UNIVERSITY OF CALCUTTA

FACULTY ACADEMIC PROFILE/ CV

1. **Full name of the faculty member**: DR. SANJIB BARMA
2. **Designation**: Assistant Professor
3. **Specialisation** : Chemical Engineering
4. **Contact information** :

Department of Chemical Technology
University of Calcutta
92, A.P.C. Road, Kolkata 700009
Email: sanjib.burma@gmail.com
sbchemtech@caluniv.ac.in

Phone: 2350-8386/6387/1397 Ext: 264
Mobile: +91 7003285579

5. **Academic qualifications**:

College/ university from which the degree was obtained	Abbreviation of the degree
Jadavpur University	BE
Jadavpur University	ME
IIT, Guwahati	PhD

6. **Positions held/ holding:**

7. **Research interests**:
   - Membrane technology (polymeric & inorganic membrane synthesis and application)
   - Adsorption technology (Silica, zeolite synthesis and application in CO_2 capture, protein separation)
   - Waste water treatment
   - Plastic waste management
8. **Research guidance:**

   Number of researchers awarded M.Tech degrees: **Three**
   Number of researchers pursuing PhD : **Two**
   Number of B.Tech Projects Completed: **Twelve**

9. **Other Research Activity:** Working as a mentor for National Post-Doctoral Fellow (NPDF) (one) of the project "Studies on CO_2 selective functionalized ordered mesoporous silica membrane development for CO_2 capture from flue gas***"***

10. **Selected list of publications**:

a) ***Journals (selected)***

1. Effects of sintering temperature and initial compaction load on alpha-alumina membrane support quality. ***Ceramics International.*** 2014, 40, 11299–11309.
2. Synthesis and characterization of ordered mesoporous silica membrane: role of porous support and gas permeation study. ***Microporous & Mesoporous Materials.*** 2015, 210, 10-19.
3. Modeling and simulation for post-combustion carbon dioxide capture from power plant flue gas with economic analysis. ***Separation Science & Technology.*** 2015, 50, 1952-1963.
4. Somjyoti Basak, **Sanjib Barma**, Swachchha Majumdar Sourja Ghosh, "Role of silane grafting in the development of a superhydrophobic clay-alumina composite membrane for separation of water in oil emulsion" **Ceramics International**, Volume 48, Issue 18, 15 September 2022, Pages 26638-26650.

b) ***Books/ book chapters :***

1. Zinnia Chowdhury, **Sanjib Barma**, Aparna Ray Sarkar Dwaipayan Sen, "Chapter 7 - Sustainable membranes with FNMs for biomedical applications", **Membranes with Functionalized Nanomaterials** Current & Emerging Research Trends in Membrane Technology, **Elsevier**, 2022, Pages 205-244

c) Conference Proceedings (Full Paper):

1. **Sanjib Barma**, Bishnupada Mandal, "Experimentation with Thermally Stable Mesoporous Silica Powder and Its CO2 Adsorption" **Proceedings of International Conference on Thermofluids, Springer,** 2021, Pages 613-620.

d) ***Conference/ seminar presentations (selected)***

1. "Synthesis and Characterisation of MCM-48 Coated Inorganic Membrane for CO_2 / N_2 Separation"- International Conference on "Membranes and Applications" (ICMA 2013), Nov 2013, CGCRI Kolkata, INDIA.
2. "Comparative study of the properties of MCM 48 synthesized by room temperature method with other synthesis methods and the overall feasibility of such adsorbents."-"The Indian Chemical Engineering Congress" (CHEMCON 2013), Dec 2013, Chandigarh, INDIA.
3. "Synthesis and Characterization of MCM-48 Materials at Different Aging Time"- "The Indian Chemical Engineering Congress" (CHEMCON 2012), Dec 2012, Jalandhar, INDIA.

4. “Synthesis and Characterization of Thin-Film Composite Polymeric Membrane Containing Amine Carrier.”- “The Indian Chemical Engineering Congress” (CHEMCON 2012), Dec 2012, Jalandhar, INDIA.
5. “Gas Separation by Inorganic Composite Membrane”- Twenty First International Symposium on “Processing and Fabrication of Advanced Materials” (PFAM XXI 2012), Dec 2012, IIT Guwahati, INDIA.
6. **“**Synthesis and Characterization of ordered mesoporous silica membrane by spin coating method on α-alumina support” – “CSChE 2014”, October 2014, Niagara Falls, Canada.
7. “A Comparison study between the solvent extraction and the calcination method for the removal of surfactant from MCM 41”- IMST 2018, Dec 14-16,2018, Amity University, Kolkata, India.
8. “Preparation and Characterization of Kaolin basedcost-effective MCM 41 membrane”- IMST 2018, Dec 14-16, 2018, Amity University, Kolkata, India.
9. "Development of a modified bentonite composite membrane for separation of polycyclic aromatic hydrocarbon (PAH) from sundarban coastal area ground water"-CHEMCON 2021, Dec 26-30, Bhubaneswar, India.
10. “Silane modification of kaolin clay coated ceramic hydrophobic membrane for oil-water separation”-ACMS 2022. April 14-16, HIT, Kolkata, India.