J Jaime GÃ³mez-HernÃ¡ndez

List of Publications by Year
in descending order

137 papers	5,023 citations	87723 38 h-index	98622 67 g-index
155 all docs	155 docs citations	155 times ranked	2495 citing authors

#	ARTICLE	IF	CITATIONS
1	Stochastic simulation of transmissivity fields conditional to both transmissivity and piezometric dataâ€"I. Theory. Journal of Hydrology, 1997, 203, 162-174.	2.3	278
2	A comparison of seven geostatistically based inverse approaches to estimate transmissivities for modeling advective transport by groundwater flow. Water Resources Research, 1998, 34, 1373-1413.	1.7	274
3	A review and numerical assessment of the random walk particle tracking method. Journal of Contaminant Hydrology, 2006, 87, 277-305.	1.6	261
4	Inverse methods in hydrogeology: Evolution and recent trends. Advances in Water Resources, 2014, 63, 22-37.	1.7	260
5	To be or not to be multi-Gaussian? A reflection on stochastic hydrogeology. Advances in Water Resources, 1998, 21, 47-61.	1.7	230
6	ISIM3D: An ANSI-C three-dimensional multiple indicator conditional simulation program. Computers and Geosciences, 1990, 16, 395-440.	2.0	214
7	An approach to handling non-Gaussianity of parameters and state variables in ensemble Kalman filtering. Advances in Water Resources, 2011, 34, 844-864.	1.7	212
8	A non-parametric automatic blending methodology to estimate rainfall fields from rain gauge and radar data. Advances in Water Resources, 2009, 32, 986-1002.	1.7	187
9	Joint Sequential Simulation of MultiGaussian Fields. Quantitative Geology and Geostatistics, 1993, , 85-94.	0.1	160
10	Effective groundwater model parameter values: Influence of spatial variability of hydraulic conductivity, leakance, and recharge. Water Resources Research, 1989, 25, 405-419.	1.7	145
11	A stochastic approach to the problem of upscaling of conductivity in disordered media: Theory and unconditional numerical simulations. Water Resources Research, 1990, 26, 691-701.	1.7	113
12	Modeling tracer transport at the MADE site: The importance of heterogeneity. Water Resources Research, 2007, 43, .	1.7	92
13	Jointly mapping hydraulic conductivity and porosity by assimilating concentration data via ensemble Kalman filter. Journal of Hydrology, 2012, 428-429, 152-169.	2.3	91
14	Modeling mass transfer processes using random walk particle tracking. Water Resources Research, 2006, 42, .	1.7	87
15	Uncertainty assessment and data worth in groundwater flow and mass transport modeling using a blocking Markov chain Monte Carlo method. Journal of Hydrology, 2009, 364, 328-341.	2.3	87
16	Coupled inverse modelling of groundwater flow and mass transport and the worth of concentration data. Journal of Hydrology, 2003, 281, 281-295.	2.3	81
17	Numerical modeling of macrodispersion in heterogeneous media: a comparison of multi-Gaussian and non-multi-Gaussian models. Journal of Contaminant Hydrology, 1998, 30, 129-156.	1.6	80
18	Simultaneous identification of a contaminant source and hydraulic conductivity via the restart normal-score ensemble Kalman filter. Advances in Water Resources, 2018, 112, 106-123.	1.7	79

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19	Joint identification of contaminant source location, initial release time, and initial solute concentration in an aquifer via ensemble Kalman filtering. Water Resources Research, 2016, 52, 6587-6595.	1.7	70
20	Stochastic simulation of transmissivity fields conditional to both transmissivity and piezometric data 2. Demonstration on a synthetic aquifer. Journal of Hydrology, 1997, 203, 175-188.	2.3	64
21	Stochastic Imaging of the Wilmington Clastic Sequence. SPE Formation Evaluation, 1993, 8, 33-40.	0.5	61
22	A Blocking Markov Chain Monte Carlo Method forÂInverse Stochastic Hydrogeological Modeling. Mathematical Geosciences, 2009, 41, 105-128.	1.4	57
23	Simultaneous identification of the pollutant release history and the source location in groundwater by means of a geostatistical approach. Stochastic Environmental Research and Risk Assessment, 2013, 27, 1269-1280.	1.9	55
24	Pattern Recognition in a Bimodal Aquifer Using the Normal-Score Ensemble Kalman Filter. Mathematical Geosciences, 2012, 44, 169-185.	1.4	45
25	A patternâ€searchâ€based inverse method. Water Resources Research, 2012, 48, .	1.7	44
26	Groundwater flow inverse modeling in non-MultiGaussian media: performance assessment of the normal-score Ensemble Kalman Filter. Hydrology and Earth System Sciences, 2012, 16, 573-590.	1.9	43
27	The power of transient piezometric head data in inverse modeling: An application of the localized normal-score EnKF with covariance inflation in a heterogenous bimodal hydraulic conductivity field. Advances in Water Resources, 2013, 54, 100-118.	1.7	43
28	The Constant Displacement Scheme for Tracking Particles in Heterogeneous Aquifers. Ground Water, 1996, 34, 135-142.	0.7	42
29	Joint simulation of transmissivity and storativity fields conditional to steady-state and transient hydraulic head data. Advances in Water Resources, 1999, 23, 1-13.	1.7	42
30	A program to create permeability fields that honor single-phase flow rate and pressure data. Computers and Geosciences, 1999, 25, 217-230.	2.0	42
31	Stochastic simulation of transmissivity fields conditional to both transmissivity and piezometric head dataâ€"3. Application to the Culebra formation at the Waste Isolation Pilot Plan (WIPP), New Mexico, USA. Journal of Hydrology, 1998, 207, 254-269.	2.3	41
32	3D inverse modelling of groundwater flow at a fractured site using a stochastic continuum model with multiple statistical populations. Stochastic Environmental Research and Risk Assessment, 2002, 16, 155-174.	1.9	41
33	A Bayesian approach to stochastic capture zone delineation incorporating tracer arrival times, conductivity measurements, and hydraulic head observations. Water Resources Research, 2003, 39, .	1.7	41
34	A comparative study of three-dimensional hydraulic conductivity upscaling at the macro-dispersion experiment (MADE) site, Columbus Air Force Base, Mississippi (USA). Journal of Hydrology, 2011, 404, 278-293.	2.3	41
35	Transport upscaling using multi-rate mass transfer in three-dimensional highly heterogeneous porous media. Advances in Water Resources, 2011, 34, 478-489.	1.7	41
36	Probabilistic assessment of travel times in groundwater modeling. Stochastic Hydrology & Hydraulics, 1994, 8, 19-55.	0.5	39

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37	Joint identification of contaminant source and aquifer geometry in a sandbox experiment with the restart ensemble Kalman filter. Journal of Hydrology, 2018, 564, 1074-1084.	2.3	39
38	Evaluation of dispersivity coefficients by means of a laboratory image analysis. Journal of Contaminant Hydrology, 2015, 172, 10-23.	1.6	38
39	Title is missing!. Mathematical Geosciences, 1999, 31, 907-927.	0.9	37
40	Bayesian methodology for stochastic capture zone delineation incorporating transmissivity measurements and hydraulic head observations. Journal of Hydrology, 2003, 271, 156-170.	2.3	36
41	Stochastic conditional inverse modeling of subsurface mass transport: A brief review and the self-calibrating method. Stochastic Environmental Research and Risk Assessment, 2003, 17, 319-328.	1.9	35
42	Complexity. Ground Water, 2006, 44, 782-785.	0.7	35
43	Impact of upscaling on solute transport: Traveltimes, scale dependence of dispersivity, and propagation of uncertainty. Water Resources Research, 2007, 43, .	1.7	35
44	Spatial variability of hydraulic conductivity and solute transport parameters and their spatial correlations to soil properties. Geoderma, 2019, 339, 59-69.	2.3	35
45	Upscaling transport with mass transfer models: Mean behavior and propagation of uncertainty. Water Resources Research, 2009, 45, .	1.7	33
46	Upscaling Hydraulic Conductivities in Cross-Bedded Formations. Mathematical Geosciences, 1998, 30, 181-211.	0.9	30
47	Laboratory sandbox validation of pollutant source location methods. Stochastic Environmental Research and Risk Assessment, 2015, 29, 169-182.	1.9	30
48	Modeling transient groundwater flow by coupling ensemble Kalman filtering and upscaling. Water Resources Research, 2012, 48, .	1.7	29
49	Three-dimensional hydraulic conductivity upscaling in groundwater modeling. Computers and Geosciences, 2010, 36, 1224-1235.	2.0	27
50	Contaminant source reconstruction by empirical Bayes and Akaike's Bayesian Information Criterion. Journal of Contaminant Hydrology, 2016, 185-186, 74-86.	1.6	27
51	Stochastic Characterization of Gridblock Permeabilities. SPE Formation Evaluation, 1994, 9, 93-99.	0.5	26
52	Significance of conditioning to piezometric head data for predictions of mass transport in groundwater modeling. Mathematical Geosciences, 1996, 28, 951-968.	0.9	25
53	Parallelized ensemble Kalman filter for hydraulic conductivity characterization. Computers and Geosciences, 2013, 52, 42-49.	2.0	23
54	A comparison between ES-MDA and restart EnKF for the purpose of the simultaneous identification of a contaminant source and hydraulic conductivity. Journal of Hydrology, 2021, 595, 125681.	2.3	23

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55	Ensemble smoother with multiple data assimilation to simultaneously estimate the source location and the release history of a contaminant spill in an aquifer. Journal of Hydrology, 2021, 598, 126215.	2.3	23
56	A conceptual hydrogeological model of ophiolitic aquifers (serpentinised peridotite): The test example of Mt. Prinzera (Northern Italy). Hydrological Processes, 2017, 31, 1058-1073.	1.1	22
57	Characterization of nonâ€Gaussian conductivities and porosities with hydraulic heads, solute concentrations, and water temperatures. Water Resources Research, 2016, 52, 6111-6136.	1.7	21
58	One Step at a Time: The Origins of Sequential Simulation and Beyond. Mathematical Geosciences, 2021, 53, 193-209.	1.4	21
59	Inverse sequential simulation: A new approach for the characterization of hydraulic conductivities demonstrated on a nonâ€•G aussian field. Water Resources Research, 2015, 51, 2227-2242.	1.7	19
60	Scale effect on hydraulic conductivity and solute transport: Small and large-scale laboratory experiments and field experiments. Engineering Geology, 2018, 243, 196-205.	2.9	19
61	Stochastic analysis of flow response in a three-dimensional fractured rock mass block. International Journal of Rock Mechanics and Minings Sciences, 2001, 38, 31-44.	2.6	18
62	Preserving spatial structure for inverse stochastic simulation using blocking Markov chain Monte Carlo method. Inverse Problems in Science and Engineering, 2008, 16, 865-884.	1.2	18
63	Steady-state saturated groundwater flow modeling with full tensor conductivities using finite differences. Computers and Geosciences, 2010, 36, 1211-1223.	2.0	18
64	Two-point or multiple-point statistics? A comparison between the ensemble Kalman filtering and the ensemble pattern matching inverse methods. Advances in Water Resources, 2015, 86, 297-310.	1.7	18
65	Ensemble smoother with multiple data assimilation for reverse flow routing. Computers and Geosciences, 2019, 131, 32-40.	2.0	18
66	Groundwater characterization from an ecological and human perspective: an interdisciplinary approach in the Functional Urban Area of Parma, Italy. Rendiconti Lincei, 2019, 30, 93-108.	1.0	18
67	Contaminant Source Identification in Aquifers: A Critical View. Mathematical Geosciences, 2022, 54, 437-458.	1.4	17
68	A pilot point guided pattern matching approach to integrate dynamic data into geological modeling. Advances in Water Resources, 2013, 62, 125-138.	1.7	16
69	Simultaneous Estimation of Geologic and Reservoir State Variables Within an Ensemble-Based Multiple-Point Statistic Framework. Mathematical Geosciences, 2014, 46, 597-623.	1.4	15
70	Introduction to special section on Modeling highly heterogeneous aquifers: Lessons learned in the last 30 years from the <scp>MADE</scp> experiments and others. Water Resources Research, 2017, 53, 2581-2584.	1.7	15
71	Solving Inverse Problems of Unknown Contaminant Source in Groundwater-River Integrated Systems Using a Surrogate Transport Model Based Optimization. Water (Switzerland), 2020, 12, 2415.	1.2	15
72	Performance assessment of solute transport upscaling methods in the context of nuclear waste disposal. International Journal of Rock Mechanics and Minings Sciences, 2005, 42, 756-764.	2.6	14

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73	Contaminant release history identification in 2-D heterogeneous aquifers through a minimum relative entropy approach. SpringerPlus, 2015, 4, 656.	1.2	14
74	Stochastic analysis of three-dimensional hydraulic conductivity upscaling in a heterogeneous tropical soil. Computers and Geotechnics, 2018, 100, 174-187.	2.3	13
75	Integrating Hydrogeological and Microbiological Data and Modelling to Characterize the Hydraulic Features and Behaviour of Coastal Carbonate Aquifers: A Case in Western Cuba. Water (Switzerland), 2019, 11, 1989.	1.2	13
76	Estimating hydraulic conductivity of the Opalinus Clay at the regional scale: Combined effect of desaturation and EDZ. Physics and Chemistry of the Earth, 2007, 32, 639-645.	1.2	12
77	Contaminant Spill in a Sandbox with Non-Gaussian Conductivities: Simultaneous Identification by the Restart Normal-Score Ensemble Kalman Filter. Mathematical Geosciences, 2021, 53, 1587-1615.	1.4	12
78	Non-point contaminant source identification in an aquifer using the ensemble smoother with multiple data assimilation. Journal of Hydrology, 2022, 606, 127405.	2.3	11
79	Using linear approximations to rank realizations in groundwater modeling: Application to worst case selection. Water Resources Research, 1994, 30, 2065-2072.	1.7	10
80	Probability fields revisited in the context of ensemble Kalman filtering. Journal of Hydrology, 2015, 531, 40-52.	2.3	10
81	A multidisciplinary procedure to evaluate and optimize the efficacy of hydraulic barriers in contaminated sites: a case study in Northern Italy. Environmental Earth Sciences, 2018, 77, 1.	1.3	9
82	Characterization of Hydraulic Heterogeneity of Alluvial Aquifer Using Natural Stimuli: A Field Experience of Northern Italy. Water (Switzerland), 2019, 11, 176.	1.2	9
83	Spatiotemporal Precipitation Estimation from Rain Gauges and Meteorological Radar Using Geostatistics. Mathematical Geosciences, 2021, 53, 499-516.	1.4	9
84	Dual Kriging with Local Neighborhoods: Application to the Representation of Surfaces. Mathematical Geosciences, 2000, 32, 69-85.	0.9	8
85	Production Data Integration in Sand/Shale Reservoirs Using Sequential Self-Calibration and GeoMorphing: AComparison. SPE Reservoir Evaluation and Engineering, 2002, 5, 255-265.	1.1	8
86	Comment on â€œDerivation of effective hydraulic parameters of a karst aquifer from discharge hydrograph analysisâ€•by S. J. Baedke and N. C. Krothe. Water Resources Research, 2003, 39, .	1.7	8
87	Characterizing Curvilinear Features Using the Localized Normal-Score Ensemble Kalman Filter. Abstract and Applied Analysis, 2012, 2012, 1-18.	0.3	8
88	Optimal numerical design of bucket elevators using discontinuous deformation analysis. Granular Matter, 2014, 16, 485-498.	1.1	8
89	Factorial kriging of a geochemical dataset for heavy-metal spatial-variability characterization. Environmental Earth Sciences, 2014, 71, 3161-3170.	1.3	8
90	Contaminant-Source Detection in a Water Distribution System Using the Ensemble Kalman Filter. Journal of Water Resources Planning and Management - ASCE, 2021, 147, .	1.3	8

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91	A Multidisciplinary Approach to Evaluate the Effectiveness of Natural Attenuation at a Contaminated Site. Hydrology, 2021, 8, 101.	1.3	8
92	Contaminant source identification in groundwater by means of artificial neural network. Journal of Hydrology, 2022, 611, 128003.	2.3	8
93	Impact of measurement errors in stochastic inverse conditional modelling by the self-calibrating approach. Advances in Water Resources, 2003, 26, 501-511.	1.7	7
94	Optimization of pulsed thermoelectric materials using simulated annealing and non-linear finite elements. Applied Thermal Engineering, 2017, 120, 603-613.	3.0	7
95	Identification of transmissivity fields using a Bayesian strategy and perturbative approach. Advances in Water Resources, 2017, 108, 69-82.	1.7	7
96	Analysis of the Saltwater Wedge in a Coastal Karst Aquifer with a Double Conduit Network, Numerical Simulations and Sensitivity Analysis. Water (Switzerland), 2019, 11, 2311.	1.2	6
97	Geostatistics. , 2005, , 59-83.		5
98	A localâ€"global pattern matching method for subsurface stochastic inverse modeling. Environmental Modelling and Software, 2015, 70, 55-64.	1.9	5
99	Inverse sequential simulation: Performance and implementation details. Advances in Water Resources, 2015, 86, 311-326.	1.7	5
100	Stochastic upscaling of hydrodynamic dispersion and retardation factor in a physically and chemically heterogeneous tropical soil. Stochastic Environmental Research and Risk Assessment, 2019, 33, 201-216.	1.9	5
101	Upscaling Transmissivity in the Near-Well Region for Numerical Simulation: A Comparison on Uncertainty Propagation. Engineering Applications of Computational Fluid Mechanics, 2011, 5, 49-66.	1.5	4
102	Geostatistics for Environmental Applications. Mathematical Geosciences, 2016, 48, 1-2.	1.4	4
103	Groundwater Modelling in Karst Areas. Water (Switzerland), 2021, 13, 854.	1.2	4
104	Editorial: Machine Learning for Water Resources. Frontiers in Artificial Intelligence, 2021, 4, 699862.	2.0	4
105	Introduction to Special Section: The Quest for Sustainability of Heavily Stressed Aquifers at Regional to Global Scales. Water Resources Research, 2021, 57, e2021WR030446.	1.7	4
106	Inverse Modeling of Groundwater Flow in a 3D Fractured Media. Quantitative Geology and Geostatistics, 1999, , 283-294.	0.1	4
107	Worth of secondary data compared to piezometric data for the probabilistic assessment of radionuclide migration. Stochastic Hydrology & Hydraulics, 1998, 12, 171-190.	0.5	3
108	Numerical sedimentation particle-size analysis using the Discrete Element Method. Advances in Water Resources, 2015, 86, 58-72.	1.7	3

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109	Coupling Empirical Bayes and Akaikeâ€™s Bayesian Information Criterion to Estimate Aquifer Transmissivity Fields. Mathematical Geosciences, 2020, 52, 425-441.	1.4	3
110	Ensemble Smoother with Multiple Data Assimilation as a Tool for Curve Fitting and Parameter Uncertainty Characterization: Example Applications to Fit Nonlinear Sorption Isotherms. Mathematical Geosciences, 2022, 54, 807-825.	1.4	3
111	Teaching Numerical Groundwater Flow Modeling with Spreadsheets. Mathematical Geosciences, 2022, 54, 1121-1138.	1.4	3
112	Multigaussian models: The danger of parsimony. Journal of the Italian Statistical Society, 1995, 4, 167-181.	0.1	2
113	Foreword to Special Issue: Modeling Subsurface Flow. Mathematical Geosciences, 1999, 31, 747-748.	0.9	2
114	Reply to comment by A. Sahuquillo and J. Jaime GÃ³mez-HernÃ¡ndez on â€œDerivation of effective hydraulic parameters of a karst aquifer from discharge hydrograph analysisâ€ Water Resources Research, 2003, 39, .	1.7	2
115	Impact of Flow and Transport Coupling in the Upscaling of Transport Parameters for Performance Assessment in the Context of Nuclear Waste Disposal. Elsevier Geo-Engineering Book Series, 2004, 2, 243-249.	0.0	2
116	Influence of Heterogeneity on Heat Transport Simulations in Shallow Geothermal Systems. Quantitative Geology and Geostatistics, 2017, , 849-862.	0.1	2
117	Incorporating Geophysical Information: Which Method to Use?. Quantitative Geology and Geostatistics, 1997, , 1221-1232.	0.1	2
118	Corrections to â€œISIM3D: an ANSIî—¸C three-dimensional multiple indicator conditional simulation programâ€ Computers and Geosciences, 1992, 18, 623-625.	2.0	1
119	New Developments in Subsurface Flow and Transport. Mathematical Geosciences, 2012, 44, 131-132.	1.4	1
120	Inverse Modeling Aided by the Classification and Regression Tree (CART) Algorithm. Quantitative Geology and Geostatistics, 2017, , 805-819.	0.1	1
121	Editorial: Stochastic Modeling in Hydrogeology. Frontiers in Earth Science, 2021, 9, .	0.8	1
122	An approach to handling non-Gaussianity of parameters and state variables in ensemble Kalman filtering. , 2011, 34, 844-844.		1
123	Blocking Markov Chain Monte Carlo Schemes for Inverse Stochastic Hydrogeological Modeling. Quantitative Geology and Geostatistics, 2010, , 121-126.	0.1	1
124	A MultiGaussian Kriging Application to the Environmental Impact Assessment of a New Industrial Site in Alcoy (Spain). , 0, , 203-210.		1
125	Reply [to â€œComment on â€˜Effective groundwater model parameter values: Influence of spatial variability of hydraulic conductivity, leakance, and rechargeâ€™ by J. J. GÃ³mezâ€HernÃ¡ndez and S. M. Gorelickâ€]. Water Resources Research, 1990, 26, 1847-1848.	1.7	0
126	Strategies to determine dispersivities in heterogeneous aquifers. , 2005, , 285-296.		0

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127	Special Issue on Environmental Geostatistics. Mathematical Geosciences, 2013, 45, 507-509.	1.4	0
128	Correction to â€œSteady-state saturated groundwater flow modeling with full tensor conductivities using finite differencesâ€• Computers and Geosciences, 2013, 54, 38.	2.0	0
129	Introduction to the Special Issue in Honor of AndrÃ© G. Journel. Mathematical Geosciences, 2021, 53, 185-191.	1.4	0
130	A Multi-Scale-Oriented Blocking Markov Chain Monte Carlo Method for Inverse Stochastic Simulation. , 2007, , .		0
131	Uncertainty in Hydrogeological Modelling. Novartis Foundation Symposium, 1997, 210, 221-230.	1.2	0
132	Water intrusion in pipes due to a transient event. , 2009, , 315-318.		0
133	ANALYSIS OF UPSCALING AND EFFECTIVE PROPERTIES IN DISORDERED MEDIA. , 1991, , 251-276.		0
134	NEW PRECIPITATION INDICES FOR MONITORING DROUGHT ï¿½ AN ANALYSIS OF THE PRECIPITATION REGIMES OF GERMANY AND THE IBERIAN PENINSULA IN THE COURSE OF THE CLIMATE CHANGE. , 2017, , .		0
135	How to Perform Hydraulic Conductivity Upscaling in the Daily Practice of Geotechnical Modeler?. Environmental Science and Engineering, 2019, , 544-550.	0.1	0
136	A Stochastic Approach to Estimate Block Dispersivities that Includes the Effect of Mass Transfer Between Grid Blocks. , 2008, , 165-173.		0
137	An Analytical Approach to the Computation of the Frequency Response Function. , 0, , .		0