

Special Issue on
Advances of Nanotechnology in the Oil and Gas Industry

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Due to the different challenges presented nowadays in the oil and gas industry, different and new technologies have arisen in order to accomplish production goals and environmental requirements. This is the case of nanoparticles, nanofluids, and other types of nanotechnology that have been introduced in the last years in order to solve different problems.

It has been demonstrated that the exceptional physicochemical properties of nanoparticles/nanofluids represent a suitable alternative to treatments commonly used in the industry as a cost-effective solution and with a positive environmental impact. One example is the use functionalized nanoparticles for inhibition of formation damage due to asphaltenes or fines migrations. Also, nanoparticles have been included in the formulation of drilling fluids to enhance the potential mitigation of the different problems caused during the drilling process. Another example is that it has been demonstrated that nanoparticles dispersed in a desired fluid (nanofluids) are able to modify the wetting conditions of the porous media and reduce the viscosity of heavy and extra-heavy oils. Nowadays, the potential applications are extended to surface and subsurface applications including nanosensors, nanocatalysts, and nanoadsorbents.

For this reason, the editors of this journal are pleased to launch a special edition focused on the advances of nanotechnology to solve and/or mitigate different problems in the oil and gas industry.

This special issue has as main objective to provide novel, original and high quality articles as powerful tools for the readers, the scientific community, and members of the oil and gas industry. Original research and review articles are welcome for this issue.

Potential topics include but are not limited to the following:

- ▶ Nanotechnology for formation damage inhibition/remediation
- ▶ Nanosensors in the oil and gas industry
- ▶ Nanotechnology for production fluids treatment
- ▶ Enhanced and/or improved oil recovery processes assisted by nanoparticles/nanofluids
- ▶ Optimization of oil transport with nanotechnology
- ▶ Nanotechnology applied to unconventional hydrocarbons
- ▶ New tools based on nanotechnology for porous media and reservoir fluids characterization

Authors can submit their manuscripts through the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/jnm/anog/>.

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