

Matthew D Jackson

List of Publications by Year in descending order

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139
papers

5,340
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94433

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docs citations

141
times ranked

3818
citing authors

#	ARTICLE	IF	CITATIONS
1	Relationship Between Zeta Potential and Wettability in Porous Media: Insights From a Simple Bundle of Capillary Tubes Model. <i>Journal of Colloid and Interface Science</i> , 2022, 608, 605-621.	9.4	14
2	Modelling saline intrusion using dynamic mesh optimization with parallel processing. <i>Advances in Water Resources</i> , 2022, , 104189.	3.8	3
3	Numerical simulation of aquifer thermal energy storage using surface-based geologic modelling and dynamic mesh optimisation. <i>Hydrogeology Journal</i> , 2022, 30, 1179-1198.	2.1	6
4	Numerical modelling of self-potential in subsurface reservoirs. <i>Computers and Geosciences</i> , 2021, 146, 104656.	4.2	4
5	Reactive transport modeling in heterogeneous porous media with dynamic mesh optimization. <i>Computational Geosciences</i> , 2021, 25, 357-372.	2.4	11
6	Is Cell-to-Cell Scale Variability Necessary in Reservoir Models?. <i>Mathematical Geosciences</i> , 2021, 53, 571-596.	2.4	7
7	Sketch-based interface and modelling of stratigraphy and structure in three dimensions. <i>Journal of the Geological Society</i> , 2021, 178, .	2.1	7
8	Non-intrusive reduced order modeling: Geometrical framework, high-order models, and a priori analysis of applicability. <i>International Journal for Numerical Methods in Engineering</i> , 2021, 122, 2545-2565.	2.8	2
9	A novel approach to optimising well trajectory in heterogeneous reservoirs based on the fast-marching method. <i>Journal of Natural Gas Science and Engineering</i> , 2021, 88, 103853.	4.4	9
10	Dynamic mesh optimisation for geothermal reservoir modelling. <i>Geothermics</i> , 2021, 94, 102089.	3.4	9
11	Reservoir Simulation Studies for Planning Monitoring Schemes for CO2 Storage. , 2021, , .		0
12	The life span and dynamics of immiscible viscous fingering in rectilinear displacements. <i>Physics of Fluids</i> , 2021, 33, .	4.0	5
13	Machine learning acceleration for nonlinear solvers applied to multiphase porous media flow. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2021, 384, 113989.	6.6	9
14	Positive Zeta Potential in Sandstones Saturated With Natural Saline Brine. <i>Geophysical Research Letters</i> , 2021, 48, e2021GL094306.	4.0	8
15	Fast flow computation methods on unstructured tetrahedral meshes for rapid reservoir modelling. <i>Computational Geosciences</i> , 2020, 24, 641-661.	2.4	5
16	Vanishing artificial diffusion as a mechanism to accelerate convergence for multiphase porous media flow. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2020, 359, 112535.	6.6	4
17	Role of the calcite-water interface in wettability alteration during low salinity waterflooding. <i>Fuel</i> , 2020, 276, 118097.	6.4	15
18	An efficient and robust method for parameterized nonintrusive reduced-order modeling. <i>International Journal for Numerical Methods in Engineering</i> , 2020, 121, 4674-4688.	2.8	8

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19	Dynamic adaptive mesh optimisation for immiscible viscous fingering. <i>Computational Geosciences</i> , 2020, 24, 1221-1237.	2.4	14
20	Modelling the reservoir-to-tubing pressure drop imposed by multiple autonomous inflow control devices installed in a single completion joint in a horizontal well. <i>Journal of Petroleum Science and Engineering</i> , 2020, 189, 106991.	4.2	1
21	Zeta potential in intact carbonates at reservoir conditions and its impact on oil recovery during controlled salinity waterflooding. <i>Fuel</i> , 2020, 266, 116927.	6.4	46
22	Characterizing the Self-Potential Response to Concentration Gradients in Heterogeneous Subsurface Environments. <i>Journal of Geophysical Research: Solid Earth</i> , 2019, 124, 7918-7933.	3.4	7
23	Effects of erosional scours on reservoir properties of heterolithic, distal lower-shoreface sandstones. <i>Petroleum Geoscience</i> , 2019, 25, 235-248.	1.5	3
24	Formation and dynamics of magma reservoirs. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2019, 377, 20180019.	3.4	184
25	Non-Intrusive Reduced Order Modelling for Reconstruction of Saturation Distributions. , 2019, , .		3
26	Architecture and dynamics of magma reservoirs. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2019, 377, 20180298.	3.4	116
27	A Parallel Load-Balancing Reservoir Simulator with Dynamic Mesh Optimisation. , 2019, , .		1
28	Characterization of effective permeability in heterolithic, distal lower-shoreface sandstone reservoirs: Rannoch Formation, Brent Group, UK North Sea. <i>Petroleum Geoscience</i> , 2019, 25, 519-531.	1.5	2
29	Impact of truncation error and numerical scheme on the simulation of the early time growth of viscous fingering. <i>International Journal for Numerical Methods in Fluids</i> , 2019, 89, 1-15.	1.6	7
30	Surface-Based Geological Reservoir Modelling Using Grid-Free NURBS Curves and Surfaces. <i>Mathematical Geosciences</i> , 2019, 51, 1-28.	2.4	33
31	Surface-Based Reservoir Modelling: Automatic Assembly for Multiple Stochastic Realizations. , 2019, , .		0
32	Remote Detection of Saline Intrusion in a Coastal Aquifer Using Borehole Measurements of Self-Potential. <i>Water Resources Research</i> , 2018, 54, 1669-1687.	4.2	27
33	Use of dimensionless scaling groups to interpret reservoir simulation results. <i>Journal of Petroleum Science and Engineering</i> , 2018, 163, 270-282.	4.2	2
34	Impact of the Buoyancy-Viscous Force Balance on Two-Phase Flow in Layered Porous Media. <i>Transport in Porous Media</i> , 2018, 124, 263-287.	2.6	8
35	A discontinuous control volume finite element method for multi-phase flow in heterogeneous porous media. <i>Journal of Computational Physics</i> , 2018, 352, 602-614.	3.8	27
36	Geometry, spatial arrangement and origin of carbonate grain-dominated, scour-fill and event-bed deposits: Late Jurassic Jubaila Formation and Arab-D Member, Saudi Arabia. <i>Sedimentology</i> , 2018, 65, 1043-1066.	3.1	13

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37	Geometry, distribution and fill of erosional scours in a heterolithic, distal lower shoreface sandstone reservoir analogue: Grassy Member, Blackhawk Formation, Book Cliffs, Utah, USA. <i>Sedimentology</i> , 2018, 65, 1731-1760.	3.1	9
38	Chemical differentiation, cold storage and remobilization of magma in the Earth's crust. <i>Nature</i> , 2018, 564, 405-409.	27.8	211
39	The shape and motion of gas bubbles in a liquid flowing through a thin annulus. <i>Journal of Fluid Mechanics</i> , 2018, 855, 1017-1039.	3.4	8
40	Anomalous Zeta Potential Trends in Natural Sandstones. <i>Geophysical Research Letters</i> , 2018, 45, 11,068.	4.0	12
41	Zeta potential in sandpacks: Effect of temperature, electrolyte pH, ionic strength and divalent cations. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2018, 553, 259-271.	4.7	41
42	Magma Plumbing Systems: A Geophysical Perspective. <i>Journal of Petrology</i> , 2018, 59, 1217-1251.	2.8	134
43	Self-Potential as a Predictor of Seawater Intrusion in Coastal Groundwater Boreholes. <i>Water Resources Research</i> , 2018, 54, 6055-6071.	4.2	24
44	A comparative study of reservoir modeling techniques and their impact on predicted performance of fluvial-dominated deltaic reservoirs: Reply. <i>AAPG Bulletin</i> , 2018, 102, 1664-1667.	1.5	0
45	A robust mesh optimisation method for multiphase porous media flows. <i>Computational Geosciences</i> , 2018, 22, 1389-1401.	2.4	6
46	DYNAMIC UNSTRUCTURED MESH ADAPTIVITY FOR IMPROVED SIMULATION OF GEOTHERMALWATER EXTRACTION IN RESERVOIR-SCALE MODELS. , 2018, , .		0
47	Dynamic Mesh Adaptivity for Immiscible Viscous Fingering. , 2017, , .		9
48	A Double Control Volume Finite Element Method with Dynamic Unstructured Mesh Optimization. , 2017, , .		6
49	Flow Diagnostics on Fully Unstructured Grids. , 2017, , .		4
50	Improving the robustness of the control volume finite element method with application to multiphase porous media flow. <i>International Journal for Numerical Methods in Fluids</i> , 2017, 85, 235-246.	1.6	24
51	Improving the convergence behaviour of a fixed-point iteration solver for multiphase flow in porous media. <i>International Journal for Numerical Methods in Fluids</i> , 2017, 84, 466-476.	1.6	16
52	Streaming potential during drainage and imbibition. <i>Journal of Geophysical Research: Solid Earth</i> , 2017, 122, 4413-4435.	3.4	14
53	Scaling analysis of the In-Situ Upgrading of heavy oil and oil shale. <i>Fuel</i> , 2017, 195, 299-313.	6.4	29
54	Viscous Crossflow in Layered Porous Media. <i>Transport in Porous Media</i> , 2017, 117, 281-309.	2.6	29

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55	A force-balanced control volume finite element method for multi-phase porous media flow modelling. International Journal for Numerical Methods in Fluids, 2017, 83, 431-445.	1.6	26
56	Zeta potential of artificial and natural calcite in aqueous solution. Advances in Colloid and Interface Science, 2017, 240, 60-76.	14.7	247
57	A Tracing Algorithm for Flow Diagnostics on Fully Unstructured Grids With Multipoint Flux Approximation. SPE Journal, 2017, 22, 1946-1962.	3.1	10
58	Capillary Heterogeneity Trapping and Crossflow in Layered Porous Media. Transport in Porous Media, 2017, 120, 183-206.	2.6	23
59	Modelling and Optimizing Inflow Control Devices. , 2017, , .		2
60	Temperature dependence of the zeta potential in intact natural carbonates. Geophysical Research Letters, 2016, 43, 11,578.	4.0	43
61	Zeta potential in oil-water-carbonate systems and its impact on oil recovery during controlled salinity water-flooding. Scientific Reports, 2016, 6, 37363.	3.3	210
62	Effective flow properties heterolithic, cross-bedded tidal sandstones: Part 1. Surface-based modeling. AAPG Bulletin, 2016, 100, 697-721.	1.5	15
63	Effective flow properties heterolithic, cross-bedded tidal sandstones: Part 2. Flow simulation. AAPG Bulletin, 2016, 100, 723-742.	1.5	12
64	Evidence, mechanisms and improved understanding of controlled salinity waterflooding part 1: Sandstones. Fuel, 2016, 185, 772-793.	6.4	157
65	Adaptive Mesh Optimization for Simulation of Immiscible Viscous Fingering. SPE Journal, 2016, 21, 2250-2259.	3.1	19
66	Tidal influence on self-potential measurements. Journal of Geophysical Research: Solid Earth, 2016, 121, 8432-8452.	3.4	12
67	Optimization of Controlled Salinity Waterflooding in Carbonates. , 2016, , .		1
68	Higher-order conservative interpolation between control-volume meshes: Application to advection and multiphase flow problems with dynamic mesh adaptivity. Journal of Computational Physics, 2016, 321, 512-531.	3.8	17
69	Modelling in-situ upgrading of heavy oil using operator splitting method. Computational Geosciences, 2016, 20, 581-594.	2.4	10
70	Zeta potential of intact natural limestone: Impact of potential-determining ions Ca, Mg and SO4. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2016, 493, 83-98.	4.7	146
71	Multiphase flow simulation through porous media with explicitly resolved fractures. Geofluids, 2015, 15, 592-607.	0.7	24
72	Zeta potential in intact natural sandstones at elevated temperatures. Geophysical Research Letters, 2015, 42, 6287-6294.	4.0	51

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73	A Dynamic Mesh Approach for Simulation of Immiscible Viscous Fingering. , 2015, , .		9
74	Reservoir Modeling for Flow Simulation by Use of Surfaces, Adaptive Unstructured Meshes, and an Overlapping-Control-Volume Finite-Element Method. SPE Reservoir Evaluation and Engineering, 2015, 18, 115-132.	1.8	64
75	Three-dimensional modeling of clinoforms in shallow-marine reservoirs: Part 1. Concepts and application. AAPG Bulletin, 2015, 99, 1013-1047.	1.5	27
76	Three-dimensional modeling of clinoforms in shallow-marine reservoirs: Part 2. Impact on fluid flow and hydrocarbon recovery in fluvial-dominated deltaic reservoirs. AAPG Bulletin, 2015, 99, 1049-1080.	1.5	24
77	Anisotropic Mesh Adaptivity and Control Volume Finite Element Methods for Numerical Simulation of Multiphase Flow in Porous Media. Mathematical Geosciences, 2015, 47, 417-440.	2.4	39
78	Interface control volume finite element method for modelling multi-phase fluid flow in highly heterogeneous and fractured reservoirs. Journal of Computational Physics, 2015, 298, 41-61.	3.8	42
79	Closed-Loop Feedback Control in Intelligent Wells: Application to a Heterogeneous, Thin Oil-Rim Reservoir in the North Sea. SPE Reservoir Evaluation and Engineering, 2015, 18, 69-83.	1.8	17
80	Scaling heat and mass flow through porous media during pyrolysis. Heat and Mass Transfer, 2015, 51, 313-334.	2.1	5
81	Surface-based reservoir modelling for flow simulation. Geological Society Special Publication, 2014, 387, 271-292.	1.3	22
82	A comparative study of reservoir modeling techniques and their impact on predicted performance of fluvial-dominated deltaic reservoirs. AAPG Bulletin, 2014, 98, 729-763.	1.5	31
83	Evolution of major and trace element composition during melt migration through crystalline mush: Implications for chemical differentiation in the crust. Numerische Mathematik, 2014, 314, 895-939.	1.4	57
84	Interaction of stratigraphic and sedimentological heterogeneities with flow in carbonate ramp reservoirs: impact of fluid properties and production strategy. Petroleum Geoscience, 2014, 20, 7-26.	1.5	15
85	Closed-Loop Feedback Control of Smart Wells for Production Optimization Using Downhole Measurements of Self-Potential. , 2014, , .		2
86	Experimental measurements of the SP response to concentration and temperature gradients in sandstones with application to subsurface geophysical monitoring. Journal of Geophysical Research: Solid Earth, 2014, 119, 6855-6876.	3.4	23
87	Summary of the AAPGâ€“SPEâ€“SEG Hedberg Research Conference on â€œFundamental Controls on Flow in Carbonatesâ€• AAPG Bulletin, 2013, 97, 533-552.	1.5	4
88	Facies model of a fineâ€“grained, tideâ€“dominated delta: Lower Dir Abu Lifa Member (Eocene), Western Desert, Egypt. Sedimentology, 2013, 60, 1313-1356.	3.1	68
89	Field Production Optimization Using Closed-Loop Direct Feedback Control of Intelligent Wells: Application to the Brugge Model. , 2013, , .		2
90	Closed-Loop Feedback Control for Production Optimization of Intelligent Wells Under Uncertainty. SPE Production and Operations, 2013, 28, 345-357.	0.6	18

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91	Reservoir Modeling for Flow Simulation Using Surfaces, Adaptive Unstructured Meshes and Control-Volume-Finite-Element Methods. , 2013, , .		19
92	On the Validity of the "Thin" and "Thick" Double-Layer Assumptions When Calculating Streaming Currents in Porous Media. International Journal of Geophysics, 2012, 2012, 1-12.	1.1	22
93	Streaming potentials at hydrocarbon reservoir conditions. Geophysics, 2012, 77, E77-E90.	2.6	27
94	Measurements of spontaneous potential in chalk with application to aquifer characterization in the southern UK. Quarterly Journal of Engineering Geology and Hydrogeology, 2012, 45, 457-471.	1.4	26
95	Spontaneous Potentials in Hydrocarbon Reservoirs During Waterflooding: Application to Water-Front Monitoring. SPE Journal, 2012, 17, 53-69.	3.1	24
96	Closed-loop Feedback Control in Intelligent Wells: Application to a Heterogeneous, Thin Oil-Rim Reservoir in the North Sea. , 2012, , .		3
97	Closed-loop Feedback Control for Production Optimization of Intelligent Wells under Uncertainty. , 2012, , .		6
98	Melt Segregation in Deep Crustal Hot Zones: a Mechanism for Chemical Differentiation, Crustal Assimilation and the Formation of Evolved Magmas. Journal of Petrology, 2012, 53, 1999-2026.	2.8	191
99	Streaming-potential coefficient of reservoir rock: A theoretical model. Geophysics, 2012, 77, D17-D43.	2.6	65
100	Bayesian Reservoir History Matching Considering Model and Parameter Uncertainties. Mathematical Geosciences, 2012, 44, 515-543.	2.4	47
101	Impact of wettability on laboratory measurements of streaming potential in carbonates. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2012, 393, 86-95.	4.7	72
102	Self-potential anomalies induced by water injection into hydrocarbon reservoirs. Geophysics, 2011, 76, F283-F292.	2.6	26
103	Laboratory Measurements and Numerical Modeling of Streaming Potential for Downhole Monitoring in Intelligent Wells. SPE Journal, 2011, 16, 625-636.	3.1	11
104	Characterization of stratigraphic architecture and its impact on fluid flow in a fluvial-dominated deltaic reservoir analog: Upper Cretaceous Ferron Sandstone Member, Utah. AAPG Bulletin, 2011, 95, 693-727.	1.5	51
105	Multiphase streaming potential in sandstones saturated with gas/brine and oil/brine during drainage and imbibition. Geophysical Research Letters, 2011, 38, n/a-n/a.	4.0	54
106	Predicting the impact of sedimentological heterogeneity on gas-oil and water-oil displacements: fluvio-deltaic Pereriv Suite Reservoir, Azeri-Chirag-Gunashli Oilfield, South Caspian Basin. Petroleum Geoscience, 2011, 17, 143-163.	1.5	21
107	Surface-Based Reservoir Modelling. , 2011, , .		0
108	Real-Time Measurements of Spontaneous Potential for Inflow Monitoring in Intelligent Wells. , 2010, , .		3

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109	Borehole electrokinetics. <i>The Leading Edge</i> , 2010, 29, 724-728.	0.7	32
110	High-resolution stratigraphic architecture and lithological heterogeneity within marginal aeolian reservoir analogues. <i>Sedimentology</i> , 2010, 57, 1246.	3.1	13
111	Measurement of streaming potential coupling coefficient in sandstones saturated with natural and artificial brines at high salinity. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	109
112	Salinity dependence of the thermoelectric coupling coefficient in brine-saturated sandstones. <i>Geophysical Research Letters</i> , 2010, 37, .	4.0	25
113	Multiphase electrokinetic coupling: Insights into the impact of fluid and charge distribution at the pore scale from a bundle of capillary tubes model. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	80
114	Generating High Mg-numbers and Chemical Diversity in Tonalite-Trondhjemite-Granodiorite (TTG) Magmas during Melting and Melt Segregation in the Continental Crust. <i>Journal of Petrology</i> , 2009, 50, 1935-1954.	2.8	27
115	Three-dimensional modeling of a shoreface-shelf parasequence reservoir analog: Part 2. Geologic controls on fluid flow and hydrocarbon recovery. <i>AAPG Bulletin</i> , 2009, 93, 1183-1208.	1.5	66
116	Why aqueous alteration in asteroids was isochemical: High porosity & high permeability. <i>Earth and Planetary Science Letters</i> , 2009, 287, 559-568.	4.4	122
117	Three-dimensional modeling of a shoreface-shelf parasequence reservoir analog: Part 1. Surface-based modeling to capture high-resolution facies architecture. <i>AAPG Bulletin</i> , 2009, 93, 1155-1181.	1.5	89
118	Measurement of streaming potential coupling coefficient in sandstones saturated with high salinity NaCl brine. <i>Geophysical Research Letters</i> , 2009, 36, .	4.0	105
119	New criteria for the validity of steady-state upscaling. <i>Transport in Porous Media</i> , 2008, 71, 53-73.	2.6	33
120	Characterization of multiphase electrokinetic coupling using a bundle of capillary tubes model. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	58
121	Impact of melt segregation on tonalite-trondhjemite-granodiorite (TTG) petrogenesis. <i>Transactions of the Royal Society of Edinburgh: Earth Sciences</i> , 2008, 97, 325-336.	0.7	10
122	Fluid flow monitoring in oil fields using downhole measurements of electrokinetic potential. <i>Geophysics</i> , 2008, 73, E165-E180.	2.6	75
123	Validity of Steady-State Upscaling Techniques. <i>SPE Reservoir Evaluation and Engineering</i> , 2008, 11, 405-416.	1.8	14
124	A new numerical model of electrokinetic potential response during hydrocarbon recovery. <i>Geophysical Research Letters</i> , 2006, 33, .	4.0	46
125	Prediction of Wettability Variation Within an Oil/Water Transition Zone and Its Impact on Production. <i>SPE Journal</i> , 2005, 10, 185-195.	3.1	36
126	Three-dimensional reservoir characterization and flow simulation of heterolithic tidal sandstones. <i>AAPG Bulletin</i> , 2005, 89, 507-528.	1.5	78

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127	Towards a coupled physical and chemical model for tonaliteâ€“trondhjemiteâ€“granodiorite magma formation. <i>Lithos</i> , 2005, 79, 43-60.	1.4	33
128	Upscaling Permeability Measurements Within Complex Heterolithic Tidal Sandstones. <i>Mathematical Geosciences</i> , 2003, 35, 499-520.	0.9	50
129	Prediction of wettability variation and its impact on flow using pore- to reservoir-scale simulations. <i>Journal of Petroleum Science and Engineering</i> , 2003, 39, 231-246.	4.2	76
130	Quantitative modeling of granitic melt generation and segregation in the continental crust. <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	90
131	Prediction of wettability variation and its impact on waterflooding using pore-to reservoir-scale simulation. , 2002, , .		17
132	Detailed physics, predictive capabilities and macroscopic consequences for pore-network models of multiphase flow. <i>Advances in Water Resources</i> , 2002, 25, 1069-1089.	3.8	583
133	Elliptic Regions and Stable Solutions for Three-Phase flow in Porous Media. <i>Transport in Porous Media</i> , 2002, 48, 249-269.	2.6	30
134	Outcrop studies of tidal sandstones for reservoir characterization (Lower Cretaceous vectis) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 467 T 10, 233-257.	0.1	16
135	Management of Water Breakthrough Using Intelligent Well Technology. , 2001, , .		7
136	Effect of Discontinuous Shales on Reservoir Performance During Horizontal Waterflooding. <i>SPE Journal</i> , 2000, 5, 446-455.	3.1	32
137	A Petroleum Engineering Educational Model Based on the Maureen Field UKCS. , 2000, , .		8
138	A continuum model for the transport of heat, mass and momentum in a deformable, multicomponent mush, undergoing solid-liquid phase change. <i>International Journal of Heat and Mass Transfer</i> , 1998, 41, 1035-1048.	4.8	17
139	Conditioning surface-based geological models to well data using artificial neural networks. <i>Computational Geosciences</i> , 0, , 1.	2.4	5