

## Publications

### Patent

- Adidharma, H., Tan, S. P., **Dejam, M.** and Qiu, X.: Methods and Systems for Isochoric Measurements Using Differential Scanning Calorimetry, **United States Patent US2023/0085535A1 (Application Number: 17/987,406)**, 2023. URL: <https://patentcenter.uspto.gov/applications/17987406>

### Book

- **Dejam, M.**: Well Logging: Petrophysical Evaluation of Hydrocarbon Reservoirs Using Well Logging Data and Tools Operation, Tehran: **Iranian Offshore Oil Company**, 2008. ISBN: [978-964-04-2264-9](#)

### Journal Articles

- Owusu-Banahene, E. K., Tan, S. P., **Dejam, M.** and Adidharma, H. (2026), Disclosing the true critical point of fluids confined in nanopores. **Langmuir**, 42(8): 6191-6200. DOI: [10.1021/acs.langmuir.5c05643](https://doi.org/10.1021/acs.langmuir.5c05643)
- **Dejam, M.** (2025), Modeling tracer dispersion in a coupled system composed of a proppant-packed hydraulic fracture and a tight porous medium. **Advances in Water Resources**, 206: 105122. DOI: [10.1016/j.advwatres.2025.105122](https://doi.org/10.1016/j.advwatres.2025.105122)
- Nwankwo, I. V., **Dejam, M.** and Quillinan, S. A. (2025), A critical review of experimental and theoretical studies on shale geomechanical and deformation properties, fluid flow behavior, and coupled flow and geomechanics effects during production. **International Journal of Coal Geology**, 306: 104777. DOI: [10.1016/j.coal.2025.104777](https://doi.org/10.1016/j.coal.2025.104777)
- Nwankwo, I. V., **Dejam, M.**, Fischer, T. B. and Quillinan, S. A. (2025), A comprehensive review on analysis of permeability measurements and surfactant enhanced oil recovery in shale. **Physics of Fluids**, 37(7): 071305. DOI: [10.1063/5.0272106](https://doi.org/10.1063/5.0272106)
- Owusu-Banahene, E. K., Yang, H., **Dejam, M.** and Adidharma, H. (2025), Capillary condensation measurements in multimodal nanoporous media and pore critical point determination: Methane/propane mixture. **Langmuir**, 41(16): 10152-10160. DOI: [10.1021/acs.langmuir.4c05014](https://doi.org/10.1021/acs.langmuir.4c05014)
- **Dejam, M.** and Hassanzadeh, H. (2024), Dispersion in a slit with crossflow filtration through a porous wall. **Physics of Fluids**, 36(9): 092001. DOI: [10.1063/5.0226175](https://doi.org/10.1063/5.0226175)
- **Dejam, M.** and Hassanzadeh, H. (2024), Two-dimensional counter-current capillary imbibition of a wetting phase into a partially submerged porous cylindrical matrix block. **Physics of Fluids**, 36(5): 056614. DOI: [10.1063/5.0212788](https://doi.org/10.1063/5.0212788)
- Chen, F., Wang, S., **Dejam, M.** and Nasrabadi, H. (2024), Molecular simulation of competitive adsorption of hydrogen and methane: Analysis of hydrogen storage feasibility in depleted shale gas reservoirs. **Society of Petroleum Engineers Journal**, 29(6): 3412-3422. DOI: [10.2118/212218-PA](https://doi.org/10.2118/212218-PA)
- **Dejam, M.** and Hassanzadeh, H. (2023), Upscaling of dispersion in gas-liquid absorption on an inclined surface. **Physical Review E**, 108(3): 035104. DOI: [10.1103/PhysRevE.108.035104](https://doi.org/10.1103/PhysRevE.108.035104)
- **Dejam, M.** and Hassanzadeh, H. (2023), Thermal dispersion in a fracture-matrix system with application to geothermal energy extraction. **Water Resources Research**, 59(9): e2023WR034715. DOI: [10.1029/2023WR034715](https://doi.org/10.1029/2023WR034715)

- **Dejam, M.** and Hassanzadeh, H. (2023), Advection and dispersion induced by an interface between two immiscible fluids in a laminar flow. *American Institute of Chemical Engineers Journal*, 69(1): e17928. DOI: [10.1002/aic.17928](https://doi.org/10.1002/aic.17928)
- Brown, N. M. and **Dejam, M.** (2023), Tracer dispersion due to non-Newtonian fluid flows in hydraulic fractures with different geometries and porous walls. *Journal of Hydrology*, 622(B): 129644. DOI: [10.1016/j.jhydrol.2023.129644](https://doi.org/10.1016/j.jhydrol.2023.129644)
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## Conference Papers

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## Presentations

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- Mallick, S., Alvarado, V., **Dejam, M.** and Shukla, D.: From a Carbon Sequestered to an Enhanced Geothermal Reservoir, **National Science Foundation (NSF) Funded Industry University Cooperative Research Center (IUCRC) on AI/ML Driven Research in Infrastructure Trust Assurance (AMRITA) Planning Meeting**, Laramie, Wyoming, USA, 4-6 May 2025.
- Nwankwo, I. V. and **Dejam, M.**: An Insight into Shale Petrophysical and Geomechanical Properties and Their Effects on Production, **Wyoming's Energy Future Symposium**, Laramie, Wyoming, USA, 12 September 2024.
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- Yang, H., Jayaatmaja, K., **Dejam, M.**, Tan, S. P. and Adidharma, H.: Phase Transition and Criticality of Methane Confined in Nanopores: Experimentation and Modeling, **Energy Resources Council**, Laramie, Wyoming, USA, 25 August 2022.
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- Olayiwola, S. O. and **Dejam, M.**: The Impact of Monovalent and Divalent Ions on the Viscosity of a Solution with Silica Nanoparticles, **72nd Annual Meeting of the APS (American Physical Society) Division of Fluid Dynamics**, Seattle, Washington, USA, 23-26 November 2019.
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