Scott L Painter

List of Publications by Year
in descending order

101 papers	3,634 citations	101384 36 h-index	149479 56 g-index
107 all docs	107 docs citations	107 times ranked	2574 citing authors

#	Article	IF	Citations
1	From legacy contamination to watershed systems science: a review of scientific insights and technologies developed through DOE-supported research in water and energy security. Environmental Research Letters, 2022, 17, 043004.	2.2	12
2	Joint estimation of biogeochemical model parameters from multiple experiments: A bayesian approach applied to mercury methylation. Environmental Modelling and Software, 2022, 155, 105453.	1.9	3
3	Permafrost Promotes Shallow Groundwater Flow and Warmer Headwater Streams. Water Resources Research, 2021, 57, e2020WR027463.	1.7	31
4	Estimating Watershed Subsurface Permeability From Stream Discharge Data Using Deep Neural Networks. Frontiers in Earth Science, 2021, 9, .	0.8	10
5	On the Representation of Hyporheic Exchange in Models for Reactive Transport in Stream and River Corridors. Frontiers in Water, 2021, 2, .	1.0	4
6	On the Reliability of Parameter Inferences in a Multiscale Model for Transport in Stream Corridors. Water Resources Research, 2021, 57, e2020WR028908.	1.7	6
7	Toward more mechanistic representations of biogeochemical processes in river networks: Implementation and demonstration of a multiscale model. Environmental Modelling and Software, 2021, 145, 105166.	1.9	10
8	The AQUAâ€MER databases and aqueous speciation server: A web resource for multiscale modeling of mercury speciation. Journal of Computational Chemistry, 2020, 41, 147-155.	1.5	3
9	Sequential Imputation of Missing Spatio-Temporal Precipitation Data Using Random Forests. Frontiers in Water, 2020, 2, .	1.0	24
10	Coupling surface flow and subsurface flow in complex soil structures using mimetic finite differences. Advances in Water Resources, 2020, 144, 103701.	1.7	19
11	Permafrost thermal conditions are sensitive to shifts in snow timing. Environmental Research Letters, 2020, 15, 084026.	2.2	30
12	A Particleâ€Based Conditional Sampling Scheme for the Simulation of Transport in Fractured Rock With Diffusion Into Stagnant Water and Rock Matrix. Water Resources Research, 2020, 56, e2019WR026958.	1.7	12
13	Machine learning assisted hybrid models can improve streamflow simulation in diverse catchments across the conterminous US. Environmental Research Letters, 2020, 15, 104022.	2.2	81
14	Evaluating integrated surface/subsurface permafrost thermal hydrology models in ATS (v0.88) against observations from a polygonal tundra site. Geoscientific Model Development, 2020, 13, 2259-2276.	1.3	26
15	Modeling anaerobic soil organic carbon decomposition in Arctic polygon tundra: insights into soil geochemical influences on carbon mineralization. Biogeosciences, 2019, 16, 663-680.	1.3	21
16	Kinetics of Methylmercury Production Revisited. Environmental Science & Technology, 2018, 52, 2063-2070.	4.6	20
17	Quantifying root water extraction after drought recovery using sub-mm in situ empirical data. Plant and Soil, 2018, 424, 73-89.	1.8	16
18	An intermediate-scale model for thermal hydrology in low-relief permafrost-affected landscapes. Computational Geosciences, 2018, 22, 163-177.	1.2	23

#	Article	IF	Citations
19	Multiscale Framework for Modeling Multicomponent Reactive Transport in Stream Corridors. Water Resources Research, 2018, 54, 7216-7230.	1.7	13
20	Modeling the role of preferential snow accumulation in through talik development and hillslope groundwater flow in a transitional permafrost landscape. Environmental Research Letters, 2018, 13, 105006.	2.2	90
21	A Subgrid Approach for Modeling Microtopography Effects on Overland Flow. Water Resources Research, 2018, 54, 6153-6167.	1.7	22
22	Biogeochemical modeling of CO₂ and CH₄ production in anoxic Arctic soil microcosms. Biogeosciences, 2016, 13, 5021-5041.	1.3	27
23	Addressing numerical challenges in introducing a reactive transport code into a land surface model: a biogeochemical modeling proof-of-concept with CLMâ€“PFLOTRAN 1.0. Geoscientific Model Development, 2016, 9, 927-946.	1.3	14
24	Effect of soil property uncertainties on permafrost thaw projections: a calibration-constrained analysis. Cryosphere, 2016, 10, 341-358.	1.5	33
25	Thermal effects of groundwater flow through subarctic fens: A case study based on field observations and numerical modeling. Water Resources Research, 2016, 52, 1591-1606.	1.7	79
26	Influences and interactions of inundation, peat, and snow on active layer thickness. Geophysical Research Letters, 2016, 43, 5116-5123.	1.5	49
27	Integrated surface/subsurface permafrost thermal hydrology: Model formulation and proofâ€ofâ€concept simulations. Water Resources Research, 2016, 52, 6062-6077.	1.7	102
28	Evaluating the effect of internal aperture variability on transport in kilometer scale discrete fracture networks. Advances in Water Resources, 2016, 94, 486-497.	1.7	75
29	Managing complexity in simulations of land surface and near-surface processes. Environmental Modelling and Software, 2016, 78, 134-149.	1.9	52
30	Modelling radionuclide transport in fractured media with a dynamic update of Kd values. Computers and Geosciences, 2016, 86, 55-63.	2.0	21
31	Influence of injection mode on transport properties in kilometer-scale three-dimensional discrete fracture networks. Water Resources Research, 2015, 51, 7289-7308.	1.7	68
32	Effect of advective flow in fractures and matrix diffusion on natural gas production. Water Resources Research, 2015, 51, 8646-8657.	1.7	85
33	Using field observations to inform thermal hydrology models of permafrost dynamics with ATS (v0.83). Geoscientific Model Development, 2015, 8, 2701-2722.	1.3	56
34	Particle tracking approach for transport in three-dimensional discrete fracture networks. Computational Geosciences, 2015, 19, 1123-1137.	1.2	75
35	dfnWorks: A discrete fracture network framework for modeling subsurface flow and transport. Computers and Geosciences, 2015, 84, 10-19.	2.0	264
36	Three-phase numerical model for subsurface hydrology in permafrost-affected regions (PFLOTRAN-ICE) Tj ETQq0 0 0 rgBT /Overlock 10 T	1.5	63

#	Article	IF	Citations
37	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.	1.3	123
38	Constitutive Model for Unfrozen Water Content in Subfreezing Unsaturated Soils. Vadose Zone Journal, 2014, 13, 1-8.	1.3	79
39	Mesh Infrastructure for Coupled Multiprocess Geophysical Simulations. Procedia Engineering, 2014, 82, 34-45.	1.2	6
40	Radionuclide transport during glacial cycles: Comparison of two approaches for representing flow transients. Physics and Chemistry of the Earth, 2013, 64, 32-45.	1.2	9
41	Modeling challenges for predicting hydrologic response to degrading permafrost. Hydrogeology Journal, 2013, 21, 221-224.	0.9	51
42	Permafrost degradation and subsurface-flow changes caused by surface warming trends. Hydrogeology Journal, 2013, 21, 271-280.	0.9	70
43	Calculation of resident groundwater concentration by post-processing particle-tracking results. Computational Geosciences, 2013, 17, 189-196.	1.2	2
44	Effect of transport-pathway simplifications on projected releases of radionuclides from a nuclear waste repository (Sweden). Hydrogeology Journal, 2012, 20, 1467-1481.	0.9	24
45	Pathline tracing on fully unstructured control-volume grids. Computational Geosciences, 2012, 16, 1125-1134.	1.2	58
46	Transient Modeling of Permafrost Dynamics in Changing Climate Scenarios. , 2011, , .		0
47	Non-isothermal, three-phase simulations of near-surface flows in a model permafrost system under seasonal variability and climate change. Journal of Hydrology, 2011, 403, 352-359.	2.3	83
48	Three-phase numerical model of water migration in partially frozen geological media: model formulation, validation, and applications. Computational Geosciences, 2011, 15, 69-85.	1.2	106
49	Spatial Variability and Parametric Uncertainty in Performance Assessment Models. , 2010, , .		0
50	On the secular evolution of groundwater on Mars. Geophysical Research Letters, 2009, 36, .	1.5	43
51	Robust Representation of Dry Cells in Singleâ€Layer MODFLOW Models. Ground Water, 2008, 46, 873-881.	0.7	20
52	Time domain particle tracking methods for simulating transport with retention and firstâ€order transformation. Water Resources Research, 2008, 44, .	1.7	88
53	Time-Domain Random-Walk Algorithms for Simulating Radionuclide Transport in Fractured Porous Rock. Nuclear Technology, 2008, 163, 129-136.	0.7	9
54	Detached Eddy Simulations and Transient RANS Simulations of Turbulent Flow in the Lower Plenum of a Gas-Cooled Reactor. , 2008, , .		1

#	Article	IF	Citations
55	Assessment of DES Multiscale Turbulence Models for Prediction of Flow and Heat Transfer in an Axial-Channel Rod Configuration. , 2008, , .		1
56	Comparative Assessment of Turbulence Models for Unsteady Turbulent Flow Predictions in Single Rod Channel Configuration. , 2007, , 211.		0
57	Transmissivity estimation for highly heterogeneous aquifers: comparison of three methods applied to the Edwards Aquifer, Texas, USA. Hydrogeology Journal, 2007, 15, 315-331.	0.9	21
58	A constrained robust least squares approach for contaminant release history identification. Water Resources Research, 2006, 42, .	1.7	78
59	Groundwater Contamination in Karst Terranes. Water, Air and Soil Pollution, 2006, 6, 157-170.	0.8	48
60	A robust approach for iterative contaminant source location and release history recovery. Journal of Contaminant Hydrology, 2006, 88, 181-196.	1.6	68
61	Conceptualization and Simulation of the Edwards Aquifer, San Antonio Region, Texas. , 2005, , 122.		9
62	Upscaling discrete fracture network simulations: An alternative to continuum transport models. Water Resources Research, 2005, 41, .	1.7	104
63	Numerical Simulation of Thermal-Hydrological Processes Observed at the Drift-Scale Heater Test at Yucca Mountain, Nevada. Elsevier Geo-Engineering Book Series, 2004, 2, 175-180.	0.0	1
64	Full-Bayesian Inversion of the Edwards Aquifer. Ground Water, 2004, 42, 724-733.	0.7	12
65	Stochastic simulation of radionuclide migration in discretely fractured rock near the Ã„spÃ¶ Hard Rock Laboratory. Water Resources Research, 2004, 40, .	1.7	114
66	Using Temperature to Test Models of Flow Near Yucca Mountain, Nevada. Ground Water, 2003, 41, 657-666.	0.7	9
67	Statistical Characterization of Spatial Variability in Sedimentary Rock. , 2003, , 187-206.		7
68	Modeling conservative tracer transport in fracture networks with a hybrid approach based on the Boltzmann transport equation. Water Resources Research, 2003, 39, .	1.7	43
69	Comparative Measures of Radionuclide Containment in the Crystalline Geophere. Nuclear Science and Engineering, 2002, 142, 292-304.	0.5	10
70	Power-law velocity distributions in fracture networks: Numerical evidence and implications for tracer transport. Geophysical Research Letters, 2002, 29, 20-1-20-4.	1.5	56
71	Significance of Kinetics for Sorption on Inorganic Colloids:Â Modeling and Experiment Interpretation Issues. Environmental Science & Technology, 2002, 36, 5369-5375.	4.6	20
72	Stochastic analysis of early tracer arrival in a segmented fracture pathway. Water Resources Research, 2001, 37, 1669-1680.	1.7	14

#	Article	IF	Citations
73	Flexible scaling model for use in random field simulation of hydraulic conductivity. Water Resources Research, 2001, 37, 1155-1163.	1.7	50
74	Geomechanical and Thermal Effects on Moisture Flow at the Proposed Yucca Mountain Nuclear Waste Repository. Nuclear Technology, 2001, 134, 241-262.	0.7	13
75	Application of LeÂ´vy Random Fractal Simulation Techniques in Modeling Reservoir Mechanisms in the Kuparuk River Field, North Slope, Alaska. SPE Reservoir Evaluation and Engineering, 2000, 3, 263-271.	1.1	10
76	Prediction uncertainty for tracer migration in random heterogeneities with multifractal character. Advances in Water Resources, 1999, 23, 49-57.	1.7	14
77	Monte Carlo Transport Simulation Techniques for Stellarator Fusion Experiments. Australian Journal of Physics, 1999, 52, 715.	0.6	4
78	Numerical Method for Conditional Simulation of Levy Random Fields. Mathematical Geosciences, 1998, 30, 163-179.	0.9	28
79	Transport and retention in fractured rock: Consequences of a power-law distribution for fracture lengths. Physical Review E, 1998, 57, 6917-6922.	0.8	24
80	Particle orbits and drift surfaces in a heliac. Nuclear Fusion, 1998, 38, 1001-1012.	1.6	7
81	Simulating Residual Saturation and Relative Permeability in Heterogeneous Formations. SPE Journal, 1998, 3, 211-218.	1.7	16
82	Reply [to â€œComment on â€˜Evidence for non-Gaussian scaling behavior in heterogeneous sedimentary formationsâ€™ by Scott Painterâ€]. Water Resources Research, 1997, 33, 909-910.	1.7	7
83	Improved Technique for Stochastic Interpolation of Reservoir Properties. SPE Journal, 1997, 2, 48-57.	1.7	6
84	Evidence for Non-Gaussian Scaling Behavior in Heterogeneous Sedimentary Formations. Water Resources Research, 1996, 32, 1183-1195.	1.7	124
85	Stochastic Interpolation of Aquifer Properties Using Fractional LÃ©vy Motion. Water Resources Research, 1996, 32, 1323-1332.	1.7	60
86	Patterns of fluid flow in naturally heterogeneous rocks. Physica A: Statistical Mechanics and Its Applications, 1996, 233, 619-628.	1.2	37
87	On the distribution of seismic reflection coefficients and seismic amplitudes. Geophysics, 1995, 60, 1187-1194.	1.4	42
88	Random fractal models of heterogeneity: The LÃ©vy-stable approach. Mathematical Geosciences, 1995, 27, 813-830.	0.9	40
89	Fractional LÃ©vy motion as a model for spatial variability in sedimentary rock. Geophysical Research Letters, 1994, 21, 2857-2860.	1.5	80
90	Levy Stochastic Model for the Variations in the Properties of Sedimentary Rock. , 1994, , .		0

#	Article	IF	Citations
91	Data-parallel algorithms for Monte Carlo simulation of neoclassical transport in magnetically confined plasmas. Computer Physics Communications, 1993, 77, 342-356.	3.0	2
92	Orbit confinement and neoclassical transport in the H-1 heliac. Nuclear Fusion, 1993, 33, 1107-1118.	1.6	8
93	Fast wave heating experiments in the ion cyclotron range of frequencies on ATF. Nuclear Fusion, 1992, 32, 1225-1240.	1.6	20
94	Design-Oriented Methods for One-Dimensional Analysis of Fusion Reactor Plasma Performance. Fusion Science and Technology, 1992, 21, 1617-1623.	0.6	2
95	Equilibrium, Stability, and Deeply Trapped Energetic Particle Confinement Calculations for l = 2 Torsatron/Heliotron Configurations. Fusion Science and Technology, 1991, 19, 217-233.	0.6	14
96	Transport analysis of stellarator reactors. Nuclear Fusion, 1991, 31, 2271-2290.	1.6	12
97	Advanced Toroidal Facility II Studies. Fusion Science and Technology, 1990, 17, 188-205.	0.6	7
98	Alpha-Particle Losses in Compact Torsatron Reactors. Fusion Science and Technology, 1989, 16, 157-171.	0.6	24
99	Insitudye laser calibration for Thomson scattering diagnostics. Review of Scientific Instruments, 1988, 59, 1464-1466.	0.6	2
100	Twoâ€dimensional Thomson scattering system for ATF. Review of Scientific Instruments, 1986, 57, 1816-1818.	0.6	4
101	Transport studies of compact torsatron reactors. , 0, , .		0