

Timothy D Scheibe

List of Publications by Year in descending order

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92
papers

3,565
citations

172386
29
h-index

143943
57
g-index

108
all docs

108
docs citations

108
times ranked

3085
citing authors

#	ARTICLE	IF	CITATIONS
1	Processes in microbial transport in the natural subsurface. <i>Advances in Water Resources</i> , 2002, 25, 1017-1042.	1.7	258
2	Multiphysics simulations. <i>International Journal of High Performance Computing Applications</i> , 2013, 27, 4-83.	2.4	244
3	Apparent Decreases in Colloid Deposition Rate Coefficients with Distance of Transport under Unfavorable Deposition Conditions: A General Phenomenon. <i>Environmental Science & Technology</i> , 2004, 38, 5616-5625.	4.6	206
4	Simulations of reactive transport and precipitation with smoothed particle hydrodynamics. <i>Journal of Computational Physics</i> , 2007, 222, 654-672.	1.9	200
5	Mixing-induced precipitation: Experimental study and multiscale numerical analysis. <i>Water Resources Research</i> , 2008, 44, .	1.7	167
6	On breakdown of macroscopic models of mixing-controlled heterogeneous reactions in porous media. <i>Advances in Water Resources</i> , 2009, 32, 1664-1673.	1.7	133
7	A smoothed particle hydrodynamics model for reactive transport and mineral precipitation in porous and fractured porous media. <i>Water Resources Research</i> , 2007, 43, .	1.7	128
8	Hybrid models of reactive transport in porous and fractured media. <i>Advances in Water Resources</i> , 2011, 34, 1140-1150.	1.7	119
9	Intercomparison of 3D pore-scale flow and solute transport simulation methods. <i>Advances in Water Resources</i> , 2016, 95, 176-189.	1.7	105
10	Effects of incomplete mixing on multicomponent reactive transport. <i>Advances in Water Resources</i> , 2009, 32, 1674-1679.	1.7	100
11	Coupling a genome-scale metabolic model with a reactive transport model to describe <i>in situ</i> uranium bioremediation. <i>Microbial Biotechnology</i> , 2009, 2, 274-286.	2.0	92
12	Scaling of flow and transport behavior in heterogeneous groundwater systems. <i>Advances in Water Resources</i> , 1998, 22, 223-238.	1.7	79
13	Extended tailing of bacteria following breakthrough at the Narrow Channel Focus Area, Oyster, Virginia. <i>Water Resources Research</i> , 2001, 37, 2687-2698.	1.7	79
14	Pore-scale and multiscale numerical simulation of flow and transport in a laboratory-scale column. <i>Water Resources Research</i> , 2015, 51, 1023-1035.	1.7	79
15	Use of sedimentological information for geometric simulation of natural porous media structure. <i>Water Resources Research</i> , 1995, 31, 3259-3270.	1.7	74
16	Preliminary observations on bacterial transport in a coastal plain aquifer. <i>FEMS Microbiology Reviews</i> , 1997, 20, 473-487.	3.9	74
17	Hybrid Simulations of Reaction-Diffusion Systems in Porous Media. <i>SIAM Journal of Scientific Computing</i> , 2008, 30, 2799-2816.	1.3	74
18	Relative Dominance of Physical versus Chemical Effects on the Transport of Adhesion-Deficient Bacteria in Intact Cores from South Oyster, Virginia. <i>Environmental Science & Technology</i> , 2002, 36, 891-900.	4.6	68

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19	Direct numerical simulation of pore-scale flow in a bead pack: Comparison with magnetic resonance imaging observations. <i>Advances in Water Resources</i> , 2013, 54, 228-241.	1.7	62
20	An Analysis Platform for Multiscale Hydrogeologic Modeling with Emphasis on Hybrid Multiscale Methods. <i>Ground Water</i> , 2015, 53, 38-56.	0.7	62
21	Transport and biogeochemical reaction of metals in a physically and chemically heterogeneous aquifer. , 2006, 2, 220.		61
22	Ferrographic Tracking of Bacterial Transport in the Field at the Narrow Channel Focus Area, Oyster, VA. <i>Environmental Science & Technology</i> , 2001, 35, 182-191.	4.6	56
23	Simulating the heterogeneity in braided channel belt deposits: 1. A geometricâ€based methodology and code. <i>Water Resources Research</i> , 2010, 46, .	1.7	48
24	A particle-based model of size or anion exclusion with application to microbial transport in porous media. <i>Water Resources Research</i> , 2003, 39, .	1.7	45
25	Direct coupling of a genome-scale microbial in silico model and a groundwater reactive transport model. <i>Journal of Contaminant Hydrology</i> , 2011, 122, 96-103.	1.6	44
26	An Evaluation of Conditioning Data for Solute Transport Prediction. <i>Ground Water</i> , 2003, 41, 128-141.	0.7	43
27	Geochemical and Microbial Community Attributes in Relation to Hyporheic Zone Geological Facies. <i>Scientific Reports</i> , 2017, 7, 12006.	1.6	40
28	Regulation-Structured Dynamic Metabolic Model Provides a Potential Mechanism for Delayed Enzyme Response in Denitrification Process. <i>Frontiers in Microbiology</i> , 2017, 8, 1866.	1.5	40
29	Pore-Scale Model for Reactive Transport and Biomass Growth. <i>Journal of Porous Media</i> , 2009, 12, 417-434.	1.0	38
30	Conceptual and numerical model of uranium(VI) reductive immobilization in fractured subsurface sediments. <i>Chemosphere</i> , 2005, 59, 617-628.	4.2	36
31	Simulating the heterogeneity in braided channel belt deposits: 2. Examples of results and comparison to natural deposits. <i>Water Resources Research</i> , 2010, 46, .	1.7	35
32	Use of Quantitative Models to Design Microbial Transport Experiments in a Sandy Aquifer. <i>Ground Water</i> , 2001, 39, 210-222.	0.7	29
33	Non-Gaussian Particle Tracking: Application to scaling of transport processes in heterogeneous porous media. <i>Water Resources Research</i> , 1994, 30, 2027-2039.	1.7	27
34	Representing Organic Matter Thermodynamics in Biogeochemical Reactions via Substrate-Explicit Modeling. <i>Frontiers in Microbiology</i> , 2020, 11, 531756.	1.5	27
35	Correlation between bacterial attachment rate coefficients and hydraulic conductivity and its effect on field-scale bacterial transport. <i>Advances in Water Resources</i> , 2007, 30, 1571-1582.	1.7	26
36	Pore-scale simulation of microbial growth using a genome-scale metabolic model: Implications for Darcy-scale reactive transport. <i>Advances in Water Resources</i> , 2013, 59, 256-270.	1.7	26

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37	Fish individual-based numerical simulator (FINS): a particle-based model of juvenile salmonid movement and dissolved gas exposure history in the Columbia River basin. <i>Ecological Modelling</i> , 2002, 147, 233-252.	1.2	25
38	Dissipative-particle-dynamics model of biofilm growth. <i>Physical Review E</i> , 2011, 83, 066702.	0.8	23
39	Colloid transport in saturated porous media: Elimination of attachment efficiency in a new colloid transport model. <i>Water Resources Research</i> , 2013, 49, 2952-2965.	1.7	23
40	Hybrid multiscale simulation of a mixing-controlled reaction. <i>Advances in Water Resources</i> , 2015, 83, 228-239.	1.7	23
41	Development of a coupled thermo-hydro-mechanical model in discontinuous media for carbon sequestration. <i>International Journal of Rock Mechanics and Minings Sciences</i> , 2013, 62, 138-147.	2.6	22
42	Integrating field observations and process-based modeling to predict watershed water quality under environmental perturbations. <i>Journal of Hydrology</i> , 2021, 602, 125762.	2.3	22
43	Physical versus chemical effects on bacterial and bromide transport as determined from on site sediment column pulse experiments. <i>Journal of Contaminant Hydrology</i> , 2005, 76, 295-314.	1.6	21
44	Reactive Transport Modeling of Microbial Dynamics. <i>Elements</i> , 2019, 15, 111-116.	0.5	21
45	Lessons Learned from Bacterial Transport Research at the South Oyster Site. <i>Ground Water</i> , 2011, 49, 745-763.	0.7	20
46	Model-based analysis of the role of biological, hydrological and geochemical factors affecting uranium bioremediation. <i>Biotechnology and Bioengineering</i> , 2011, 108, 1537-1548.	1.7	19
47	A fluid pressure and deformation analysis for geological sequestration of carbon dioxide. <i>Computers and Geosciences</i> , 2012, 46, 31-37.	2.0	19
48	Subsurface biogeochemistry is a missing link between ecology and hydrology in dam-impacted river corridors. <i>Science of the Total Environment</i> , 2019, 657, 435-445.	3.9	19
49	A Component-Based Framework for Smoothed Particle Hydrodynamics Simulations of Reactive Fluid Flow in Porous Media. <i>International Journal of High Performance Computing Applications</i> , 2010, 24, 228-239.	2.4	18
50	Flow and axial dispersion in a sinusoidal-walled tube: Effects of inertial and unsteady flows. <i>Advances in Water Resources</i> , 2013, 62, 215-226.	1.7	18
51	Modeling and sensitivity analysis of electron capacitance for <i>Geobacter</i> in sedimentary environments. <i>Journal of Contaminant Hydrology</i> , 2010, 112, 30-44.	1.6	16
52	Pore-scale simulation of intragranular diffusion: Effects of incomplete mixing on macroscopic manifestations. <i>Water Resources Research</i> , 2013, 49, 4277-4294.	1.7	16
53	Hybrid numerical methods for multiscale simulations of subsurface biogeochemical processes. <i>Journal of Physics: Conference Series</i> , 2007, 78, 012063.	0.3	13
54	An efficient three-dimensional rhizosphere modeling capability to study the effect of root system architecture on soil water and reactive transport. <i>Plant and Soil</i> , 2019, 441, 33-48.	1.8	13

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55	Breakthroughs in field-scale bacterial transport. <i>Eos</i> , 2001, 82, 417-417.	0.1	12
56	Change of Collision Efficiency with Distance in Bacterial Transport Experiments. <i>Ground Water</i> , 2006, 44, 415-429.	0.7	12
57	What can we learn from in-soil imaging of a live plant: X-ray Computed Tomography and 3D numerical simulation of root-soil system. <i>Rhizosphere</i> , 2017, 3, 259-262.	1.4	12
58	Identification and mapping of riverbed sediment facies in the Columbia River through integration of field observations and numerical simulations. <i>Hydrological Processes</i> , 2019, 33, 1245-1259.	1.1	12
59	From legacy contamination to watershed systems science: a review of scientific insights and technologies developed through DOE-supported research in water and energy security. <i>Environmental Research Letters</i> , 2022, 17, 043004.	2.2	12
60	Flow Partitioning in Fully Saturated Soil Aggregates. <i>Transport in Porous Media</i> , 2014, 103, 295-314.	1.2	11
61	Machine Learning Analysis of Hydrologic Exchange Flows and Transit Time Distributions in a Large Regulated River. <i>Frontiers in Artificial Intelligence</i> , 2021, 4, 648071.	2.0	10
62	Dimension reduction numerical closure method for advection–diffusion-reaction systems. <i>Advances in Water Resources</i> , 2011, 34, 1616-1626.	1.7	9
63	A Hybrid Multiscale Framework for Subsurface Flow and Transport Simulations. <i>Procedia Computer Science</i> , 2015, 51, 1098-1107.	1.2	8
64	Groundwater Contamination, Subsurface Processes, and Remediation Methods: Overview of the Special Issue of <i>Water</i> on Groundwater Contamination and Remediation. <i>Water (Switzerland)</i> , 2018, 10, 1708.	1.2	7
65	Model-based analysis of mixed uranium(VI) reduction by biotic and abiotic pathways during in situ bioremediation. <i>Chemical Geology</i> , 2013, 357, 215-222.	1.4	5
66	Downscaling–Based Segmentation for Unresolved Images of Highly Heterogeneous Granular Porous Samples. <i>Water Resources Research</i> , 2018, 54, 2871-2890.	1.7	5
67	Spatial Mapping of Riverbed Grain-Size Distribution Using Machine Learning. <i>Frontiers in Water</i> , 2020, 2, .	1.0	5
68	Contributions of biofilm-induced flow heterogeneities to solute retention and anomalous transport features in porous media. <i>Water Research</i> , 2022, 209, 117896.	5.3	5
69	Particle methods for simulation of subsurface multiphase fluid flow and biogeochemical processes. <i>Journal of Physics: Conference Series</i> , 2007, 78, 012047.	0.3	4
70	Modeling of streamflow in a 30–km long reach spanning 5 years using OpenFOAM 5.x. <i>Geoscientific Model Development</i> , 2022, 15, 2917-2947.	1.3	4
71	Interactive Models for Ground Water Flow and Solute Transport. <i>Ground Water</i> , 2004, 42, 8-11.	0.7	3
72	Iterative Workflows for Numerical Simulations in Subsurface Sciences. , 2008, , .		3

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73	Editorial: Linking Hydrological and Biogeochemical Processes in Riparian Corridors. <i>Frontiers in Water</i> , 2021, 3, .	1.0	3
74	Scale-dependent spatial variabilities of hydrological exchange flows and transit time in a large regulated river. <i>Journal of Hydrology</i> , 2021, 598, 126283.	2.3	3
75	Processes in Microbial Transport in the Natural Subsurface. <i>ChemInform</i> , 2003, 34, no.	0.1	2
76	Explaining "Noise" as Environmental Variations in Population Dynamics. <i>Computing in Science and Engineering</i> , 2007, 9, 40-49.	1.2	2
77	On Modeling Ensemble Transport of Metal Reducing Motile Bacteria. <i>Scientific Reports</i> , 2019, 9, 14638.	1.6	2
78	High-Performance Simulation of Dynamic Hydrologic Exchange and Implications for Surrogate Flow and Reactive Transport Modeling in a Large River Corridor. <i>Frontiers in Water</i> , 2020, 2, .	1.0	2
79	Historical Contingency in Microbial Resilience to Hydrologic Perturbations. <i>Frontiers in Water</i> , 2021, 3, .	1.0	2
80	Preliminary observations on bacterial transport in a coastal plain aquifer. <i>FEMS Microbiology Reviews</i> , 1997, 20, 473-487.	3.9	2
81	Modeling framework for evaluating the impacts of hydrodynamic pressure on hydrologic exchange fluxes and residence time for a large-scale river section over a long-term period. <i>Environmental Modelling and Software</i> , 2022, 148, 105277.	1.9	2
82	Risk-Based Selection of Monitoring Wells for Assessing Agricultural Chemical Contamination of Ground Water. <i>Ground Water Monitoring and Remediation</i> , 1989, 9, 98-108.	0.6	1
83	Hybrid numerical methods for multiscale simulations of subsurface biogeochemical processes. <i>Journal of Physics: Conference Series</i> , 2008, 125, 012054.	0.3	1
84	Application of the SALSSA framework to the validation of smoothed particle hydrodynamics simulations of low Reynolds number flows. <i>Journal of Physics: Conference Series</i> , 2009, 180, 012065.	0.3	1
85	Advanced Simulation Capability for Environmental Management: Current Status and Future Applications. , 2013, , .		1
86	Multiscale Modelling and Simulation, 13th International Workshop. <i>Procedia Computer Science</i> , 2016, 80, 1242-1243.	1.2	1
87	A novel construct for scaling groundwater-river interactions based on machine-guided hydromorphic classification. <i>Environmental Research Letters</i> , 2021, 16, 104016.	2.2	1
88	A novel approach to estimate iron distribution within different pore domains of structured media. <i>Applied Geochemistry</i> , 2007, 22, 2630-2636.	1.4	0
89	Special Issue on Discussions on Metahydrogeology: Research Stocktaking or Identity Crisis? Essays on the Once and Future Merit of Research in Hydrogeology. <i>Journal of Hydrologic Engineering - ASCE</i> , 2008, 13, 1-1.	0.8	0
90	UNDERSTANDING RIVER CORRIDOR CONNECTIVITY ACROSS THE CONTINENTAL UNITED STATES. , 2019, , .		0

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91	ANALYSIS OF NESTED HYPORHEIC FLOW PATHS USING ANALYTICAL SPECTRAL SOLUTIONS. , 2021, , .		0
92	Identification of Characteristic Spatial Scales to Improve the Performance of Analytical Spectral Solutions to the Groundwater Flow Equation. Water Resources Research, 2021, 57, .	1.7	0