

Haleema Saleem

Center for Advanced Materials (CAM), Qatar University, Qatar

Email: haleemasaleem@gmail.com

I am working as Researcher in the Center for Advanced Materials, Qatar University, and have an MSc Degree in Chemical Engineering from Khalifa University (Petroleum Institute), UAE. I have great interest and knowledge in the reverse osmosis membranes and processes. Have total 13 years of industrial and academic experience. Have extensive work experience on water treatment, reverse osmosis membrane testing and characterization and collaborated on several industrial projects. I have also mentored several graduate students on the environmental impact assessment of desalination plants.

RESEARCH INTEREST

- Desalination
- Polymers
- Water treatment
- Reverse osmosis
- Polymer-nanocomposites
- Nanomaterials synthesis, characterization, and functionalization
- Thin-film composite
- Membranes
- Brine management
- Produced water management
- Oxo-biodegradable plastics and Polyolefin additives
- Surfactants and bio-surfactants
- Forward Osmosis
- Pressure Retarded Osmosis

ACADEMIC CREDENTIALS

Program	College/School	University/Board	Duration	Score
Master of Science in Chemical Engineering	The Petroleum Institute, Abudhabi, UAE	Ministry of Higher Education, UAE	2014-2016	CGPA 3.68/4.00
Bachelor of Technology in Polymer Engineering	M.G.University College of Engineering, India	Mahatma Gandhi University	2003 -2007	78%
XII (Higher Secondary)	St Stephen's H.S.S' Pathanapuram, India	Kerala Board of Higher Secondary Education	2001 –2003	86.83%
X	St Goretti H.S.S, India	SSLC Board Kerala	2000 -2001	92%

INVITED SPEAKER FOR CONFERENCE

1. Conducted seminar on the topic “**DEVELOPMENTS IN THE APPLICATION OF NANOMATERIALS FOR WATER TREATMENT AND THEIR IMPACT ON THE ENVIRONMENT**” in CMAN-2020| Chapter 2, the Online Summit on Materials and Nanotechnology, STEM International Organization, Singapore, September 29th, 2020
2. Conducted seminar on the topic “**ADVANCED THIN-FILM COMPOSITE MEMBRANES FOR REVERSE OSMOSIS WATER DESALINATION**” in CMAN-2021| Chapter 3, the Online Summit on Materials and Nanotechnology, STEM International Organization, Belgium, January 07, 2021

CONFERENCE PRESENTATION

1. Conducted seminar on the topic “**DEVELOPMENTS IN NANOFIBROUS MEMBRANES: PRODUCTION METHODS AND APPLICATION IN DESALINATION AND WATER TREATMENT**” in RCOM2020-RCEnvE2020, Advanced Membrane Technology Research Centre (AMTEC), University Teknologi Malaysia (UTM), Malaysia, January 17th, 2021
2. Conducted seminar on the topic “**ENVIRONMENTAL IMPACT ASSESSMENT OF DESALINATION PLANTS IN THE GULF REGION**” on 3rd edition of WaterEnergyNEXUS (WEN) Conference, Tunisia, December 2nd, 2020

JOURNAL PUBLICATIONS

1. **Saleem, H.**, Pal, P., Haija, M. A., & Banat, F. (2019). Regeneration and reuse of bio-surfactant to produce colloidal gas aphanes for heavy metal ions removal using single and multistage cascade flotation. *Journal of Cleaner Production*. **Impact factor: 7.100**
2. **Saleem, H.**, Edathil, A., Ncube, T., Pokhrel, J., Khoori, S., Abraham, A. and Mittal, V. (2016), Mechanical and Thermal Properties of Thermoset–Graphene Nanocomposites. *Macromol. Mater. Eng.*, 301: 231–259. doi:10.1002/mame.201500335 **Impact factor: 5.914**
3. **Saleem, H.**, & Zaidi, S. J. (2020). Nanoparticles in reverse osmosis membranes for desalination: A state of the art review. *Desalination*, 475, 114171. **Impact factor: 7.098**
4. **Saleem, H.**, Trabzon, L., Kilic, A., Zaidi, S. J. (2020). Recent advances in nanofibrous membranes: Production and applications in water treatment and desalination. *Desalination*, 476, 114178. **Impact factor: 7.098**
5. Zaidi, S. J., Fadhilah, F., **Saleem, H.**, Hawari, A., & Benamor, A. (2019). Organically Modified Nanoclay Filled Thin-Film Nanocomposite Membranes for Reverse Osmosis Application. *Materials*, 12(22), 3803. **Impact factor: 3.057**
6. Yadav, S., **Saleem, H.**, Ibrar, I., Naji, O., Hawari, A.A., Alanezi, A.A., Zaidi, S.J., Altaee, A. and Zhou, J., 2020. Recent developments in forward osmosis membranes using carbon-based nanomaterials. *Desalination*, 482, p.114375. **Impact factor: 7.098**
7. **Saleem, H.**, & Zaidi, S. J. (2020). Developments in the Application of Nanomaterials for Water Treatment and Their Impact on the Environment. *Nanomaterials*, 10(9), 1764. **Impact factor: 4.324**
8. **Saleem, H.**, & Zaidi, S. J. (2020). Sustainable Use of Nanomaterials in Textiles and Their Environmental Impact. *Materials*, 13(22), 5134. **Impact factor: 3.057**
9. **Saleem, H.**, & Zaidi, S. J. (2020). Recent Developments in the Application of Nanomaterials in Agroecosystems. *Nanomaterials*, 10(12), 2411. **Impact factor: 4.324**
10. Mariam N. Soliman, Fatima Z. Guen, Somaya A. Ahmed, **Haleema Saleem**, Mohd Junaid Khalil, Syed Javaid Zaidi, ENERGY CONSUMPTION AND ENVIRONMENTAL IMPACT ASSESSMENT OF DESALINATION PLANTS AND BRINE DISPOSAL STRATEGIES, *Process Safety and Environmental Protection*, 2021, ,ISSN 0957-5820, <https://doi.org/10.1016/j.psep.2020.12.038>; **Impact factor: 4.99**
11. Nahawand AlZainati, **Haleema Saleem**, Ali Altaee, Syed Javaid Zaidi, Marwa Mohsen, Alaa Hawari, Graeme J. Millar, Pressure retarded osmosis: Advancement, challenges and potential, *Journal of Water Process Engineering*, 40, 2021, 101950, ISSN 2214-7144, **Impact factor: 3.465**
12. **Saleem, H.**, & Javaid Zaidi, S. (2020). INNOVATIVE NANOSTRUCTURED MEMBRANES FOR REVERSE OSMOSIS WATER DESALINATION.

PUBLISHED BOOK CHAPTERS- FIRST AUTHOR

1. **H. Saleem** and V. Mittal (2018) Polymer Modified/Enhanced Adsorbents for Gas Adsorption and Sweetening. In: Polymers for Oil and Gas Industry, V. Mittal (ed.), Central West Publishing, pp. 203-230.
2. **H. Saleem** and V. Mittal (2018) Xanthan Gum as Advanced Polymer System for Enhanced Oil Recovery. In: Polymers for Oil and Gas Industry, V. Mittal (ed.), Central West Publishing, pp. 75-10
3. **H. Saleem** and V. Mittal (2018) MOFs and Metal Oxides for Gas Adsorption and Environmental Applications. In: Functional Nanomaterials and Nanotechnologies Applications for Energy & Environment, V. Mittal (ed.), Central West Publishing, pp. 25-68.
4. **H. Saleem** and V. Mittal (2018) Potential of Ionic Liquids for Gas Separation. In: Functional Nanomaterials and Nanotechnologies Applications for Energy & Environment, V. Mittal (ed.), Central West Publishing, pp. 69-98.
5. **H. Saleem** and V. Mittal (2018) Deep Eutectic Solvents for Gas Separation, EOR and Other Applications. In: Functional Nanomaterials and Nanotechnologies Applications for Energy & Environment, V. Mittal (ed.), Central West Publishing, pp. 165-206
6. **H. Saleem** and V. Mittal (2018) Polymer nanocomposites for gas barrier and packaging applications. In: Polymer Nanocomposites: Emerging Applications, V. Mittal (ed.), Central West Publishing, pp. 1-34
7. **H. Saleem** and V. Mittal (2018) Polymer nano-composites for Electronics applications. In: Polymer Nanocomposites: Emerging Applications, V. Mittal (ed.), Central West Publishing, pp. 191-224
8. **H. Saleem** and V. Mittal (2018) Polymer nano-composites for Wastewater treatment applications. In: Polymer Nanocomposites: Emerging Applications, V. Mittal (ed.), Central West Publishing, pp. 117-146
9. **H. Saleem** and V. Mittal (2018). Schizophyllan for Enhanced Oil Recovery In: Advanced Materials, V. Mittal (ed.), Central West Publishing, pp. 311-338
10. **H. Saleem** and V. Mittal (2018). Porous polymer networks: An Overview In: Porous Polymer Networks, V. Mittal (ed.), Central West Publishing, pp. 1-32
11. **H. Saleem** and V. Mittal (2018). Polymeric Self-sensing materials. Advances in Polymer Science, Publisher: Central West Publishing, pp.101-132
12. **H. Saleem** and V. Mittal (2018). Nanocellulose as Reinforcement in Polymer Nanocomposites, Publisher: Central West Publishing, pp. 77-102

ANNUAL RESEARCH FORUM -PUBLICATIONS

1. **Saleem H.**, Javaid Z.S., "INNOVATIVE NANOSTRUCTURED MEMBRANES FOR REVERSE OSMOSIS WATER DESALINATION", Qatar University Annual Research Forum and Exhibition (QUARFE 2020), Doha, 28 October 2020, DOI:<https://doi.org/10.29117/quarfe.2020.002>

INSTRUMENTS HANDLED

1. Fourier transform infrared spectroscopic (FT-IR) analysis – Nicolet iS10 spectrometer
2. Thermogravimetric analysis (TGA) - TA Discovery thermogravimetric analyzer
3. Differential scanning calorimetry (DSC) analysis - TA Discovery DSC
4. Thermal conductivity analysis - LFA 447, Netzsch
5. Melt rheological behavior analysis - AR2000 813901 TA Instrument rheometer
6. Tensile properties analysis- Universal testing machine, Instron 5567 UTM, USA
7. Un-notched impact strength analysis - Resil 50 B Impactor, Ceast
8. Transmission electron microscopy (TEM) analysis - FEI, TECNAI
9. Antonpaar density meter DMA 4500 M , Lovis 200 ME Microviscometer
10. Froth flotation column

11. Soxhlet extraction system B-811
12. Surface tension analysis- Dataphysics DCAT 11
13. UV-Vis Spectrophotometer
14. Zeta potential analysis