Philippe Renard

List of Publications by Year
in descending order

146 papers	5,671 citations	94269 37 h-index	85405 71 g-index
164 all docs	164 docs citations	164 times ranked	3718 citing authors

#	Article	IF	Citations
1	The stochastic simulation of karst conduit network structure using anisotropic fast marching, and its application to a geologically complex alpine karst system. Hydrogeology Journal, 2022, 30, 927-946.	0.9	4
2	Automated Hierarchical 3D Modeling of Quaternary Aquifers: The ArchPy Approach. Frontiers in Earth Science, 2022, 10, .	0.8	5
3	Equivalent Permeability Tensor of Heterogeneous Media: Upscaling Methods and Criteria (Review and) Tj ETQq1 1 0.784314 rgBT /Ove	1.0	1
4	A model ensemble generator to explore structural uncertainty in karst systems with unmapped conduits. Hydrogeology Journal, 2021, 29, 229-248.	0.9	16
5	Analysis and stochastic simulation of geometrical properties of conduits in karstic networks. Geomorphology, 2021, 377, 107480.	1.1	6
6	An Attempt to Boost Posterior Population Expansion Using Fast Machine Learning Algorithms. Frontiers in Artificial Intelligence, 2021, 4, 624629.	2.0	3
7	Conditioning Multiple‐Point Statistics Simulation to Inequality Data. Earth and Space Science, 2021, 8, e2020EA001515.	1.1	7
8	tTEM20AAR: a benchmark geophysical data set for unconsolidated fluvioglacial sediments. Earth System Science Data, 2021, 13, 2743-2752.	3.7	5
9	Efficiency of template matching methods for Multiple-Point Statistics simulations. Applied Computing and Geosciences, 2021, 11, 100064.	1.0	1
10	Ice volume and basal topography estimation using geostatistical methods and ground-penetrating radar measurements: application to the Tsanfleuron and Scex Rouge glaciers, Swiss Alps. Cryosphere, 2021, 15, 5169-5186.	1.5	5
11	A Framework for the Cross‐Validation of Categorical Geostatistical Simulations. Earth and Space Science, 2020, 7, e2020EA001152.	1.1	11
12	Impact of phases distribution on mixing and reactions in unsaturated porous media. Advances in Water Resources, 2020, 144, 103697.	1.7	8
13	Robust input layer for neural networks for hyperspectral classification of data with missing bands. Applied Computing and Geosciences, 2020, 8, 100034.	1.0	1
14	3D Geological Image Synthesis From 2D Examples Using Generative Adversarial Networks. Frontiers in Water, 2020, 2, .	1.0	13
15	A new perspective to model subsurface stratigraphy in alluvial hydrogeological basins, introducing geological hierarchy and relative chronology. Computers and Geosciences, 2020, 140, 104506.	2.0	7
16	Direct simulation of non-additive properties on unstructured grids. Advances in Water Resources, 2020, 143, 103665.	1.7	7
17	Conditioning Multi-Gaussian Groundwater Flow Parameters to Transient Hydraulic Head and Flowrate Data With Iterative Ensemble Smoothers: A Synthetic Case Study. Frontiers in Earth Science, 2020, 8, .	0.8	4
18	Multiresolution Approach to Condition Categorical Multiple‐Point Realizations to Dynamic Data With Iterative Ensemble Smoothing. Water Resources Research, 2020, 56, e2019WR025875.	1.7	6

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19	Coupling SKS and SWMM to Solve the Inverse Problem Based on Artificial Tracer Tests in Karstic Aquifers. Water (Switzerland), 2020, 12, 1139.	1.2	11
20	Quasiâ€Online Groundwater Model Optimization Under Constraints of Geological Consistency Based on Iterative Importance Sampling. Water Resources Research, 2020, 56, e2019WR026777.	1.7	6
21	The Traveling Pilot Point method. A novel approach to parameterize the inverse problem for categorical fields. Advances in Water Resources, 2020, 138, 103556.	1.7	10
22	Using Generative Adversarial Networks as a Fast Forward Operator for Hydrogeological Inverse Problems. Ground Water, 2020, 58, 938-950.	0.7	13
23	Multiple-point statistics using multi-resolution images. Stochastic Environmental Research and Risk Assessment, 2020, 34, 251-273.	1.9	16
24	3D multiple-point statistics simulations of the Roussillon Continental Pliocene aquifer using DeeSse. Hydrology and Earth System Sciences, 2020, 24, 4997-5013.	1.9	8
25	GROUNDWATER MODELING IN ALPINE KARST SYSTEMS: A MODEL ENSEMBLE GENERATOR TO EXPLORE STRUCTURAL UNCERTAINTY. , 2020, , .		0
26	Pilot Point Optimization of Mining Boundaries for Lateritic Metal Deposits: Finding the Trade-off Between Dilution and Ore Loss. Natural Resources Research, 2019, 28, 153-171.	2.2	9
27	Automatic Reservoir Modelling: A Sate of the Art. , 2019, , .		0
28	Contaminant source localization via Bayesian global optimization. Hydrology and Earth System Sciences, 2019, 23, 351-369.	1.9	15
29	Multiple-point statistical simulation of the ore boundaries for a lateritic bauxite deposit. Stochastic Environmental Research and Risk Assessment, 2019, 33, 865-878.	1.9	14
30	A 2D hyperspectral library of mineral reflectance, from 900 to 2500 nm. Scientific Data, 2019, 6, 268.	2.4	6
31	Fast and Interactive Editing Tools for Spatial Models. Mathematical Geosciences, 2019, 51, 109-125.	1.4	8
32	Oil production uncertainty assessment by predicting reservoir production curves and confidence intervals from arbitrary proxy responses. Journal of Petroleum Science and Engineering, 2019, 176, 116-125.	2.1	8
33	K-fold Cross-validation of Multiple-point Statistical Simulations. , 2019, , .		1
34	Simplified Direct Sampling Method for Geostatistical Multiple-point Simulations. , 2019, , .		0
35	Multiple Point Statistics with Pyramids Application on the Multi-scale Multi-structure Training Images. , 2019, , .		0
36	Direct Geostatistical Simulation on Unstructured Grids II: A Proposal for Non-additive Variables. , 2019, , .		0

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37	Multiple-point Statistics Based on Gaussian Pyramids of the Training Image. , 2019, , .		0
38	The Posterior Population Expansion Ensemble Method to Invert Categorical Fields. , 2019, , .		0
39	3D Multiple-points Statistics Simulations of the Roussillon Continental Pliocene Reservoir Using DeeSse. , 2019, , .		0
40	Simulating rainfall time-series: how to account for statistical variability at multiple scales?. Stochastic Environmental Research and Risk Assessment, 2018, 32, 321-340.	1.9	10
41	Random partitioning and adaptive filters for multiple-point stochastic simulation. Stochastic Environmental Research and Risk Assessment, 2018, 32, 1375-1396.	1.9	15
42	Parallelized Adaptive Importance Sampling for Solving Inverse Problems. Frontiers in Earth Science, 2018, 6, .	0.8	8
43	A survey of groundwater quality in Tulum region, Yucatan Peninsula, Mexico. Environmental Earth Sciences, 2018, 77, 1.	1.3	13
44	Automatic Parameter Tuning of Multiple-Point Statistical Simulations for Lateritic Bauxite Deposits. Minerals (Basel, Switzerland), 2018, 8, 220.	0.8	11
45	Above and Below: Understanding River-Groundwater Exchanges. Eos, 2018, 99, .	0.1	0
46	EuroKarst 2016, NeuchÃ¢tel. Advances in Karst Science, 2017, , .	0.3	3
47	Statistical metrics for the characterization of karst network geometry and topology. Geomorphology, 2017, 283, 122-142.	1.1	36
48	Geothermal state of the deep Western Alpine Molasse Basin, France-Switzerland. Geothermics, 2017, 67, 48-65.	1.5	27
49	A geostatistical approach to the simulation of stacked channels. Marine and Petroleum Geology, 2017, 82, 318-335.	1.5	17
50	Posterior population expansion for solving inverse problems. Water Resources Research, 2017, 53, 2902-2916.	1.7	14
51	On the use of multiple-point statistics to improve groundwater flow modeling in karst aquifers: A case study from the Hydrogeological Experimental Site of Poitiers, France. Journal of Hydrology, 2017, 545, 109-119.	2.3	21
52	Simulating Smallâ€Scale Rainfall Fields Conditioned by Weather State and Elevation: A Dataâ€Driven Approach Based on Rainfall Radar Images. Water Resources Research, 2017, 53, 8512-8532.	1.7	14
53	Stochastic simulation of channelized sedimentary bodies using a constrained L-system. Computers and Geosciences, 2017, 105, 158-168.	2.0	15
54	Advances in understanding riverâ€groundwater interactions. Reviews of Geophysics, 2017, 55, 818-854.	9.0	158

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55	Hytool: an open source matlab toolbox for the interpretation of hydraulic tests using analytical solutions. Journal of Open Source Software, 2017, 2, 441.	2.0	6
56	Fractal Dimension, Walk Dimension and Conductivity Exponent of Karst Networks around Tulum. Frontiers in Physics, 2016, 4, .	1.0	7
57	Subnetworks of Percolation Backbones to Model Karst Systems Around Tulum, Mexico. Frontiers in Physics, 2016, 4, .	1.0	5
58	Impact of a stochastic sequential initiation of fractures on the spatial correlations and connectivity of discrete fracture networks. Journal of Geophysical Research: Solid Earth, 2016, 121, 5641-5658.	1.4	24
59	Comparing connected structures in ensemble of random fields. Advances in Water Resources, 2016, 96, 145-169.	1.7	9
60	Missing data simulation inside flow rate time-series using multiple-point statistics. Environmental Modelling and Software, 2016, 86, 264-276.	1.9	22
61	Can one identify karst conduit networks geometry and properties from hydraulic and tracer test data?. Advances in Water Resources, 2016, 90, 99-115.	1.7	58
62	Conditioning multiple-point statistics simulations to block data. Spatial Statistics, 2016, 16, 53-71.	0.9	22
63	A Workflow for Correlated Discrete Fracture Network Simulation Constrained by Microseismic Data. , 2016, , .		0
64	A pseudo genetic model of coarse braided‐river deposits. Water Resources Research, 2015, 51, 9595-9611.	1.7	13
65	Generation of <scp>3D</scp> Spatially Variable Anisotropy for Groundwater Flow Simulations. Ground Water, 2015, 53, 955-958.	0.7	16
66	Can shallow open-loop hydrothermal well-doublets help remediate seawater intrusion?. Hydrogeology Journal, 2015, 23, 619-629.	0.9	6
67	Influence of conceptual model uncertainty on contaminant transport forecasting in braided river aquifers. Journal of Hydrology, 2015, 531, 124-141.	2.3	24
68	Stochastic fracture generation accounting for the stratification orientation in a folded environment based on an implicit geological model. Engineering Geology, 2015, 187, 135-142.	2.9	18
69	Integrating aerial geophysical data in multiple-point statistics simulations to assist groundwater flow models. Hydrogeology Journal, 2015, 23, 883-900.	0.9	10
70	Constraining distance-based multipoint simulations to proportions and trends. Environmental Modelling and Software, 2015, 72, 184-197.	1.9	21
71	Geological realism in hydrogeological and geophysical inverse modeling: A review. Advances in Water Resources, 2015, 86, 86-101.	1.7	152
72	Prediction-Focused Subsurface Modeling: Investigating the Need for Accuracy in Flow-Based Inverse Modeling. Mathematical Geosciences, 2015, 47, 173-191.	1.4	41

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73	Channel Simulation Using L-system, Potential Fields and NURBS. , 2015, , .		1
74	Multiple-point Statistics Simulations Accounting for Block Data. , 2015, , .		0
75	Quality Analysis of Geostatistical Simulations through their Connected Structures. , 2015, , .		0
76	Simulation of rainfall time series from different climatic regions using the direct sampling technique. Hydrology and Earth System Sciences, 2014, 18, 3015-3031.	1.9	44
77	Binary upscaling on complex heterogeneities: The role of geometry and connectivity. Advances in Water Resources, 2014, 64, 47-61.	1.7	14
78	Special Issue on 20 Years of Multiple-Point Statistics: Part 1. Mathematical Geosciences, 2014, 46, 129-131.	1.4	8
79	Special Issue on 20 Years of Multiple-Point Statistics: Part 2. Mathematical Geosciences, 2014, 46, 517-518.	1.4	4
80	Simulation of braided river elevation model time series with multiple-point statistics. Geomorphology, 2014, 214, 148-156.	1.1	31
81	Assessing the effect of different river water level interpolation schemes on modeled groundwater residence times. Journal of Hydrology, 2014, 510, 393-402.	2.3	12
82	Analog-based meandering channel simulation. Water Resources Research, 2014, 50, 836-854.	1.7	8
83	Hydraulic subsurface measurements and hydrodynamic modelling as indicators for groundwater flow systems in the Rotondo granite, Central Alps (Switzerland). Hydrological Processes, 2014, 28, 255-278.	1.1	12
84	Handling Soft Probabilities in Multiple Point Statistics Simulation. Lecture Notes in Earth System Sciences, 2014, , 69-72.	0.5	0
85	Geophysics for the Determination of Hydrological Parameters of Karst Systems in Yucatan, Mexico. , 2014, , .		0
86	Proxy Comparison for Sorting Models and Assessing Uncertainty on Oil Recovery Profiles. , 2014, , .		0
87	Hybrid Geostatistics: Object-based Simulations Using MPS-generated Meandering Channels. , 2014, , .		1
88	A New Generic Method for Fast and Interactive Geological Models Perturbation. , 2014, , .		0
89	Parallel Multiple-Point Statistics Algorithm Based on List and Tree Structures. Mathematical Geosciences, 2013, 45, 131-147.	1.4	55
90	A practical guide to performing multiple-point statistical simulations with the Direct Sampling algorithm. Computers and Geosciences, 2013, 52, 307-324.	2.0	124

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91	A method for the stochastic modeling of karstic systems accounting for geophysical data: an example of application in the region of Tulum, Yucatan Peninsula (Mexico). Hydrogeology Journal, 2013, 21, 529-544.	0.9	14
92	Modeling Fine‐Scale Geological Heterogeneity—Examples of Sand Lenses in Tills. Ground Water, 2013, 51, 692-705.	0.7	38
93	Can electrical conductivity data from a single pumping test provide information about the location of a neighboring mixing zone between two aquifers? An example from Aix-les-Bains/Marlioz (Savoie,) Tj ETQq1 1 0.784314 rgBT /Over		
94	Connectivity metrics for subsurface flow and transport. Advances in Water Resources, 2013, 51, 168-196.	1.7	308
95	Distance-based kriging relying on proxy simulations for inverse conditioning. Advances in Water Resources, 2013, 52, 275-291.	1.7	31
96	A methodology for pseudo-genetic stochastic modeling of discrete fracture networks. Computers and Geosciences, 2013, 56, 12-22.	2.0	28
97	Stochastic forecasts of seawater intrusion towards sustainable groundwater management: application to the Korba aquifer (Tunisia). Hydrogeology Journal, 2013, 21, 425-440.	0.9	16
98	New Methods to Estimate 2D Water Level Distributions of Dynamic Rivers. Ground Water, 2013, 51, 847-854.	0.7	4
99	Hybrid Discrete Fracture Network Simulation Driven by Statistics, Tectonic History and Geomechanics. , 2013, , .		0
100	Spatiotemporal reconstruction of gaps in multivariate fields using the direct sampling approach. Water Resources Research, 2012, 48, .	1.7	51
101	Probability Aggregation Methods in Geoscience. Mathematical Geosciences, 2012, 44, 545-581.	1.4	70
102	3D multiple-point statistics simulation using 2D training images. Computers and Geosciences, 2012, 40, 49-65.	2.0	117
103	A pseudo-genetic stochastic model to generate karstic networks. Journal of Hydrology, 2012, 414-415, 516-529.	2.3	58
104	Comparaison de trois méthodes géostatistiques pour des simulations d'hydrofaciès: un test sur des sédiments alluvionnaires. Hydrogeology Journal, 2012, 20, 299-311.	0.9	90
105	Three-dimensional high resolution fluvio-glacial aquifer analog – Part 2: Geostatistical modeling. Journal of Hydrology, 2011, 405, 10-23.	2.3	94
106	Three-dimensional high resolution fluvio-glacial aquifer analog: Part 1: Field study. Journal of Hydrology, 2011, 405, 1-9.	2.3	94
107	An Improved Parallel Multiple-point Algorithm Using a List Approach. Mathematical Geosciences, 2011, 43, 305-328.	1.4	180
108	Extrapolating the Fractal Characteristics of an Image Using Scale-Invariant Multiple-Point Statistics. Mathematical Geosciences, 2011, 43, 783-797.	1.4	19

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109	Conditioning Facies Simulations with Connectivity Data. Mathematical Geosciences, 2011, 43, 879-903.	1.4	37
110	The Direct Sampling method to perform multiple‐point geostatistical simulations. Water Resources Research, 2010, 46, .	1.7	425
111	A numerical analysis of dimensionality and heterogeneity effects on advective dispersive seawater intrusion processes. Hydrogeology Journal, 2010, 18, 55-72.	0.9	88
112	Status of the Korba groundwater resources (Tunisia): observations and three-dimensional modelling of seawater intrusion. Hydrogeology Journal, 2010, 18, 1173-1190.	0.9	47
113	A roadmap for a dedicated Earth Science Grid platform. Earth Science Informatics, 2010, 3, 135-148.	1.6	18
114	Reconstruction of Incomplete Data Sets orÂImages Using Direct Sampling. Mathematical Geosciences, 2010, 42, 245-268.	1.4	109
115	Grid-enabled Monte Carlo analysis of the impacts of uncertain discharge rates on seawater intrusion in the Korba aquifer (Tunisia). Hydrological Sciences Journal, 2010, 55, 1325-1336.	1.2	16
116	Blocking Moving Window algorithm: Conditioning multiple‐point simulations to hydrogeological data. Water Resources Research, 2010, 46, .	1.7	48
117	Bayesian inverse problem and optimization with iterative spatial resampling. Water Resources Research, 2010, 46, .	1.7	100
118	How to Model Realistic 3D Karst Reservoirs Using a Pseudo-Genetic Methodology â€" Example of Two Case Studies. Environmental Earth Sciences, 2010, , 251-255.	0.1	5
119	MP Simulations Without Computing MP Statistics. , 2010, , .		0
120	Reducing the impact of a desalination plant using stochastic modeling and optimization techniques. Journal of Hydrology, 2009, 365, 275-288.	2.3	30
121	A workflow to facilitate three-dimensional geometrical modelling of complex poly-deformed geological units. Computers and Geosciences, 2009, 35, 644-658.	2.0	48
122	Introducing wwhypda: a world-wide collaborative hydrogeological parameters database. Hydrogeology Journal, 2009, 17, 481-489.	0.9	19
123	CompreensÃ£o de grÃ¡ficos diagnÃ³stico para interpretaÃ§Ã£o de ensaios de caudal em furos. Hydrogeology Journal, 2009, 17, 589-600.	0.9	128
124	Truncated Plurigaussian Simulations to Characterize Aquifer Heterogeneity. Ground Water, 2009, 47, 13-24.	0.7	80
125	Hydraulic testing of low-permeability formations. Engineering Geology, 2009, 107, 88-97.	2.9	40
126	Integrating collocated auxiliary parameters in geostatistical simulations using joint probability distributions and probability aggregation. Water Resources Research, 2009, 45, .	1.7	24

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127	Grid Computing for Earth Science. Eos, 2009, 90, 117-119.	0.1	15
128	Editors' Message: the Hydrogeologist Time Capsule — archival video recordings of influential hydrogeologists. Hydrogeology Journal, 2008, 16, 1-3.	0.9	4
129	Issues in characterizing heterogeneity and connectivity in non-multiGaussian media. Advances in Water Resources, 2008, 31, 147-159.	1.7	68
130	Stochastic Hydrogeology: What Professionals Really Need?. Ground Water, 2007, 45, 531-541.	0.7	95
131	Approximate discharge for constant head test with recharging boundary. Ground Water, 2005, 43, 439-442.	0.7	17
132	The future of hydraulic tests. Hydrogeology Journal, 2005, 13, 259-262.	0.9	43
133	Dealing with spatial heterogeneity. Hydrogeology Journal, 2005, 13, 161-183.	0.9	339
134	Modélisation du bilan hydrologique de la partie sud de la Mer d'Aral entre 1993 et 2001 / Hydrological balance modelling of the southern Aral Sea between 1993 and 2001. Hydrological Sciences Journal, 2005, 50, .	1.2	4
135	Study of stable isotopes in the Kouris catchment (Cyprus) for the description of the regional groundwater flow. Journal of Hydrology, 2005, 308, 214-226.	2.3	54
136	Application of tritium in precipitation and in groundwater of the Kouris catchment (Cyprus) for description of the regional groundwater flow. Applied Geochemistry, 2005, 20, 1292-1308.	1.4	22
137	Forecasting the Number of Soil Samples Required to Reduce Remediation Cost Uncertainty. Journal of Environmental Quality, 2004, 33, 1694-1702.	1.0	18
138	Environmental Isotopes as Indicators for Ground Water Recharge to Fractured Granite. Ground Water, 2004, 42, 868-879.	0.7	33
139	A dynamic model of the Aral Sea water and salt balance. Journal of Marine Systems, 2004, 47, 35-50.	0.9	56
140	The problem of salt recycling and seawater intrusion in coastal irrigated plains: an example from the Kiti aquifer (Southern Cyprus). Journal of Hydrology, 2004, 288, 327-343.	2.3	64
141	Groundwater resources in the Kouris catchment (Cyprus): data analysis and numerical modelling. Journal of Hydrology, 2003, 271, 130-149.	2.3	56
142	Groundwater resources in the Kouris catchment (Cyprus): data analysis and numerical modelling. Journal of Hydrology, 2002, 271, 130-130.	2.3	0
143	Laboratory determination of the full permeability tensor. Journal of Geophysical Research, 2001, 106, 26443-26452.	3.3	52
144	A fast algorithm for the estimation of the equivalent hydraulic conductivity of heterogeneous media. Water Resources Research, 2000, 36, 3567-3580.	1.7	65

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145	Calculating equivalent permeability: a review. Advances in Water Resources, 1997, 20, 253-278.	1.7	750
146	Three-dimensional geometric modeling of a faulted domain: The Soultz Horst example (Alsace, France). Computers and Geosciences, 1994, 20, 1379-1390.	2.0	26