

World Congress on
OIL, GAS AND PETROLEUM REFINERY
December 17-18, 2018 Abu Dhabi, UAE



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The application of GIS in petroleum geology

The ultimate goal in oil and gas exploration is discovering new resources and finding new reserves. GIS Technology provides important tool for evaluation of potentiality of reserves and their locations. Oil and gas exploration operations are always depends on number of complex Geological operations. From seismic exploration and placement of seismic lines onshore as well as offshore to exploration of various subsurface geological conditions in order to provide detailed overview for underneath resources, which requires dealing with large volumes of complex data. Discovering feasible reserves is a core competence to be successful in the petroleum industry. GIS thus is very important technology for evaluation of the potential for oil and gas in promising location. GIS Technology provides advanced capabilities in spatial analysis and visualization of surface and subsurface geological and geophysical data. These analysis and visualization capabilities help with efficient and effective evaluations of prospects in potential zones. This presentation introduces the vast capabilities of GIS and its application in petroleum industry. It provides an emphasis on the spatial extent and the portions of exploration and production operations that can effectively utilize GIS.

Biography

Rifaat Abdalla is Associate Professor in the Department of Earth Sciences, College of Science, Sultan Qaboos University. He is specialized in GeoInformatics with focus on WebGIS Applications and Remote Sensing Modeling. He is a Certified GIS Professional (GISP) and Professional Geoscientist (PGeo) from Ontario, Canada. He was with King Abdulaziz University, Jeddah for five years prior joining Sultan Qaboos University in 2017. He has worked in oil industry in Qatar and in UK and was teaching at York University and Ryerson University in Canada. His research interests include Hydrography and Marine Applications for GIS; Modeling and Simulation; Mobile Handheld GIS Visualization; and Disaster Management and Emergency Response Mapping. He is a recipient of several prestigious international awards, including the American Society for Photogrammetry and Remote Sensing (ASPRS) PE&RS Best Scientific Paper by ESRI.

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