I hereby declare that the information furnished above is all correct to my knowledge & I bear the responsibility for the correctness of the above mention particulars.

Date: 01/07/2023

Place: VJTI, Mumbai

Dr. Pankaj Pardeshi