



Indira CHIMANLAL

PhD student

Project: Design and Manufacture of Innovative Solar Powered Vacuum Membrane Distillation modules and Energy Efficient Systems.

Supervisor(s): Corinne Cabassud

Funding: European Project - ExBrineR

Key words: Vacuum membrane distillation, Solar power, hollow fibers, desalination, module design

Background

- 2023 : Master degree in Chemistry (cum laude), by research obtained at the University of the Witwatersrand, Johannesburg, South Africa
- 2021: Honors degree (cum laude) in Chemistry obtained at the University of the Witwatersrand, Johannesburg, South Africa
- 2019: Bachelor of Science in Chemistry with Chemical Engineering obtained at the University of the Witwatersrand, Johannesburg, South Africa

Currently working on

✓ My PhD is part of the framework project ExBrineR and is funded by the European Union. This project focuses on module design of innovative solar-powered VMD modules for seawater reverse osmosis brine desalination.

Scientific communications

- **Indira Chimanlal**, Cécile Formosa-Dague, Maria Iliopoulou, Despina Fragouli, Corinne Cabassud. Evaluating a new ultra-thin dense-skin hollow Fiber membrane for vacuum membrane distillation, Separation and Purification Technology, Volume 382, Part 4, 2026, 136026, ISSN 1383-5866, <https://doi.org/10.1016/j.seppur.2025.136026>.
- Tshepiso Mpala, **Indira Chimanlal**, Heidi Richards, Anita Etale, Lebea N. Nthunya. Chapter 4 - Hybrid membrane processes equipped with crystallization unit for a simultaneous recovery of freshwater and minerals from saline wastewater, Editor(s): Maulin P. Shah, Susana Rodriguez-Couto. Development in Wastewater Treatment Research and Processes, Elsevier, 2024, Pages 71 91, ISBN 9780323992787, <https://doi.org/10.1016/B978-0-323-99278-7.00010-9>.
- **Chimanlal Indira**, Nthunya Lebea N., Quist-Jensen Cejna, Richards Heidi. Resource recovery from acid mine drainage in membrane distillation crystallization. Frontiers in Membrane Science and Technology, Volume 2 – 2023, 2023, ISSN 2813-1010, <https://www.frontiersin.org/journals/membrane-science-and-technology/articles/10.3389/frmst.2023.1247276>



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- **Chimanlal, Indira**, Lebea N. Nthunya, Oranso T. Mahlangu, Bastian Kirkebæk, Aamer Ali, Cejna A. Quist-Jensen, and Heidi Richards. 2023. Nanoparticle-Enhanced PVDF Flat-Sheet Membranes for Seawater Desalination in Direct Contact Membrane Distillation. *Membranes* 13, no. 3: 317. <https://doi.org/10.3390/membranes1303031>
- **Chimanlal Indira**, Nthunya Lebea N., Quist-Jensen Cejna, Richards Heidi. Membrane distillation crystallization for water and mineral recovery: The occurrence of fouling and its control during wastewater treatment. *Frontiers in Chemical Engineering*, Volume 4 – 2022, 2022, ISSN 2673-2718, <https://www.frontiersin.org/journals/chemicalengineering/articles/10.3389/fceng.2022.1066027>
- **Indira Chimanlal**, Mahadi Lesaoana, Heidi Richards. Chemical modification of Macadamia-derived activated carbon for remediation of selected heavy metals from wastewater. *Minerals Engineering*, Volume 184, 2022, 107663, ISSN 0892-6875, <https://doi.org/10.1016/j.mineng.2022.107663>. (<https://www.sciencedirect.com/science/article/pii/S0892687522002734>)

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