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
- **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
- 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
- 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
- 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
- **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
- **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
- 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
- **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
- **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

- **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
- 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
- Dordzie, G. and **Dejam, M.** (2023), Implementation of surfactant for alternating injection with low salinity water and γ-alumina nanoparticles in fractured carbonate reservoirs: An experimental study. ***Energy & Fuels***, 37(17): 12865-12878. DOI: 10.1021/acs.energyfuels.3c02212
- Dordzie, G. and **Dejam, M.** (2023), Viscosity behavior for zirconia and γ-alumina nanoparticles in different electrolytic solutions: An experimental investigation. ***Fuel***, 348: 128522. DOI: 10.1016/j.fuel.2023.128522
- Mirchi, V. and **Dejam, M.** (2023), Effect of rock surface wettability on hydrogen-cushion gas adsorption with application to hydrogen storage in depleted oil and gas reservoirs. ***Journal of Energy Storage***, 73(C): 109152. DOI: 10.1016/j.est.2023.109152
- Yang, H., **Dejam, M.**, Tan, S. P. and Adidharma, H. (2023), Experimental study on phase transitions of carbon dioxide confined in nanopores: Evaporation, melting, sublimation, and triple point. ***Langmuir***, 39(45): 16060-16068. DOI: 10.1021/acs.langmuir.3c02209
- Mirchi, V., **Dejam, M.**, Alvarado, V. and Akbarabadi, M. (2023), Effect of cushion gas on hydrogen/brine flow behavior in oil-wet rocks with application to hydrogen storage in depleted oil and gas reservoirs. ***Energy & Fuels***, 37(19): 15231-15243. DOI: 10.1021/acs.energyfuels.3c02884
- Yang, H., Jayaatmaja, K., Qiu, X., Fan, M., **Dejam, M.**, Tan, S. P. and Adidharma, H. (2023), Accurate measurement of the isothermal heat of capillary condensation in nanopores using differential scanning calorimetry and adsorption/desorption experiments. ***The Journal of Physical Chemistry C***, 127(45): 21980-21988. DOI: 10.1021/acs.jpcc.3c05402
- Hou, D., Qiu, X., Gong, F., **Dejam, M.** and Nasrabadi, H. (2023), Characterization of kerogen molecular structure and its effect on methane adsorption behavior: A comparative study on outcrop and core samples from Longmaxi shale. ***Chemical Engineering Journal***, 466: 143293. DOI: 10.1016/j.cej.2023.143293
- Sengupta, S., Dasgupta, T., Roy, D., **Dejam, M.** and De, S. (2023), Combined electroosmotic and pressure-driven transport of neutral solutes across a rough, porous-walled microtube. ***Electrophoresis***, 44(7-8): 711-724. DOI: 10.1002/elps.202300005
- **Dejam, M.** and Hassanzadeh, H. (2022), Dispersion tensor in stratified porous media. ***Physical Review E***, 105(6): 065115. DOI: 10.1103/PhysRevE.105.065115
- Dordzie, G. and **Dejam, M.** (2022), Experimental study on alternating injection of silica and zirconia nanoparticles with low salinity water and surfactant into fractured carbonate reservoirs for enhanced oil recovery. ***Industrial & Engineering Chemistry Research***, 61(43): 16328-16340. DOI: 10.1021/acs.iecr.2c02741
- Brown, N. M. and **Dejam, M.** (2022), An extensive scope of flow loops with a focus on particle transport. ***Physics of Fluids***, 34(8): 081301. DOI: 10.1063/5.0099309
- Mirchi, V., **Dejam, M.** and Alvarado, V. (2022), Interfacial tension and contact angle measurements for hydrogen-methane mixtures/brine/oil-wet rocks at reservoir conditions. ***International Journal of Hydrogen Energy***, 47(82): 34963-34975. DOI: 10.1016/j.ijhydene.2022.08.056

- Das, A. K., **Dejam, M.** and Hassanzadeh, H. (2022), New line-source solution and scaling relations for diffusive leakage of brine from an infinite aquifer-caprock composite domain during geological storage of CO_2. ***International Journal of Greenhouse Gas Control***, 118: 103664. DOI: 10.1016/j.ijggc.2022.103664
- Yang, H., **Dejam, M.**, Tan, S. P. and Adidharma, H. (2022), First-order and gradual phase transitions of ethane confined in MCM-41. ***Physical Chemistry Chemical Physics***, 24(30): 18161-18168. DOI: 10.1039/D2CP02530B
- Yang, H., Jayaatmaja, K., **Dejam, M.**, Tan, S. P. and Adidharma, H. (2022), Phase transition and criticality of methane confined in nanopores. ***Langmuir***, 38(6): 2046-2054. DOI: 10.1021/acs.langmuir.1c02955
- Wei, M., Long, T., Duan, X., **Dejam, M.** and Sun, Y. (2022), Temperature response characteristics of the production profile for multilayered gas wells based on distributed temperature sensing monitoring. ***Journal of Energy Resources Technology***, 144(12): 123002. DOI: 10.1115/1.4054422
- **Dejam, M.** and Hassanzadeh, H. (2021), The role of a porous wall on the solute dispersion in a concentric annulus. ***Physics of Fluids***, 33(11): 116602. DOI: 10.1063/5.0070653
- **Dejam, M.** and Hassanzadeh, H. (2021), Dispersion tensor in a two-phase flow in a slit. ***Physics of Fluids***, 33(10): 103612. DOI: 10.1063/5.0068043
- Olayiwola, S. O. and **Dejam, M.** (2021), Nanoparticles aid oil recovery during alternating injection. ***Journal of Petroleum Technology***, 73(9): 62-63. DOI: 10.2118/0921-0062-JPT
- Dordzie, G. and **Dejam, M.** (2021), Enhanced oil recovery from fractured carbonate reservoirs using nanoparticles with low salinity water and surfactant: A review on experimental and simulation studies. ***Advances in Colloid and Interface Science***, 293: 102449. DOI: 10.1016/j.cis.2021.102449
- Nguyen, M. C., **Dejam, M.**, Fazelalavi, M., Zhang, Y., Gay, G. W., Bowen, D. W., Spangler, L. H., Zaluski, W. and Stauffer, P. H. (2021), Skin factor and potential formation damage from chemical and mechanical processes in a naturally fractured carbonate aquifer with implications to CO_2 sequestration. ***International Journal of Greenhouse Gas Control***, 108: 103326. DOI: 10.1016/j.ijggc.2021.103326
- Kamyab, M., Simjoo, M., **Dejam, M.** and Alamatsaz, A. (2021), Numerical study of immiscible foam propagation in porous media in the presence of oil using an implicit-texture foam model. ***Energy & Fuels***, 35(8): 6553-6565. DOI: 10.1021/acs.energyfuels.0c04076
- Qiu, X., Yang, H., **Dejam, M.**, Tan, S. P. and Adidharma, H. (2021), Experiments on the capillary condensation/evaporation hysteresis of pure fluids and binary mixtures in cylindrical nanopores. ***The Journal of Physical Chemistry C***, 125(10): 5802-5815. DOI: 10.1021/acs.jpcc.0c10840
- Bollineni, P. K., Dordzie, G., Olayiwola, S. O. and **Dejam, M.** (2021), An experimental investigation of the viscosity behavior of solutions of nanoparticles, surfactants, and electrolytes. ***Physics of Fluids***, 33(2): 026601. DOI: 10.1063/5.0038002
- Olayiwola, S. O. and **Dejam, M.** (2021), Comprehensive experimental study on the effect of silica nanoparticles on the oil recovery during alternating injection with low salinity water and surfactant into carbonate reservoirs. ***Journal of Molecular Liquids***, 325: 115178. DOI: 10.1016/j.molliq.2020.115178
- Mazlumi, F., Mosharaf-Dehkordi, M. and **Dejam, M.** (2021), Simulation of two-phase incompressible fluid flow in highly heterogeneous porous media by considering localization

assumption in multiscale finite volume method. ***Applied Mathematics and Computation***, 390: 125649. DOI: 10.1016/j.amc.2020.125649

- Qiu, X., Tan, S. P., **Dejam, M.** and Adidharma, H. (2021), Binary fluid mixtures confined in nanoporous media: Experimental evidence of no phase coexistence. ***Chemical Engineering Journal***, 405: 127021. DOI: 10.1016/j.cej.2020.127021
- Olayiwola, S. O. and **Dejam, M.** (2020), Synergistic interaction of nanoparticles with low salinity water and surfactant during alternating injection into sandstone reservoirs to improve oil recovery and reduce formation damage. ***Journal of Molecular Liquids***, 317: 114228. DOI: 10.1016/j.molliq.2020.114228
- Kou, Z. and **Dejam, M.** (2020), Control of shear dispersion by the permeable porous wall of a capillary tube. ***Chemical Engineering & Technology***, 43(11): 2208-2214. DOI: 10.1002/ceat.201900687
- Bhattacharjee, S., **Dejam, M.** and De, S. (2020), Effects of finite ion size on transport of neutral solute across porous wall of a nanotube. ***Theoretical and Computational Fluid Dynamics***, 34(5-6): 659-677. DOI: 10.1007/s00162-020-00540-0
- Azari, M., Sadeghi, A. and **Dejam, M.** (2020), Liquid flow forced convection in rectangular microchannels with non-uniform heating: Toward analytical modeling of hotspots. ***Journal of Heat Transfer***, 142(8): 082505. DOI: 10.1115/1.4047148
- Qiu, X., Tan, S. P., **Dejam, M.** and Adidharma, H. (2020), Isochoric measurement of the evaporation point of pure fluids in bulk and nanoporous media using differential scanning calorimetry. ***Physical Chemistry Chemical Physics***, 22(13): 7048-7057. DOI: 10.1039/D0CP00900H
- Tazikeh, S., Sayyad Amin, J., Zendehboudi, S., **Dejam, M.** and Chatzis, I. (2020), Bi-fractal and bi-Gaussian theories to evaluate impact of polythiophene-coated Fe_3O_4 nanoparticles on asphaltene precipitation and surface topography. ***Fuel***, 272: 117535. DOI: 10.1016/j.fuel.2020.117535
- Hayati-Jafarbeigi, S., Mosharaf-Dehkordi, M., Ziaei-Rad, M. and **Dejam, M.** (2020), A three-dimensional coupled well-reservoir flow model for determination of horizontal well characteristics. ***Journal of Hydrology***, 585: 124805. DOI: 10.1016/j.jhydrol.2020.124805
- Olayiwola, S. O. and **Dejam, M.** (2020), Experimental study on the viscosity behavior of silica nanofluids with different ions of electrolytes. ***Industrial & Engineering Chemistry Research***, 59(8): 3575-3583. DOI: 10.1021/acs.iecr.9b06275
- Olayiwola, S. O. and **Dejam, M.** (2020), Interfacial energy for solutions of nanoparticles, surfactants, and electrolytes. ***American Institute of Chemical Engineers Journal***, 66(4): e16891. DOI: 10.1002/aic.16891
- Duan, Y.-G., Ren, K.-Y., Fang, Q.-T., Wei, M.-Q., **Dejam, M.** and Chen, W.-H. (2020), Pressure transient analysis for a horizontal well in heterogeneous carbonate reservoirs using a linear composite model. ***Mathematical Problems in Engineering***, 2020: 3267458. DOI: 10.1155/2020/3267458
- Asadi, M. B., **Dejam, M.** and Zendehboudi, S. (2020), Semi-analytical solution for productivity evaluation of a multi-fractured horizontal well in a bounded dual-porosity reservoir. ***Journal of Hydrology***, 581: 124288. DOI: 10.1016/j.jhydrol.2019.124288
- Rostami, P., Sharifi, M. and **Dejam, M.** (2020), Shape factor for regular and irregular matrix blocks in fractured porous media. ***Petroleum Science***, 17(1): 136-152. DOI: 10.1007/s12182-019-00399-9

- Wei, M., Ren, K., Duan, Y., Chen, Q. and **Dejam, M.** (2019), Production decline behavior analysis of a vertical well with a natural water influx/waterflood. ***Mathematical Problems in Engineering***, 2019: 1683989. DOI: 10.1155/2019/1683989
- Qiu, X., Tan, S. P., **Dejam, M.** and Adidharma, H. (2019), Experimental study on the criticality of a methane/ethane mixture confined in nanoporous media. ***Langmuir***, 35(36): 11635-11642. DOI: 10.1021/acs.langmuir.9b01399
- **Dejam, M.** (2019), Tracer dispersion in a hydraulic fracture with porous walls. ***Chemical Engineering Research and Design***, 150: 169-178. DOI: 10.1016/j.cherd.2019.07.027
- Kou, Z. and **Dejam, M.** (2019), Dispersion due to combined pressure-driven and electro-osmotic flows in a channel surrounded by a permeable porous medium. ***Physics of Fluids***, 31(5): 056603. DOI: 10.1063/1.5092199
- **Dejam, M.** (2019), Derivation of dispersion coefficient in an electro-osmotic flow of a viscoelastic fluid through a porous-walled microchannel. ***Chemical Engineering Science***, 204: 298-309. DOI: 10.1016/j.ces.2019.04.027
- Azarmanesh, M., **Dejam, M.**, Azizian, P., Yesiloz, G., Mohamad, A. A. and Sanati-Nezhad, A. (2019), Passive microinjection within high-throughput microfluidics for controlled actuation of droplets and cells. ***Scientific Reports***, 9: 6723. DOI: 10.1038/s41598-019-43056-2
- Tan, S. P., Qiu, X., **Dejam, M.** and Adidharma, H. (2019), Critical point of fluid confined in nanopores: Experimental detection and measurement. ***The Journal of Physical Chemistry C***, 123(15): 9824-9830. DOI: 10.1021/acs.jpcc.9b00299
- **Dejam, M.** (2019), Hydrodynamic dispersion due to a variety of flow velocity profiles in a porous-walled microfluidic channel. ***International Journal of Heat and Mass Transfer***, 136: 87-98. DOI: 10.1016/j.ijheatmasstransfer.2019.02.081
- **Dejam, M.** (2019), Advective-diffusive-reactive solute transport due to non-Newtonian fluid flows in a fracture surrounded by a tight porous medium. ***International Journal of Heat and Mass Transfer***, 128: 1307-1321. DOI: 10.1016/j.ijheatmasstransfer.2018.09.061
- Olayiwola, S. O. and **Dejam, M.** (2019), A comprehensive review on interaction of nanoparticles with low salinity water and surfactant for enhanced oil recovery in sandstone and carbonate reservoirs. ***Fuel***, 241: 1045-1057. DOI: 10.1016/j.fuel.2018.12.122
- Olayiwola, S. O. and **Dejam, M.** (2019), Mathematical modelling of surface tension of nanoparticles in electrolyte solutions. ***Chemical Engineering Science***, 197: 345-356. DOI: 10.1016/j.ces.2018.11.047
- Azizian, P., Azarmanesh, M., **Dejam, M.**, Mohammadi, M., Shamsi, M., Sanati-Nezhad, A. and Mohamad, A. A. (2019), Electrohydrodynamic formation of single and double emulsions for low interfacial tension multiphase systems within microfluidics. ***Chemical Engineering Science***, 195: 201-207. DOI: 10.1016/j.ces.2018.11.050
- He, L., Mei, H., Hu, X., **Dejam, M.**, Kou, Z. and Zhang, M. (2019), Advanced flowing material balance to determine original gas in place of shale gas considering adsorption hysteresis. ***SPE Reservoir Evaluation and Engineering***, 22(4): 1282-1292. DOI: 10.2118/195581-PA
- Wei, M., Duan, Y., Dong, M., Fang, Q. and **Dejam, M.** (2019), Transient production decline behavior analysis for a multi-fractured horizontal well with discrete fracture networks in shale gas reservoirs. ***Journal of Porous Media***, 22(3): 343-361. DOI: 10.1615/JPorMedia.2019028982
- Qiu, X., Tan, S. P., **Dejam, M.** and Adidharma, H. (2019), Simple and accurate isochoric differential scanning calorimetry measurements: Phase transitions for pure fluids and mixtures in

nanopores. ***Physical Chemistry Chemical Physics***, 21(1): 224-231. DOI: 10.1039/C8CP06691D

- Dakhelpour-Ghoveifel, J., Shegeftfard, M. and **Dejam, M.** (2019), Capillary-based method for rock typing in transition zone of carbonate reservoirs. ***Journal of Petroleum Exploration and Production Technology***, 9(3): 2009-2018. DOI: 10.1007/s13202-018-0593-6
- Rostami, P., Fattahi Mehraban, M., Sharifi, M., **Dejam, M.** and Ayatollahi, S. (2019), Effect of water salinity on oil/brine interfacial behavior during low salinity waterflooding: A mechanistic study. ***Petroleum***, 5(4): 367-374. DOI: 10.1016/j.petlm.2019.03.005
- Rony, A. H., Kong, L., Lu, W., **Dejam, M.**, Adidharma, H., Gasem, K. A. M., Zheng, Y., Norton, U. and Fan, M. (2019), Kinetics, thermodynamics, and physical characterization of corn stover (Zea mays) for solar biomass pyrolysis potential analysis. ***Bioresource Technology***, 284: 466-473. DOI: 10.1016/j.biortech.2019.03.049
- Qiu, X., Tan, S. P., **Dejam, M.** and Adidharma, H. (2018), Novel isochoric measurement of the onset of vapor-liquid phase transition using differential scanning calorimetry. ***Physical Chemistry Chemical Physics***, 20(41): 26241-26248. DOI: 10.1039/C8CP05613G
- **Dejam, M.** and Hassanzadeh, H. (2018), The role of natural fractures of finite double-porosity aquifers on diffusive leakage of brine during geological storage of CO_2. ***International Journal of Greenhouse Gas Control***, 78: 177-197. DOI: 10.1016/j.ijggc.2018.08.007
- **Dejam, M.**, Hassanzadeh, H. and Chen, Z. (2018), Semi-analytical solution for pressure transient analysis of a hydraulically fractured vertical well in a bounded dual-porosity reservoir. ***Journal of Hydrology***, 565: 289-301. DOI: 10.1016/j.jhydrol.2018.08.020
- Dehghan Manshadi, M. K., Saadat, M., Mohammadi, M., Shamsi, M., **Dejam, M.**, Kamali, R. and Sanati-Nezhad, A. (2018), Delivery of magnetic micro/nanoparticles and magnetic-based drug/cargo into arterial flow for targeted therapy. ***Drug Delivery***, 25(1): 1963-1973. DOI: 10.1080/10717544.2018.1497106
- **Dejam, M.** (2018), Dispersion in non-Newtonian fluid flows in a conduit with porous walls. ***Chemical Engineering Science***, 189: 296-310. DOI: 10.1016/j.ces.2018.05.058
- Shamsi, M., Saghafian, M., **Dejam, M.** and Sanati-Nezhad, A. (2018), Mathematical modeling of the function of Warburg effect in tumor microenvironment. ***Scientific Reports***, 8: 8903. DOI: 10.1038/s41598-018-27303-6
- Shamsi, M., Sedaghatkish, A., **Dejam, M.**, Saghafian, M., Mohammadi, M. and Sanati-Nezhad, A. (2018), Magnetically assisted intraperitoneal drug delivery for cancer chemotherapy. ***Drug Delivery***, 25(1): 846-861. DOI: 10.1080/10717544.2018.1455764
- Zhang, L., Kou, Z., Wang, H., Zhao, Y., **Dejam, M.**, Guo, J. and Du, J. (2018), Performance analysis for a model of a multi-wing hydraulically fractured vertical well in a coalbed methane gas reservoir. ***Special Issue on "Advances in Hydraulic Fracturing: Theory and Practice"***, ***Journal of Petroleum Science and Engineering***, 166: 104-120. DOI: 10.1016/j.petrol.2018.03.038
- **Dejam, M.** (2018), The role of fracture capillary pressure on the block-to-block interaction process. ***Journal of Porous Media***, 21(11): 1121-1136. DOI: 10.1615/JPorMedia.2018028668
- **Dejam, M.**, Hassanzadeh, H. and Chen, Z. (2018), Shear dispersion in a rough-walled fracture. ***Society of Petroleum Engineers Journal***, 23(5): 1669-1688. DOI: 10.2118/189994-PA

- **Dejam, M.** and Hassanzadeh, H. (2018), Diffusive leakage of brine from aquifers during CO_2 geological storage. ***Advances in Water Resources***, 111: 36-57. DOI: 10.1016/j.advwatres.2017.10.029
- Amirian, E., **Dejam, M.** and Chen, Z. (2018), Performance forecasting for polymer flooding in heavy oil reservoirs. ***Fuel***, 216: 83-100. DOI: 10.1016/j.fuel.2017.11.110
- **Dejam, M.**, Hassanzadeh, H. and Chen, Z. (2018), A reduced-order model for chemical species transport in a tube with a constant wall concentration. ***The Canadian Journal of Chemical Engineering***, 96(1): 307-316. DOI: 10.1002/cjce.22863
- **Dejam, M.**, Hassanzadeh, H. and Chen, Z. (2017), Pre-Darcy flow in porous media. ***Water Resources Research***, 53(10): 8187-8210. DOI: 10.1002/2017WR021257
- Saboorian-Jooybari, H., **Dejam, M.**, Chen, Z. and Pourafshary, P. (2016), Comprehensive evaluation of fracture parameters by dual laterolog data. ***Journal of Applied Geophysics***, 131: 214-221. DOI: 10.1016/j.jappgeo.2016.06.005
- Nikpoor, M. H., **Dejam, M.**, Chen, Z. and Clarke, M. (2016), Chemical-gravity-thermal diffusion equilibrium in two-phase non-isothermal petroleum reservoirs. ***Energy & Fuels***, 30(3): 2021-2034. DOI: 10.1021/acs.energyfuels.5b02753
- **Dejam, M.**, Hassanzadeh, H. and Chen, Z. (2016), Shear dispersion in a capillary tube with a porous wall. ***Journal of Contaminant Hydrology***, 185-186: 87-104. DOI: 10.1016/j.jconhyd.2016.01.007
- Saboorian-Jooybari, H., **Dejam, M.** and Chen, Z. (2016), Heavy oil polymer flooding from laboratory core floods to pilot tests and field applications: Half-century studies. ***Journal of Petroleum Science and Engineering***, 142: 85-100. DOI: 10.1016/j.petrol.2016.01.023
- **Dejam, M.**, Hassanzadeh, H. and Chen, Z. (2015), Shear dispersion in combined pressure-driven and electro-osmotic flows in a capillary tube with a porous wall. ***American Institute of Chemical Engineers Journal***, 61(11): 3981-3995. DOI: 10.1002/aic.14897
- **Dejam, M.**, Hassanzadeh, H. and Chen, Z. (2015), Shear dispersion in combined pressure-driven and electro-osmotic flows in a channel with porous walls. ***Chemical Engineering Science***, 137: 205-215. DOI: 10.1016/j.ces.2015.06.028
- **Dejam, M.**, Hassanzadeh, H. and Chen, Z. (2015), Capillary forces between two parallel plates connected by a liquid bridge. ***Journal of Porous Media***, 18(3): 179-188. DOI: 10.1615/JPorMedia.v18.i3.10
- Saboorian-Jooybari, H., **Dejam, M.** and Chen, Z. (2015), Equilibrium or nonequilibrium models: a critical issue in determination of gas diffusivity in oil. ***Journal of Canadian Petroleum Technology***, 54(2): 78-80. DOI: 10.2118/0315-078-JCPT
- **Dejam, M.**, Hassanzadeh, H. and Chen, Z. (2014), Reinfiltration through liquid bridges formed between two matrix blocks in fractured rocks. ***Journal of Hydrology***, 519: 3520-3530. DOI: 10.1016/j.jhydrol.2014.10.050
- **Dejam, M.**, Hassanzadeh, H. and Chen, Z. (2014), Shear dispersion in a fracture with porous walls. ***Advances in Water Resources***, 74: 14-25. DOI: 10.1016/j.advwatres.2014.08.005
- Mashayekhizadeh, V., Kord, S. and **Dejam, M.** (2014), EOR potential within Iran. ***Special Topics & Reviews in Porous Media - An International Journal***, 5(4): 325-354. DOI: 10.1615/SpecialTopicsRevPorousMedia.v5.i4.50
- **Dejam, M.**, Hassanzadeh, H. and Chen, Z. (2014), Shape of liquid bridges in a horizontal fracture. ***Journal of Fluid Flow, Heat and Mass Transfer***, 1: 1-8. DOI: 10.11159/jffhmt.2014.001

- **Dejam, M.**, Hassanzadeh, H. and Chen, Z. (2013), Semi-analytical solutions for a partially penetrated well with wellbore storage and skin effects in a double-porosity system with a gas cap. ***Transport in Porous Media***, 100(2): 159-192. DOI: 10.1007/s11242-013-0210-6
- Mashayekhizadeh, V., Kharrat, R., Ghazanfari, M. H. and **Dejam, M.** (2012), An experimental investigation of fracture tilt angle effects on frequency and stability of liquid bridges in fractured porous media. ***Petroleum Science and Technology***, 30(8): 807-816. DOI: 10.1080/10916466.2010.492370
- **Dejam, M.**, Ghazanfari, M. H., Kamyab, M. and Masihi, M. (2011), The gas-oil gravity drainage model in a single matrix block: a new relationship between relative permeability and capillary pressure functions. ***Journal of Porous Media***, 14(8): 709-720. DOI: 10.1615/JPorMedia.v14.i8.50
- **Dejam, M.**, Ghazanfari, M. H., Mashayekhizadeh, V. and Kamyab, M. (2011), Factors affecting the gravity drainage mechanism from a single matrix block in naturally fractured reservoirs. ***Special Topics & Reviews in Porous Media - An International Journal***, 2(2): 115-124. DOI: 10.1615/SpecialTopicsRevPorousMedia.v2.i2.50
- Mashayekhizadeh, V., **Dejam, M.** and Ghazanfari, M. H. (2011), The application of numerical Laplace inversion methods for type curve development in well testing: a comparative study. ***Petroleum Science and Technology***, 29(7): 695-707. DOI: 10.1080/10916460903394060
- Mashayekhizadeh, V., Ghazanfari, M. H., Kharrat, R. and **Dejam, M.** (2011), Pore-level observation of free gravity drainage of oil in fractured porous media. ***Transport in Porous Media***, 87(2): 561-584. DOI: 10.1007/s11242-010-9701-x
- **Dejam, M.** and Hassanzadeh, H. (2011), Formation of liquid bridges between porous matrix blocks. ***American Institute of Chemical Engineers Journal***, 57(2): 286-298. DOI: 10.1002/aic.12262

Conference Papers

- Chakraborty, D., Mallick, S. and **Dejam, M.**: Subsurface Hydrogen Storage: A Feasibility Study, Paper SEG 4100402, ***SEG/AAPG International Meeting for Applied Geoscience and Energy***, Houston, Texas, USA, 26-29 August 2024. DOI: 10.1190/image2024-4100402.1
- Olayiwola, S. O. and **Dejam, M.**: Effect of Silica Nanoparticles on the Oil Recovery during Alternating Injection with Low Salinity Water and Surfactant into Carbonate Reservoirs, Paper SPE 201586, ***SPE Annual Technical Conference and Exhibition***, Virtual, 26-29 October 2020. DOI: 10.2118/201586-MS
- Saboorian-Jooybari, H., **Dejam, M.** and Chen, Z.: Half-Century of Heavy Oil Polymer Flooding from Laboratory Core Floods to Pilot Tests and Field Applications, Paper SPE 174402, ***SPE Canada Heavy Oil Technical Conference***, Calgary, Alberta, Canada, 9-11 June 2015. DOI: 10.2118/174402-MS
- Saboorian-Jooybari, H., **Dejam, M.**, Chen, Z. and Pourafshary, P.: Fracture Identification and Comprehensive Evaluation of the Parameters by Dual Laterolog Data, Paper SPE 172947, ***SPE Middle East Unconventional Resources Conference and Exhibition***, Muscat, Oman, 26-28 January 2015. DOI: 10.2118/172947-MS
- Saboorian-Jooybari, H., **Dejam, M.** and Chen, Z.: Equilibrium or Nonequilibrium Models: A Critical Issue in Determination of Gas Diffusivity in Oil, Paper SPE 170030, ***SPE Heavy Oil Conference***, Calgary, Alberta, Canada, 10-12 June 2014. DOI: 10.2118/170030-MS

- **Dejam, M.**, Ghazanfari, M. H. and Masihi, M.: Theoretical Modeling of Reinfiltration Process in Naturally Fractured Reservoirs: A Comparative Study on Traveling Liquid Bridges and Continuum Film Flow Approaches, Paper SPE 125307, ***SPE/EAGE Reservoir Characterization and Simulation Conference***, Abu Dhabi, UAE, 19-21 October 2009. DOI: 10.2118/125307-MS
- **Dejam, M.** and Masihi, M.: Formation of Traveling Liquid Bridges between Matrix Blocks: Modeling and Simulation, ***1st International Petroleum Conference and Exhibition***, On behalf of the EAGE (European Association of Geoscientists & Engineers), Shiraz, Iran, 4-6 May 2009. DOI: 10.3997/2214-4609.20145913

Presentations

- Chukwudi, D. C. and **Dejam, M.**, The Role of High-Performance Computing and Machine Learning in Modeling of Geothermal Systems. ***Hydrology and Water Resources Poster Session, School of Graduate Education, University of Wyoming***, Laramie, Wyoming, USA, 21 April 2026.
- Chukwudi, D. C. and **Dejam, M.**, The Role of High-Performance Computing and Machine Learning in Modeling of Geothermal Systems. ***Interdisciplinary Program Poster Session, School of Graduate Education, University of Wyoming***, Laramie, Wyoming, USA, 8 April 2026.
- Nadeev, S., Parsekian, A. D., Owusu-Banahene, E. K. and **Dejam, M.**: Freezing Point Depression of the Saline Permafrost in Alaska, ***AGU (American Geophysical Union) Fall Meeting***, New Orleans, Louisiana, USA, 15-19 December 2025.
- 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.
- Owusu-Banahene, E. K., Yang, H., **Dejam, M.** and Adidharma, H.: Capillary Condensation Measurements in Multimodal Nanoporous Media, ***Wyoming's Energy Future Symposium***, Laramie, Wyoming, USA, 12 September 2024.
- Dordzie, G. and **Dejam, M.**: The Potential of Nanoparticles for EOR in Fractured Carbonate Reservoirs during Sequential Injection with Low-Salinity Water and Surfactant, ***Rockies Petroleum Conference (Petroleum Association of Wyoming Annual Meeting)***, Cheyenne, Wyoming, USA, 24-26 August 2022.
- 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.
- Brown, N. M. and **Dejam, M.**: Evaluation of Particle Transportation with a Focus on Nanoparticles in Water-Based Mud, ***Energy Resources Council***, Laramie, Wyoming, USA, 25 August 2022.
- Yang, H., Jayaatmaja, K., **Dejam, M.**, Tan, S. P. and Adidharma, H.: Phase Transition and Criticality of Methane Confined in Nanopores, ***American Institute of Chemical Engineers Annual Meeting***, Boston, Massachusetts, USA, 7-19 November 2021.

- Dordzie, G. and **Dejam, M.**: Implementation of Nanoparticles with Low-Salinity Water and Surfactant for EOR from Fractured Carbonate Reservoirs, ***Annual Meeting of the PAW (Petroleum Association of Wyoming)***, Cheyenne, Wyoming, USA, 25-27 August 2021.
- Dordzie, G. and **Dejam, M.**: Implementation of Nanoparticles with Low-Salinity Water and Surfactant for EOR from Fractured Carbonate Reservoirs, ***Wyoming Legislature Joint Minerals Committee***, Laramie, Wyoming, USA, 12 August 2021.
- Qiu, X., Tan, S. P., **Dejam, M.**, Fan, M. and Adidharma, H.: New Isochoric Method to Measure the Phase Transitions of Binary Mixtures Confined in Nanopores, ***31st European Symposium on Applied Thermodynamics***, Paris, France, 5-9 July 2021.
- Nguyen, M. C., **Dejam, M.**, Zhang, Y., Bowen, D. W., Fazelalavi, M. and Stauffer, P. H.: Potential Formation Damage: An Integrated Reservoir Characterization Study of the Naturally Fractured Carbonate Middle Duperow Formation at the Kevin Dome, Montana, ***AAPG (American Association of Petroleum Geologists) Annual Convention and Exhibition (ACE)***, Online, 29 September-1 October 2020.
- 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.
- Phan, T. N., **Dejam, M.** and Kamyab, M.: Modification of Water Injection Monitoring for Evaluation of Hydraulic Fracturing Efficiency, ***72nd Annual Meeting of the APS (American Physical Society) Division of Fluid Dynamics***, Seattle, Washington, USA, 23-26 November 2019.
- Qiu, X., Tan, S. P., **Dejam, M.** and Adidharma, H.: Experimental Study on the Phase Behavior of Fluids Confined in Nanoporous Media, ***72nd Annual Meeting of the APS (American Physical Society) Division of Fluid Dynamics***, Seattle, Washington, USA, 23-26 November 2019.
- Olayiwola, S. O. and **Dejam, M.**: Surface Tension of Nanoparticles in Electrolyte Solutions, ***71st Annual Meeting of the APS (American Physical Society) Division of Fluid Dynamics***, Atlanta, Georgia, USA, 18-20 November 2018.
- Kou, Z. and **Dejam, M.**: A Mathematical Model for a Hydraulically Fractured Well in a Coal Seam Reservoir by Considering Desorption, Viscous Flow, and Diffusion, ***71st Annual Meeting of the APS (American Physical Society) Division of Fluid Dynamics***, Atlanta, Georgia, USA, 18-20 November 2018.
- Wei, M., Duan, Y., Chen, Q. and **Dejam, M.**: Production Decline Behavior Analysis of a Vertical Well with Natural Water Influx/Waterflood, ***InterPore 10th Annual Meeting and Jubilee Conference***, New Orleans, Louisiana, USA, 14-17 May 2018.
- **Dejam, M.**, Hassanzadeh, H. and Chen, Z.: Pre-Darcy Flow in Tight and Shale Formations, ***70th Annual Meeting of the APS (American Physical Society) Division of Fluid Dynamics***, Denver, Colorado, USA, 19-21 November 2017.
- **Dejam, M.**, Hassanzadeh, H. and Chen, Z.: Dispersion in Combined Pressure-Driven/Electro-Osmotic Flows in Double-Porosity Systems, ***American Institute of Chemical Engineers Annual Meeting***, Salt Lake City, Utah, USA, 8-13 November 2015.
- **Dejam, M.**, Hassanzadeh, H. and Chen, Z.: Dispersion of a Chemical Species in a Coupled Fracture-Matrix System, ***65th Canadian Chemical Engineering Conference***, Calgary, Alberta, Canada, 4-7 October 2015.
- **Dejam, M.**, Hassanzadeh, H. and Chen, Z.: Shape of Liquid Bridges in a Horizontal Fracture, ***1st International Conference on Fluid Flow, Heat and Mass Transfer***, Ottawa, Ontario, Canada, 1-2 May 2014.

- Mashayekhizadeh, V., **Dejam, M.**, Kharrat, R., Ghazanfari, M. H. and Vossoughi, S.: Application of Numerical Laplace Inversion Methods for Predicting Reinfiltration Rate in Fractured Porous Media: A Comparative Study, ***Third International Conference on Porous Media and its Application in Science, Engineering and Industry***, Montecatini, Italy, 20-25 June 2010.