

Hui-Hai Liu

List of Publications by Year in descending order

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110
papers

3,391
citations

172457

29
h-index

155660

55
g-index

113
all docs

113
docs citations

113
times ranked

2514
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|--|-----|-----------|
| 1 | Is water saturation a fracability indicator for organic-rich, yet low-clay content, tight carbonate source rock reservoirs?. Canadian Journal of Chemical Engineering, 2022, 100, 1202-1213. | 1.7 | 2 |
| 2 | Electromagnetic-heating enhancement of source rock permeability for high recovery. Fuel, 2021, 283, 118976. | 6.4 | 15 |
| 3 | Development and Verification of an Enhanced Equation of State in TOUGH2. Journal of Verification, Validation and Uncertainty Quantification, 2021, 6, . | 0.4 | 0 |
| 4 | The optimum pressure drawdown for production from a shale gas reservoir: A numerical study with a coupled geomechanics and reservoir model. Journal of Natural Gas Science and Engineering, 2021, 88, 103848. | 4.4 | 7 |
| 5 | Incorporation of Physics into Machine Learning for Production Prediction from Unconventional Reservoirs: A Brief Review of the Gray-Box Approach. SPE Reservoir Evaluation and Engineering, 2021, 24, 847-858. | 1.8 | 19 |
| 6 | Scale-dependent permeability and formation factor in porous media: Applications of percolation theory. Fuel, 2021, 301, 121090. | 6.4 | 20 |
| 7 | An efficient laboratory method to measure the combined effects of Knudsen diffusion and mechanical deformation on shale permeability. Journal of Contaminant Hydrology, 2020, 232, 103652. | 3.3 | 7 |
| 8 | Matrix permeability measurement from fractured unconventional source-rock samples: Method and application. Journal of Contaminant Hydrology, 2020, 233, 103663. | 3.3 | 9 |
| 9 | Addendum to "Liu H. H. (2011). A conductivity relationship for steady-state unsaturated flow processes under optimal flow conditions. Vadose Zone Journal , 10 (2), 736-740". Vadose Zone Journal, 2020, 19, e20067. | 2.2 | 0 |
| 10 | Coupling the Dual-Porosity Theory with a Modified Hoek-Brown Criterion on Wellbore Stability Analysis. , 2020, , . | | 0 |
| 11 | Microscopic Scale Experimental Investigation into Fracturing Fluid Uptake Pathways for Tight Carbonate Source Rocks. , 2020, , . | | 0 |
| 12 | An Improved Hydraulic Fracturing Treatment for Stimulating Tight Organic-Rich Carbonate Reservoirs. SPE Journal, 2020, 25, 632-645. | 3.1 | 6 |
| 13 | Modeling gas relative permeability in shales and tight porous rocks. Fuel, 2020, 272, 117686. | 6.4 | 25 |
| 14 | An Innovative Laboratory Method To Measure Pore-Pressure-Dependent Gas Permeability of Shale: Theory and Numerical Experiments. SPE Reservoir Evaluation and Engineering, 2019, 22, 326-335. | 1.8 | 1 |
| 15 | Multiscale Experimental Studies on Interactions Between Aqueous-Based Fracturing Fluids and Tight Organic-Rich Carbonate Source Rocks. SPE Reservoir Evaluation and Engineering, 2019, 22, 402-417. | 1.8 | 2 |
| 16 | Clarifying pore diameter, pore width, and their relationship through pressure measurements: A critical study. Marine and Petroleum Geology, 2019, 107, 142-148. | 3.3 | 16 |
| 17 | Nuclear magnetic resonance measurement of methane diffusion in organic-rich shales. Fuel, 2019, 247, 160-163. | 6.4 | 12 |
| 18 | Shale gas transport in rock matrix: Diffusion in the presence of surface adsorption and capillary condensation. Journal of Natural Gas Science and Engineering, 2019, 66, 18-25. | 4.4 | 8 |

| # | ARTICLE | IF | CITATIONS |
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| 19 | A criterion for evaluating the effect of shale-matrix dual-continuum flow on gas production. <i>Geomechanics and Geophysics for Geo-Energy and Geo-Resources</i> , 2019, 5, 87-102. | 2.9 | 10 |
| 20 | Pressure pulse-decay tests in a dual-continuum medium: An improved technique to estimate flow parameters. <i>Journal of Natural Gas Science and Engineering</i> , 2019, 65, 16-24. | 4.4 | 5 |
| 21 | A GEOMETRICAL APERTURE“WIDTH RELATIONSHIP FOR ROCK FRACTURES. <i>Fractals</i> , 2019, 27, 1940002. | 3.7 | 18 |
| 22 | An Advanced Nano Permeameter: Transformation from Point by Point Method to the Direct Measurement of Permeability Pressure Function. , 2019, , . | | 0 |
| 23 | Correction of source-rock permeability measurements owing to slip flow and Knudsen diffusion: a method and its evaluation. <i>Petroleum Science</i> , 2018, 15, 116-125. | 4.9 | 12 |
| 24 | Measurement of elastic properties in Brazilian disc test: solution derivation and numerical verification. <i>Geomechanics and Geophysics for Geo-Energy and Geo-Resources</i> , 2018, 4, 63-77. | 2.9 | 7 |
| 25 | An Experimental Study on Interactions Between Imbibed Fracturing Fluid and Organic-Rich Tight Carbonate Source Rocks. <i>SPE Journal</i> , 2018, 23, 2133-2146. | 3.1 | 4 |
| 26 | Electromagnetic thermal stimulation of shale reservoirs for petroleum production. <i>Journal of Natural Gas Science and Engineering</i> , 2018, 59, 183-192. | 4.4 | 27 |
| 27 | A method for correcting low permeability laboratory measurements for leaks: Theory, methodology and algorithms. <i>Journal of Natural Gas Science and Engineering</i> , 2018, 56, 608-618. | 4.4 | 3 |
| 28 | On the relationship between effective permeability and stress for unconventional rocks: Analytical estimates from laboratory measurements. <i>Journal of Natural Gas Science and Engineering</i> , 2018, 56, 408-413. | 4.4 | 7 |
| 29 | Commemorating Dr. Gudmundur “Bo“ Bodvarsson (1951“2006), a Leader of the Deep Unsaturated Flow and Transport Investigations. <i>Water (Switzerland)</i> , 2018, 10, 18. | 2.7 | 13 |
| 30 | A numerical formulation with unified unilateral boundary condition for unsaturated flow problems in porous media. <i>Acta Geotechnica</i> , 2017, 12, 277-291. | 5.7 | 12 |
| 31 | Two-phase flow properties in aperture-based fractures under normal deformation conditions: Analytical approach and numerical simulation. <i>Journal of Hydrology</i> , 2017, 545, 72-87. | 5.4 | 36 |
| 32 | Inverse modeling of ground surface uplift and pressure with iTOUGH-PEST and TOUGH-FLAC: The case of CO2 injection at In Salah, Algeria. <i>Computers and Geosciences</i> , 2017, 108, 98-109. | 4.2 | 33 |
| 33 | Generalization of the Darcy-Buckingham Law: Optimality and Water Flow in Unsaturated Media. <i>Theory and Applications of Transport in Porous Media</i> , 2017, , 45-102. | 0.4 | 1 |
| 34 | Two-Part Hooke Model (TPHM): Theory, Validation and Applications. <i>Theory and Applications of Transport in Porous Media</i> , 2017, , 103-207. | 0.4 | 0 |
| 35 | Generalization of Darcy’s Law: Non-Darcian Liquid Flow in Low-Permeability Media. <i>Theory and Applications of Transport in Porous Media</i> , 2017, , 1-43. | 0.4 | 0 |
| 36 | Final Remarks: An “Unfinished“Book. <i>Theory and Applications of Transport in Porous Media</i> , 2017, , 225-226. | 0.4 | 0 |

| # | ARTICLE | IF | CITATIONS |
|----|---|-----|-----------|
| 37 | Experimental Investigation on Brazilian Tensile Strength of Organic-Rich Gas Shale. SPE Journal, 2017, 22, 148-161. | 3.1 | 27 |
| 38 | An Experimental Study on Interactions between Imbibed Fracturing Fluid and Organic-Rich Tight Carbonate Source Rocks. , 2017, , . | | 2 |
| 39 | Porosityâ€permeability relationships in modeling salt precipitation during CO 2 sequestration: Review of conceptual models and implementation in numerical simulations. International Journal of Greenhouse Gas Control, 2016, 52, 24-31. | 4.6 | 24 |
| 40 | Textural and Mineralogical Control on Tensile Strength of Eagle Ford and Manco Shales Samples. , 2016, , . | | 2 |
| 41 | Numerical prediction of the decline of the shale gas production rate with considering the geomechanical effects based on the two-part Hookeâ€™s model. Fuel, 2016, 185, 362-369. | 6.4 | 30 |
| 42 | Constitutive Relations for Reactive Transport Modeling: Effects of Chemical Reactions on Multi-phase Flow Properties. Transport in Porous Media, 2016, 114, 795-814. | 2.6 | 10 |
| 43 | Effect of Capillary Condensation on Gas Transport in Shale: A Pore-Scale Model Study. SPE Journal, 2016, 21, 601-612. | 3.1 | 18 |
| 44 | Pressure pulse-decay tests in a dual-continuum medium: Late-time behavior. Journal of Petroleum Science and Engineering, 2016, 147, 292-301. | 4.2 | 15 |
| 45 | A coupled twoâ€phase fluid flow and elastoplastic deformation model for unsaturated soils: theory, implementation, and application. International Journal for Numerical and Analytical Methods in Geomechanics, 2016, 40, 1023-1058. | 3.3 | 17 |
| 46 | Unconventional Spontaneous Imbibition into Shale Matrix: Theory and a Methodology to Determine Relevant Parameters. Transport in Porous Media, 2016, 111, 41-57. | 2.6 | 33 |
| 47 | An Emergent Conductivity Relationship for Water Flow Based on Minimized Energy Dissipation. Geophysical Monograph Series, 2015, , 129-136. | 0.1 | 0 |
| 48 | Assessing Tensile Strength of Unconventional Tight Rocks Using Microwaving. , 2015, , . | | 3 |
| 49 | On the impact of temperatures up to 200 Â°C in clay repositories with bentonite engineer barrier systems: A study with coupled thermal, hydrological, chemical, and mechanical modeling. Engineering Geology, 2015, 197, 278-295. | 6.3 | 90 |
| 50 | Modeling bacterial attenuation in on-site wastewater treatment systems using the active region model and column-scale data. Environmental Earth Sciences, 2015, 74, 4827-4837. | 2.7 | 5 |
| 51 | Two-phase flow properties of a horizontal fracture: The effect of aperture distribution. Advances in Water Resources, 2015, 76, 43-54. | 3.8 | 52 |
| 52 | EDZ formation and associated hydromechanical behaviour around ED-B tunnel: A numerical study based on a two-part Hookeâ€™s model (TPHM). KSCE Journal of Civil Engineering, 2015, 19, 318-331. | 1.9 | 4 |
| 53 | A theoretical derivation of the Hoekâ€™Brown failure criterion for rock materials. Journal of Rock Mechanics and Geotechnical Engineering, 2015, 7, 361-366. | 8.1 | 56 |
| 54 | Radionuclide Transport Behavior in a Generic Geological Radioactive Waste Repository. Ground Water, 2015, 53, 440-451. | 1.3 | 14 |

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|----|--|-----|-----------|
| 55 | Relationships between permeability, porosity and effective stress for low-permeability sedimentary rock. <i>International Journal of Rock Mechanics and Minings Sciences</i> , 2015, 78, 304-318. | 5.8 | 134 |
| 56 | A coupled stress-strain and hydraulic hysteresis model for unsaturated soils: Thermodynamic analysis and model evaluation. <i>Computers and Geotechnics</i> , 2015, 63, 159-170. | 4.7 | 17 |
| 57 | Modeling of Coupled Thermo-Hydro-Mechanical Processes with Links to Geochemistry Associated with Bentonite-Backfilled Repository Tunnels in Clay Formations. <i>Rock Mechanics and Rock Engineering</i> , 2014, 47, 167-186. | 5.4 | 92 |
| 58 | A constitutive model for unsaturated soils with consideration of inter-particle bonding. <i>Computers and Geotechnics</i> , 2014, 59, 127-144. | 4.7 | 44 |
| 59 | The use of two-part Hooke's model (TPHM) to model the mine-by test at Mont Terri Site, Switzerland. <i>Computers and Geotechnics</i> , 2014, 58, 28-46. | 4.7 | 12 |
| 60 | Model evaluation of geochemically induced swelling/shrinkage in argillaceous formations for nuclear waste disposal. <i>Applied Clay Science</i> , 2014, 97-98, 24-32. | 5.2 | 14 |
| 61 | Non-Darcian flow in low-permeability media: key issues related to geological disposal of high-level nuclear waste in shale formations. <i>Hydrogeology Journal</i> , 2014, 22, 1525-1534. | 2.1 | 30 |
| 62 | A thermodynamic hypothesis regarding optimality principles for flow processes in geosystems. <i>Science Bulletin</i> , 2014, 59, 1880-1884. | 1.7 | 5 |
| 63 | Site characterization of the Yucca Mountain disposal system for spent nuclear fuel and high-level radioactive waste. <i>Reliability Engineering and System Safety</i> , 2014, 122, 32-52. | 8.9 | 26 |
| 64 | Equivalent diffusion coefficient of clay-rich geological formations: comparison between numerical and analytical estimates. <i>Stochastic Environmental Research and Risk Assessment</i> , 2013, 27, 1081-1091. | 4.0 | 7 |
| 65 | A Fractal-Based Model for Fracture Deformation Under Shearing and Compression. <i>Rock Mechanics and Rock Engineering</i> , 2013, 46, 1539-1549. | 5.4 | 13 |
| 66 | Coupled Hydro-mechanical Processes Associated with Multiphase Flow in a Dual-continuum System: Formulations and an Application. <i>Rock Mechanics and Rock Engineering</i> , 2013, 46, 1103-1112. | 5.4 | 18 |
| 67 | A water retention curve and unsaturated hydraulic conductivity model for deformable soils: consideration of the change in pore-size distribution. <i>Geotechnique</i> , 2013, 63, 1389-1405. | 4.0 | 114 |
| 68 | A permeability-change relationship in the dryout zone for CO ₂ injection into saline aquifers. <i>International Journal of Greenhouse Gas Control</i> , 2013, 15, 42-47. | 4.6 | 29 |
| 69 | Normal-stress dependence of fracture hydraulic properties including two-phase flow properties. <i>Hydrogeology Journal</i> , 2013, 21, 371-382. | 2.1 | 68 |
| 70 | On the relationship between water flux and hydraulic gradient for unsaturated and saturated clay. <i>Journal of Hydrology</i> , 2012, 475, 242-247. | 5.4 | 56 |
| 71 | An Elastic Stress-strain Relationship for Porous Rock Under Anisotropic Stress Conditions. <i>Rock Mechanics and Rock Engineering</i> , 2012, 45, 389-399. | 5.4 | 27 |
| 72 | Unsaturated properties for non-Darcian water flow in clay. <i>Journal of Hydrology</i> , 2012, 430-431, 173-178. | 5.4 | 29 |

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| 73 | A note on equations for steady-state optimal landscapes. <i>Geophysical Research Letters</i> , 2011, 38, n/a-n/a. | 4.0 | 10 |
| 74 | A Conductivity Relationship for Steady-State Unsaturated Flow Processes under Optimal Flow Conditions. <i>Vadose Zone Journal</i> , 2011, 10, 736-740. | 2.2 | 17 |
| 75 | Long term infiltration and tracer transport in fractured rocks: Field observations and model analyses. <i>Journal of Hydrology</i> , 2011, 396, 33-48. | 5.4 | 12 |
| 76 | Impact of climate change on groundwater recharge in dry areas: An ecohydrology approach. <i>Journal of Hydrology</i> , 2011, 407, 175-183. | 5.4 | 40 |
| 77 | Analytical solutions of tracer transport in fractured rock associated with precipitation-dissolution reactions. <i>Hydrogeology Journal</i> , 2011, 19, 1151-1160. | 2.1 | 14 |
| 78 | Modified Generalized Likelihood Uncertainty Estimation (GLUE) Methodology for Considering the Subjectivity of Likelihood Measure Selection. <i>Journal of Hydrologic Engineering - ASCE</i> , 2011, 16, 558-561. | 1.9 | 6 |
| 79 | Comment on "Sensitivity of the active fracture model parameter to fracture network orientation and injection scenarios" paper published in <i>Hydrogeology Journal</i> (2009) 17:1347-1358, by Hakan Bayar, Sauro Succi, Chandrika Manepally, Randall Fedors, Danielle Y. Wyrick. <i>Hydrogeology Journal</i> , 2010, 18, 535-537. | 2.1 | 2 |
| 80 | A New Coal-Permeability Model: Internal Swelling Stress and Fracture-Matrix Interaction. <i>Transport in Porous Media</i> , 2010, 82, 157-171. | 2.6 | 320 |
| 81 | A new particle-tracking approach to simulating transport in heterogeneous fractured porous media. <i>Water Resources Research</i> , 2010, 46, . | 4.2 | 30 |
| 82 | On the relationship between stress and elastic strain for porous and fractured rock. <i>International Journal of Rock Mechanics and Minings Sciences</i> , 2009, 46, 289-296. | 5.8 | 189 |
| 83 | Behavior of the mass transfer coefficient during the MADE2 experiment: New insights. <i>Water Resources Research</i> , 2008, 44, . | 4.2 | 31 |
| 84 | Preface: Recent Advances in Modeling Multiphase Flow and Transport with the TOUGH Family of Codes. <i>Vadose Zone Journal</i> , 2008, 7, 284-286. | 2.2 | 3 |
| 85 | Field-scale effective matrix diffusion coefficient for fractured rock: Results from literature survey. <i>Journal of Contaminant Hydrology</i> , 2007, 93, 161-187. | 3.3 | 98 |
| 86 | Effects of diffusive property heterogeneity on effective matrix diffusion coefficient for fractured rock. <i>Water Resources Research</i> , 2006, 42, . | 4.2 | 15 |
| 87 | Estimating Large-Scale Fracture Permeability of Unsaturated Rock Using Barometric Pressure Data. <i>Vadose Zone Journal</i> , 2006, 5, 1129-1142. | 2.2 | 13 |
| 88 | Evidence of Multi-Process Matrix Diffusion in a Single Fracture from a Field Tracer Test. <i>Transport in Porous Media</i> , 2006, 63, 473-487. | 2.6 | 30 |
| 89 | Temperature dependence of large-scale water-retention curves: a case study. <i>Hydrogeology Journal</i> , 2006, 14, 1403-1408. | 2.1 | 3 |
| 90 | Analysis of a mesoscale infiltration and water seepage test in unsaturated fractured rock: Spatial variabilities and discrete fracture patterns. <i>Journal of Contaminant Hydrology</i> , 2006, 87, 96-122. | 3.3 | 24 |

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| 91 | Flow Focusing in Unsaturated Fracture Networks: A Numerical Investigation. Vadose Zone Journal, 2004, 3, 624-633. | 2.2 | 12 |
| 92 | Upscaling of Normal Stress-Permeability Relationships for Fracture Networks Obeying Fractional Levy Motion. Elsevier Geo-Engineering Book Series, 2004, , 263-268. | 0.0 | 3 |
| 93 | A triple-continuum approach for modeling flow and transport processes in fractured rock. Journal of Contaminant Hydrology, 2004, 73, 145-179. | 3.3 | 158 |
| 94 | A Corrected and Generalized Successive Random Additions Algorithm for Simulating Fractional Levy Motions. Mathematical Geosciences, 2004, 36, 361-378. | 0.9 | 54 |
| 95 | Unsaturated flow and transport through a fault embedded in fractured welded tuff. Water Resources Research, 2004, 40, . | 4.2 | 14 |
| 96 | Flow Focusing in Unsaturated Fracture Networks: A Numerical Investigation. Vadose Zone Journal, 2004, 3, 624-633. | 2.2 | 5 |
| 97 | An efficient, three-dimensional, anisotropic, fractional Brownian motion and truncated fractional Levy motion simulation algorithm based on successive random additions. Computers and Geosciences, 2003, 29, 15-25. | 4.2 | 54 |
| 98 | Flow and transport in unsaturated fractured rock: effects of multiscale heterogeneity of hydrogeologic properties. Journal of Contaminant Hydrology, 2003, 60, 1-30. | 3.3 | 42 |
| 99 | Modeling flow and transport in unsaturated fractured rock: an evaluation of the continuum approach. Journal of Contaminant Hydrology, 2003, 62-63, 173-188. | 3.3 | 58 |
| 100 | Effects of dry fractures on matrix diffusion in unsaturated fractured rocks. Geophysical Research Letters, 2003, 30, . | 4.0 | 7 |
| 101 | The Active Fracture Model: Its Relation to Fractal Flow Patterns and an Evaluation Using Field Observations. Vadose Zone Journal, 2003, 2, 259-269. | 2.2 | 13 |
| 102 | Determination of Unsaturated Flow Paths in a 2-D Randomly Distributed Fracture Network. , 2003, , 131. | | 0 |
| 103 | The Active Fracture Model. Vadose Zone Journal, 2003, 2, 259. | 2.2 | 4 |
| 104 | The Active Fracture Model: Its Relation to Fractal Flow Patterns and an Evaluation Using Field Observations. Vadose Zone Journal, 2003, 2, 259-269. | 2.2 | 15 |
| 105 | Constitutive relations for unsaturated flow in a fracture network. Journal of Hydrology, 2001, 252, 116-125. | 5.4 | 58 |
| 106 | An active fracture model for unsaturated flow and transport in fractured rocks. Water Resources Research, 1998, 34, 2633-2646. | 4.2 | 157 |
| 107 | Fractional Brownian motion and fractional Gaussian noise in subsurface hydrology: A review, presentation of fundamental properties, and extensions. Water Resources Research, 1997, 33, 2273-2286. | 4.2 | 194 |
| 108 | Multifractal analyses of hydraulic conductivity distributions. Water Resources Research, 1997, 33, 2483-2488. | 4.2 | 102 |

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| 109 | Comment on "Evidence for non-Gaussian scaling behavior in heterogeneous sedimentary formations" by Scott Painter. <i>Water Resources Research</i> , 1997, 33, 907-908. | 4.2 | 54 |
| 110 | Reconciliation between Measured and Theoretical Temperature Effects on Soil Water Retention Curves. <i>Soil Science Society of America Journal</i> , 1993, 57, 1202-1207. | 2.2 | 36 |