Roussos Dimitrakopoulos

List of Publications by Year
in descending order

138 papers	3,481 citations	126858 33 h-index	182361 51 g-index
139 all docs	139 docs citations	139 times ranked	1211 citing authors

#	Article	IF	Citations
1	Global optimization of open pit mining complexes with uncertainty. Applied Soft Computing Journal, 2016, 40, 292-304.	4.1	123
2	A diversified Tabu search approach for the open-pit mine production scheduling problem with metal uncertainty. European Journal of Operational Research, 2012, 222, 642-652.	3.5	122
3	Production scheduling with uncertain supply: a new solution to the open pit mining problem. Optimization and Engineering, 2013, 14, 361-380.	1.3	117
4	High-order Statistics of Spatial Random Fields: Exploring Spatial Cumulants for Modeling Complex Non-Gaussian and Non-linear Phenomena. Mathematical Geosciences, 2010, 42, 65-99.	1.4	113
5	Stochastic optimization for strategic mine planning: A decade of developments. Journal of Mining Science, 2011, 47, 138-150.	0.1	111
6	Title is missing!. Mathematical Geosciences, 2000, 32, 919-942.	0.9	109
7	Block Simulation of Multiple Correlated Variables. Mathematical Geosciences, 2009, 41, 215-237.	1.4	86
8	Generalized Sequential Gaussian Simulation on Group Size Â and Screen-Effect Approximations for Large Field Simulations. Mathematical Geosciences, 2004, 36, 567-591.	0.9	83
9	Optimizing mining complexes with multiple processing and transportation alternatives: An uncertainty-based approach. European Journal of Operational Research, 2015, 247, 166-178.	3.5	81
10	Data-driven fuzzy analysis in quantitative mineral resource assessment. Computers and Geosciences, 2003, 29, 3-13.	2.0	80
11	High-order Stochastic Simulation of Complex SpatiallyÂDistributed Natural Phenomena. Mathematical Geosciences, 2010, 42, 457-485.	1.4	75
12	Evaluating mine plans under uncertainty: Can the real options make a difference?. Resources Policy, 2007, 32, 116-125.	4.2	73
13	Stochastic long-term production scheduling of iron ore deposits: Integrating joint multi-element geological uncertainty. Journal of Mining Science, 2013, 49, 68-81.	0.1	68
14	Simultaneous Stochastic Optimization of Mining Complexes and Mineral Value Chains. Mathematical Geosciences, 2017, 49, 341-360.	1.4	66
15	Conditional simulation algorithms for modelling orebody uncertainty in open pit optimisation. International Journal of Mining, Reclamation and Environment, 1998, 12, 173-179.	0.1	59
16	Stochastic short-term mine production schedule accounting for fleet allocation, operational considerations and blending restrictions. European Journal of Operational Research, 2016, 255, 911-921.	3.5	55
17	Optimized open pit mine design, pushbacks and the gap problemâ€”a review. Journal of Mining Science, 2014, 50, 508-526.	0.1	52
18	An efficient method for discretizing 3D fractured media for subsurface flow and transport simulations. International Journal for Numerical Methods in Fluids, 2011, 67, 651-670.	0.9	51

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19	Stochastic optimization of mine production scheduling with uncertain ore/metal/waste supply. International Journal of Mining Science and Technology, 2014, 24, 755-762.	4.6	50
20	A maximum upside / minimum downside approach to the traditional optimization of open pit mine design. Journal of Mining Science, 2007, 43, 73-82.	0.1	49
21	HOSIM: A high-order stochastic simulation algorithm for generating three-dimensional complex geological patterns. Computers and Geosciences, 2011, 37, 1242-1253.	2.0	47
22	Multivariate Block-Support Simulation of the Yandi Iron Ore Deposit, Western Australia. Mathematical Geosciences, 2012, 44, 449-468.	1.4	47
23	Traditional and New MIP Models for Production Scheduling With In-Situ Grade Variability. International Journal of Mining, Reclamation and Environment, 2004, 18, 85-98.	0.1	46
24	Implementing a parametric maximum flow algorithm for optimal open pit mine design under uncertain supply and demand. Journal of the Operational Research Society, 2013, 64, 185-197.	2.1	46
25	A variable neighbourhood descent algorithm for the open-pit mine production scheduling problem with metal uncertainty. Journal of the Operational Research Society, 2014, 65, 1305-1314.	2.1	43
26	A hybrid method based on linear programming and variable neighborhood descent for scheduling production in open-pit mines. Journal of Global Optimization, 2015, 63, 555-582.	1.1	42
27	A new approach for geological pattern recognition using high-order spatial cumulants. Computers and Geosciences, 2010, 36, 313-334.	2.0	40
28	A heuristic approach for the stochastic optimization of mine production schedules. Journal of Heuristics, 2017, 23, 397-415.	1.1	40
29	Network-flow based algorithms for scheduling production in multi-processor open-pit mines accounting for metal uncertainty. European Journal of Operational Research, 2016, 250, 273-290.	3.5	39
30	Dimensional Reduction of Pattern-Based Simulation Using Wavelet Analysis. Mathematical Geosciences, 2012, 44, 343-374.	1.4	38
31	Hyper-heuristic approaches for strategic mine planning under uncertainty. Computers and Operations Research, 2020, 115, 104590.	2.4	38
32	A heuristic approach to stochastic cutoff grade optimization for open pit mining complexes with multiple processing streams. Resources Policy, 2013, 38, 591-597.	4.2	36
33	Progressive hedging applied as a metaheuristic to schedule production in open-pit mines accounting for reserve uncertainty. European Journal of Operational Research, 2016, 253, 843-855.	3.5	35
34	A stochastic optimization method with in-pit waste and tailings disposal for open pit life-of-mine production planning. Resources Policy, 2018, 57, 112-121.	4.2	35
35	Incorporating geological and market uncertainties and operational flexibility into open pit mine design. Journal of Mining Science, 2011, 47, 191-201.	0.1	34
36	Pseudo-full-waveform inversion of borehole GPR data using stochastic tomography. Geophysics, 2007, 72, J43-J51.	1.4	33

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37	Computational properties of min/max autocorrelation factors. Computers and Geosciences, 2003, 29, 715-723.	2.0	32
38	Algorithmic approach to pushback design based on stochastic programming: method, application and comparisons. Mining Technology: Transactions of the Institute of Materials, Minerals and Mining Section A, 2010, 119, 88-101.	0.8	32
39	Biodegradation of petroleum as a source of 13C-enriched carbon dioxide in the formation of carbonate cement. Chemical Geology: Isotope Geoscience Section, 1987, 65, 283-291.	0.7	31
40	Two-dimensional Conditional Simulations Based onÂtheÂWavelet Decomposition ofÂTraining Images. Mathematical Geosciences, 2009, 41, 679-701.	1.4	31
41	Stochastic mine production scheduling with multiple processes: Application at Escondida Norte, Chile. Journal of Mining Science, 2013, 49, 583-597.	0.1	31
42	Dynamically optimizing the strategic plan of mining complexes under supply uncertainty. Resources Policy, 2019, 60, 83-93.	4.2	29
43	Conditional simulation of intrinsic random functions of orderk. Mathematical Geosciences, 1990, 22, 361-380.	0.9	28
44	Joint stochastic short-term production scheduling and fleet management optimization for mining complexes. Optimization and Engineering, 2020, 21, 1717-1743.	1.3	28
45	Joint stochastic optimisation of short and long term mine production planning: method and application in a large operating gold mine. Mining Technology: Transactions of the Institute of Materials, Minerals and Mining Section A, 2013, 122, 110-123.	0.8	27
46	Joint High-Order Simulation of Spatially Correlated Variables Using High-Order Spatial Statistics. Mathematical Geosciences, 2017, 49, 39-66.	1.4	25
47	Production scheduling under uncertainty of an open-pit mine using Lagrangian relaxation and branch-and-cut algorithm. International Journal of Mining, Reclamation and Environment, 2020, 34, 343-361.	1.2	24
48	Geostatistical Modeling of Transmissibility for 2D Reservoir Studies. SPE Formation Evaluation, 1990, 5, 437-443.	0.5	23
49	Geostatistical Modeling of Gridblock Permeabilities for 3D Reservoir Simulators. SPE Reservoir Engineering, 1993, 8, 13-18.	0.5	22
50	Quantifying multi-element and volumetric uncertainty, Coleman McCreedy deposit, Ontario, Canada. Computers and Geosciences, 2012, 42, 71-78.	2.0	22
51	Optimal production scale of open pit mining operations with uncertain metal supply and long-term stockpiles. Resources Policy, 2012, 37, 81-89.	4.2	22
52	Testing geological heterogeneity representations for enhanced oil recovery techniques. Journal of Petroleum Science and Engineering, 2016, 146, 222-240.	2.1	22
53	High-Order Spatial Simulation Using Legendre-Like Orthogonal Splines. Mathematical Geosciences, 2018, 50, 753-780.	1.4	22
54	Incorporating geological and equipment performance uncertainty while optimising short-term mine production schedules. International Journal of Mining, Reclamation and Environment, 2020, 34, 362-383.	1.2	22

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55	Multi-scale stochastic simulation with a wavelet-based approach. Computers and Geosciences, 2012, 45, 177-189.	2.0	21
56	Application of simultaneous stochastic optimization with geometallurgical decisions at a copperâ€“gold mining complex. Mining Technology: Transactions of the Institute of Mining and Metallurgy, 2019, 128, 88-105.	0.6	21
57	Conditional Simulation of Random Fields by Successive Residuals. Mathematical Geosciences, 2002, 34, 597-611.	0.9	20
58	A risk quantification framework for strategic mine planning: Method and application. Journal of Mining Science, 2011, 47, 235-246.	0.1	20
59	Adaptive self-learning mechanisms for updating short-term production decisions in an industrial mining complex. Journal of Intelligent Manufacturing, 2020, 31, 1795-1811.	4.4	20
60	Integrating Production Planning with Truck-Dispatching Decisions through Reinforcement Learning While Managing Uncertainty. Minerals (Basel, Switzerland), 2021, 11, 587.	0.8	20
61	Title is missing!. Natural Resources Research, 2001, 10, 159-177.	2.2	19
62	A stochastic optimization formulation for the transition from open pit to underground mining. Optimization and Engineering, 2017, 18, 793-813.	1.3	19
63	Production scheduling in industrial mining complexes with incoming new information using tree search and deep reinforcement learning. Applied Soft Computing Journal, 2021, 110, 107644.	4.1	19
64	The influence of deposit uncertainty on mine production scheduling. International Journal of Mining, Reclamation and Environment, 1999, 13, 173-178.	0.1	18
65	Stope design and geological uncertainty: Quantification of risk in conventional designs and a probabilistic alternative. Journal of Mining Science, 2009, 45, 152-163.	0.1	18
66	Discretizing twoâ€dimensional complex fractured fields for incompressible twoâ€phase flow. International Journal for Numerical Methods in Fluids, 2011, 65, 764-780.	0.9	17
67	Simultaneous stochastic optimization of an open pit gold mining complex with supply and market uncertainty. Mining Technology: Transactions of the Institute of Mining and Metallurgy, 2019, 128, 216-229.	0.6	17
68	Simultaneous stochastic optimisation of an open-pit gold mining complex with waste management. International Journal of Mining, Reclamation and Environment, 2020, 34, 415-429.	1.2	17
69	Generalized Laguerre expansions of multivariate probability densities with moments. Computers and Mathematics With Applications, 2010, 60, 2178-2189.	1.4	16
70	Geologic heterogeneity representation using highâ€order spatial cumulants for subsurface flow and transport simulations. Water Resources Research, 2011, 47, .	1.7	16
71	Implementation of conditional simulation by successive residuals. Computers and Geosciences, 2011, 37, 129-142.	2.0	16
72	Stochastic production phase design for an open pit mining complex with multiple processing streams. Engineering Optimization, 2014, 46, 1139-1152.	1.5	16

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73	CDFSIM: Efficient Stochastic Simulation Through Decomposition of Cumulative Distribution Functions of Transformed Spatial Patterns. Mathematical Geosciences, 2014, 46, 95-123.	1.4	16
74	Responding to new information in a mining complex: fast mechanisms using machine learning. Mining Technology: Transactions of the Institute of Mining and Metallurgy, 2019, 128, 129-142.	0.6	16
75	Long-term mine production scheduling with multiple processing destinations under mineral supply uncertainty, based on multi-neighbourhood Tabu search. International Journal of Mining, Reclamation and Environment, 2020, 34, 459-475.	1.2	16
76	Forecasting Recoverable Ore Reserves and Their Uncertainty at Morila Gold Deposit, Mali: An Efficient Simulation Approach and Future Grade Control Drilling. Mathematical Geosciences, 2013, 45, 1005-1020.	1.4	15
77	Stochastic orebody modelling and stochastic long-term production scheduling at the KÃ©Mag iron ore deposit, Quebec, Canada. International Journal of Mining, Reclamation and Environment, 2019, 33, 462-479.	1.2	15
78	Stochastic optimisation of long-term block cave scheduling with hang-up and grade uncertainty. International Journal of Mining, Reclamation and Environment, 2019, 33, 371-388.	1.2	15
79	A dynamic stochastic programming approach for open-pit mine planning with geological and commodity price uncertainty. Resources Policy, 2020, 65, 101570.	4.2	14
80	Successive Nonparametric Estimation of Conditional Distributions. Mathematical Geosciences, 2003, 35, 39-52.	0.9	13
81	Grade control based on economic ore/waste classification functions and stochastic simulations: examples, comparisons and applications. Mining Technology: Transactions of the Institute of Materials, Minerals and Mining Section A, 2014, 123, 90-106.	0.8	13
82	Optimizing mining rates under financial uncertainty in global mining complexes. International Journal of Production Economics, 2014, 158, 359-365.	5.1	13
83	Adaptive policies for short-term material flow optimization in a mining complex. Mining Technology: Transactions of the Institute of Mining and Metallurgy, 2018, 127, 56-63.	0.6	12
84	Optimizing Infill Drilling Decisions Using Multi-Armed Bandits: Application in a Long-Term, Multi-Element Stockpile. Mathematical Geosciences, 2018, 50, 35-52.	1.4	12
85	A New Computational Model of High-Order Stochastic Simulation Based on Spatial Legendre Moments. Mathematical Geosciences, 2018, 50, 929-960.	1.4	12
86	Applied Machine Learning for Geometallurgical Throughput Predictionâ€"A Case Study Using Production Data at the Tropicana Gold Mining Complex. Minerals (Basel, Switzerland), 2021, 11, 1257.	0.8	12
87	A new approach to constrained open pit pushback design using dynamic cut-off grades. Journal of Mining Science, 2014, 50, 733-744.	0.1	11
88	High-Order Block Support Spatial Simulation Method and Its Application at a Gold Deposit. Mathematical Geosciences, 2019, 51, 793-810.	1.4	11
89	High-Order Sequential Simulation via Statistical Learning in Reproducing Kernel Hilbert Space. Mathematical Geosciences, 2020, 52, 693-723.	1.4	11
90	Joint Simulations, Optimal Drillhole Spacing and the Role of the Stockpile. Quantitative Geology and Geostatistics, 2005, , 35-44.	0.1	11

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91	Simultaneous stochastic optimization of mining complexes - mineral value chains: an overview of concepts, examples and comparisons. International Journal of Mining, Reclamation and Environment, 2022, 36, 443-460.	1.2	11
92	A multivariate destination policy for geometallurgical variables in mineral value chains using coalition-formation clustering. Resources Policy, 2016, 50, 322-332.	4.2	10
93	Joint effect of commodity price and geological uncertainty over the life of mine and ultimate pit limit. Mining Technology: Transactions of the Institute of Materials, Minerals and Mining Section A, 2014, 123, 207-219.	0.8	9
94	A matheuristic approach for optimizing mineral value chains under uncertainty. Optimization and Engineering, 2022, 23, 1139-1164.	1.3	9
95	High-Order Data-Driven Spatial Simulation of Categorical Variables. Mathematical Geosciences, 2022, 54, 23-45.	1.4	9
96	A High-Order, Data-Driven Framework for Joint Simulation of Categorical Variables. Quantitative Geology and Geostatistics, 2017, , 287-301.	0.1	8
97	Artificially intelligent geostatistics: A framework accommodating qualitative knowledge-information. Mathematical Geosciences, 1993, 25, 261-279.	0.9	7
98	An application of simultaneous stochastic optimisation of an open-pit mining complex with tailings management. International Journal of Mining, Reclamation and Environment, 2020, 34, 592-607.	1.2	7
99	Training Image Free High-Order Stochastic Simulation Based on Aggregated Kernel Statistics. Mathematical Geosciences, 2021, 53, 1469-1489.	1.4	7
100	Stochastic stope design optimisation under grade uncertainty and dynamic development costs. International Journal of Mining, Reclamation and Environment, 2022, 36, 81-103.	1.2	7
101	Valuing regional geoscientific data acquisition programmes: addressing issues of quantification,uncertainty and risk. Natural Resources Forum, 2002, 26, 55-68.	1.8	6
102	Fast wavelet-based stochastic simulation using training images. Computational Geosciences, 2016, 20, 399-420.	1.2	6
103	Stochastic optimization for a mineral value chain with nonlinear recovery and forward contracts[*]. Journal of the Operational Research Society, 2018, 69, 864-875.	2.1	6
104	An Application of Simultaneous Stochastic Optimization at a Large Open-Pit Gold Mining Complex under Supply Uncertainty. Minerals (Basel, Switzerland), 2021, 11, 172.	0.8	6
105	Schedule-based pushback design within the stochastic optimisation framework. International Journal of Mining, Reclamation and Environment, 2018, 32, 327-340.	1.2	5
106	Multi-fractal conditional simulation of fault populations in coal seams using analogues: Method and application. International Journal of Mining, Reclamation and Environment, 2019, 33, 340-352.	1.2	5
107	Effects of High-Order Simulations on the Simultaneous Stochastic Optimization of Mining Complexes. Minerals (Basel, Switzerland), 2019, 9, 210.	0.8	5
108	Learning high-order spatial statistics at multiple scales: A kernel-based stochastic simulation algorithm and its implementation. Computers and Geosciences, 2021, 149, 104702.	2.0	5

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109	Simultaneous production scheduling and transportation optimization from mines to port under uncertain material supply. Resources Policy, 2021, 73, 102150.	4.2	5
110	A conditional fractal (fBm) simulation approach for orebody modelling. International Journal of Mining, Reclamation and Environment, 1998, 12, 197-202.	0.1	4
111	Quantification of fault uncertainty and risk assessment in longwall coal mining: stochastic simulation, back analysis, longwall design and reserve risk assessment. Mining Technology: Transactions of the Institute of Materials, Minerals and Mining Section A, 2010, 119, 59-67.	0.8	4
112	Geologic heterogeneity recognition using discrete wavelet transformation for subsurface flow solute transport simulations. Advances in Water Resources, 2013, 54, 22-37.	1.7	4
113	Optimizing a mineral value chain with market uncertainty using benders decomposition. European Journal of Operational Research, 2019, 274, 227-239.	3.5	4
114	Risk-resilient mine production schedules with favourable product quality for rare earth element projects. Mining Technology: Transactions of the Institute of Mining and Metallurgy, 2018, 127, 41-55.	0.6	3
115	Stochastic methods for petroleum reservoir characterization and production forecasting.. Journal of the Japanese Association for Petroleum Technology, 1996, 61, 537-548.	0.0	2
116	On the Dynamics of Mining Operations in Open Pit Mines. International Journal of Mining, Reclamation and Environment, 2003, 17, 246-263.	0.1	2
117	Mathematical Geosciencesâ€"Forty and Still Modeling!. Mathematical Geosciences, 2008, 40, 1-2.	1.4	2
118	Simulation of weathered profiles coupled with multivariate block-support simulation of the Puma nickel laterite deposit, Brazil. Engineering Geology, 2016, 215, 108-121.	2.9	2
119	Modelling geological variability in the LabMag iron ore deposit and effects on the long-term production schedule. Mining Technology: Transactions of the Institute of Materials, Minerals and Mining Section A, 2017, 126, 44-58.	0.8	2
120	A dynamic-material-value-based decomposition method for optimizing a mineral value chain with uncertainty. European Journal of Operational Research, 2017, 258, 617-625.	3.5	2
121	Approximations of High-Order Spatial Statistics Through Decomposition. Quantitative Geology and Geostatistics, 2012, , 91-102.	0.1	2
122	Updating geostatistically simulated models of mineral deposits in real-time with incoming new information using actor-critic reinforcement learning. Computers and Geosciences, 2022, 158, 104962.	2.0	2
123	A New Non-stationary High-order Spatial Sequential Simulation Method. Mathematical Geosciences, 0, , .	1.4	2
124	Computer vision-based rock modelling. Computing Systems in Engineering: an International Journal, 1992, 3, 601-608.	0.5	1
125	Geology-based conditional simulation in the Athabasca oil sands deposit, Alberta, Canada. Nonrenewable Resources, 1993, 2, 49-61.	0.1	1
126	Recoverable Reserves and Support Effects when Optimizing Open Pit Mine Designs. International Journal of Mining, Reclamation and Environment, 2002, 16, 217-229.	0.1	1

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127	Optimal mining rates revisited: Managing mining equipment and geological risk at a given mine setup. Journal of Mining Science, 2015, 51, 785-798.	0.1	1
128	Sparse image reconstruction by two phase RBM learning: Application to mine planning. , 2015, , .		1
129	Anisotropic Interpolation of Sparse Images. , 2016, , .		1
130	An adaptive large neighborhood search heuristic to optimize mineral value chains under metal and material type uncertainty. International Journal of Mining, Reclamation and Environment, 2022, 36, 1-25.	1.2	1
131	Artificial Intelligence in Geostatistical Ore Reserve Assessment. Geoinformatics, 1991, 2, 211-218.	0.2	0
132	A Special Issue Dedicated to Michel David (1945â€“2000). Mathematical Geosciences, 2005, 37, 449-450.	0.9	0
133	Discretizing Complex Fractured Media for Flow and Transport Simulations. , 2010, , .		0
134	Modern Mining Geostatisticsâ€”A Special Issue Dedicated to Our Friend Professor Danie Krige. Mathematical Geosciences, 2013, 45, 897-899.	1.4	0
135	Genaralizing Generative Models: Application to Image Super-Resolution. , 2016, , .		0
136	A New High-Order, Nonstationary, and Transformation Invariant Spatial Simulation Approach. Quantitative Geology and Geostatistics, 2017, , 93-106.	0.1	0
137	Optimizing Infill Drilling Decisions Using Multi-armed Bandits: Application in a Long-Term, Multi-element Stockpile. Quantitative Geology and Geostatistics, 2017, , 197-212.	0.1	0
138	Acknowledgement for Reviewers for 2021. Mathematical Geosciences, 2022, 54, 647.	1.4	0