



Palash Panja, PhD

RESEARCH SCIENTIST

Palash Panja joined EGI in 2015 as a Post-Doctoral Research Associate. He is an instructor in the Department of Chemical Engineering teaching courses for BS in Chemical Engineering and MS in Petroleum Engineering. He is working closely with EGI Affiliate Scientist Dr. Milind Deo on the Improved Liquid Recovery in Shales project, Palash is examining various reservoir engineering aspects of conventional and unconventional reservoirs as well as working on existing EGI projects and developing new projects in collaboration with EGI staff and Corporate Associates.

After receiving his Master's degree from the Indian Institute of Technology, Bombay, Palash earned his Ph.D. in Chemical Engineering from the University of Utah, specializing in petroleum and reservoir engineering.

Palash has worked 5 years with a variety of companies ranging from downstream companies to upstream production companies to University research. He worked for three years for ONGC, India's largest public E&P Company, serving as a production engineer on an offshore gas and condensate production platform.

As a graduate research assistant at the University of Utah, Palash worked on EGI's Liquids from Shales Phase 1 and 2 projects, enhancing his global oil and gas understanding through direct experience with a variety of unconventional plays throughout the United States, including the Bakken, Barnett, Eagle Ford and Niobrara.

Panja's current interests include production optimization from unconventional reservoirs while minimizing the environmental impacts, improved hydrocarbon recovery, CO₂ capture and injection, geothermal field development, interactions between flow and thermodynamics, surrogate model development, data analysis using machine learning etc. He has published more than 20 articles in journals and conferences.

Research Experience & Focus:

- Generate surrogate models for black oil and condensates in shales for quick production forecast, sensitivity study, and to assess the uncertainties in recoveries.
- Understand the flow and thermodynamic behaviors of hydrocarbons in nanopores through molecular dynamics simulation.
- Develop model for completion and production from fractured basement reservoirs.
- Study the importance of petrophysical and other parameters on production and recovery from shales.
- Design an efficient system to extract heat from an enhanced geothermal system (EGS)
- Apply machine learning in various aspects of reservoir characterization, field development, completion, production and completion operational strategies.
- Develop and improve modules of University developed in-house reservoir simulator A.R.T.S.

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Research Interests

- Improved liquid recovery from shale
- Enhanced Geothermal System (EGS)
- CO₂ capture & injection
- Machine learning
- Molecular dynamics in nanopores
- Rock on a chip
- Food, Energy & Water nexus

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