Xavier Emery

List of Publications by Citations

129 papers	1,637 citations	21 h-index	33 g-index
133 ext. papers	1,942 ext. citations	3.4 avg, IF	5.65 L-index

#	Paper	IF	Citations
129	TBSIM: A computer program for conditional simulation of three-dimensional Gaussian random fields via the turning bands method. *Computers and Geosciences*, **2006**, 32, 1615-1628	4.5	132
128	Simulation of geological domains using the plurigaussian model: New developments and computer programs. *Computers and Geosciences*, **2007**, 33, 1189-1201	4.5	58
127	Simple and Ordinary Multigaussian Kriging for Estimating Recoverable Reserves. *Mathematical Geosciences*, **2005**, 37, 295-319		52
126	Iterative algorithms for fitting a linear model of coregionalization. *Computers and Geosciences*, **2010** , 36, 1150-1160	4.5	51
125	Testing the correctness of the sequential algorithm for simulating Gaussian random fields. *Stochastic Environmental Research and Risk Assessment*, **2004**, 18, 401-413	3.5	47
124	A turning bands program for conditional co-simulation of cross-correlated Gaussian random fields. *Computers and Geosciences*, **2008**, 34, 1850-1862	4.5	46
123	An improved spectral turning-bands algorithm for simulating stationary vector Gaussian random fields. *Stochastic Environmental Research and Risk Assessment*, **2016**, 30, 1863-1873	3.5	44
122	Properties and limitations of sequential indicator simulation. *Stochastic Environmental Research and Risk Assessment*, **2004**, 18, 414-424	3.5	42
121	The kriging update equations and their application to the selection of neighboring data. *Computational Geosciences*, **2009**, 13, 269-280	2.7	40
120	Geostatistical modeling of the geological uncertainty in an iron ore deposit. *Ore Geology Reviews*, **2017**, 88, 336-351	3.2	36
119	Variograms of Order A Tool to Validate a Bivariate Distribution Model. *Mathematical Geosciences* , **2005**, 37, 163-181		34
118	Can a Training Image Be a Substitute for a Random Field Model?. *Mathematical Geosciences*, **2014**, 46, 133-147	2.5	33
117	Joint Simulation of Grade and Rock Type in a Stratabound Copper Deposit. *Mathematical Geosciences*, **2015**, 47, 471-495	2.5	32
116	Assessing the accuracy of sequential Gaussian simulation and cosimulation. *Computational Geosciences*, **2011**, 15, 673-689	2.7	31
115	Comparing sequential Gaussian and turning bands algorithms for cosimulating grades in multi-element deposits. *Comptes Rendus - Geoscience*, **2015**, 347, 84-93	1.4	30
114	Conditional co-simulation of continuous and categorical variables for geostatistical applications. *Computers and Geosciences*, **2009**, 35, 1234-1246	4.5	30
113	Ordinary multigaussian kriging for mapping conditional probabilities of soil properties. *Geoderma*, **2006**, 132, 75-88	6.7	29

112	Simulating Large Gaussian Random Vectors Subject to Inequality Constraints by Gibbs Sampling. *Mathematical Geosciences*, **2014**, 46, 265-283	2.5	24
111	A stochastic approach for measuring bubble size distribution via image analysis. *International Journal of Mineral Processing*, **2013**, 121, 6-11		24
110	Geostatistical simulation to map the spatial heterogeneity of geomechanical parameters: A case study with rock mass rating. *Engineering Geology*, **2016**, 205, 93-103	6	24
109	Statistical tests for validating geostatistical simulation algorithms. *Computers and Geosciences*, **2008**, 34, 1610-1620	4.5	23
108	Conditioning Simulations of Gaussian Random Fields by Ordinary Kriging. *Mathematical Geosciences* , **2007**, 39, 607-623		20
107	A comparison of search strategies to design the cokriging neighborhood for predicting coregionalized variables. *Stochastic Environmental Research and Risk Assessment*, **2019**, 33, 183-199	3.5	19
106	Uncertainty modeling and spatial prediction by multi-Gaussian kriging: Accounting for an unknown mean value. *Computers and Geosciences*, **2008**, 34, 1431-1442	4.5	19
105	Using the Gibbs sampler for conditional simulation of Gaussian-based random fields. *Computers and Geosciences*, **2007**, 33, 522-537	4.5	19
104	Geological Modelling and Validation of Geological Interpretations via Simulation and Classification of Quantitative Covariates. *Minerals (Basel, Switzerland)*, **2018**, 8, 7	2.4	18
103	Risk quantification with combined use of lithological and grade simulations: Application to a porphyry copper deposit. *Ore Geology Reviews*, **2016**, 75, 42-51	3.2	17
102	Histogram and variogram inference in the multigaussian model. *Stochastic Environmental Research and Risk Assessment*, **2005**, 19, 48-58	3.5	17
101	Weighted sample variograms as a tool to better assess the spatial variability of soil properties. *Geoderma*, **2007**, 140, 81-89	6.7	16
100	Truncated Gaussian simulation of discrete-valued, ordinal coregionalized variables. *Computers and Geosciences*, **2010**, 36, 1325-1338	4.5	15
99	Multigaussian kriging for point-support estimation: incorporating constraints on the sum of the kriging weights. *Stochastic Environmental Research and Risk Assessment*, **2006**, 20, 53-65	3.5	15
98	Conditional Simulation of Nongaussian Random Functions. *Mathematical Geosciences*, **2002**, 34, 79-100		15
97	Simulation of mineral grades and classification of mineral resources by using hard and soft conditioning data: application to Sungun porphyry copper deposit. *Arabian Journal of Geosciences*, **2013**, 6, 3773-3781	1.8	14
96	Simulation of geo-domains accounting for chronology and contact relationships: application to the Ro Blanco copper deposit. *Stochastic Environmental Research and Risk Assessment*, **2015**, 29, 2173-2191	3.5	14
95	An enhanced Gibbs sampler algorithm for non-conditional simulation of Gaussian random vectors. *Computers and Geosciences*, **2012**, 46, 138-148	4.5	14

94	Simulation of mineral grades with hard and soft conditioning data: application to a porphyry copper deposit. *Computational Geosciences*, **2009**, 13, 79-89	2.7	14
93	Quantifying Uncertainty in Mineral Resources by Use of Classification Schemes and Conditional Simulations. *Mathematical Geosciences*, **2006**, 38, 445-464		14
92	Simulating isotropic vector-valued Gaussian random fields on the sphere through finite harmonics approximations. *Stochastic Environmental Research and Risk Assessment*, **2019**, 33, 1659-1667	3.5	13
91	A disjunctive kriging program for assessing point-support conditional distributions. *Computers and Geosciences*, **2006**, 32, 965-983	4.5	13
90	Co-simulating Total and Soluble Copper Grades in an Oxide Ore Deposit. *Mathematical Geosciences*, **2012**, 44, 27-46	2.5	12
89	Joint simulation of stationary grade and non-stationary rock type for quantifying geological uncertainty in a copper deposit. *Computers and Geosciences*, **2017**, 109, 258-267	4.5	12
88	Two approaches to direct block-support conditional co-simulation. *Computers and Geosciences*, **2011**, 37, 1015-1025	4.5	12
87	Models for Support and Information Effects: A Comparative Study. *Mathematical Geosciences*, **2005**, 37, 49-68		12
86	Spectral simulation of vector random fields with stationary Gaussian increments in d-dimensional Euclidean spaces. *Stochastic Environmental Research and Risk Assessment*, **2017**, 31, 1583-1592	3.5	11
85	Assessing the accuracy of sequential gaussian simulation through statistical testing. *Stochastic Environmental Research and Risk Assessment*, **2017**, 31, 523-533	3.5	11
84	Cokriging random fields with means related by known linear combinations. *Computers and Geosciences*, **2012**, 38, 136-144	4.5	11
83	On the Existence of Mosaic and Indicator Random Fields with Spherical, Circular, and Triangular Variograms. *Mathematical Geosciences*, **2010**, 42, 969-984	2.5	11
82	Conditional Simulation of Random Fields with Bivariate Gamma Isofactorial Distributions. *Mathematical Geosciences*, **2005**, 37, 419-445		11
81	Stochastic Open-Pit Mine Production Scheduling: A Case Study of an Iron Deposit. *Minerals (Basel, Switzerland)*, **2020**, 10, 585	2.4	11
80	Fast Update of Conditional Simulation Ensembles. *Mathematical Geosciences*, **2015**, 47, 771-789	2.5	10
79	Stochastic rock type modeling in a porphyry copper deposit and its application to copper grade evaluation. *Journal of Geochemical Exploration*, **2015**, 157, 162-168	3.8	10
78	Admissible nested covariance models over spheres cross time. *Stochastic Environmental Research and Risk Assessment*, **2018**, 32, 3053-3066	3.5	10
77	Spatial modeling of discontinuity intensity from borehole observations at El Teniente mine, Chile. *Engineering Geology*, **2017**, 228, 97-106	6	10

76	Simulation of the lately injected dykes in an Iranian porphyry copper deposit using the plurigaussian model. *Arabian Journal of Geosciences*, **2014**, 7, 2771-2780	1.8	10
75	On Some Consistency Conditions for Geostatistical Change-of-Support Models. *Mathematical Geosciences*, **2007**, 39, 205-223		10
74	A spectral approach to simulating intrinsic random fields with power and spline generalized covariances. *Computational Geosciences*, **2008**, 12, 121-132	2.7	10
73	Modelling Geotechnical Heterogeneities Using Geostatistical Simulation and Finite Differences Analysis. *Minerals (Basel, Switzerland)*, **2018**, 8, 52	2.4	10
72	Geostatistics in the presence of geological boundaries: Application to mineral resources modeling. *Ore Geology Reviews*, **2019**, 114, 103124	3.2	9
71	Quantifying the uncertainty in the spatial layout of rock type domains in an iron ore deposit. *Computational Geosciences*, **2016**, 20, 1013-1028	2.7	9
70	Enhanced coregionalization analysis for simulating vector Gaussian random fields. *Computers and Geosciences*, **2012**, 42, 126-135	4.5	9
69	A geostatistical approach to optimize sampling designs for local forest inventories. *Canadian Journal of Forest Research*, **2009**, 39, 1465-1474	1.9	9
68	Shortcomings of multiple indicator kriging for assessing local distributions. *Transactions of the Institution of Mining and Metallurgy Section B-Applied Earth Science*, **2004**, 113, 249-259		9
67	Plurigaussian modeling of geological domains based on the truncation of non-stationary Gaussian random fields. *Stochastic Environmental Research and Risk Assessment*, **2017**, 31, 893-913	3.5	8
66	A geostatistical approach to measure the consistency between geological logs and quantitative covariates. *Ore Geology Reviews*, **2017**, 82, 160-169	3.2	8
65	Indicator Variograms as an Aid for Geological Interpretation and Modeling of Ore Deposits. *Minerals (Basel, Switzerland)*, **2017**, 7, 241	2.4	8
64	Using Two-Point Set Statistics to Estimate the Diameter Distribution in Boolean Models with Circular Grains. *Mathematical Geosciences*, **2012**, 44, 805-822	2.5	8
63	Change-of-support models and computer programs for direct block-support simulation. *Computers and Geosciences*, **2009**, 35, 2047-2056	4.5	8
62	Two Ordinary Kriging Approaches to Predicting Block Grade Distributions. *Mathematical Geosciences*, **2007**, 38, 801-819		8
61	Reducing fluctuations in the sample variogram. *Stochastic Environmental Research and Risk Assessment*, **2007**, 21, 391-403	3.5	8
60	The turning arcs: a computationally efficient algorithm to simulate isotropic vector-valued Gaussian random fields on the d-sphere. *Statistics and Computing*, **2020**, 30, 1403-1418	1.8	8
59	On a continuous spectral algorithm for simulating non-stationary Gaussian random fields. *Stochastic Environmental Research and Risk Assessment*, **2018**, 32, 905-919	3.5	7

58	Robust estimation of the fracture diameter distribution from the true trace length distribution in the Poisson-disc discrete fracture network model. *Computers and Geotechnics*, **2018**, 95, 137-146	4.4	7
57	A turning bands method for simulating isotropic Gaussian random fields on the sphere. *Statistics and Probability Letters*, **2019**, 144, 9-15	0.6	7
56	Geostatistics applied to cross-well reflection seismic for imaging carbonate aquifers. *Journal of Applied Geophysics*, **2013**, 92, 68-75	1.7	7
55	Corrected Kriging Update Formulae for Batch-Sequential Data Assimilation. *Lecture Notes in Earth System Sciences*, **2014**, 119-122	0.4	7
54	5D geostatistics for directional variables: Application in geotechnics to the simulation of the linear discontinuity frequency. *Computers and Geosciences*, **2019**, 133, 104325	4.5	6
53	Soil gas geochemical exploration in covered terrains of northern Chile: data processing techniques and interpretation of contrast anomalies. *Geochemistry: Exploration, Environment, Analysis*, **2015**, 15, 222-233	1.8	6
52	Application of joint conditional simulation to uncertainty quantification and resource classification. *Arabian Journal of Geosciences*, **2015**, 8, 455-463	1.8	6
51	Geostatistics in the presence of geological boundaries: Exploratory tools for contact analysis. *Ore Geology Reviews*, **2020**, 120, 103397	3.2	6
50	Boreholes plans optimization methodology combining geostatistical simulation and simulated annealing. *Tunnelling and Underground Space Technology*, **2017**, 70, 65-75	5.7	6
49	A Comparison of Random Field Models Beyond Bivariate Distributions. *Mathematical Geosciences*, **2011**, 43, 183-202	2.5	6
48	Geometric Covariograms, Indicator Variograms and Boundaries of Planar Closed Sets. *Mathematical Geosciences*, **2011**, 43, 905-927	2.5	6
47	Multi-Gaussian kriging and simulation in the presence of an uncertain mean value. *Stochastic Environmental Research and Risk Assessment*, **2010**, 24, 211-219	3.5	6
46	A semiparametric class of axially symmetric random fields on the sphere. *Stochastic Environmental Research and Risk Assessment*, **2019**, 33, 1863-1874	3.5	5
45	Truncated Gaussian Simulation to Map the Spatial Heterogeneity of Rock Mass Rating. *Rock Mechanics and Rock Engineering*, **2016**, 49, 3371-3376	5.7	5
44	Integration of crosswell seismic data for simulating porosity in a heterogeneous carbonate aquifer. *Journal of Applied Geophysics*, **2013**, 98, 254-264	1.7	5
43	Simulation of Intrinsic Random Fields of Order (k) with Gaussian Generalized Increments by Gibbs Sampling. *Mathematical Geosciences*, **2015**, 47, 955-974	2.5	5
42	On the consistency of the indirect lognormal correction. *Stochastic Environmental Research and Risk Assessment*, **2004**, 18, 258	3.5	5
41	Regionalized Classification of Geochemical Data with Filtering of Measurement Noises for Predictive Lithological Mapping. *Natural Resources Research*, **2021**, 30, 1033-1052	4.9	5

40	Application of plurigaussian simulation to delineate the layout of alteration domains in Sungun copper deposit. *Open Geosciences*, **2013**, 5,	1.3	4
39	Substitution Random Fields with Gaussian and Gamma Distributions: Theory and Application to a Pollution Data Set. *Mathematical Geosciences*, **2008**, 40, 83-99	2.5	4
38	Disjunctive Kriging with Hard and Imprecise Data. *Mathematical Geosciences*, **2003**, 35, 699-718		4
37	Integrating Multiple-point Statistics into Sequential Simulation Algorithms. *Quantitative Geology and Geostatistics*, **2005**, 969-978		4
36	Geostatistics for the Mining Industry		4
35	Fracture network modeling using petrophysical data, an approach based on geostatistical concepts. *Journal of Natural Gas Science and Engineering*, **2016**, 31, 758-768	4.6	4
34	Nonparametric Geostatistical Simulation of Subsurface Facies: Tools for Validating the Reproduction of, and Uncertainty in, Facies Geometry. *Natural Resources Research*, **2019**, 28, 1163-1182	4.9	4
33	Geostatistical simulation of rock physical and geochemical properties with spatial filtering and its application to predictive geological mapping. *Journal of Geochemical Exploration*, **2021**, 220, 106661	3.8	4
32	Assessing the Impact of Geologic Contact Dilution in Ore/Waste Classification in the Gol-Gohar Iron Ore Mine, Southeastern Iran. *Minerals (Basel, Switzerland)*, **2020**, 10, 336	2.4	3
31	Reducing the number of orthogonal factors in linear coregionalization modeling. *Computers and Geosciences*, **2012**, 46, 149-156	4.5	3
30	Change of Support for Estimating Local Block Grade Distributions. *Mathematical Geosciences*, **2008**, 40, 671-688	2.5	3
29	Geostatistical simulation of random fields with bivariate isofactorial distributions by adding mosaic models. *Stochastic Environmental Research and Risk Assessment*, **2005**, 19, 348-360	3.5	3
28	Investigating the impact of the estimation error of fracture intensity (P32) on the evaluation of in-situ rock fragmentation and potential of blocks forming around tunnels. *Tunnelling and Underground Space Technology*, **2020**, 106, 103596	5.7	3
27	Comparing linear and non-linear kriging for grade prediction and ore/waste classification in mineral deposits. *International Journal of Mining, Reclamation and Environment*, **2019**, 33, 247-264	2.2	3
26	Adaptive open-pit mining planning under geological uncertainty. *Resources Policy*, **2021**, 72, 102086	7.2	3
25	Twenty-two families of multivariate covariance kernels on spheres, with their spectral representations and sufficient validity conditions. *Stochastic Environmental Research and Risk Assessment*,1	3.5	3
24	A geostatistical approach to estimating the parameters of a 3D Cox-Boolean discrete fracture network from 1D and 2D sampling observations. *International Journal of Rock Mechanics and Minings Sciences*, **2019**, 113, 183-190	6	2
23	Simulating space-time random fields with nonseparable Gneiting-type covariance functions. *Statistics and Computing*, **2020**, 30, 1479-1495	1.8	2

22	Geostatistical modeling of Rock Quality Designation (RQD) and geotechnical zoning accounting for directional dependence and scale effect. *Engineering Geology*, **2021**, 293, 106338	6	2
21	Algorithm 1013. *ACM Transactions on Mathematical Software*, **2021**, 47, 1-25	2.3	2
20	Internal Consistency and Inference of Change-of-support Isofactorial Models. *Quantitative Geology and Geostatistics*, **2005**, 1057-1066		2
19	Simulation of intrinsic random fields of order k with a continuous spectral algorithm. *Stochastic Environmental Research and Risk Assessment*, **2018**, 32, 3245-3255	3.5	1
18	Multivariate simulation of block-support grades at Mehdiabad deposit, Iran. *Transactions of the Institution of Mining and Metallurgy Section B-Applied Earth Science*, **2017**, 126, 146-157		1
17	The Gauss hypergeometric covariance kernel for modeling second-order stationary random fields in Euclidean spaces: its compact support, properties and spectral representation. *Stochastic Environmental Research and Risk Assessment*,1	3.5	1
16	Iterative algorithms for non-conditional and conditional simulation of Gaussian random vectors. *Stochastic Environmental Research and Risk Assessment*, **2020**, 34, 1523-1541	3.5	1
15	A spectral algorithm to simulate nonstationary random fields on spheres and multifractal star-shaped random sets. *Stochastic Environmental Research and Risk Assessment*, **2020**, 34, 2301-2311	3.5	1
14	Predictive lithological mapping based on geostatistical joint modeling of lithology and geochemical element concentrations. *Journal of Geochemical Exploration*, **2021**, 227, 106810	3.8	1
13	An enhanced direct sampling (DS) approach to model the geological domain with locally varying proportions: Application to Golgohar iron ore mine, Iran. *Ore Geology Reviews*, **2021**, 139, 104452	3.2	1
12	Sequential Simulation with Iterative Methods. *Quantitative Geology and Geostatistics*, **2012**, 3-14		0
11	Modeling the Uncertainty in the Layout of Geological Units by Implicit Boundary Simulation Accounting for a Preexisting Interpretive Geological Model. *Natural Resources Research*, **2021**, 30, 4123	4.9	0
10	Using geotechnical scenarios for underground structure analysis: A case study in a hydroelectric complex in northern Portugal. *Tunnelling and Underground Space Technology*, **2021**, 111, 103855	5.7	0
9	Operational mine planning in block cave mining: a simulation-optimisation approach. *International Journal of Mining, Reclamation and Environment*, **2021**, 35, 199-218	2.2	0
8	Covariance Models and Simulation Algorithm for Stationary Vector Random Fields on Spheres Crossed with Euclidean Spaces. *SIAM Journal of Scientific Computing*, **2021**, 43, A3114-A3134	2.6	0
7	Using cokriging to predict metal recovery accounting for non-additivity and preferential sampling designs. *Minerals Engineering*, **2021**, 170, 106923	4.9	0
6	A hybrid approach to predict hang-up frequency in real scale block cave mining at El Teniente mine, Chile. *Tunnelling and Underground Space Technology*, **2021**, 118, 104160	5.7	0
5	New Validity Conditions for the Multivariate Matérn Coregionalization Model, with an Application to Exploration Geochemistry. *Mathematical Geosciences*,1	2.5	0

4	A computer package for modeling and simulating regionalized count variables. *Computers and Geosciences*, **2010**, 36, 24-33	4.5
3	Constructing Branching Trees of Geostatistical Simulations. *Mathematical Geosciences*,1	2.5
2	A Plurigaussian Model for Simulating Regionalized Compositions. *Quantitative Geology and Geostatistics*, **2012**, 39-50	
1	Simultaneous multi-sector block cave mine production scheduling considering operational uncertainties. *Mining Technology: Transactions of the Institute of Mining and Metallurgy*, **2021**, 130, 36-51	1.1