



FESAus September 2020 Talk **Integrated Core Analysis Defining Resistivity-Water Saturation models** **in Tight Gas Sands – Avrami Grader**

Presented remotely from Saudi Arabia

Focusing on low resistivity in tight gas sands. The balance between pore-filling clays, remaining open porosity, grain contacts, and clay modality are discussed. The structure of the rock is explored using various imaging methods including x-ray CT and scanning electron microscopy in two- and three-dimensions. Each of the elements of the rock is defined in space and its conductive properties are evaluated for various capillary pressures that define water saturations. In addition, the results from individual elements are integrated and up-scaled to provide plug-scale conductivity model to be coupled with various wireline resistivity logs to provide estimates of water saturation logs. This presentation focuses on the integration of physical and digital core analysis methods in developing new resistivity-saturation transformations in a practical and systematic workflow.

Avrami Grader (Global Advisor, FRS. Ingrain a Halliburton service) interests are in multi-phase flow in porous media and reservoir heterogeneities. Formerly, a professor of petroleum engineering at The Pennsylvania State University, Grader focused on two- and three-phase fluid flow in porous media, transient pressure analysis with its effects on well testing and water influx, and multi-phase flow dynamics in the near wellbore domain including wellbore mechanics. He served as Ingrain Chief Scientist for nine years and now with Halliburton. He is heavily involved in all aspects of integrating physical and digital core analysis methods, from cores to logs. He holds a PhD degree from Stanford University.



DATE: Tuesday September 8, 2020 - 12:30 – 1:30 PM (WAST, GMT+8) **VENUE:** Ibis hotel (Perth), on the web (rest of the world)
COST: Members \$30.00; Non Members \$40.00; Students/Retirees \$10.00; Remote (only if not based in Perth): \$10.00
Online registration at www.fesaus.org by Friday 4th of September at 11.00 am