Dr. Abhijit Kakati

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Department of Chemical Engineering
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Date of Birth: 05-03-1990

Reservoir Rock Fluid Interaction Laboratory

Research Area: Enhanced Oil Recovery, Geostorage of CO_2 and Hydrogen, Wetting, Microfluidics, Porous Media, Polymer and Nano-composite, Rheology

WORK EXPERIENCE

June 2021-Current

Indian Institute of Technology Guwahati, Assistant Professor Grade-II at Department of Chemical Engineering

June 2020 to June 2021

Pandit Deendayal Energy University, Assistant Professor Grade-II, at the School of Petroleum Technology

ACADEMIC QUALIFICATION

2015-2020	Doctor of Philosophy, Specialization in Petroleum Engineering from **Indian Institute of Technology Madras**, Chennai, India
2013-2015	Master of Technology, Specialization in Petroleum Exploration and Production from **Andhra University, Visakhapatnam, India**
2009-2013	Bachelor of Technology, Specialization in Petroleum Engineering from **Dibrugarh University, Dibrugarh, India**

PUBLICATIONS

Book chapter

[1] Prasad, S., Kakati, A., Sangwai, S. Rheology of heavy crude oil and asphaltene-polymer composite blends. In: Thomas, S., Sarathchandran, C., Chandran, N. (Eds.) Rheology of Polymer Blends and Nanocomposites, Elsevier, 2019, pp. 168-188. Link

[2] Kakati, a., Sangwai, S. Low salinity surfactant flooding: role of surfactant and salt. In: T. Solling et al. (Eds.) Surfactants in Upstream E&P, 2021, pp. 225-243. Link

Journal Papers

[1] Kakati, A., Sangwai, J.S. Effect of monovalent and divalent salts on the interfacial tension of pure hydrocarbon-brine systems relevant for low salinity water flooding. *Journal of Petroleum Science Engineering* 2017, 157, 1106-1114. Link

[2] Kakati, A., Sangwai, J.S. Wettability alteration of mineral surface during low-salinity water flooding: Role of salt type, pure alkanes, and model oils containing polar components. *Energy & Fuels* 2018, 32, 3127-3137. Link

[3] Kumari, R., Kakati, A., Nagarajan, R., Sangwai JS. Synergistic effect of mixed anionic and cationic surfactant systems on the interfacial tension of crude oil-water and enhanced oil recovery. *Journal of Dispersion Science and Technology* 2018, 1-13. Link

[4] Kakati, A., Kumar, G., Sangwai, J.S. Oil recovery efficiency and mechanism of low Salinity-EOR for light crude oil with low acid number. *ACS Omega* 2020, 5, 1506-1518. Link

[5] Kakati, A., Kumar, G., Sangwai, J.S. Low salinity polymer flooding: effect on polymer rheology, injectivity, retention, and oil recovery efficiency. *Energy & Fuels* 2020, 34, 5715–5732. Link

[6] Kumar, G., Kakati, A., Sangwai, J.S. Stability of nanoparticle stabilized oil-in-water Pickering emulsion under high pressure and high temperature conditions: comparison with surfactant stabilized oil-in-water emulsion. *Journal of Dispersion Science and Technology* 2020, 1-4. Link

[7] Chowdhury, S., Shrivastava, S., Kakati, A., Sangwai, S.J. Comprehensive review on the role of surfactants in the chemical enhanced oil recovery process. *Industrial Engineering and Chemistry Research* 2022, 61, 21-64. Link

[8] Sharma, A., Kakati, A., Sivabalan, S., Jadhawar, P., Sangwai, J.S. Evaluation of ionanofluid for chemical-enhanced oil recovery for matured crude oil reservoirs. International Journal of Oil, Gas and Coal Technology 2022, 29, 329-342. Link

Conference Papers

[1] Kakati, A., Jha, N.K., Kumar, G., Sangwai, J.S. Application of low salinity water flooding for light paraffinic crude oil reservoir. Presented at SPE Symposium: Production Enhancement and Cost Optimization, Kuala Lumpur, Malaysia, 7-8 November, 2017. Link

[2] Kumar, G., Kakati, A., Mani, E., Sangwai, JS. Nanoparticle stabilized solvent-based emulsion for enhanced heavy oil recovery. Presented at SPE Canada Heavy Oil Technical Conference, Calgary, Alberta, Canada, 13-14 March, 2018. Link

[3] Kakati, A., Sangwai, J.S. Characterization of reservoir rock-fluid properties for low salinity water flooding in light paraffinic crude oil reservoir. Presented at ONGC CEWELL Symposium, Vadodara, Gujarat, India, 2-3 February, 2018. Link

[4] Barman, G. Kakati, A., Liang, L., Dayasagar, B.S. Interpolation of subsurface isopach maps using mathematical morphology. Presented at IEEE Ocean, Chennai, 21-24 Fabruary, 2022.