

Special Issue

Advances in Emulsification and Separation Technologies for Petroleum Industry

Message from the Guest Editors

The efficient handling of complex emulsions and the effective separation of oil–water mixtures are fundamental yet persistent challenges across the petroleum industry. This Special Issue on “Advances in Emulsification and Separation Technologies for Petroleum Industry” seeks high-quality original research and review articles focusing on the latest scientific and technological breakthroughs in this critical field. Topics include, but are not limited to:

- Fundamentals and Characterization: Mechanisms of petroleum emulsion formation/stabilization; advanced characterization techniques for emulsions and interfaces; modeling of emulsion behavior and separation processes.
- Novel Demulsification Technologies: The development and testing of new chemical demulsifiers (e.g., polymeric, nano-particle based, bio-based, stimuli-responsive); non-chemical methods (e.g., advanced electrocoalescence, ultrasonic, microwave, magnetic).
- Produced Water Treatment: Efficient technologies for oil removal, desalination, and contaminant reduction in produced water for reuse or safe discharge.
- Oily Sludge Treatment: Advanced separation and recovery techniques for valuable hydrocarbons from oily sludge.

Guest Editors

Dr. Lin He

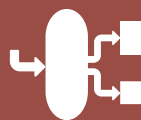
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Deadline for manuscript submissions

10 April 2026



Processes

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