Timothy D Scheibe

List of Publications by Year
in descending order

92 papers	3,565 citations	172457 29 h-index	144013 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. Advances in Water Resources, 2002, 25, 1017-1042.	3.8	258
2	Multiphysics simulations. International Journal of High Performance Computing Applications, 2013, 27, 4-83.	3.7	244
3	Apparent Decreases in Colloid Deposition Rate Coefficients with Distance of Transport under Unfavorable Deposition Conditions:Â A General Phenomenon. Environmental Science & Technology, 2004, 38, 5616-5625.	10.0	206
4	Simulations of reactive transport and precipitation with smoothed particle hydrodynamics. Journal of Computational Physics, 2007, 222, 654-672.	3.8	200
5	Mixingâ€induced precipitation: Experimental study and multiscale numerical analysis. Water Resources Research, 2008, 44, .	4.2	167
6	On breakdown of macroscopic models of mixing-controlled heterogeneous reactions in porous media. Advances in Water Resources, 2009, 32, 1664-1673.	3.8	133
7	A smoothed particle hydrodynamics model for reactive transport and mineral precipitation in porous and fractured porous media. Water Resources Research, 2007, 43, .	4.2	128
8	Hybrid models of reactive transport in porous and fractured media. Advances in Water Resources, 2011, 34, 1140-1150.	3.8	119
9	Intercomparison of 3D pore-scale flow and solute transport simulation methods. Advances in Water Resources, 2016, 95, 176-189.	3.8	105
10	Effects of incomplete mixing on multicomponent reactive transport. Advances in Water Resources, 2009, 32, 1674-1679.	3.8	100
11	Coupling a genomeâ€scale metabolic model with a reactive transport model to describe <i>in situ</i> uranium bioremediation. Microbial Biotechnology, 2009, 2, 274-286.	4.2	92
12	Scaling of flow and transport behavior in heterogeneous groundwater systems. Advances in Water Resources, 1998, 22, 223-238.	3.8	79
13	Extended tailing of bacteria following breakthrough at the Narrow Channel Focus Area, Oyster, Virginia. Water Resources Research, 2001, 37, 2687-2698.	4.2	79
14	Poreâ€scale and multiscale numerical simulation of flow and transport in a laboratoryâ€scale column. Water Resources Research, 2015, 51, 1023-1035.	4.2	79
15	Use of sedimentological information for geometric simulation of natural porous media structure. Water Resources Research, 1995, 31, 3259-3270.	4.2	74
16	Preliminary observations on bacterial transport in a coastal plain aquifer. FEMS Microbiology Reviews, 1997, 20, 473-487.	8.6	74
17	Hybrid Simulations of Reaction-Diffusion Systems in Porous Media. SIAM Journal of Scientific Computing, 2008, 30, 2799-2816.	2.8	74
18	Relative Dominance of Physical versus Chemical Effects on the Transport of Adhesion-Deficient Bacteria in Intact Cores from South Oyster, Virginia. Environmental Science & Technology, 2002, 36, 891-900.	10.0	68

#	Article	IF	Citations
19	Direct numerical simulation of pore-scale flow in a bead pack: Comparison with magnetic resonance imaging observations. Advances in Water Resources, 2013, 54, 228-241.	3.8	62
20	An Analysis Platform for Multiscale Hydrogeologic Modeling with Emphasis on Hybrid Multiscale Methods. Ground Water, 2015, 53, 38-56.	1.3	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. Environmental Science & Technology, 2001, 35, 182-191.	10.0	56
23	Simulating the heterogeneity in braided channel belt deposits: 1. A geometricâ€based methodology and code. Water Resources Research, 2010, 46, .	4.2	48
24	A particle-based model of size or anion exclusion with application to microbial transport in porous media. Water Resources Research, 2003, 39, .	4.2	45
25	Direct coupling of a genome-scale microbial in silico model and a groundwater reactive transport model. Journal of Contaminant Hydrology, 2011, 122, 96-103.	3.3	44
26	An Evaluation of Conditioning Data for Solute Transport Prediction. Ground Water, 2003, 41, 128-141.	1.3	43
27	Geochemical and Microbial Community Attributes in Relation to Hyporheic Zone Geological Facies. Scientific Reports, 2017, 7, 12006.	3.3	40
28	Regulation-Structured Dynamic Metabolic Model Provides a Potential Mechanism for Delayed Enzyme Response in Denitrification Process. Frontiers in Microbiology, 2017, 8, 1866.	3.5	40
29	Pore-Scale Model for Reactive Transport and Biomass Growth. Journal of Porous Media, 2009, 12, 417-434.	1.9	38
30	Conceptual and numerical model of uranium(VI) reductive immobilization in fractured subsurface sediments. Chemosphere, 2005, 59, 617-628.	8.2	36
31	Simulating the heterogeneity in braided channel belt deposits: 2. Examples of results and comparison to natural deposits. Water Resources Research, 2010, 46, .	4.2	35
32	Use of Quantitative Models to Design Microbial Transport Experiments in a Sandy Aquifer. Ground Water, 2001, 39, 210-222.	1.3	29
33	Non-Gaussian Particle Tracking: Application to scaling of transport processes in heterogeneous porous media. Water Resources Research, 1994, 30, 2027-2039.	4.2	27
34	Representing Organic Matter Thermodynamics in Biogeochemical Reactions via Substrate-Explicit Modeling. Frontiers in Microbiology, 2020, 11, 531756.	3.5	27
35	Correlation between bacterial attachment rate coefficients and hydraulic conductivity and its effect on field-scale bacterial transport. Advances in Water Resources, 2007, 30, 1571-1582.	3.8	26
36	Pore-scale simulation of microbial growth using a genome-scale metabolic model: Implications for Darcy-scale reactive transport. Advances in Water Resources, 2013, 59, 256-270.	3.8	26

#	Article	IF	Citations
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. Ecological Modelling, 2002, 147, 233-252.	2.5	25
38	Dissipative-particle-dynamics model of biofilm growth. Physical Review E, 2011, 83, 066702.	2.1	23
39	Colloid transport in saturated porous media: Elimination of attachment efficiency in a new colloid transport model. Water Resources Research, 2013, 49, 2952-2965.	4.2	23
40	Hybrid multiscale simulation of a mixing-controlled reaction. Advances in Water Resources, 2015, 83, 228-239.	3.8	23
41	Development of a coupled thermo-hydro-mechanical model in discontinuous media for carbon sequestration. International Journal of Rock Mechanics and Minings Sciences, 2013, 62, 138-147.	5.8	22
42	Integrating field observations and process-based modeling to predict watershed water quality under environmental perturbations. Journal of Hydrology, 2021, 602, 125762.	5.4	22
43	Physical versus chemical effects on bacterial and bromide transport as determined from on site sediment column pulse experiments. Journal of Contaminant Hydrology, 2005, 76, 295-314.	3.3	21
44	Reactive Transport Modeling of Microbial Dynamics. Elements, 2019, 15, 111-116.	0.5	21
45	Lessons Learned from Bacterial Transport Research at the South Oyster Site. Ground Water, 2011, 49, 745-763.	1.3	20
46	Modelâ€based analysis of the role of biological, hydrological and geochemical factors affecting uranium bioremediation. Biotechnology and Bioengineering, 2011, 108, 1537-1548.	3.3	19
47	A fluid pressure and deformation analysis for geological sequestration of carbon dioxide. Computers and Geosciences, 2012, 46, 31-37.	4.2	19
48	Subsurface biogeochemistry is a missing link between ecology and hydrology in dam-impacted river corridors. Science of the Total Environment, 2019, 657, 435-445.	8.0	19
49	A Component-Based Framework for Smoothed Particle Hydrodynamics Simulations of Reactive Fluid Flow in Porous Media. International Journal of High Performance Computing Applications, 2010, 24, 228-239.	3.7	18
50	Flow and axial dispersion in a sinusoidal-walled tube: Effects of inertial and unsteady flows. Advances in Water Resources, 2013, 62, 215-226.	3.8	18
51	Modeling and sensitivity analysis of electron capacitance for Geobacter in sedimentary environments. Journal of Contaminant Hydrology, 2010, 112, 30-44.	3.3	16
52	Poreâ€scale simulation of intragranular diffusion: Effects of incomplete mixing on macroscopic manifestations. Water Resources Research, 2013, 49, 4277-4294.	4.2	16
53	Hybrid numerical methods for multiscale simulations of subsurface biogeochemical processes. Journal of Physics: Conference Series, 2007, 78, 012063.	0.4	13
54	An efficient three-dimensional rhizosphere modeling capability to study the effect of root system architecture on soil water and reactive transport. Plant and Soil, 2019, 441, 33-48.	3.7	13

#	Article	IF	Citations
55	Breakthroughs in field-scale bacterial transport. Eos, 2001, 82, 417-417.	0.1	12
56	Change of Collision Efficiency with Distance in Bacterial Transport Experiments. Ground Water, 2006, 44, 415-429.	1.3	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. Rhizosphere, 2017, 3, 259-262.	3.0	12
58	Identification and mapping of riverbed sediment facies in the Columbia River through integration of field observations and numerical simulations. Hydrological Processes, 2019, 33, 1245-1259.	2.6	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. Environmental Research Letters, 2022, 17, 043004.	5.2	12
60	Flow Partitioning in Fully Saturated Soil Aggregates. Transport in Porous Media, 2014, 103, 295-314.	2.6	11
61	Machine Learning Analysis of Hydrologic Exchange Flows and Transit Time Distributions in a Large Regulated River. Frontiers in Artificial Intelligence, 2021, 4, 648071.	3.4	10
62	Dimension reduction numerical closure method for advectionâ€“diffusion-reaction systems. Advances in Water Resources, 2011, 34, 1616-1626.	3.8	9
63	A Hybrid Multiscale Framework for Subsurface Flow and Transport Simulations. Procedia Computer Science, 2015, 51, 1098-1107.	2.0	8
64	Groundwater Contamination, Subsurface Processes, and Remediation Methods: Overview of the Special Issue of Water on Groundwater Contamination and Remediation. Water (Switzerland), 2018, 10, 1708.	2.7	7
65	Model-based analysis of mixed uranium(VI) reduction by biotic and abiotic pathways during in situ bioremediation. Chemical Geology, 2013, 357, 215-222.	3.3	5
66	Downscalingâ€Based Segmentation for Unresolved Images of Highly Heterogeneous Granular Porous Samples. Water Resources Research, 2018, 54, 2871-2890.	4.2	5
67	Spatial Mapping of Riverbed Grain-Size Distribution Using Machine Learning. Frontiers in Water, 2020, 2, .	2.3	5
68	Contributions of biofilm-induced flow heterogeneities to solute retention and anomalous transport features in porous media. Water Research, 2022, 209, 117896.	11.3	5
69	Particle methods for simulation of subsurface multiphase fluid flow and biogeochemical processes. Journal of Physics: Conference Series, 2007, 78, 012047.	0.4	4
70	Modeling of streamflow in a 30â€‰km long reach spanning 5 years using OpenFOAM 5.x. Geoscientific Model Development, 2022, 15, 2917-2947.	3.6	4
71	Interactive Models for Ground Water Flow and Solute Transport. Ground Water, 2004, 42, 8-11.	1.3	3
72	Iterative Workflows for Numerical Simulations in Subsurface Sciences. , 2008, , .		3

#	Article	IF	Citations
73	Editorial: Linking Hydrological and Biogeochemical Processes in Riparian Corridors. Frontiers in Water, 2021, 3, .	2.3	3
74	Scale-dependent spatial variabilities of hydrological exchange flows and transit time in a large regulated river. Journal of Hydrology, 2021, 598, 126283.	5.4	3
75	Processes in Microbial Transport in the Natural Subsurface. ChemInform, 2003, 34, no.	0.0	2
76	Explaining "Noise" as Environmental Variations in Population Dynamics. Computing in Science and Engineering, 2007, 9, 40-49.	1.2	2
77	On Modeling Ensemble Transport of Metal Reducing Motile Bacteria. Scientific Reports, 2019, 9, 14638.	3.3	2
78	High-Performance Simulation of Dynamic Hydrologic Exchange and Implications for Surrogate Flow and Reactive Transport Modeling in a Large River Corridor. Frontiers in Water, 2020, 2, .	2.3	2
79	Historical Contingency in Microbial Resilience to Hydrologic Perturbations. Frontiers in Water, 2021, 3, .	2.3	2
80	Preliminary observations on bacterial transport in a coastal plain aquifer. FEMS Microbiology Reviews, 1997, 20, 473-487.	8.6	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. Environmental Modelling and Software, 2022, 148, 105277.	4.5	2
82	Risk-Based Selection of Monitoring Wells for Assessing Agricultural Chemical Contamination of Ground Water. Ground Water Monitoring and Remediation, 1989, 9, 98-108.	0.8	1
83	Hybrid numerical methods for multiscale simulations of subsurface biogeochemical processes. Journal of Physics: Conference Series, 2008, 125, 012054.	0.4	1
84	Application of the SALSSA framework to the validation of smoothed particle hydrodynamics simulations of low Reynolds number flows. Journal of Physics: Conference Series, 2009, 180, 012065.	0.4	1
85	Advanced Simulation Capability for Environmental Management: Current Status and Future Applications. , 2013, , .		1
86	Multiscale Modelling and Simulation, 13th International Workshop. Procedia Computer Science, 2016, 80, 1242-1243.	2.0	1
87	A novel construct for scaling groundwaterâ€"river interactions based on machine-guided hydromorphic classification. Environmental Research Letters, 2021, 16, 104016.	5.2	1
88	A novel approach to estimate iron distribution within different pore domains of structured media. Applied Geochemistry, 2007, 22, 2630-2636.	3.0	0
89	Special Issue on Discussions on Metahydrogeology: Research Stocktaking or Identity Crisis? Essays on the Once and Future Merit of Research in Hydrogeology. Journal of Hydrologic Engineering - ASCE, 2008, 13, 1-1.	1.9	0
90	UNDERSTANDING RIVER CORRIDOR CONNECTIVITY ACROSS THE CONTINENTAL UNITED STATES. , 2019, , .		0

#	Article	IF	Citations
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, .	4.2	0