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# Advanced Theories and Technologies of Unconventional Oil and Gas Exploration

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# **Message from the Guest Editors**

Dear Colleagues,

In recent years, with the increasing demand for energy resources, the petroleum industry worldwide has shifted conventional to unconventional resources. Unconventional oil and gas reservoirs are characterized by fine-grained sediments, extremely low porosity and permeability as well as multiple stages of diagenetic alterations. In addition, oil and gas accumulation processes are not controlled by buoyancy, but rather reservoir heterogeneity. Thus, theories and technologies in unconventional oil and gas exploration are different to those developed for conventional ones. Novel approaches or workflows and integrated investigations with a particular emphasis on this subject are therefore necessary. This Special Issue will present innovative studies in this field demonstrating research on the following topics, among others:

- Advanced theories and technologies of tight oil and gas exploration;
- Advanced theories and technologies of shale oil and gas exploration;
- Advanced theories and technologies of deep oil and gas exploration.

Prof. Dr. Kelai Xi Prof. Dr. Tian Yang Guest Editors











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## Message from the Editor-in-Chief

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