Masa Prodanovic

List of Publications by Year
in descending order

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Version: 2024-02-01

117 papers	3,307 citations	159585 30 h-index	161849 54 g-index
119 all docs	119 docs citations	119 times ranked	2631 citing authors

#	Article	IF	Citations
1	Identifying the dominant transport mechanism in single nanoscale pores and 3D nanoporous media. Fundamental Research, 2023, 3, 409-421.	3.3	13
2	Experimental Investigation of Trapped Oil Mobilization with Ferrofluid. SPE Journal, 2022, 27, 753-770.	3.1	7
3	MudrockNet: Semantic segmentation of mudrock SEM images through deep learning. Computers and Geosciences, 2022, 158, 104952.	4.2	18
4	3D Dataset of binary images: A collection of synthetically created digital rock images of complex media. Data in Brief, 2022, 40, 107797.	1.0	5
5	Simulating the Efficiency of Electromagnetic Pigging in Pipelines and Production Tubing Aided by Nanopaint. SPE Journal, 2022, , 1-12.	3.1	0
6	ANALYTICAL ELECTRICAL CONDUCTIVITY MODELS FOR SINGLE-PHASE AND MULTI-PHASE FRACTAL POROUS MEDIA. Fractals, 2022, 30, .	3.7	6
7	Understanding Foam Flow in Rough Carbonate Fractures. , 2022, , .		2
8	MPLBM-UT: Multiphase LBM library for permeable media analysis. SoftwareX, 2022, 18, 101097.	2.6	6
9	A Local-Effective-Viscosity Multirelaxation-Time Lattice Boltzmann Pore-Network Coupling Model for Gas Transport in Complex Nanoporous Media. SPE Journal, 2021, 26, 461-481.	3.1	17
10	Computationally Efficient Multiscale Neural Networks Applied to Fluid Flow in Complex 3D Porous Media. Transport in Porous Media, 2021, 140, 241-272.	2.6	45
11	Nanoscale confined multicomponent hydrocarbon thermodynamic phase behavior and multiphase transport ability in nanoporous material. Chemical Engineering Journal, 2020, 382, 122974.	12.7	29
12	The effect of vug distribution on particle straining in permeable media. Journal of Hydrology, 2020, 580, 124306.	5.4	4
13	Pore-scale modeling of carbonates. Marine and Petroleum Geology, 2020, 114, 104141.	3.3	35
14	Pore scale study of gas sorption hysteresis in shale nanopores using lattice Boltzmann method. International Journal of Coal Geology, 2020, 229, 103568.	5.0	11
15	Poreâ€Scale Study of Water Adsorption and Subsequent Methane Transport in Clay in the Presence of Wettability Heterogeneity. Water Resources Research, 2020, 56, e2020WR027568.	4.2	14
16	Modeling Nanoconfinement Effects Using Active Learning. Journal of Physical Chemistry C, 2020, 124, 22200-22211.	3.1	24
17	Microfluidic and Numerical Investigation of Trapped Oil Mobilization with Hydrophilic Magnetic Nanoparticles. , 2020, , .		2
18	Comparison of Wireline Log and SEM Image-Based Measurements of Porosity in Overburden Shales. , 2020, , .		2

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19	Pore Scale Study of Methane Advection and Diffusion in Image-Based 3-D Reconstruction of Shale with Consideration of Bound Water. , 2020, , .		1
20	Spatial and Temporal Patterns in Particle Retention in Vuggy Porous Media. , 2020, , .		3
21	Capillary rise in vuggy media. Advances in Water Resources, 2020, 143, 103671.	3.8	2
22	PoreFlow-Net: A 3D convolutional neural network to predict fluid flow through porous media. Advances in Water Resources, 2020, 138, 103539.	3.8	125
23	Study of subcritical and supercritical gas adsorption behavior in different nanopore systems in shale using lattice Boltzmann method. International Journal of Coal Geology, 2019, 212, 103263.	5.0	24
24	The Effect of Vuggy Porosity on Straining in Porous Media. SPE Journal, 2019, 24, 1164-1178.	3.1	9
25	Pore-Scale Level Set Simulations of Capillary-Controlled Displacement with Adaptive Mesh Refinement. Transport in Porous Media, 2019, 128, 123-151.	2.6	8
26	Nanopaint application for flow assurance with electromagnetic pig. Journal of Petroleum Science and Engineering, 2019, 180, 320-329.	4.2	7
27	Comprehensive comparison of pore-scale models for multiphase flow in porous media. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 13799-13806.	7.1	162
28	Nanopaint-Aided Electromagnetic Pigging in Pipelines and Production Tubing. , 2019, , .		2
29	Optimizing Proppant Placement in Rough-Walled Rock Fractures. , 2019, , .		7
30	Improved Digital Rocks-Based Model for NMR Permeability Estimation in Vuggy Deepwater Carbonates. , 2019, , .		0
31	Predicting flow properties in diagenetically-altered media with multi-scale process-based modeling: A Wilcox Formation case study. Marine and Petroleum Geology, 2019, 100, 179-194.	3.3	13
32	3D Microscale Flow Simulation of Shear-Thinning Fluids in a Rough Fracture. Transport in Porous Media, 2019, 128, 243-269.	2.6	30
33	Effect of pore geometry on nitrogen sorption isotherms interpretation: A pore network modeling study. Fuel, 2018, 225, 243-255.	6.4	34
34	Poreâ€Scale Determination of Gas Relative Permeability in Hydrateâ€Bearing Sediments Using Xâ€Ray Computed Microâ€Tomography and Lattice Boltzmann Method. Water Resources Research, 2018, 54, 600-608.	4.2	114
35	Effect of wettability on two-phase quasi-static displacement: Validation of two pore scale modeling approaches. Journal of Contaminant Hydrology, 2018, 212, 115-133.	3.3	18
36	Interaction between cemented natural fractures and hydraulic fractures assessed by experiments and numerical simulations. Journal of Petroleum Science and Engineering, 2018, 167, 506-516.	4.2	60

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37	Determining the Impact of Mineralogy Composition for Multiphase Flow Through Hydraulically Induced Fractures. , 2018, , .		4
38	Probing the Wettability of Mudrocks at the Pore-scale Using Nanoparticle Tracers. , 2018, , .		1
39	The Impact of Natural Fracture Thickness on Hydraulic Fracture Interaction Mechanics. , 2018, , .		3
40	Identification and Evaluation of Viscoelastic Surfactants Including Smart Viscoelastic Systems for Generation and Stabilization of Ultra-Dry N2 and CO2 Foam for Fracturing Fluids and Proppant Transport. , 2018, , .		4
41	Simulation of Gas Adsorption and Capillary Condensation in Shale Nanopores Using Lattice Boltzmann Modeling. , 2018, , .		4
42	Replicating carbonaceous vug in synthetic porous media. MethodsX, 2018, 5, 808-811.	1.6	6
43	Editorial. Journal of Contaminant Hydrology, 2018, 212, 1-2.	3.3	0
44	Study of formation damage caused by retention of bi-dispersed particles using combined pore-scale simulations and particle flooding experiments. Journal of Petroleum Science and Engineering, 2017, 158, 293-308.	4.2	28
45	Comment on Xu et al. 2017. AICHE Journal, 2017, 63, 4717-4718.	3.6	0
46	Percolative core formation in planetesimals enabled by hysteresis in metal connectivity. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 13406-13411.	7.1	34
47	Monte Carlo Approach for Estimating Density and Atomic Number From Dualâ€Energy Computed Tomography Images of Carbonate Rocks. Journal of Geophysical Research: Solid Earth, 2017, 122, 9804-9824.	3.4	18
48	Estimating Mudrock Oil-Water Relative Permeability Curves Using Digital Rock Physics. , 2017, , .		6
49	High temperature ultralow water content carbon dioxide-in-water foam stabilized with viscoelastic zwitterionic surfactants. Journal of Colloid and Interface Science, 2017, 488, 79-91.	9.4	77
50	Influence of Numerical Cementation on Multiphase Displacement in Rough Fractures. Transport in Porous Media, 2017, 116, 275-293.	2.6	6
51	A method for estimating microporosity of fineâ€grained sediments and sedimentary rocks via scanning electron microscope image analysis. Sedimentology, 2016, 63, 1507-1521.	3.1	18
52	Comparative Study of Formation Damage due to Straining and Surface Deposition in Porous Media. , 2016, , .		7
53	Combination of Lattice Density Functional Theory and a Multi-Scale Network Model for Sorption Isotherms Study in Tight Formations. , 2016, , .		4
54	Nanoscale grain boundary channels in fracture cement enhance flow in mudrocks. Journal of Geophysical Research: Solid Earth, 2016, 121, 3366-3376.	3.4	23

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55	Direct simulation of supercritical gas flow in complex nanoporous media and prediction of apparent permeability. International Journal of Coal Geology, 2016, 159, 120-134.	5.0	84
56	Modeling fracture propagation and cleanup for dry nanoparticle-stabilized-foam fracturing fluids. Journal of Petroleum Science and Engineering, 2016, 146, 210-221.	4.2	32
57	Viscosity and Stability of Dry CO2 Foams for Improved Oil Recovery. , 2016, , .		3
58	Minimum divergence viscous flow simulation through finite difference and regularization techniques. Advances in Water Resources, 2016, 95, 29-45.	3.8	2
59	Ultradry Carbon Dioxide-in-Water Foams with Viscoelastic Aqueous Phases. Langmuir, 2016, 32, 28-37.	3.5	71
60	The effects of pore geometry on adsorption equilibrium in shale formations and coal-beds: Lattice density functional theory study. Fuel, 2016, 163, 205-213.	6.4	30
61	Viscosity and stability of ultra-high internal phase CO2-in-water foams stabilized with surfactants and nanoparticles with or without polyelectrolytes. Journal of Colloid and Interface Science, 2016, 461, 383-395.	9.4	123
62	A level set method for materials with texturally equilibrated pores. Journal of Computational Physics, 2015, 297, 480-494.	3.8	6
63	Slip-Flow in Shale as Determined by Pore-Scale Lattice Boltzmann Modeling. , 2015, , .		1
64	Investigating flow properties of partially cemented fractures in Travis Peak Formation using imageâ€based poreâ€scale modeling. Journal of Geophysical Research: Solid Earth, 2015, 120, 5453-5466.	3.4	20
65	A forward analysis on the applicability of tracer breakthrough profiles in revealing the pore structure of tight gas sandstone and carbonate rocks. Water Resources Research, 2015, 51, 4751-4767.	4.2	22
66	A Quantitative Pore-Scale Investigation On The Paragenesis of Wilcox Tight Gas Sandstone. , 2015, , .		3
67	Slip-Flow in Complex Porous Media as Determined by Lattice Boltzmann Modeling. , 2015, , .		2
68	A Quantitative Pore-Scale Investigation on the Paragenesis of Wilcox Tight Gas Sandstone. , 2015, , .		0
69	Methane dual-site adsorption in organic-rich shale-gas and coalbed systems. International Journal of Coal Geology, 2015, 149, 1-8.	5.0	27
70	Prediction of empirical properties using direct pore-scale simulation of straining through 3D microtomography images of porous media. Journal of Hydrology, 2015, 529, 768-778.	5.4	45
71	Deformation-assisted fluid percolation in rock salt. Science, 2015, 350, 1069-1072.	12.6	48
72	Imaged-based multiscale network modelling of microporosity in carbonates. Geological Society Special Publication, 2015, 406, 95-113.	1.3	54

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73	Excitable Nanoparticles for Trapped Oil Mobilization. , 2014, , .		5
74	The effect of microporosity on transport properties in porous media. Advances in Water Resources, 2014, 63, 104-119.	3.8	133
75	Understanding Tortuosity and Permeability variations in Naturally Fractured Reservoirs: Niobrara Formation. , 2014, , .		8
76	Percolation and Grain Boundary Wetting in Anisotropic Texturally Equilibrated Pore Networks. Physical Review Letters, 2014, 113, 048001.	7.8	17
77	The application of sorption hysteresis in nano-petrophysics using multiscale multiphysics network models. International Journal of Coal Geology, 2014, 128-129, 96-108.	5.0	47
78	A Pore Scale Analysis of Restricted Diffusion in Shale Gas Media. , 2014, , .		2
79	Matrix-Fracture Connectivity in Eagle Ford Shale. , 2014, , .		11
80	Multiscale, Multiphysics Network Modeling of Shale Matrix Gas Flows. Transport in Porous Media, 2013, 99, 377-390.	2.6	206
81	Coupled solid and fluid mechanics modeling of formation damage near wellbore. Journal of Petroleum Science and Engineering, 2013, 112, 88-96.	4.2	35
82	Image-Based Modeling of Flow in Natural Partially Cemented Fractures. , 2013, , .		5
83	Numerical Simulation of Diagenetic Alteration and Its Effect on Residual Gas in Tight Gas Sandstones. Transport in Porous Media, 2013, 96, 39-62.	2.6	28
84	A level set method for simulating capillaryâ€controlled displacements at the pore scale with nonzero contact angles. Water Resources Research, 2013, 49, 4645-4661.	4.2	94
85	New Classification of Carbonate Rocks for Process-Based Pore-Scale Modeling. SPE Journal, 2013, 18, 243-263.	3.1	48
86	Correlating Gas Transport Parameters and X-Ray Computed Tomography Measurements in Porous Media. Soil Science, 2013, 178, 60-68.	0.9	23
87	Natural and Hydraulic Fracture Interaction Study Based on Semi-Circular Bending Experiments. , 2013, , .		16
88	A Multiscale Method Coupling Network and Continuum Models in Porous Media IIâ€”Single- and Two-Phase Flows. Fields Institute Communications, 2013, , 161-185.	1.3	13
89	Quasi-static analysis of a ferrofluid blob in a capillary tube. Journal of Applied Physics, 2012, 111, 074901.	2.5	8
90	Pore scale coupling of fluid displacement and unconsolidated sediment mechanics. International Journal of Oil, Gas and Coal Technology, 2012, 5, 157.	0.2	2

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91	A Multiscale Method Coupling Network and Continuum Models in Porous Media I: Steady-State Single Phase Flow. Multiscale Modeling and Simulation, 2012, 10, 515-549.	1.6	32
92	Numerical Algorithms for Network Modeling of Yield Stress and other Non-Newtonian Fluids in Porous Media. Transport in Porous Media, 2012, 93, 363-379.	2.6	41
93	Contact line extraction and length measurements in model sediments and sedimentary rocks. Journal of Colloid and Interface Science, 2012, 368, 558-577.	9.4	4
94	Theoretical and experimental investigation of the motion of multiphase fluids containing paramagnetic nanoparticles in porous media. Journal of Petroleum Science and Engineering, 2012, 81, 129-144.	4.2	72
95	The Effect of Microporosity on Transport Properties in Tight Reservoirs. , 2011, , .		7
96	Permeability Estimation of Damaged Formations Near Wellbore. , 2011, , .		3
97	Engineered Nanoparticles as Harsh-Condition Emulsion and Foam Stabilizers and as Novel Sensors. , 2011, , .		44
98	Investigating Matrix/Fracture Transfer via a Level Set Method for Drainage and Imbibition. SPE Journal, 2010, 15, 125-136.	3.1	38
99	Stable Citrate-Coated Iron Oxide Superparamagnetic Nanoclusters at High Salinity. Industrial & Engineering Chemistry Research, 2010, 49, 12435-12443.	3.7	63
100	Theoretical and Experimental Investigation of the Motion of Multiphase Fluids Containing Paramagnetic Nanoparticles in Porous Media. , 2010, , .		9
101	Effects of Magnetic Field on the Motion of Multiphase Fluids Containing Paramagnetic Particles in Porous Media. , 2010, , .		36
102	Coupling Capillarity-Controlled Fluid Displacement With Unconsolidated Sediment Mechanics: Grain Scale Fracture Opening. , 2009, , .		0
103	Improving Fidelity of Network Models for Drainage and Imbibition. , 2009, , .		5
104	Physics-Driven Interface Modeling for Drainage and Imbibition in Fractures. SPE Journal, 2009, 14, 532-542.	3.1	16
105	Capillarity Controlled Displacements in Sediments With Movable Grains: Implications for Growth of Methane Hydrates. , 2008, , .		1
106	Mechanisms by Which Methane Gas and Methane Hydrate Coexist In Ocean Sediments. , 2008, , .		6
107	Investigating Matrix-Fracture Transfer via a Level Set Method for Drainage and Imbibition. , 2008, , .		6
108	Physics-Driven Interface Modeling for Drainage and Imbibition in Fractures. , 2007, , .		7

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109	Characterization of methane hydrate host sediments using synchrotron-computed microtomography (CMT). Journal of Petroleum Science and Engineering, 2007, 56, 136-145.	4.2	20
110	Investigating spontaneous capillarity-controlled events via the level set method. Proceedings in Applied Mathematics and Mechanics, 2007, 7, 1141601-1141602.	0.2	0
111	3D image-based characterization of fluid displacement in a Berea core. Advances in Water Resources, 2007, 30, 214-226.	3.8	149
112	X-Ray Computed Microtomography Studies of Fluid Partitioning in Drainage and Imbibition Before and After Gel Placement: Disproportionate Permeability Reduction. SPE Journal, 2006, 11, 159-170.	3.1	45
113	Porous structure and fluid partitioning in polyethylene cores from 3D X-ray microtomographic imaging. Journal of Colloid and Interface Science, 2006, 298, 282-297.	9.4	124
114	A level set method for determining critical curvatures for drainage and imbibition. Journal of Colloid and Interface Science, 2006, 304, 442-458.	9.4	183
115	Volume determination for bulk materials in bunkers. International Journal for Numerical Methods in Engineering, 2004, 61, 2239-2249.	2.8	4
116	X-Ray Computed Microtomography Studies of Disproportionate Permeability Reduction. , 2004, , .		10
117	Nano-scale Wetting Film Impact on Multiphase Transport Properties in Porous Media. Transport in Porous Media, 0, , .	2.6	2