Special Issue

Deep Well Drilling and Sustainable Practices in Petroleum Engineering

Message from the Guest Editors

Deep well drilling represents one of the most technically demanding and resource-intensive operations in petroleum engineering. As drilling activities extend into deeper and more geologically complex formations, challenges related to pressure control, temperature resistance, wellbore stability, and environmental impact continue to grow. These complexities highlight the need for innovative and sustainable approaches that can improve the efficiency, safety, and environmental footprint of drilling operations. Recent research and industrial efforts have increasingly focused on implementing sustainable practices in well drilling—ranging from the development of energy-efficient technologies to the use of environmentally friendly materials and closed-loop systems that reduce waste and emissions. Additionally, digital solutions such as real-time monitoring, automation, and predictive analytics are proving essential for optimizing operations and minimizing risk. We look forward to your valuable contributions that will help shape a more sustainable future for petroleum engineering.

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Deadline for manuscript submissions

20 February 2026

Applied Sciences

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.5

mdpi.com/si/249635

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mdpi.com/journal/applsci

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As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal *Applied Sciences* has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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