Jeffrey Hyman

List of Publications by Year
in descending order

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65 papers	3,168 citations	172457 29 h-index	155660 55 g-index
69 all docs	69 docs citations	69 times ranked	2163 citing authors

#	Article	IF	Citations
1	From Fluid Flow to Coupled Processes in Fractured Rock: Recent Advances and New Frontiers. Reviews of Geophysics, 2022, 60, e2021RG000744.	23.0	61
2	Variable resolution Poisson-disk sampling for meshing discrete fracture networks. Journal of Computational and Applied Mathematics, 2022, 407, 114094.	2.0	6
3	Flow and Transport in Three-Dimensional Discrete Fracture Matrix Models using Mimetic Finite Difference on a Conforming Multi-Dimensional Mesh. Journal of Computational Physics, 2022, , 111396.	3.8	7
4	Effects of fuel spatial distribution on wildland fire behaviour. International Journal of Wildland Fire, 2021, 30, 179.	2.4	38
5	Multilevel Graph Partitioning for Three-Dimensional Discrete Fracture Network Flow Simulations. Mathematical Geosciences, 2021, 53, 1699-1724.	2.4	3
6	Scaleâ€Bridging in Threeâ€Dimensional Fracture Networks: Characterizing the Effects of Variable Fracture Apertures on Networkâ€Scale Flow Channelization. Geophysical Research Letters, 2021, 48, e2021GL094400.	4.0	18
7	Transport Upscaling under Flow Heterogeneity and Matrix-Diffusion in Three-Dimensional Discrete Fracture Networks. Advances in Water Resources, 2021, 155, 103994.	3.8	18
8	A machine learning framework for rapid forecasting and history matching in unconventional reservoirs. Scientific Reports, 2021, 11, 21730.	3.3	21
9	Characterizing the Influence of Fracture Density on Network Scale Transport. Journal of Geophysical Research: Solid Earth, 2020, 125, e2019JB018547.	3.4	18
10	Upscaled discrete fracture matrix model (UDFM): an octree-refined continuum representation of fractured porous media. Computational Geosciences, 2020, 24, 293-310.	2.4	28
11	Characterizing the Impact of Fractured Caprock Heterogeneity on Supercritical CO$$_2$$ Injection. Transport in Porous Media, 2020, 131, 935-955.	2.6	17
12	Anomalous Transport in Threeâ€Dimensional Discrete Fracture Networks: Interplay Between Aperture Heterogeneity and Injection Modes. Water Resources Research, 2020, 56, e2020WR027378.	4.2	31
13	Coreflood on a chip: Core-scale micromodels for subsurface applications. Fuel, 2020, 281, 118716.	6.4	20
14	Stress Effects on Flow and Transport in Threeâ€Dimensional Fracture Networks. Journal of Geophysical Research: Solid Earth, 2020, 125, e2020JB019754.	3.4	20
15	Flow Channeling in Fracture Networks: Characterizing the Effect of Density on Preferential Flow Path Formation. Water Resources Research, 2020, 56, e2020WR027986.	4.2	36
16	Graph-based flow modeling approach adapted to multiscale discrete-fracture-network models. Physical Review E, 2020, 102, 053312.	2.1	11
17	Transient flow modeling in fractured media using graphs. Physical Review E, 2020, 102, 052310.	2.1	4
18	Towards real-time forecasting of natural gas production by harnessing graph theory for stochastic discrete fracture networks. Journal of Petroleum Science and Engineering, 2020, 195, 107791.	4.2	8

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19	Machine learning techniques for fractured media. Advances in Geophysics, 2020, 61, 109-150.	2.8	8
20	Physics-informed machine learning for backbone identification in discrete fracture networks. Computational Geosciences, 2020, 24, 1429-1444.	2.4	6
21	Multilevel Monte Carlo Predictions of First Passage Times in Threeâ€Dimensional Discrete Fracture Networks: A Graphâ€Based Approach. Water Resources Research, 2020, 56, e2019WR026493.	4.2	10
22	Hydraulic characterization of a fault zone from fracture distribution. Journal of Structural Geology, 2020, 135, 104036.	2.3	25
23	Homogenization of Dissolution and Enhanced Precipitation Induced by Bubbles in Multiphase Flow Systems. Geophysical Research Letters, 2020, 47, e2020GL087163.	4.0	21
24	A Probabilistic Clustering Approach for Identifying Primary Subnetworks of Discrete Fracture Networks with Quantified Uncertainty. SIAM-ASA Journal on Uncertainty Quantification, 2020, 8, 573-600.	2.0	6
25	Advective Transport in Discrete Fracture Networks With Connected and Disconnected Textures Representing Internal Aperture Variability. Water Resources Research, 2019, 55, 5487-5501.	4.2	46
26	Characterizing the impact of particle behavior at fracture intersections in three-dimensional discrete fracture networks. Physical Review E, 2019, 99, 013110.	2.1	21
27	Model reduction for fractured porous media: a machine learning approach for identifying main flow pathways. Computational Geosciences, 2019, 23, 617-629.	2.4	26
28	Linking Structural and Transport Properties in Threeâ€Dimensional Fracture Networks. Journal of Geophysical Research: Solid Earth, 2019, 124, 1185-1204.	3.4	57
29	Matrix Diffusion in Fractured Media: New Insights Into Power Law Scaling of Breakthrough Curves. Geophysical Research Letters, 2019, 46, 13785-13795.	4.0	30
30	Emergence of Stable Laws for First Passage Times in Three-Dimensional Random Fracture Networks. Physical Review Letters, 2019, 123, 248501.	7.8	28
31	Discontinuities in effective permeability due to fracture percolation. Mechanics of Materials, 2018, 119, 25-33.	3.2	11
32	Dispersion and Mixing in Threeâ€Dimensional Discrete Fracture Networks: Nonlinear Interplay Between Structural and Hydraulic Heterogeneity. Water Resources Research, 2018, 54, 3243-3258.	4.2	37
33	Modeling flow and transport in fracture networks using graphs. Physical Review E, 2018, 97, 033304.	2.1	41
34	Identifying Backbones in Three-Dimensional Discrete Fracture Networks: A Bipartite Graph-Based Approach. Multiscale Modeling and Simulation, 2018, 16, 1948-1968.	1.6	34
35	Robust system size reduction of discrete fracture networks: a multi-fidelity method that preserves transport characteristics. Computational Geosciences, 2018, 22, 1515-1526.	2.4	17
36	Efficient Monte Carlo With Graphâ€Based Subsurface Flow and Transport Models. Water Resources Research, 2018, 54, 3758-3766.	4.2	27

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37	Advancing Graphâ€Based Algorithms for Predicting Flow and Transport in Fractured Rock. Water Resources Research, 2018, 54, 6085-6099.	4.2	37
38	Machine learning for graph-based representations of three-dimensional discrete fracture networks. Computational Geosciences, 2018, 22, 695-710.	2.4	49
39	Quantifying Topological Uncertainty in Fractured Systems using Graph Theory and Machine Learning. Scientific Reports, 2018, 8, 11665.	3.3	38
40	Analysis and Visualization of Discrete Fracture Networks Using a Flow Topology Graph. IEEE Transactions on Visualization and Computer Graphics, 2017, 23, 1896-1909.	4.4	34
41	The shale gas revolution: Barriers, sustainability, and emerging opportunities. Applied Energy, 2017, 199, 88-95.	10.1	242
42	A comparative study of discrete fracture network and equivalent continuum models for simulating flow and transport in the far field of a hypothetical nuclear waste repository in crystalline host rock. Journal of Hydrology, 2017, 553, 59-70.	5.4	70
43	Predictions of first passage times in sparse discrete fracture networks using graph-based reductions. Physical Review E, 2017, 96, 013304.	2.1	46
44	Influence of capillary end effects on steady-state relative permeability estimates from direct pore-scale simulations. Physics of Fluids, 2017, 29, .	4.0	17
45	Where Does Water Go During Hydraulic Fracturing?. Ground Water, 2016, 54, 488-497.	1.3	48
46	Mixing in a threeâ€phase system: Enhanced production of oilâ€wet reservoirs by CO₂ injection. Geophysical Research Letters, 2016, 43, 196-205.	4.0	38
47	Understanding hydraulic fracturing: a multi-scale problem. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2016, 374, 20150426.	3.4	92
48	Fracture size and transmissivity correlations: Implications for transport simulations in sparse threeâ€dimensional discrete fracture networks following a truncated power law distribution of fracture size. Water Resources Research, 2016, 52, 6472-6489.	4.2	103
49	Evaluating the effect of internal aperture variability on transport in kilometer scale discrete fracture networks. Advances in Water Resources, 2016, 94, 486-497.	3.8	75
50	Influence of injection mode on transport properties in kilometer-scale three-dimensional discrete fracture networks. Water Resources Research, 2015, 51, 7289-7308.	4.2	68
51	Effect of advective flow in fractures and matrix diffusion on natural gas production. Water Resources Research, 2015, 51, 8646-8657.	4.2	85
52	Direct numerical simulation of fully saturated flow in natural porous media at the pore scale: a comparison of three computational systems. Computational Geosciences, 2015, 19, 423-437.	2.4	12
53	Using Discovery Science To Increase Efficiency of Hydraulic Fracturing While Reducing Water Usage. ACS Symposium Series, 2015, , 71-88.	0.5	0
54	Generalized lattice Boltzmann model for flow through tight porous media with Klinkenberg's effect. Physical Review E, 2015, 91, 033004.	2.1	96

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55	Shale gas and non-aqueous fracturing fluids: Opportunities and challenges for supercritical CO2. Applied Energy, 2015, 147, 500-509.	10.1	622
56	dfnWorks: A discrete fracture network framework for modeling subsurface flow and transport. Computers and Geosciences, 2015, 84, 10-19.	4.2	264
57	Statistical scaling of geometric characteristics in stochastically generated pore microstructures. Computational Geosciences, 2015, 19, 845-854.	2.4	3
58	Conforming Delaunay Triangulation of Stochastically Generated Three Dimensional Discrete Fracture Networks: A Feature Rejection Algorithm for Meshing Strategy. SIAM Journal of Scientific Computing, 2014, 36, A1871-A1894.	2.8	123
59	Relationship between pore size and velocity probability distributions in stochastically generated porous media. Physical Review E, 2014, 89, 013018.	2.1	53
60	Stochastic generation of explicit pore structures by thresholding Gaussian random fields. Journal of Computational Physics, 2014, 277, 16-31.	3.8	58
61	Hyperbolic regions in flows through three-dimensional pore structures. Physical Review E, 2013, 88, 063014.	2.1	9
62	Pedotransfer functions for permeability: A computational study at pore scales. Water Resources Research, 2013, 49, 2080-2092.	4.2	17
63	Heterogeneities of flow in stochastically generated porous media. Physical Review E, 2012, 86, 056701.	2.1	41
64	Characterizing Reactive Transport Behavior in a Three-Dimensional Discrete Fracture Network. Transport in Porous Media, 0, , 1.	2.6	3
65	A Comparison of Linear Solvers for Resolving Flow in Threeâ€Dimensional Discrete Fracture Networks. Water Resources Research, 0, , .	4.2	6