

Philippe Renard

List of Publications by Year in descending order

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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	Calculating equivalent permeability: a review. <i>Advances in Water Resources</i> , 1997, 20, 253-278.	1.7	750
2	The Direct Sampling method to perform multiple-point geostatistical simulations. <i>Water Resources Research</i> , 2010, 46, .	1.7	425
3	Dealing with spatial heterogeneity. <i>Hydrogeology Journal</i> , 2005, 13, 161-183.	0.9	339
4	Connectivity metrics for subsurface flow and transport. <i>Advances in Water Resources</i> , 2013, 51, 168-196.	1.7	308
5	An Improved Parallel Multiple-point Algorithm Using a List Approach. <i>Mathematical Geosciences</i> , 2011, 43, 305-328.	1.4	180
6	Advances in understanding river-groundwater interactions. <i>Reviews of Geophysics</i> , 2017, 55, 818-854.	9.0	158
7	Geological realism in hydrogeological and geophysical inverse modeling: A review. <i>Advances in Water Resources</i> , 2015, 86, 86-101.	1.7	152
8	Compreensão de gráficos diagn3stico para interpretaç3o de ensaios de caudal em furos. <i>Hydrogeology Journal</i> , 2009, 17, 589-600.	0.9	128
9	A practical guide to performing multiple-point statistical simulations with the Direct Sampling algorithm. <i>Computers and Geosciences</i> , 2013, 52, 307-324.	2.0	124
10	3D multiple-point statistics simulation using 2D training images. <i>Computers and Geosciences</i> , 2012, 40, 49-65.	2.0	117
11	Reconstruction of Incomplete Data Sets or Images Using Direct Sampling. <i>Mathematical Geosciences</i> , 2010, 42, 245-268.	1.4	109
12	Bayesian inverse problem and optimization with iterative spatial resampling. <i>Water Resources Research</i> , 2010, 46, .	1.7	100
13	Stochastic Hydrogeology: What Professionals Really Need?. <i>Ground Water</i> , 2007, 45, 531-541.	0.7	95
14	Three-dimensional high resolution fluvio-glacial aquifer analog – Part 2: Geostatistical modeling. <i>Journal of Hydrology</i> , 2011, 405, 10-23.	2.3	94
15	Three-dimensional high resolution fluvio-glacial aquifer analog: Part 1: Field study. <i>Journal of Hydrology</i> , 2011, 405, 1-9.	2.3	94
16	Comparaison de trois m3thodes g3ostatistiques pour des simulations d3hydrofaci3s: un test sur des s3diments alluvionnaires. <i>Hydrogeology Journal</i> , 2012, 20, 299-311.	0.9	90
17	A numerical analysis of dimensionality and heterogeneity effects on advective dispersive seawater intrusion processes. <i>Hydrogeology Journal</i> , 2010, 18, 55-72.	0.9	88
18	Truncated Plurigaussian Simulations to Characterize Aquifer Heterogeneity. <i>Ground Water</i> , 2009, 47, 13-24.	0.7	80

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19	Probability Aggregation Methods in Geoscience. <i>Mathematical Geosciences</i> , 2012, 44, 545-581.	1.4	70
20	Issues in characterizing heterogeneity and connectivity in non-multiGaussian media. <i>Advances in Water Resources</i> , 2008, 31, 147-159.	1.7	68
21	A fast algorithm for the estimation of the equivalent hydraulic conductivity of heterogeneous media. <i>Water Resources Research</i> , 2000, 36, 3567-3580.	1.7	65
22	The problem of salt recycling and seawater intrusion in coastal irrigated plains: an example from the Kiti aquifer (Southern Cyprus). <i>Journal of Hydrology</i> , 2004, 288, 327-343.	2.3	64
23	A pseudo-genetic stochastic model to generate karstic networks. <i>Journal of Hydrology</i> , 2012, 414-415, 516-529.	2.3	58
24	Can one identify karst conduit networks geometry and properties from hydraulic and tracer test data?. <i>Advances in Water Resources</i> , 2016, 90, 99-115.	1.7	58
25	Groundwater resources in the Kouris catchment (Cyprus): data analysis and numerical modelling. <i>Journal of Hydrology</i> , 2003, 271, 130-149.	2.3	56
26	A dynamic model of the Aral Sea water and salt balance. <i>Journal of Marine Systems</i> , 2004, 47, 35-50.	0.9	56
27	Parallel Multiple-Point Statistics Algorithm Based on List and Tree Structures. <i>Mathematical Geosciences</i> , 2013, 45, 131-147.	1.4	55
28	Study of stable isotopes in the Kouris catchment (Cyprus) for the description of the regional groundwater flow. <i>Journal of Hydrology</i> , 2005, 308, 214-226.	2.3	54
29	Laboratory determination of the full permeability tensor. <i>Journal of Geophysical Research</i> , 2001, 106, 26443-26452.	3.3	52
30	Spatiotemporal reconstruction of gaps in multivariate fields using the direct sampling approach. <i>Water Resources Research</i> , 2012, 48, .	1.7	51
31	A workflow to facilitate three-dimensional geometrical modelling of complex poly-deformed geological units. <i>Computers and Geosciences</i> , 2009, 35, 644-658.	2.0	48
32	Blocking Moving Window algorithm: Conditioning multiple-point simulations to hydrogeological data. <i>Water Resources Research</i> , 2010, 46, .	1.7	48
33	Status of the Korba groundwater resources (Tunisia): observations and three-dimensional modelling of seawater intrusion. <i>Hydrogeology Journal</i> , 2010, 18, 1173-1190.	0.9	47
34	Simulation of rainfall time series from different climatic regions using the direct sampling technique. <i>Hydrology and Earth System Sciences</i> , 2014, 18, 3015-3031.	1.9	44
35	The future of hydraulic tests. <i>Hydrogeology Journal</i> , 2005, 13, 259-262.	0.9	43
36	Prediction-Focused Subsurface Modeling: Investigating the Need for Accuracy in Flow-Based Inverse Modeling. <i>Mathematical Geosciences</i> , 2015, 47, 173-191.	1.4	41

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37	Hydraulic testing of low-permeability formations. <i>Engineering Geology</i> , 2009, 107, 88-97.	2.9	40
38	Modeling Fine-scale Geological Heterogeneity: Examples of Sand Lenses in Tills. <i>Ground Water</i> , 2013, 51, 692-705.	0.7	38
39	Conditioning Facies Simulations with Connectivity Data. <i>Mathematical Geosciences</i> , 2011, 43, 879-903.	1.4	37
40	Statistical metrics for the characterization of karst network geometry and topology. <i>Geomorphology</i> , 2017, 283, 122-142.	1.1	36
41	Environmental Isotopes as Indicators for Ground Water Recharge to Fractured Granite. <i>Ground Water</i> , 2004, 42, 868-879.	0.7	33
42	Distance-based kriging relying on proxy simulations for inverse conditioning. <i>Advances in Water Resources</i> , 2013, 52, 275-291.	1.7	31
43	Simulation of braided river elevation model time series with multiple-point statistics. <i>Geomorphology</i> , 2014, 214, 148-156.	1.1	31
44	Reducing the impact of a desalination plant using stochastic modeling and optimization techniques. <i>Journal of Hydrology</i> , 2009, 365, 275-288.	2.3	30
45	A methodology for pseudo-genetic stochastic modeling of discrete fracture networks. <i>Computers and Geosciences</i> , 2013, 56, 12-22.	2.0	28
46	Geothermal state of the deep Western Alpine Molasse Basin, France-Switzerland. <i>Geothermics</i> , 2017, 67, 48-65.	1.5	27
47	Three-dimensional geometric modeling of a faulted domain: The Soultz Horst example (Alsace, France). <i>Computers and Geosciences</i> , 1994, 20, 1379-1390.	2.0	26
48	Integrating collocated auxiliary parameters in geostatistical simulations using joint probability distributions and probability aggregation. <i>Water Resources Research</i> , 2009, 45, .	1.7	24
49	Influence of conceptual model uncertainty on contaminant transport forecasting in braided river aquifers. <i>Journal of Hydrology</i> , 2015, 531, 124-141.	2.3	24
50	Impact of a stochastic sequential initiation of fractures on the spatial correlations and connectivity of discrete fracture networks. <i>Journal of Geophysical Research: Solid Earth</i> , 2016, 121, 5641-5658.	1.4	24
51	Application of tritium in precipitation and in groundwater of the Kouris catchment (Cyprus) for description of the regional groundwater flow. <i>Applied Geochemistry</i> , 2005, 20, 1292-1308.	1.4	22
52	Missing data simulation inside flow rate time-series using multiple-point statistics. <i>Environmental Modelling and Software</i> , 2016, 86, 264-276.	1.9	22
53	Conditioning multiple-point statistics simulations to block data. <i>Spatial Statistics</i> , 2016, 16, 53-71.	0.9	22
54	Constraining distance-based multipoint simulations to proportions and trends. <i>Environmental Modelling and Software</i> , 2015, 72, 184-197.	1.9	21

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55	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. <i>Journal of Hydrology</i> , 2017, 545, 109-119.	2.3	21
56	Introducing wwhypda: a world-wide collaborative hydrogeological parameters database. <i>Hydrogeology Journal</i> , 2009, 17, 481-489.	0.9	19
57	Extrapolating the Fractal Characteristics of an Image Using Scale-Invariant Multiple-Point Statistics. <i>Mathematical Geosciences</i> , 2011, 43, 783-797.	1.4	19
58	Forecasting the Number of Soil Samples Required to Reduce Remediation Cost Uncertainty. <i>Journal of Environmental Quality</i> , 2004, 33, 1694-1702.	1.0	18
59	A roadmap for a dedicated Earth Science Grid platform. <i>Earth Science Informatics</i> , 2010, 3, 135-148.	1.6	18
60	Stochastic fracture generation accounting for the stratification orientation in a folded environment based on an implicit geological model. <i>Engineering Geology</i> , 2015, 187, 135-142.	2.9	18
61	Approximate discharge for constant head test with recharging boundary. <i>Ground Water</i> , 2005, 43, 439-442.	0.7	17
62	A geostatistical approach to the simulation of stacked channels. <i>Marine and Petroleum Geology</i> , 2017, 82, 318-335.	1.5	17
63	Grid-enabled Monte Carlo analysis of the impacts of uncertain discharge rates on seawater intrusion in the Korba aquifer (Tunisia). <i>Hydrological Sciences Journal</i> , 2010, 55, 1325-1336.	1.2	16
64	Stochastic forecasts of seawater intrusion towards sustainable groundwater management: application to the Korba aquifer (Tunisia). <i>Hydrogeology Journal</i> , 2013, 21, 425-440.	0.9	16
65	Generation of $3D$ Spatially Variable Anisotropy for Groundwater Flow Simulations. <i>Ground Water</i> , 2015, 53, 955-958.	0.7	16
66	A model ensemble generator to explore structural uncertainty in karst systems with unmapped conduits. <i>Hydrogeology Journal</i> , 2021, 29, 229-248.	0.9	16
67	Multiple-point statistics using multi-resolution images. <i>Stochastic Environmental Research and Risk Assessment</i> , 2020, 34, 251-273.	1.9	16
68	Grid Computing for Earth Science. <i>Eos</i> , 2009, 90, 117-119.	0.1	15
69	Stochastic simulation of channelized sedimentary bodies using a constrained L-system. <i>Computers and Geosciences</i> , 2017, 105, 158-168.	2.0	15
70	Random partitioning and adaptive filters for multiple-point stochastic simulation. <i>Stochastic Environmental Research and Risk Assessment</i> , 2018, 32, 1375-1396.	1.9	15
71	Contaminant source localization via Bayesian global optimization. <i>Hydrology and Earth System Sciences</i> , 2019, 23, 351-369.	1.9	15
72	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). <i>Hydrogeology Journal</i> , 2013, 21, 529-544.	0.9	14

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73	Binary upscaling on complex heterogeneities: The role of geometry and connectivity. <i>Advances in Water Resources</i> , 2014, 64, 47-61.	1.7	14
74	Posterior population expansion for solving inverse problems. <i>Water Resources Research</i> , 2017, 53, 2902-2916.	1.7	14
75	Simulating Small-Scale Rainfall Fields Conditioned by Weather State and Elevation: A Data-Driven Approach Based on Rainfall Radar Images. <i>Water Resources Research</i> , 2017, 53, 8512-8532.	1.7	14
76	Multiple-point statistical simulation of the ore boundaries for a lateritic bauxite deposit. <i>Stochastic Environmental Research and Risk Assessment</i> , 2019, 33, 865-878.	1.9	14
77	A pseudo genetic model of coarse braided-river deposits. <i>Water Resources Research</i> , 2015, 51, 9595-9611.	1.7	13
78	A survey of groundwater quality in Tulum region, Yucatan Peninsula, Mexico. <i>Environmental Earth Sciences</i> , 2018, 77, 1.	1.3	13
79	3D Geological Image Synthesis From 2D Examples Using Generative Adversarial Networks. <i>Frontiers in Water</i> , 2020, 2, .	1.0	13
80	Using Generative Adversarial Networks as a Fast Forward Operator for Hydrogeological Inverse Problems. <i>Ground Water</i> , 2020, 58, 938-950.	0.7	13
81	Assessing the effect of different river water level interpolation schemes on modeled groundwater residence times. <i>Journal of Hydrology</i> , 2014, 510, 393-402.	2.3	12
82	Hydraulic subsurface measurements and hydrodynamic modelling as indicators for groundwater flow systems in the Rotondo granite, Central Alps (Switzerland). <i>Hydrological Processes</i> , 2014, 28, 255-278.	1.1	12
83	Automatic Parameter Tuning of Multiple-Point Statistical Simulations for Lateritic Bauxite Deposits. <i>Minerals (Basel, Switzerland)</i> , 2018, 8, 220.	0.8	11
84	A Framework for the Cross-Validation of Categorical Geostatistical Simulations. <i>Earth and Space Science</i> , 2020, 7, e2020EA001152.	1.1	11
85	Coupling SKS and SWMM to Solve the Inverse Problem Based on Artificial Tracer Tests in Karstic Aquifers. <i>Water (Switzerland)</i> , 2020, 12, 1139.	1.2	11
86	Integrating aerial geophysical data in multiple-point statistics simulations to assist groundwater flow models. <i>Hydrogeology Journal</i> , 2015, 23, 883-900.	0.9	10
87	Simulating rainfall time-series: how to account for statistical variability at multiple scales?. <i>Stochastic Environmental Research and Risk Assessment</i> , 2018, 32, 321-340.	1.9	10
88	The Traveling Pilot Point method. A novel approach to parameterize the inverse problem for categorical fields. <i>Advances in Water Resources</i> , 2020, 138, 103556.	1.7	10
89	Comparing connected structures in ensemble of random fields. <i>Advances in Water Resources</i> , 2016, 96, 145-169.	1.7	9
90	Pilot Point Optimization of Mining Boundaries for Lateritic Metal Deposits: Finding the Trade-off Between Dilution and Ore Loss. <i>Natural Resources Research</i> , 2019, 28, 153-171.	2.2	9

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91	Special Issue on 20 Years of Multiple-Point Statistics: Part 1. Mathematical Geosciences, 2014, 46, 129-131.	1.4	8
92	Analog-based meandering channel simulation. Water Resources Research, 2014, 50, 836-854.	1.7	8
93	Parallelized Adaptive Importance Sampling for Solving Inverse Problems. Frontiers in Earth Science, 2018, 6, .	0.8	8
94	Fast and Interactive Editing Tools for Spatial Models. Mathematical Geosciences, 2019, 51, 109-125.	1.4	8
95	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
96	Impact of phases distribution on mixing and reactions in unsaturated porous media. Advances in Water Resources, 2020, 144, 103697.	1.7	8
97	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
98	Fractal Dimension, Walk Dimension and Conductivity Exponent of Karst Networks around Tulum. Frontiers in Physics, 2016, 4, .	1.0	7
99	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
100	Direct simulation of non-additive properties on unstructured grids. Advances in Water Resources, 2020, 143, 103665.	1.7	7
101	Conditioning Multiple-Point Statistics Simulation to Inequality Data. Earth and Space Science, 2021, 8, e2020EA001515.	1.1	7
102	Can shallow open-loop hydrothermal well-doublets help remediate seawater intrusion?. Hydrogeology Journal, 2015, 23, 619-629.	0.9	6
103	A 2D hyperspectral library of mineral reflectance, from 900 to 2500 nm. Scientific Data, 2019, 6, 268.	2.4	6
104	Multiresolution Approach to Condition Categorical Multiple-Point Realizations to Dynamic Data With Iterative Ensemble Smoothing. Water Resources Research, 2020, 56, e2019WR025875.	1.7	6
105	Quasi-Online Groundwater Model Optimization Under Constraints of Geological Consistency Based on Iterative Importance Sampling. Water Resources Research, 2020, 56, e2019WR026777.	1.7	6
106	Analysis and stochastic simulation of geometrical properties of conduits in karstic networks. Geomorphology, 2021, 377, 107480.	1.1	6
107	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
108	Subnetworks of Percolation Backbones to Model Karst Systems Around Tulum, Mexico. Frontiers in Physics, 2016, 4, .	1.0	5

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109	tTEM20AAR: a benchmark geophysical data set for unconsolidated fluvio-glacial sediments. Earth System Science Data, 2021, 13, 2743-2752.	3.7	5
110	How to Model Realistic 3D Karst Reservoirs Using a Pseudo-Genetic Methodology – Example of Two Case Studies. Environmental Earth Sciences, 2010, , 251-255.	0.1	5
111	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
112	Automated Hierarchical 3D Modeling of Quaternary Aquifers: The ArchPy Approach. Frontiers in Earth Science, 2022, 10, .	0.8	5
113	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
114	Editors' Message: the Hydrogeologist Time Capsule – archival video recordings of influential hydrogeologists. Hydrogeology Journal, 2008, 16, 1-3.	0.9	4
115	New Methods to Estimate 2D Water Level Distributions of Dynamic Rivers. Ground Water, 2013, 51, 847-854.	0.7	4
116	Special Issue on 20 Years of Multiple-Point Statistics: Part 2. Mathematical Geosciences, 2014, 46, 517-518.	1.4	4
117	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
118	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
119	EuroKarst 2016, Neuchâtel. Advances in Karst Science, 2017, , .	0.3	3
120	An Attempt to Boost Posterior Population Expansion Using Fast Machine Learning Algorithms. Frontiers in Artificial Intelligence, 2021, 4, 624629.	2.0	3
121	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, France). Journal of Hydrology, 2021, 594, 284-314.	1.0	3
122	Robust input layer for neural networks for hyperspectral classification of data with missing bands. Applied Computing and Geosciences, 2020, 8, 100034.	1.0	1
123	Efficiency of template matching methods for Multiple-Point Statistics simulations. Applied Computing and Geosciences, 2021, 11, 100064.	1.0	1
124	Channel Simulation Using L-system, Potential Fields and NURBS. , 2015, , .		1
125	K-fold Cross-validation of Multiple-point Statistical Simulations. , 2019, , .		1
126	Hybrid Geostatistics: Object-based Simulations Using MPS-generated Meandering Channels. , 2014, , .		1

#	ARTICLE	IF	CITATIONS
127	Equivalent Permeability Tensor of Heterogeneous Media: Upscaling Methods and Criteria (Review and) Tj ETQq1 1 0.784314 1.0 1gBT /Over	1.0	1
128	Groundwater resources in the Kouris catchment (Cyprus): data analysis and numerical modelling. Journal of Hydrology, 2002, 271, 130-130.	2.3	0
129	Automatic Reservoir Modelling: A Sate of the Art. , 2019, , .		0
130	MP Simulations Without Computing MP Statistics. , 2010, , .		0
131	Hybrid Discrete Fracture Network Simulation Driven by Statistics, Tectonic History and Geomechanics. , 2013, , .		0
132	Handling Soft Probabilities in Multiple Point Statistics Simulation. Lecture Notes in Earth System Sciences, 2014, , 69-72.	0.5	0
133	Geophysics for the Determination of Hydrological Parameters of Karst Systems in Yucatan, Mexico. , 2014, , .		0
134	Proxy Comparison for Sorting Models and Assessing Uncertainty on Oil Recovery Profiles. , 2014, , .		0
135	A New Generic Method for Fast and Interactive Geological Models Perturbation. , 2014, , .		0
136	Multiple-point Statistics Simulations Accounting for Block Data. , 2015, , .		0
137	Quality Analysis of Geostatistical Simulations through their Connected Structures. , 2015, , .		0
138	A Workflow for Correlated Discrete Fracture Network Simulation Constrained by Microseismic Data. , 2016, , .		0
139	Above and Below: Understanding River-Groundwater Exchanges. Eos, 2018, 99, .	0.1	0
140	Simplified Direct Sampling Method for Geostatistical Multiple-point Simulations. , 2019, , .		0
141	Multiple Point Statistics with Pyramids Application on the Multi-scale Multi-structure Training Images. , 2019, , .		0
142	Direct Geostatistical Simulation on Unstructured Grids II: A Proposal for Non-additive Variables. , 2019, , .		0
143	Multiple-point Statistics Based on Gaussian Pyramids of the Training Image. , 2019, , .		0
144	The Posterior Population Expansion Ensemble Method to Invert Categorical Fields. , 2019, , .		0

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145	3D Multiple-points Statistics Simulations of the Roussillon Continental Pliocene Reservoir Using DeeSse. , 2019, , .		0
146	GROUNDWATER MODELING IN ALPINE KARST SYSTEMS: A MODEL ENSEMBLE GENERATOR TO EXPLORE STRUCTURAL UNCERTAINTY. , 2020, , .		0