

Guillaume Caumon

List of Publications by Year in descending order

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83
papers

2,338
citations

218677

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93
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docs citations

93
times ranked

1378
citing authors

#	ARTICLE	IF	CITATIONS
1	Computer-assisted stochastic multi-well correlation: Sedimentary facies versus well distality. <i>Marine and Petroleum Geology</i> , 2022, 135, 105371.	3.3	5
2	Testing scenarios on geological models: Local interface insertion in a 2D mesh and its impact on seismic wave simulation. <i>Computers and Geosciences</i> , 2022, 159, 105013.	4.2	1
3	Finite Element Implicit 3D Subsurface Structural Modeling. <i>CAD Computer Aided Design</i> , 2022, 149, 103267.	2.7	4
4	Multi-scenario Interpretations From Sparse Fault Evidence Using Graph Theory and Geological Rules. <i>Journal of Geophysical Research: Solid Earth</i> , 2021, 126, e2020JB020022.	3.4	5
5	Finite Difference Implicit Structural Modeling of Geological Structures. <i>Mathematical Geosciences</i> , 2021, 53, 785-808.	2.4	15
6	Modelling of faults in LoopStructural 1.0. <i>Geoscientific Model Development</i> , 2021, 14, 6197-6213.	3.6	7
7	Impacts of geometric model simplifications on wave propagation—application to ground motion simulation in the lower Var valley basin (France). <i>Geophysical Journal International</i> , 2021, 229, 110-137.	2.4	4
8	Building realistic structure models to train convolutional neural networks for seismic structural interpretation. <i>Geophysics</i> , 2020, 85, WA27-WA39.	2.6	130
9	Damage zone characterization combining scan-line and scan-area analysis on a km-scale Digital Outcrop Model: The Qala Fault (Gozo). <i>Journal of Structural Geology</i> , 2020, 140, 104144.	2.3	27
10	Combined inverse and forward numerical modelling for reconstruction of channel evolution and facies distributions in fluvial meander-belt deposits. <i>Marine and Petroleum Geology</i> , 2020, 117, 104409.	3.3	13
11	Direct simulation of non-additive properties on unstructured grids. <i>Advances in Water Resources</i> , 2020, 143, 103665.	3.8	7
12	Towards the application of Stokes flow equations to structural restoration simulations. <i>Solid Earth</i> , 2020, 11, 1909-1930.	2.8	5
13	Determination of a stress-dependent rock-physics model using anisotropic time-lapse tomographic inversion. <i>Geophysics</i> , 2020, 85, C141-C152.	2.6	0
14	Integration of channel meander abandonment age uncertainty into a stochastic channelized system reconstruction method. <i>Geomorphology</i> , 2019, 345, 106824.	2.6	1
15	Generating variable shapes of salt geobodies from seismic images and prior geological knowledge. <i>Interpretation</i> , 2019, 7, T829-T841.	1.1	7
16	Automatic correction and simplification of geological maps and cross-sections for numerical simulations. <i>Comptes Rendus - Geoscience</i> , 2019, 351, 48-58.	1.2	17
17	Structural Interpretation of Sparse Fault Data Using Graph Theory and Geological Rules. <i>Mathematical Geosciences</i> , 2019, 51, 1091-1107.	2.4	12
18	Implicit Structural Modeling by Minimization of the Bending Energy with Moving Least Squares Functions. <i>Mathematical Geosciences</i> , 2019, 51, 693-724.	2.4	29

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19	Oil production uncertainty assessment by predicting reservoir production curves and confidence intervals from arbitrary proxy responses. <i>Journal of Petroleum Science and Engineering</i> , 2019, 176, 116-125.	4.2	8
20	Appraising structural interpretations using seismic data – Theoretical elements. <i>Geophysics</i> , 2019, 84, N29-N40.	2.6	2
21	A parametric fault displacement model to introduce kinematic control into modeling faults from sparse data. <i>Interpretation</i> , 2018, 6, B1-B13.	1.1	16
22	Uncertainty management in stratigraphic well correlation and stratigraphic architectures: A training-based method. <i>Computers and Geosciences</i> , 2018, 111, 1-17.	4.2	14
23	3-D Structural geological models: Concepts, methods, and uncertainties. <i>Advances in Geophysics</i> , 2018, , 1-121.	2.8	112
24	Validating novel boundary conditions for three-dimensional mechanics-based restoration: An extensional sandbox model example. <i>AAPG Bulletin</i> , 2018, 102, 245-266.	1.5	14
25	Geological Objects and Physical Parameter Fields in the Subsurface: A Review. , 2018, , 567-588.		4
26	RINGMesh: A programming library for developing mesh-based geomodeling applications. <i>Computers and Geosciences</i> , 2017, 104, 93-100.	4.2	29
27	Structural data constraints for implicit modeling of folds. <i>Journal of Structural Geology</i> , 2017, 104, 80-92.	2.3	32
28	Appraising structural models using seismic data: Problem and challenges. , 2017, , .		0
29	Reconstruction of Channelized Systems Through a Conditioned Reverse Migration Method. <i>Mathematical Geosciences</i> , 2017, 49, 965-994.	2.4	14
30	Simultaneous multiple well-seismic ties using flattened synthetic and real seismograms. <i>Geophysics</i> , 2017, 82, IM13-IM20.	2.6	22
31	Modeling Channel Forms and Related Sedimentary Objects Using a Boundary Representation Based on Non-uniform Rational B-Splines. <i>Mathematical Geosciences</i> , 2016, 48, 259-284.	2.4	23
32	Uncertainty assessment in the stratigraphic well correlation of a carbonate ramp: Method and application to the Beausset Basin, SE France. <i>Comptes Rendus - Geoscience</i> , 2016, 348, 499-509.	1.2	24
33	Introduction to special section: Building complex and realistic geological models from sparse data. <i>Interpretation</i> , 2016, 4, SMi-SMi.	1.1	5
34	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.	3.4	24
35	Indirect unstructured hex-dominant mesh generation using tetrahedra recombination. <i>Computational Geosciences</i> , 2016, 20, 437-451.	2.4	17
36	Seismic interpretation of fault-related deformation using a numerical kinematic model. , 2016, , .		0

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37	Implicit modeling of folds and overprinting deformation. Earth and Planetary Science Letters, 2016, 456, 26-38.	4.4	44
38	3D modeling from outcrop data in a salt tectonic context: Example from the Inceyol minibasin, Sivas Basin, Turkey. Interpretation, 2016, 4, SM17-SM31.	1.1	12
39	Parametric unfolding of flexural folds using palaeomagnetic vectors. Geological Society Special Publication, 2016, 425, 247-258.	1.3	5
40	Simultaneous multiple well-seismic ties using flattened synthetic and real seismograms. , 2016, , .		2
41	Curvature Attribute from Surface-Restoration as Predictor Variable in Kupferschiefer Copper Potentials. Natural Resources Research, 2015, 24, 275-290.	4.7	47
42	Ensemble-based multi-scale history-matching using second-generation wavelet transform. Computational Geosciences, 2015, 19, 999-1025.	2.4	10
43	Elements for measuring the complexity of 3D structural models: Connectivity and geometry. Computers and Geosciences, 2015, 76, 130-140.	4.2	33
44	3D geomodelling combining implicit surfaces and Voronoi-based remeshing: A case study in the Lorraine Coal Basin (France). Computers and Geosciences, 2015, 77, 29-43.	4.2	46
45	3D geometrical modelling of post-foliation deformations in metamorphic terrains (Syros, Cyclades). Tj ETQq1 1 0.784314 rgBT /Overlo	2.3	8
46	Impact of the en echelon fault connectivity on reservoir flow simulations. Interpretation, 2015, 3, SAC23-SAC34.	1.1	7
47	Stochastic structural modelling in sparse data situations. Petroleum Geoscience, 2015, 21, 233-247.	1.5	44
48	Semiautomatic interpretation of 3D sedimentological structures on geologic images: An object-based approach. Interpretation, 2015, 3, SX63-SX74.	1.1	8
49	Sampling the uncertainty associated with segmented normal fault interpretation using a stochastic downscaling method. Tectonophysics, 2015, 639, 56-67.	2.2	20
50	Interactive editing of 3D geological structures and tectonic history sketching via a rigid element method. Computers and Geosciences, 2015, 74, 71-86.	4.2	17
51	Assessing Uncertainty in Stratigraphic Correlation: A Stochastic Method Based on Dynamic Time Warping. , 2014, , .		0
52	Toward Mixed-element Meshing based on Restricted Voronoi Diagrams. Procedia Engineering, 2014, 82, 279-290.	1.2	10
53	Special Issue on Three-Dimensional Structural Modeling. Mathematical Geosciences, 2014, 46, 905-908.	2.4	5
54	Automatic surface remeshing of 3D structural models at specified resolution: A method based on Voronoi diagrams. Computers and Geosciences, 2014, 62, 103-116.	4.2	40

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55	Voronoi grids conforming to 3D structural features. Computational Geosciences, 2014, 18, 373-383.	2.4	45
56	Modeling Channel Forms Using a Boundary Representation Based on Non-uniform Rational B-Splines. Lecture Notes in Earth System Sciences, 2014, , 581-584.	0.6	1
57	A parametric method to model 3D displacements around faults with volumetric vector fields. Tectonophysics, 2013, 590, 83-93.	2.2	46
58	A methodology for pseudo-genetic stochastic modeling of discrete fracture networks. Computers and Geosciences, 2013, 56, 12-22.	4.2	28
59	Management of ambiguities in magnetostratigraphic correlation. Earth and Planetary Science Letters, 2013, 371-372, 26-36.	4.4	32
60	Handling natural complexity in three-dimensional geomechanical restoration, with application to the recent evolution of the outer fold and thrust belt, deep-water Niger Delta. AAPG Bulletin, 2013, 97, 87-102.	1.5	14
61	Three-Dimensional Implicit Stratigraphic Model Building From Remote Sensing Data on Tetrahedral Meshes: Theory and Application to a Regional Model of La Popa Basin, NE Mexico. IEEE Transactions on Geoscience and Remote Sensing, 2013, 51, 1613-1621.	6.3	91
62	Spatial Constraints for the Stochastic Modeling of Fault Networks in the Presence of Large Structural Uncertainties. , 2013, , .		6
63	Relevance of the stochastic stratigraphic well correlation approach for the study of complex carbonate settings: application to the Malampaya buildup (Offshore Palawan, Philippines). Geological Society Special Publication, 2012, 370, 265-275.	1.3	13
64	Method for Stochastic Inverse Modeling of Fault Geometry and Connectivity Using Flow Data. Mathematical Geosciences, 2012, 44, 147-168.	2.4	67
65	Assessing the Impact of Fault Connectivity Uncertainty in Reservoir Studies using Explicit Discretization. , 2011, , .		1
66	Understanding the evolution of syn-depositional folds: Coupling decompaction and 3D sequential restoration. Marine and Petroleum Geology, 2011, 28, 1530-1539.	3.3	15
67	Adjacent versus coincident representations of geospatial uncertainty: Which promote better decisions?. Computers and Geosciences, 2011, 37, 511-520.	4.2	47
68	Towards Stochastic Time-Varying Geological Modeling. Mathematical Geosciences, 2010, 42, 555-569.	2.4	63
69	ODSIM: An Object-Distance Simulation Method for Conditioning Complex Natural Structures. Mathematical Geosciences, 2010, 42, 911-924.	2.4	29
70	Balanced restoration of geological volumes with relaxed meshing constraints. Computers and Geosciences, 2010, 36, 441-452.	4.2	52
71	Stochastic simulations of fault networks in 3D structural modeling. Comptes Rendus - Geoscience, 2010, 342, 687-694.	1.2	61
72	Stochastic simulation of fault networks from 2D seismic lines. , 2010, , .		11

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73	Surface-Based 3D Modeling of Geological Structures. <i>Mathematical Geosciences</i> , 2009, 41, 927-945.	2.4	315
74	Concurrent number cruncher: a GPU implementation of a general sparse linear solver. <i>International Journal of Parallel, Emergent and Distributed Systems</i> , 2009, 24, 205-223.	1.0	98
75	3D Stochastic Stratigraphic Well Correlation of Carbonate Ramp Systems. , 2009, , .		2
76	New Perspectives for 3D Visualization of Dynamic Reservoir Uncertainty. , 2009, , .		0
77	Dynamic data integration for structural modeling: model screening approach using a distance-based model parameterization. <i>Computational Geosciences</i> , 2008, 12, 105-119.	2.4	112
78	Reservoir flow uncertainty assessment using response surface constrained by secondary information. <i>Journal of Petroleum Science and Engineering</i> , 2008, 60, 170-182.	4.2	12
79	Concurrent Number Cruncher: An Efficient Sparse Linear Solver on the GPU. <i>Lecture Notes in Computer Science</i> , 2007, , 358-371.	1.3	45
80	GPU Accelerated Isosurface Extraction on Tetrahedral Grids. <i>Lecture Notes in Computer Science</i> , 2006, , 383-392.	1.3	7
81	Visualization of grids conforming to geological structures: a topological approach. <i>Computers and Geosciences</i> , 2005, 31, 671-680.	4.2	16
82	High Resolution Geostatistics on Coarse Unstructured Flow Grids. <i>Quantitative Geology and Geostatistics</i> , 2005, , 703-712.	0.1	0
83	Building and Editing a Sealed Geological Model. <i>Mathematical Geosciences</i> , 2004, 36, 405-424.	0.9	77