

عنوان مقاله:

Using nano technology and artificial intelligence in oil and gas industry

محل انتشار:

دومین کنفرانس بین المللی دستاوردهای خلاقانه معماری، شهرسازی، عمران و محیط زیست در توسعه پایدار خاورمیانه (سال: 1402)

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خلاصه مقاله:

This article investigates the transformative potential arising from the integration of nanotechnology and artificial intelligence (AI) in the oil and gas industries. Exploring their collective impact on exploration, extraction, and operational strategies, nanotechnology introduces innovative materials and applications, while AI algorithms enable intelligent decision-making and predictive capabilities. Through applications such as advanced drilling fluids, durable equipment design, and real-time monitoring using nanosensors, nanotechnology enhances operational efficiency. Simultaneously, AI drives predictive maintenance, reservoir optimization, and intelligent materials discovery. This convergence not only advances resource utilization but also aligns with sustainable practices, propelling the industry into a realm of heightened innovation. As we navigate this landscape, the synergies between nanotechnology and AI promise a resilient and sustainable future for oil and gas.

کلمات کلیدی:

Nanotechnology, Artificial Intelligence, Oil and Gas Industries, Exploration, Extraction, Operational Efficiency, Advanced Drilling Fluids

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