Philippe Ackerer

List of Publications by Year
in descending order

100	2,042	236833	302012
papers	citations	25 h-index	39 g-index

101	101	101	1570
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Application of the mixed hybrid finite element approximation in a groundwater flow model: Luxury or necessity?. Water Resources Research, 1994, 30, 3001-3012.	1.7	160
2	Simulating Solute Transport in Porous or Fractured Formations Using Random Walk Particle Tracking: A Review. Vadose Zone Journal, 2005, 4, 360-379.	1.3	138
3	Use of global sensitivity analysis and polynomial chaos expansion for interpretation of nonreactive transport experiments in laboratoryâ€scale porous media. Water Resources Research, 2011, 47, .	1.7	72
4	Detection of advected, reacting redox fronts from self-potential measurements. Journal of Contaminant Hydrology, 2006, 86, 32-52.	1.6	56
5	Mixed finite elements for solving 2-D diffusion-type equations. Reviews of Geophysics, 2010, 48, .	9.0	55
6	Detection of advected concentration and pH fronts from self-potential measurements. Journal of Geophysical Research, 2005, 110, .	3.3	51
7	From mixed finite elements to finite volumes for elliptic PDEs in two and three dimensions. International Journal for Numerical Methods in Engineering, 2004, 59, 365-388.	1.5	50
8	Determining Karst Transmissivities with Inverse Modeling and an Equivalent Porous Media. Ground Water, 1999, 37, 897-903.	0.7	47
9	A new mass lumping scheme for the mixed hybrid finite element method. International Journal for Numerical Methods in Engineering, 2006, 67, 89-107.	1.5	47
10	A New Formulation of the Mixed Finite Element Method for Solving Elliptic and Parabolic PDE with Triangular Elements. Journal of Computational Physics, 1999, 149, 148-167.	1.9	43
11	Efficient approximations for the simulation of density driven flow in porous media. Advances in Water Resources, 2008, 31, 15-27.	1.7	43
12	A 1-D modelling of streaming potential dependence on water content during drainage experiment in sand. Geophysical Journal International, 2012, 189, 285-295.	1.0	41
13	Electrical Response of Flow, Diffusion, and Advection in a Laboratory Sand Box. Vadose Zone Journal, 2004, 3, 1180-1192.	1.3	38
14	The <scp>H</scp>enry problem: New semianalytical solution for velocityâ€dependent dispersion. Water Resources Research, 2016, 52, 7382-7407.	1.7	36
15	Solving the advectionâ€“dispersion equation with discontinuous Galerkin and multipoint flux approximation methods on unstructured meshes. International Journal for Numerical Methods in Fluids, 2008, 58, 687-708.	0.9	34
16	Twoâ€dimensional stableâ€layered laboratoryâ€scale experiments for testing densityâ€coupled flow models. Water Resources Research, 2009, 45, .	1.7	34
17	Laboratory tracer tests on three-dimensional reconstructed heterogeneous porous media. Journal of Hydrology, 2004, 294, 196-212.	2.3	32
18	The Strengbach Catchment: A Multidisciplinary Environmental Sentry for 30 Years. Vadose Zone Journal, 2018, 17, 1-17.	1.3	32

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19	Inversion of interference hydraulic pumping tests in both homogeneous and fractal dual media. Advances in Water Resources, 2007, 30, 314-334.	1.7	31
20	Variable-density flow in heterogeneous porous media â€" Laboratory experiments and numerical simulations. Journal of Contaminant Hydrology, 2009, 108, 168-175.	1.6	31
21	From mixed flow reactor to column experiments and modeling: Upscaling of calcite dissolution rate. Chemical Geology, 2018, 487, 63-75.	1.4	31
22	Determining Soil Hydraulic Properties by Inverse Method in Oneâ€Dimensional Unsaturated Flow. Journal of Environmental Quality, 1997, 26, 76-81.	1.0	29
23	One-dimensional simulation of solute transfer in saturatedâ€"unsaturated porous media using the discontinuous finite elements method. Journal of Contaminant Hydrology, 2001, 51, 197-213.	1.6	28
24	On the measurement of solute concentrations in 2-D flow tank experiments. Hydrology and Earth System Sciences, 2008, 12, 727-738.	1.9	28
25	Empirical versus time stepping with embedded error control for densityâ€driven flow in porous media. Water Resources Research, 2010, 46, .	1.7	28
26	A low-dimensional subsurface model for saturated and unsaturated flow processes: ability to address heterogeneity. Computational Geosciences, 2017, 21, 301-314.	1.2	26
27	Adaptive multi-scale parameterization for one-dimensional flow in unsaturated porous media. Advances in Water Resources, 2008, 31, 28-43.	1.7	25
28	Inversion of a set of well-test interferences in a fractured limestone aquifer by using an automatic downscaling parameterization technique. Journal of Hydrology, 2010, 389, 42-56.	2.3	24
29	Assessing the water balance of the Upper Rhine Graben hydrosystem. Journal of Hydrology, 2012, 424-425, 68-83.	2.3	24
30	Modeling the effects of water velocity on TiO2 nanoparticles transport in saturated porous media. Journal of Contaminant Hydrology, 2014, 171, 42-48.	1.6	24
31	Hydrological and vegetation response to climate change in a forested mountainous catchment. Modeling Earth Systems and Environment, 2016, 2, 1-15.	1.9	24
32	A 3â€D Semianalytical Solution for Densityâ€Driven Flow in Porous Media. Water Resources Research, 2018, 54, 10,094.	1.7	24
33	Electrical Response of Flow, Diffusion, and Advection in a Laboratory Sand Box. Vadose Zone Journal, 2004, 3, 1180-1192.	1.3	23
34	Solving the advection-diffusion equation with the Eulerianâ€"Lagrangian localized adjoint method on unstructured meshes and non uniform time stepping. Journal of Computational Physics, 2005, 208, 384-402.	1.9	23
35	On the finite volume reformulation of the mixed finite element method for elliptic and parabolic PDE on triangles. Computer Methods in Applied Mechanics and Engineering, 2003, 192, 655-682.	3.4	22
36	Predictive modelling of hydraulic head responses to dipole flow experiments in a fractured/karstified limestone aquifer: Insights from a comparison of five modelling approaches to real-field experiments. Journal of Hydrology, 2012, 454-455, 82-100.	2.3	21

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37	On the Efficiency of the Direct Substitution Approach for Reactive Transport Problems in Porous Media. Water, Air, and Soil Pollution, 2008, 193, 299-308.	1.1	20
38	Theoretical analysis and field evidence of reciprocity gaps during interference pumping tests. Advances in Water Resources, 2011, 34, 592-606.	1.7	20
39	Quantification of nitrate removal by a flooded alluvial zone in the Ill floodplain (Eastern France). Hydrobiologia, 1999, 410, 185-193.	1.0	18
40	A new coupling algorithm for density-driven flow in porous media. Geophysical Research Letters, 2004, 31, n/a-n/a.	1.5	17
41	Comparison of light transmission and reflection techniques to determine concentrations in flow tank experiments. Experiments in Fluids, 2009, 47, 85-93.	1.1	17
42	Genesis and shape of natural solution cavities within salt deposits. Water Resources Research, 2008, 44, .	1.7	16
43	A new refinement indicator for adaptive parameterization: Application to the estimation of the diffusion coefficient in an elliptic problem. Journal of Computational and Applied Mathematics, 2009, 224, 307-319.	1.1	16
44	Inversion of a dual-continuum approach to flow in a karstified limestone: Insight into aquifer heterogeneity revealed by well-test interferences. Journal of Hydrology, 2014, 508, 157-169.	2.3	16
45	A coupled stream flow and depth-integrated subsurface flow model for catchment hydrology. Journal of Hydrology, 2015, 530, 66-78.	2.3	16
46	The AquiFR hydrometeorological modelling platform as a tool for improving groundwater resource monitoring over France: evaluation over a 60-year period. Hydrology and Earth System Sciences, 2020, 24, 633-654.	1.9	16
47	A new efficient Eulerianâ€“Lagrangian localized adjoint method for solving the advectionâ€“dispersion equation on unstructured meshes. Advances in Water Resources, 2006, 29, 1056-1074.	1.7	15
48	Modelling nitrate transport under row intercropping system: Vines and grass cover. Journal of Hydrology, 2012, 440-441, 14-25.	2.3	15
49	Reply [to â€œComment on â€˜Application of the mixed hybrid finite element approximation in a groundwater flow model: Luxury or necessity?â€™ by R. MosÃ©, P. Siegel, P. Ackerer, and G. Chaventâ€¦. Water Resources Research, 1996, 32, 1911-1913.	1.7	14
50	Identification of Groundwater Parameters Using an Adaptative Multiscale Method. Ground Water, 2011, 49, 548-559.	0.7	14
51	Flow in double-porosity aquifers: Parameter estimation using an adaptive multiscale method. Advances in Water Resources, 2014, 73, 108-122.	1.7	14
52	A new approach to avoid excessive numerical diffusion in Eulerian-Lagrangian methods. Communications in Numerical Methods in Engineering, 2007, 24, 897-910.	1.3	13
53	Thermodynamic equilibrium solutions through a modified Newton Raphson method. AICHE Journal, 2017, 63, 1246-1262.	1.8	13
54	Modeling variable-density flow in saturated-unsaturated porous media: An advanced numerical model. Advances in Water Resources, 2022, 159, 104077.	1.7	13

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55	Comment on â€œDiffusion theory for transport in porous media: Transition-probability densities of diffusion processes corresponding to advection-dispersion equationsâ€•by Eric M. LaBolle et al.. Water Resources Research, 2000, 36, 819-821.	1.7	12
56	Parameterization and evaluation of a three-dimensional modelling approach to water table recharge from seepage losses in a ditch. Journal of Hydrology, 2008, 348, 350-362.	2.3	12
57	A comparison of discrete versus continuous adjoint states to invert groundwater flow in heterogeneous dual porosity systems. Advances in Water Resources, 2017, 110, 1-18.	1.7	12
58	A Comparative Study of Water and Bromide Transport in a Bare Loam Soil Using Lysimeters and Field Plots. Water (Switzerland), 2019, 11, 1199.	1.2	12
59	An Adaptive Subdivision Algorithm for the Identification of the Diffusion Coefficient in Two-dimensional Elliptic Problems. Mathematical Modelling and Algorithms, 2007, 6, 529-545.	0.5	11
60	An efficient geometric approach to solve the slope limiting problem with the Discontinuous Galerkin method on unstructured triangles. International Journal for Numerical Methods in Biomedical Engineering, 2010, 26, 1824-1835.	1.0	11
61	The Dissolution Anisotropy of Pyroxenes: Experimental Validation of a Stochastic Dissolution Model Based on Enstatite Dissolution. Journal of Physical Chemistry C, 2020, 124, 3122-3140.	1.5	10
62	Sequential estimation of hydraulic parameters in layered soil using limited data. Geoderma, 2015, 247-248, 117-128.	2.3	9
63	Identification of groundwater flow parameters using reciprocal data from hydraulic interference tests. Journal of Hydrology, 2016, 539, 88-101.	2.3	9
64	Groundwater flow parameter estimation using refinement and coarsening indicators for adaptive downscaling parameterization. Advances in Water Resources, 2017, 100, 139-152.	1.7	9
65	Hydraulic and transport parameter assessment using column infiltration experiments. Hydrology and Earth System Sciences, 2017, 21, 2263-2275.	1.9	9
66	Inversion of a Lagrangian time domain random walk (TDRW) approach to one-dimensional transport by derivation of the analytical sensitivities to parameters. Advances in Water Resources, 2008, 31, 484-502.	1.7	8
67	On the emergence of reciprocity gaps during interference pumping tests in unconfined aquifers. Advances in Water Resources, 2012, 46, 11-19.	1.7	8
68	Characterization of reciprocity gaps from interference tests in fractured media through a dual porosity model. Water Resources Research, 2016, 52, 1696-1704.	1.7	8
69	Modeling of Flow and Transport in Saturated and Unsaturated Porous Media. Water (Switzerland), 2021, 13, 1088.	1.2	8
70	An Efficient Implementation of the Method of Lines for Multicomponent Reactive Transport Equations. Water, Air, and Soil Pollution, 2011, 215, 273-283.	1.1	7
71	Acid/base front propagation in saturated porous media: 2D laboratory experiments and modeling. Journal of Contaminant Hydrology, 2012, 138-139, 15-21.	1.6	7
72	Interpretation of flowmeter data in heterogeneous layered aquifers. Journal of Hydrology, 2012, 452-453, 76-82.	2.3	7

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73	Experimental Study of Dissolution Kinetics of K-feldspar as a Function of Crystal Structure Anisotropy under Hydrothermal Conditions. Procedia Earth and Planetary Science, 2017, 17, 165-168.	0.6	7
74	Estimating initial conditions for groundwater flow modeling using an adaptive inverse method. Journal of Hydrology, 2017, 552, 52-61.	2.3	7
75	Dissolution Anisotropy of Pyroxenes: A Surrogate Model for Steady-State Enstatite Dissolution Resulting from Stochastic Simulations of the Hydrolysis Process. Journal of Physical Chemistry C, 2020, 124, 13113-13126.	1.5	7
76	Dissolution Anisotropy of Pyroxenes: Role of Edges and Corners Inferred from Stochastic Simulations of Enstatite Dissolution. Journal of Physical Chemistry C, 2021, 125, 7658-7674.	1.5	7
77	Reactive transport parameter estimation: Genetic algorithm vs. Monte carlo approach. AICHE Journal, 2009, 55, 1959-1968.	1.8	6
78	Construction of three-phase data to model multiphase flow in porous media: Comparing an optimization approach to the finite element approach. Comptes Rendus - Geoscience, 2010, 342, 855-863.	0.4	6
79	Estimation of macrodispersion in 2â€Ð highly heterogeneous porous media using the Eulerianâ€Lagrangian localized adjoint method. Water Resources Research, 2013, 49, 43-53.	1.7	6
80	Accuracy and efficiency of time integration methods for 1D diffusive wave equation. Computational Geosciences, 2014, 18, 697-709.	1.2	6
81	Benchmarking numerical codes for tracer transport with the aid of laboratory-scale experiments in 2D heterogeneous porous media. Journal of Contaminant Hydrology, 2018, 212, 55-64.	1.6	6
82	Estimating the activation energy of bond hydrolysis by time-resolved weighing of dissolving crystals. Npj Materials Degradation, 2021, 5, .	2.6	6
83	Vadose Zone Modeling in a Small Forested Catchment: Impact of Water Pressure Head Sampling Frequency on 1D-Model Calibration. Geosciences (Switzerland), 2018, 8, 72.	1.0	5
84	Impact of the hydrological regime and forestry operations on the fluxes of suspended sediment and bedload of a small middle-mountain catchment. Science of the Total Environment, 2020, 743, 140228.	3.9	5
85	Groundwater Parameter Inversion Using Topographic Constraints and a Zonal Adaptive Multiscale Procedure: A Case Study of an Alluvial Aquifer. Water (Switzerland), 2020, 12, 1899.	1.2	5
86	ModÃ©lisation du transport d'un solutÃ© rÃ©actif en milieux poreux non saturÃ©s. Comptes Rendus De L'AcadÃ©mie Des Sciences Earth & Planetary Sciences SÃ©rie II, Sciences De La Terre Et Des PlanÃ¨tes =, 2001, 333, 129-132.	0.2	4
87	Solving the advectionâ€“diffusion equation on unstructured meshes with discontinuous/mixed finite elements and a local time stepping procedure. International Journal for Numerical Methods in Engineering, 2009, 79, 1068-1093.	1.5	4
88	Modeling the effects of water content on TiO2 nanoparticles transport in porous media. Journal of Contaminant Hydrology, 2016, 191, 76-87.	1.6	4
89	Large-Scale Water Storage in Aquifers: Enhancing Qatarâ€™s Groundwater Resources. Water (Switzerland), 2021, 13, 2405.	1.2	4
90	HyPix: 1D physically based hydrological model with novel adaptive time-stepping management and smoothing dynamic criterion for controlling Newtonâ€“Raphson step. Environmental Modelling and Software, 2022, 153, 105386.	1.9	4

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91	Transport parameters identification: application of the Sentinel method. Annals of Software Engineering, 2000, 4, 251-273.	0.5	3
92	DÃ©termination expÃ©rimentale des paramÃ¨tres Ã©quivalents d'un milieu poreux hÃ©tÃ©rogÃ¨ne en Ã©coulements uniforme ou radial. Comptes Rendus - Geoscience, 2005, 337, 563-570.	0.4	3
93	A moving grid eulerian-lagrangian localized adjoint method for solving linear and nonlinear advection-diffusion-reaction equations. Developments in Water Science, 2004, , 519-529.	0.1	2
94	The reduction of hydrological models for less tedious practical applications. Comptes Rendus - Geoscience, 2016, 348, 89-98.	0.4	2
95	Heterogeneous hydraulic conductivity and porosity fields reconstruction through steady-state flow and transient solute transport data using the continuous adjoint state. Advances in Water Resources, 2019, 127, 148-166.	1.7	2
96	Bayesian inversion of laboratory experiments of transport through limestone fractures. Journal of Contaminant Hydrology, 2022, 249, 104045.	1.6	2
97	A technique for improving the accuracy of quadrangular mixed finite elements for Darcyâ€™s flow on heterogeneous domains. Computers and Fluids, 2010, 39, 189-196.	1.3	1
98	Solution analytique pour le transfert de masse entre puits en milieu poreux hÃ©tÃ©rogÃ¨ne. Comptes Rendus - Mecanique, 2003, 331, 693-698.	2.1	0
99	On the coupling of flow and transport equations for density flow simulations. Developments in Water Science, 2004, 55, 1669-1677.	0.1	0
100	Implementation of subsurface transport processes in the low-dimensional integrated hydrological model NIHM. Journal of Hydrology, 2022, 609, 127696.	2.3	0