

Jun Ge

Professional Summary

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Professional Preparation

Academic Background

Ph.D., Department of Civil Engineering, University of North Dakota, May 2018

M.S., Department of Petroleum Engineering, Texas A&M University, December 2009

M.S., School of Earth and Space Sciences, Peking University, July 2003

B.S., School of Geosciences, China University of Geosciences (Wuhan), July 2000

Professional Appointments

Research Scientist Associate, Bureau of Economic Geology, UT Austin (March 2019-Present)
Working on Delaware Basin hydrogeological modeling for TexNet Seismic Monitoring Program and Center for Integrated Seismicity Research.

Reservoir Engineer, Energy and Environmental Research Center, University of North Dakota (July 2011-February 2019)

- o In charge of constructing geomechanical models for several DOE and/or industry-funded projects (including the Bell Creek Project with DOE and Denbury) on CO2 sequestration and CO2 EOR in PCOR (Plains CO2 Reduction) Partnership.

- o Worked on the Bakken Production Optimization Program (BPOP).

- o Project management of evaluation of saltwater disposal options for Oasis.

- o Led simulation work in CO2 storage resources project for evaluations on factors that affect CO2 storage efficiency in deep saline formations and CO2 EOR recovery factor in some oil and gas fields.

- o Led simulation work in project "Field Implementation Plan for a Williston Basin Brine Extraction and Storage Test (BEST Phase I)," and did simulation work for BEST Phase II.

- o Worked on natural fracture evaluations on several oil fields in Bakken, Williston Basin, and performed as key researcher on DFN (Discrete Fracture Network) fracture analysis.

- o Did reservoir engineering work on the Denbury CO2 Sequestration Project, and led reservoir simulation work for the CarbonSafe Project.

Petroleum Engineering Intern, Golder Associates Inc. (July-September 2010)

- o Participated in developing and testing a hydraulic fracturing simulator for naturally fractured tight gas reservoirs

- o Performed pressure decline analysis for a Barnett Shale hydraulic fracturing project, and participated in the wrapping up of the final version of FracMan 7.30

Areas of Expertise

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- o Reservoir modeling and simulation
- o Rock mechanics and hydraulic fracturing
- o CCS and CO2 EOR
- o Waste subsurface disposal

Presentations

Presentations

Estimation of Formation Permeability Anisotropy in Delaware Mountain Group Using Injection Data in Water Disposal Project: presented to Industry technical session, presented at 2024 American Geophysical Union, Washington, D.C., December 9-13, 2024.

Injection Pore Pressure Model in the Delaware Mountain Group, v. 2: presented to Industry Sponsor Meeting, presented at 2024 CISR-Science Advisory Committee Meeting, Austin, TX, December 5-6, 2024.

Investigation of Inter-well Connectivity of the Ellenburger Formation in Central Midland Basin using a Rapid CRM Method: presented to Industry technical session, presented at American Geophysical Union 2023, San Francisco, December 11-15, 2023.

Hydrogeological modeling and pore pressure characterization of deep formations in the northern Delaware Basin Texas and New Mexico: presented at American Geophysical Union Fall Meeting, Chicago, IL, December 12-16, 2022.

Evaluation on saltwater disposal potential: from large basin scale to restricted field scale: presented to Bureau of Economic Geology, The University of Texas at Austin, presented at Friday Seminar, Bureau of Economic Geology, Austin, Tex., January 24, 2020.

Activities of a Professional Nature

Professional Societies

- o American Rock Mechanics Association (ARMA)
- o Society of Petroleum Engineers (SPE)
- o American Geophysical Union (AGU)

Publications

Peer Reviewed Journal Articles

Ge, J., Nicot, J.-P., Smye, K. M., Calle, A. Z., Hennings, P., Horne, E. A., and Leng, J., 2024, Modeling the evolution of pore pressure from deep wastewater injection in the Midland Basin, Texas: AAPG Bulletin, v. 108, no. 12, p. 2287-2312, <http://doi.org/10.1306/09102424008>.

Hennings, P., Ge, J., Horne, E. A., Smye, K. M., and Nicot, J.-P., 2024, Pore pressure thresholds associated with seismogenic fault slip in the Midland Basin, west Texas, United States: AAPG Bulletin, v. 108, no. 12, p. 2347-2375, <http://doi.org/10.1306/07232424014>.

Smye, K. M., Ge, J., Calle, A., Morris, A., Horne, E. A., Eastwood, R. L., Darvari, R., Nicot, J. P., and Hennings, P., 2024, Role of deep fluid injection in induced seismicity in the Delaware Basin, West Texas and southeast New Mexico: Geochemistry, Geophysics, Geosystems, v. 25, no. 6, article no. e2023GC011260, 33 p., <http://doi.org/10.1029/2023GC011260>.

Haddad, M., Ahmadian, M., Ge, J., Nicot, J.-P., and Ambrose, W., 2023, Geomechanical and hydrogeological evaluation of a shallow hydraulic fracture at the Devine Fracture Pilot Site, Medina County, Texas: Rock Mechanics and Rock Engineering, v. 56, no. 10, p. 7049-7069, <http://doi.org/10.1007/s00603-022-03115-z>.

Hennings, P., Staniewicz, S., Smye, K., Chen, J., Horne, E., Nicot, J.-P., Ge, J., Reedy, R., and Scanlon, B., 2023, Development of complex patterns of anthropogenic uplift and subsidence in the Delaware Basin of West Texas and southeast New Mexico, USA: Science of The Total

Environment, v. 903, no. 166367, 16 p., <http://doi.org/10.1016/j.scitotenv.2023.166367>.

Ge, J., Nicot, J.-P., Hennings, P. H., Smye, K. M., Hosseini, S. A., Gao, R. S., and Breton, C. L., 2022, Recent water disposal and pore pressure evolution in the Delaware Mountain Group, Delaware Basin, Southeast New Mexico and West Texas, USA: *Journal of Hydrology: Regional Studies*, v. 40, no. 101041, 17 p., <http://doi.org/10.1016/j.ejrh.2022.101041>.

Jin, L., Wojtanowicz, A. K., and Ge, J., 2022, Prediction of pressure increase during waste water injection to prevent seismic events: *Energies*, v. 15, no. 6, article no. 2101, 22 p., <http://doi.org/10.3390/en15062101>.

Ge, J., Jerath, S., and Ghassemi, A., 2020, Semianalytical modeling on 3D stress redistribution during hydraulic fracturing stimulation and its effects on natural fracture reactivation: *International Journal for Numerical and Analytical Methods in Geomechanics*, v. 44, no. 8, p. 1184-1199, <http://doi.org/10.1002/nag.3056>.

Conference Proceedings

Haddad, M., Ahmadian, M., Ge, J., Hosseini, S. A., Nicot, J.-P., and Ambrose, W. A., 2021, Hydrogeological and Geomechanical Evaluation of a Shallow Hydraulic Fracture at the Devine Fracture Pilot Site, Medina County, Texas, 55th U.S. Rock Mechanics/Geomechanics Symposium, online.

Published Abstracts

Leng, J., Nicot, J.-P., Ge, J., Wang, H., and Smye, K. G., 2024, Estimation of Formation Permeability Anisotropy in Delaware Mountain Group Using Injection Data in Water Disposal Project (abs.): *American Geophysical Union (AGU2024)*, v. 852, no. H43A-0852, <https://agu.confex.com/agu/agu24/meetingapp.cgi/Paper/1655640>.

Leng, J., Nicot, J.-P., Ge, J., Hennings, P., and Smye, K. G., 2023, Investigation of Inter-well Connectivity of the Ellenburger Formation in Central Midland Basin using a Rapid CRM Method (abs.): *American Geophysical Union (AGU2023)*, no. Abstract ID 1392927, Paper No. S51A-07 p., <https://ui.adsabs.harvard.edu/abs/2023AGUFM.S51A..07L/abstract>.

Ge, J., Nicot, J.-P., and Hennings, P., 2020, Hydrogeological modeling and pore pressure characterization of the Delaware Basin Delaware Mountain Group, West Texas (abs.): *Geological Society of America Abstracts with Programs*, v. 52, no. 6, 1 p., <http://doi.org/10.1130/abs/2020AM-355864>.

Ge, J., Hosseini, S. A., Smye, K. G., Banerji, D., Nicot, J.-P., and Hennings, P., 2019, Hydrogeological modeling and pore pressure characterization of Delaware Mountain Group in the Delaware Basin, Texas and New Mexico (abs.): Abstract H51L-1640, presented at AGU 2019 Fall Meeting, San Francisco, Calif., December 9-13.