



## Hossein Rahmati

Senior Geomechanics Engineer - PhD

### Career Summary

- Geomechanics Engineer with 10+ years of industry and academic experience in geomechanical engineering
- Experienced in drilling and reservoir geomechanics
- Experienced in wellbore stability analysis and sand management
- Strong background in numerical modeling and simulation using continuum & discontinuum codes
- Hands-on experience in rock mechanics laboratory and field testing and interpretation

### Academics

- PhD in Petroleum Engineering-Geomechanical Engineering, University of Alberta, Canada 2008-2012
- MSc in Reservoir Engineering, Sharif University of Technology, Tehran, Iran, 2006-2008
- BSc in Production Engineering, Sharif University of Technology, Tehran, Iran, 2002-2006
- BSc in Electrical Engineering, Sharif University of Technology, Tehran, Iran, 2001-2006

### Business Experience

- Halliburton Energy Services Inc, Houston, Senior Geomechanics Engineer, November 2019 – Present
- Dana Energy, Canada, Team Lead - Geomechanics, October 2016 – August 2019
- Golder Associates, Senior Geomechanics Engineer, Canada, July 2013 – September 2016
- University of Alberta, Research Scientist, Canada, September 2008 – October 2013
- Dana Energy, Iran, Drilling Engineer, August 2006 – August 2008

### Project Experience

- 3D geomechanical modeling and wellbore stability analysis for various projects in the Middle East
- Sand production analysis, optimization, and sand management for several projects in the US, Canada and Middle East
- Critical stress analysis and fault re-activation analysis in the Canadian oil sand reservoirs
- DFN analysis and optimization of hydraulic fracturing based on microseismic data in several Canadian tight oil and gas fields
- Caprock integrity analysis for several projects in the Canada
- Laboratory and field rock mechanics testing
- R&D project: Hydro-thermo-mechanical model for caprock integrity analysis considering natural fractures
- R&D project: Developing models for predicting the rate of sand production

### Publications

- Rahmati, H., Nouri, A., Chan, D., & Vaziri, H. (2019). The Relationship between the Rock Macro- and Micro- Properties and Wellbore Breakout Type. *Journal of Underground Space*.
- Rahmati, H., Nouri, A., Chan, D., & Vaziri, H. (2014). Simulation of drilling-induced compaction bands using Discrete Element Method. *International Journal for Numerical and Analytical Methods in Geomechanics*, 38(1), 37-50.
- Rahmati, H., Azadbakht, S., Jafarpour, M., Nouri, A., Vaziri, H., Chan, D., & Xiao, Y. (2013). Review of Sand Production Prediction Models. *Journal of Petroleum Engineering*, 2013.
- Rahmati, H., Nouri A., & Rahmati, E. (2013, June). Numerical assessment of caprock integrity in SAGD operations. In *SPE Heavy Oil Conference-Canada*. Society of Petroleum Engineers.
- Rahmati H., Nouri A., Chan, D., Vaziri, H., & Rahmati, E. (2013). Systematic calibration procedure for DEM parallel-bond models. *Canadian Energy Technology & Innovation J.*, 1(4).
- Rahmati, H., Nouri, A., Vaziri, H., & Chan, D. (2012). Validation of predicted cumulative sand and sand rate against physical model test. *J. of Canadian Petroleum Technology*, 51(05), 403-410.
- Azadbakht, S., Rahmati, H., Nouri, A., Vaziri, H., & Chan, D. (2012, January). A numerical model for predicting the rate of sand production in injector wells. In *SPE Deepwater Drilling and Completions Conference*. Society of Petroleum Engineers.
- Jafarpour, M., Rahmati, H., Azadbakht, S., Nouri, A., Chan, D., & Vaziri, H. (2012). Determination of mobilized strength properties of degrading sandstone. *Soils and Foundation J.*, 52(4), 658-667.

### Professional Associations

- SPE (Society of Petroleum Engineers)
- ARMA (American Rock Mechanics Association)