



OG4IR: 4th Industrial Revolution Applications in Oil & Gas Upstream Industry

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A Bio of Dr. Abdallah Alshehri

- Abdallah Alshehri is a petroleum scientist at Saudi Aramco Advanced Research Center (EXPEC ARC) participating in industry-leading research on reservoir monitoring & surveillance. He received the Ph.D. degree from Georgia Institute of Technology, USA in 2018.
- He published more than twenty five papers, have been granted nine patents. He received many awards including the Outstanding Employee Award from IT/Saudi Aramco in 2009, the best Master Thesis Award from Concordia University in 2008, received the Best-in-Class Young Researcher award from EXPEC ARC/Saudi Aramco in 2017, the best paper award at the IEEE UEMCON 2017, Saudi Aramco/EXPEC ARC Annual Award on Creative project in 2019, the 2019 World Oil New Horizons Idea Award on the FracBots Technology and Saudi Aramco/EXPEC ARC Annual Award on citizenship class in 2020.
- His research interests include wireless underground sensor networks, in-situ sensing methodologies and applications for monitoring oil and gas reservoir.



Saudi Aramco: Public

A Bio of Dr. Klemens Katterbauer

- Klemens Katterbauer is an experienced petroleum engineer and software developer focusing on the development of the latest 4IR technologies for reservoir engineering applications. He completed his PhD at King Abdullah University of Science and Technology and a master in Petroleum Engineering from Heriot Watt University.
- He has a proven track record having developed enhanced uncertainty frameworks for enhancing oil recovery and strengthening sustainability of existing oil and gas reservoirs. A strong focus was laid on solar and wind energy and provide dedicated solutions for optimizing grid transfer rates, reduce downtimes and enhance efficiency in the power transmission.
- He has developed in recent years major technologies, such as enhanced artificial intelligence technologies for tracking waterfronts in subsurface reservoirs, and forecasting their movements. Furthermore, he has developed robotics systems for enabling real-time logging while drilling as well as subsurface sensing and logging operations.



Special Track Content

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- 28005 Klemens Katterbauer, An Overview of Natural Language Processing Driven Approaches Towards Assisted Formation Evaluation Interpretation
- 28006 Klemens Katterbauer, Real-time Intelligent Sensor Selection for Subsurface Flow and Fracture Monitoring
- 28007 Abdallah A. Alshehri, FracBots: The Next Real Reservoir IoT
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Future Challenges

- Big Data integration for automation of oil and gas operations
- Subsurface Monitoring of reservoir behavior
- AI for enhancing oil recovery and chemical injection optimization
- Drilling automatization