Eric Laloy

List of Publications by Year
in descending order

32 **papers**	1,585 **citations**	567281 15 **h-index**	414414 32 **g-index**
33 **all docs**	33 **docs citations**	33 **times ranked**	1720 **citing authors**

#	Article	IF	Citations
1	High‐dimensional posterior exploration of hydrologic models using multiple‐try DREAM_(ZS) and high‐performance computing. Water Resources Research, 2012, 48, .	4.2	353
2	Training‐Image Based Geostatistical Inversion Using a Spatial Generative Adversarial Neural Network. Water Resources Research, 2018, 54, 381-406.	4.2	232
3	Efficient posterior exploration of a high‐dimensional groundwater model from two‐stage Markov chain Monte Carlo simulation and polynomial chaos expansion. Water Resources Research, 2013, 49, 2664-2682.	4.2	201
4	HESS Opinions: Incubating deep-learning-powered hydrologic science advances as a community. Hydrology and Earth System Sciences, 2018, 22, 5639-5656.	4.9	169
5	Inversion using a new low-dimensional representation of complex binary geological media based on a deep neural network. Advances in Water Resources, 2017, 110, 387-405.	3.8	155
6	Mass conservative three‐dimensional water tracer distribution from Markov chain Monte Carlo inversion of time‐lapse ground‐penetrating radar data. Water Resources Research, 2012, 48, .	4.2	45
7	Editorial: Broadening the Use of Machine Learning in Hydrology. Frontiers in Water, 2021, 3, .	2.3	44
8	Effect of Intercropping Period Management on Runoff and Erosion in a Maize Cropping System. Journal of Environmental Quality, 2010, 39, 1001-1008.	2.0	43
9	Gradient-based deterministic inversion of geophysical data with generative adversarial networks: Is it feasible?. Computers and Geosciences, 2019, 133, 104333.	4.2	41
10	Deep generative models in inversion: The impact of the generator's nonlinearity and development of a new approach based on a variational autoencoder. Computers and Geosciences, 2021, 152, 104762.	4.2	40
11	Probabilistic inference of multi‐<scp>G</scp>aussian fields from indirect hydrological data using circulant embedding and dimensionality reduction. Water Resources Research, 2015, 51, 4224-4243.	4.2	39
12	Merging parallel tempering with sequential geostatistical resampling for improved posterior exploration of high-dimensional subsurface categorical fields. Advances in Water Resources, 2016, 90, 57-69.	3.8	28
13	Nested multiresolution hierarchical simulated annealing algorithm for porous media reconstruction. Physical Review E, 2019, 100, 053316.	2.1	25
14	Emulation of CPU-demanding reactive transport models: a comparison of Gaussian processes, polynomial chaos expansion, and deep neural networks. Computational Geosciences, 2019, 23, 1193-1215.	2.4	24
15	Bayesian full-waveform tomography with application to crosshole ground penetrating radar data. Geophysical Journal International, 2019, 218, 913-931.	2.4	17
16	A new framework for experimental design using Bayesian Evidential Learning: The case of wellhead protection area. Journal of Hydrology, 2021, 603, 126903.	5.4	14
17	Bayesian inversion of a CRN depth profile to infer Quaternary erosion of the northwestern Campine Plateau (NE Belgium). Earth Surface Dynamics, 2017, 5, 331-345.	2.4	12
18	Inference of multi-Gaussian relative permittivity fields by probabilistic inversion of crosshole ground-penetrating radar data. Geophysics, 2017, 82, H25-H40.	2.6	11

#	Article	IF	Citations
19	A mesoscale framework for analysis of corrosion induced damage of concrete. Construction and Building Materials, 2019, 216, 347-361.	7.2	11
20	Electron spin resonance (ESR), optically stimulated luminescence (OSL) and terrestrial cosmogenic radionuclide (TCN) dating of quartz from a Plio-Pleistocene sandy formation in the Campine area, NE Belgium. Quaternary International, 2020, 556, 144-158.	1.5	10
21	High-resolution moisture profiles from full-waveform probabilistic inversion of TDR signals. Journal of Hydrology, 2014, 519, 2121-2135.	5.4	8
22	Approaching geoscientific inverse problems with vector-to-image domain transfer networks. Advances in Water Resources, 2021, 152, 103917.	3.8	8
23	Towards a scientific-based assessment of long-term durability and performance of cementitious materials for radioactive waste conditioning and disposal. Journal of Nuclear Materials, 2021, 557, 153201.	2.7	8
24	Bayesian inference of 1D activity profiles from segmented gamma scanning of a heterogeneous radioactive waste drum. Applied Radiation and Isotopes, 2021, 175, 109803.	1.5	7
25	Scale-dependent parameterization of groundwater–surface water interactions in a regional hydrogeological model. Journal of Hydrology, 2019, 576, 494-507.	5.4	6
26	Using deep generative neural networks to account for model errors in Markov chain Monte Carlo inversion. Geophysical Journal International, 2021, 228, 1098-1118.	2.4	6
27	Speeding Up Reactive Transport Simulations in Cement Systems by Surrogate Geochemical Modeling: Deep Neural Networks and k-Nearest Neighbors. Transport in Porous Media, 2022, 143, 433-462.	2.6	6
28	Reply to comment by Chu et al. on "High-dimensional posterior exploration of hydrologic models using multiple-try DREAM (ZS) and high-performance computing." Water Resources Research, 2014, 50, 2781-2786.	4.2	5
29	Bayesian inference of root architectural model parameters from synthetic field data. Plant and Soil, 2021, 467, 67-89.	3.7	5
30	Pixel-wise conditioned generative adversarial networks for image synthesis and completion. Neurocomputing, 2020, 416, 218-230.	5.9	4
31	A hybrid method for characterizing tillage-induced soil physical quality at the profile scale with fine spatial details. Soil and Tillage Research, 2022, 216, 105236.	5.6	4
32	Hydrogeological multiple-point statistics inversion by adaptive sequential Monte Carlo. Advances in Water Resources, 2022, 166, 104252.	3.8	3