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Editorial Note

It is with great pleasure that we present the second issue of 2025 for the Journal of Chemical and Petroleum Engineering (JChPE). This issue continues our commitment to disseminating high-quality, original research that bridges the core disciplines of chemical and petroleum engineering, while embracing the interdisciplinary challenges of energy transition and environmental sustainability. The diverse collection of papers in this volume reflects the dynamic scope of our field. We observe a strong emphasis on addressing practical industrial challenges through both experimental investigation and advanced computational modeling. From the reservoir to the refinery, and extending to environmental protection, the studies published here offer innovative solutions and a deeper fundamental understanding.

This issue opens with research focused on enhanced hydrocarbon recovery, presenting an optimized wettability alteration strategy for carbonate acidizing using surfactant technology. Subsequent contributions address critical drilling fluid performance, showcasing the evaluation of local biopolymers as sustainable additives. Process engineering is well-represented by a detailed simulation study for optimizing gasoline production in a fluid catalytic cracking unit (FCCU), highlighting the power of modern process simulators. A significant theme in this edition is environmental stewardship. We feature innovative work on the integrated treatment of refinery wastewater using a novel oxidized cotton waste adsorbent, alongside a bioremediation study on antibiotic removal using microalgae. Furthermore, the sustainable utilization of resources is explored through the isothermal pyrolysis of low-rank coal for the production of valuable products, as well as a comprehensive review on improving the transportation of heavy crude oil.

The pursuit of fundamental knowledge and advanced materials is evident in studies on the thermodynamic modeling of ionic liquids, the analysis of magnetic nanofluid heat transfer, and the development of new correlations for predicting hydrocarbon properties. Finally, the issue includes critical reviews and investigations on enduring challenges such as corrosion in chloride-rich media and the thermodynamic performance of gasoline-alcohol blends in internal combustion engines. Each article in this issue has successfully undergone our rigorous double-blind peer-review process, ensuring the scientific validity and novelty of the published work. As an open-access journal, we are proud to make these findings freely available to the global research community, fostering wider dissemination and collaboration. We extend our sincere gratitude to the authors for choosing JChPE as the venue for their valuable research, to the diligent reviewers for their essential contributions to maintaining our scholarly standards, and to our editorial board for their continuous guidance. We hope the insights contained within this issue will inspire further innovation and research in the multifaceted world of chemical and petroleum engineering.

Reza Zarghami

Editor-in-Chief

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