

# Luke Connell

## List of Publications by Year in descending order

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121  
papers

7,805  
citations

47006

47  
h-index

49909

87  
g-index

123  
all docs

123  
docs citations

123  
times ranked

3214  
citing authors

#	ARTICLE	IF	CITATIONS
1	Modelling permeability for coal reservoirs: A review of analytical models and testing data. <i>International Journal of Coal Geology</i> , 2012, 92, 1-44.	5.0	646
2	A theoretical model for gas adsorption-induced coal swelling. <i>International Journal of Coal Geology</i> , 2007, 69, 243-252.	5.0	474
3	Effects of matrix moisture on gas diffusion and flow in coal. <i>Fuel</i> , 2010, 89, 3207-3217.	6.4	428
4	Laboratory characterisation of coal reservoir permeability for primary and enhanced coalbed methane recovery. <i>International Journal of Coal Geology</i> , 2010, 82, 252-261.	5.0	410
5	Experimental study and modelling of methane adsorption and diffusion in shale. <i>Fuel</i> , 2014, 117, 509-519.	6.4	362
6	An analytical coal permeability model for tri-axial strain and stress conditions. <i>International Journal of Coal Geology</i> , 2010, 84, 103-114.	5.0	303
7	Laboratory measurement of low permeability unconventional gas reservoir rocks: A review of experimental methods. <i>Journal of Natural Gas Science and Engineering</i> , 2017, 37, 248-279.	4.4	225
8	Modelling of anisotropic coal swelling and its impact on permeability behaviour for primary and enhanced coalbed methane recovery. <i>International Journal of Coal Geology</i> , 2011, 85, 257-267.	5.0	212
9	Dual poroelastic response of a coal seam to CO <sub>2</sub> injection. <i>International Journal of Greenhouse Gas Control</i> , 2010, 4, 668-678.	4.6	193
10	The role of spatial variability in coal seam parameters on gas outburst behaviour during coal mining. <i>International Journal of Coal Geology</i> , 2008, 75, 1-14.	5.0	166
11	Experimental study of anisotropic gas permeability and its relationship with fracture structure of Longmaxi Shales, Sichuan Basin, China. <i>Fuel</i> , 2016, 180, 106-115.	6.4	157
12	Coupled flow and geomechanical processes during gas production from coal seams. <i>International Journal of Coal Geology</i> , 2009, 79, 18-28.	5.0	156
13	Measuring anisotropic permeability using a cubic shale sample in a triaxial cell. <i>Journal of Natural Gas Science and Engineering</i> , 2015, 26, 336-344.	4.4	149
14	Effect of the effective stress coefficient and sorption-induced strain on the evolution of coal permeability: Experimental observations. <i>International Journal of Greenhouse Gas Control</i> , 2011, 5, 1284-1293.	4.6	143
15	Influence of the effective stress coefficient and sorption-induced strain on the evolution of coal permeability: Model development and analysis. <i>International Journal of Greenhouse Gas Control</i> , 2012, 8, 101-110.	4.6	136
16	Reservoir simulation of free and adsorbed gas production from shale. <i>Journal of Natural Gas Science and Engineering</i> , 2015, 22, 359-370.	4.4	132
17	An improved relative permeability model for coal reservoirs. <i>International Journal of Coal Geology</i> , 2013, 109-110, 45-57.	5.0	125
18	CO <sub>2</sub> storage in coal to enhance coalbed methane recovery: a review of field experiments in China. <i>International Geology Review</i> , 2018, 60, 754-776.	2.1	122

#	ARTICLE	IF	CITATIONS
19	Laboratory characterisation of coal matrix shrinkage, cleat compressibility and the geomechanical properties determining reservoir permeability. <i>Fuel</i> , 2016, 165, 499-512.	6.4	116
20	Coupled flow and geomechanical processes during enhanced coal seam methane recovery through CO2 sequestration. <i>International Journal of Coal Geology</i> , 2009, 77, 222-233.	5.0	112
21	Coal swelling strain and permeability change with injecting liquid/supercritical CO2 and N2 at stress-constrained conditions. <i>International Journal of Coal Geology</i> , 2011, 85, 56-64.	5.0	111
22	Laboratory characterisation of fracture compressibility for coal and shale gas reservoir rocks: A review. <i>International Journal of Coal Geology</i> , 2019, 204, 1-17.	5.0	111
23	Why coal permeability changes under free swellings: New insights. <i>International Journal of Coal Geology</i> , 2014, 133, 35-46.	5.0	94
24	Experimental study of permeability and its anisotropy for shale fracture supported with proppant. <i>Journal of Natural Gas Science and Engineering</i> , 2017, 44, 250-264.	4.4	94
25	Impact of CO2 injection and differential deformation on CO2 injectivity under in-situ stress conditions. <i>International Journal of Coal Geology</i> , 2010, 81, 97-108.	5.0	93
26	Non-isothermal flow of carbon dioxide in injection wells during geological storage. <i>International Journal of Greenhouse Gas Control</i> , 2008, 2, 248-258.	4.6	86
27	Complex evolution of coal permeability during CO2 injection under variable temperatures. <i>International Journal of Greenhouse Gas Control</i> , 2012, 9, 281-293.	4.6	82
28	Laboratory study of proppant on shale fracture permeability and compressibility. <i>Fuel</i> , 2018, 222, 83-97.	6.4	81
29	Experimental Investigation of Interactions between Water and a Lower Silurian Chinese Shale. <i>Energy &amp; Fuels</i> , 2014, 28, 4925-4933.	5.1	77
30	A new interpretation of the response of coal permeability to changes in pore pressure, stress and matrix shrinkage. <i>International Journal of Coal Geology</i> , 2016, 162, 169-182.	5.0	75
31	Modeling and Simulation of Moisture Effect on Gas Storage and Transport in Coal Seams. <i>Energy &amp; Fuels</i> , 2012, 26, 1695-1706.	5.1	73
32	An experimental investigation of diffusivity and porosity anisotropy of a Chinese gas shale. <i>Journal of Natural Gas Science and Engineering</i> , 2015, 23, 70-79.	4.4	71
33	History matching of enhanced coal bed methane laboratory core flood tests. <i>International Journal of Coal Geology</i> , 2011, 87, 128-138.	5.0	70
34	Characteristic of anisotropic coal permeability and its impact on optimal design of multi-lateral well for coalbed methane production. <i>Journal of Petroleum Science and Engineering</i> , 2012, 88-89, 13-28.	4.2	70
35	Impact of creep on the evolution of coal permeability and gas drainage performance. <i>Journal of Natural Gas Science and Engineering</i> , 2016, 33, 469-482.	4.4	69
36	Comparison of adsorption models in reservoir simulation of enhanced coalbed methane recovery and CO2 sequestration in coal. <i>International Journal of Greenhouse Gas Control</i> , 2009, 3, 77-89.	4.6	68

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37	Impact of coal matrix strains on the evolution of permeability. Fuel, 2017, 189, 270-283.	6.4	66
38	Experimental study of impact of anisotropy and heterogeneity on gas flow in coal. Part II: Permeability. Fuel, 2018, 230, 397-409.	6.4	63
39	Laboratory Study of Gas Permeability and Cleat Compressibility for CBM/ECBM in Chinese Coals. Energy Exploration and Exploitation, 2012, 30, 451-476.	2.3	60
40	Effects of Pressure and Temperature on Gas Diffusion and Flow for Primary and Enhanced Coalbed Methane Recovery. Energy Exploration and Exploitation, 2014, 32, 601-619.	2.3	60
41	A quantitative approach to aquifer vulnerability mapping. Journal of Hydrology, 2003, 276, 71-88.	5.4	59
42	A dual-porosity model for gas reservoir flow incorporating adsorption behaviour part I. Theoretical development and asymptotic analyses. Transport in Porous Media, 2007, 68, 153-173.	2.6	58
43	Characterisation of creep in coal and its impact on permeability: An experimental study. International Journal of Coal Geology, 2017, 173, 200-211.	5.0	55
44	Evaluation of gas production from multiple coal seams: A simulation study and economics. International Journal of Mining Science and Technology, 2018, 28, 359-371.	10.3	55
45	Experimental study of impact of anisotropy and heterogeneity on gas flow in coal. Part I: Diffusion and adsorption. Fuel, 2018, 232, 444-453.	6.4	54
46	A sequential model of shale gas transport under the influence of fully coupled multiple processes. Journal of Natural Gas Science and Engineering, 2015, 27, 808-821.	4.4	51
47	Numerical Modeling of Pressure and Temperature Profiles Including Phase Transitions in Carbon Dioxide Wells. , 2008, , .		49
48	Impact of matrix swelling area propagation on the evolution of coal permeability under coupled multiple processes. Journal of Natural Gas Science and Engineering, 2014, 18, 451-466.	4.4	48
49	Core flooding experiments of CO2 enhanced coalbed methane recovery. International Journal of Coal Geology, 2014, 131, 113-125.	5.0	46
50	Experimental study of permeability behaviour for proppant supported coal fracture. Journal of Natural Gas Science and Engineering, 2018, 51, 18-26.	4.4	46
51	Transient, thermal wellbore flow of multispecies carbon dioxide mixtures with phase transition during geological storage. International Journal of Multiphase Flow, 2014, 63, 82-92.	3.4	41
52	Controls on methane sorption capacity of Mesoproterozoic gas shales from the Beetaloo Sub-basin, Australia and global shales. International Journal of Coal Geology, 2018, 199, 65-90.	5.0	41
53	Gas breakthrough pressure of tight rocks: A review of experimental methods and data. Journal of Natural Gas Science and Engineering, 2020, 81, 103408.	4.4	40
54	The water balance and water sources of a Eucalyptus plantation over shallow saline groundwater. Plant and Soil, 2010, 332, 429-449.	3.7	39

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55	The transient behaviour of CO <sub>2</sub> flow with phase transition in injection wells during geological storage – Application to a case study. <i>Journal of Petroleum Science and Engineering</i> , 2014, 124, 7-18.	4.2	39
56	Observations from an enhanced gas recovery field trial for coal mine gas management. <i>International Journal of Coal Geology</i> , 2012, 100, 82-92.	5.0	36
57	Evolution of shale apparent permeability under variable boundary conditions. <i>Fuel</i> , 2018, 215, 46-56.	6.4	32
58	Unsaturated flow and solute transport through the Chalk: Tracer test and dual permeability modelling. <i>Journal of Hydrology</i> , 2007, 342, 157-172.	5.4	31
59	Pore connectivity and water accessibility in Upper Permian transitional shales, southern China. <i>Marine and Petroleum Geology</i> , 2019, 107, 407-422.	3.3	31
60	A model for the flow of gas mixtures in adsorption dominated dual porosity reservoirs incorporating multi-component matrix diffusion. <i>Journal of Petroleum Science and Engineering</i> , 2007, 59, 17-26.	4.2	30
61	Description of a CO <sub>2</sub> enhanced coal bed methane field trial using a multi-lateral horizontal well. <i>International Journal of Greenhouse Gas Control</i> , 2014, 26, 204-219.	4.6	30
62	Laboratory Characterization of Shale Oil Storage Behavior: A Comprehensive Review. <i>Energy &amp; Fuels</i> , 2021, 35, 7305-7318.	5.1	29
63	Enhancing biogenic methane generation in coalbed methane reservoirs – Core flooding experiments on coals at in-situ conditions. <i>International Journal of Coal Geology</i> , 2020, 219, 103377.	5.0	28
64	Impact of coal seam as interlayer on CO <sub>2</sub> storage in saline aquifers: A reservoir simulation study. <i>International Journal of Greenhouse Gas Control</i> , 2011, 5, 99-114.	4.6	27
65	Benchmark assessment of coal permeability models on the accuracy of permeability prediction. <i>Fuel</i> , 2014, 132, 194-203.	6.4	27
66	An investigation into the integrity of wellbore cement in CO <sub>2</sub> storage wells: Core flooding experiments and simulations. <i>International Journal of Greenhouse Gas Control</i> , 2015, 37, 424-440.	4.6	27
67	A pseudo-3D model for hydraulic fracture growth in a layered rock. <i>International Journal of Solids and Structures</i> , 2017, 115-116, 208-223.	2.7	27
68	Coal failure during primary and enhanced coalbed methane production – Theory and approximate analyses. <i>International Journal of Coal Geology</i> , 2016, 154-155, 275-285.	5.0	26
69	A model for hydraulic fracture growth across multiple elastic layers. <i>Journal of Petroleum Science and Engineering</i> , 2018, 167, 918-928.	4.2	22
70	CH <sub>4</sub> , CO <sub>2</sub> , N <sub>2</sub> diffusion in Bowen Basin (Australia) coal: relationship between sorption kinetics of coal core and crushed coal particles. <i>Journal of Natural Gas Science and Engineering</i> , 2020, 81, 103468.	4.4	22
71	Three-phase non-isothermal flow behavior of CO <sub>2</sub> -brine leakage from wellbores. <i>International Journal of Greenhouse Gas Control</i> , 2017, 64, 183-193.	4.6	17
72	A coupled, non-isothermal gas shale flow model: Application to evaluation of gas-in-place in shale with core samples. <i>Journal of Petroleum Science and Engineering</i> , 2017, 158, 361-379.	4.2	15

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73	A dual-porosity model for gas reservoir flow incorporating adsorption behaviourâ€”Part II. Numerical algorithm and example applications. <i>Transport in Porous Media</i> , 2007, 69, 139-158.	2.6	14
74	A Statistical Representation of the Matrixâ€”Fracture Transfer Function for Porous Media. <i>Transport in Porous Media</i> , 2011, 86, 777-803.	2.6	14
75	CO2 Injectivity in a Multi-lateral Horizontal Well in a Low Permeability Coal Seam: Results from a Field Trial. <i>Energy Procedia</i> , 2013, 37, 5834-5841.	1.8	14
76	Laboratory and Modeling Study on Gas Diffusion with Pore Structures in Different-Rank Chinese Coals. <i>Energy Exploration and Exploitation</i> , 2013, 31, 859-877.	2.3	13
77	Apparent gas permeability behaviour in the near critical region for real gases. <i>Journal of Natural Gas Science and Engineering</i> , 2020, 77, 103245.	4.4	13
78	Coal Permeability and Its Behaviour with Gas Desorption, Pressure and Stress. , 2010, , .		12
79	Measurement of Shale Anisotropic Permeability and Its Impact on Shale Gas Production. , 2015, , .		12
80	Nitrogen enhanced drainage of CO 2 rich coal seams for mining. <i>International Journal of Mining Science and Technology</i> , 2017, 27, 755-761.	10.3	11
81	A New Method for the Estimation of Lost Gas During the Measurement of the Gas Content of Coal. <i>SPE Reservoir Evaluation and Engineering</i> , 2017, 20, 627-638.	1.8	11
82	Border Irrigation Field Experiment.â€”I: Water Balance. <i>Journal of Irrigation and Drainage Engineering - ASCE</i> , 2000, 126, 85-91.	1.0	10
83	Border Irrigation Field Experiment.â€”II: Salt Transport. <i>Journal of Irrigation and Drainage Engineering - ASCE</i> , 2000, 126, 92-97.	1.0	10
84	Simple models for subsurface solute transport that combine unsaturated and saturated zone pathways. <i>Journal of Hydrology</i> , 2007, 332, 361-373.	5.4	10
85	A model for the flow of gas mixtures in adsorption dominated dual-porosity reservoirs incorporating multi-component matrix diffusionâ€”Part II numerical algorithm and application examples. <i>Journal of Petroleum Science and Engineering</i> , 2008, 62, 93-101.	4.2	10
86	Modeling flow and transport in irrigation catchments: 2. Spatial application of subcatchment model. <i>Water Resources Research</i> , 2001, 37, 965-977.	4.2	9
87	Constraints on sustainable development of arsenic-bearing aquifers in southern Bangladesh. Part 2: Preliminary models of arsenic variability in pumped groundwater. <i>Geological Society Special Publication</i> , 2002, 193, 165-179.	1.3	9
88	Description of a CO2 Enhanced Coal Bed Methane Field Trial Using a Multi-Lateral Horizontal Well. <i>Energy Procedia</i> , 2013, 37, 6760-6768.	1.8	9
89	A probabilistic assessment of enhanced coal mine methane drainage (ECMM) as a fugitive emission reduction strategy for open cut coal mines. <i>International Journal of Coal Geology</i> , 2014, 131, 288-303.	5.0	9
90	Modeling flow and transport in irrigation catchments: 1. Development and testing of subcatchment model. <i>Water Resources Research</i> , 2001, 37, 949-963.	4.2	8

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91	Methodology to determine the economics of CO <sub>2</sub> storage in coal seams with enhanced coalbed methane recovery. <i>Energy Procedia</i> , 2011, 4, 2129-2136.	1.8	8
92	Reservoir simulation study of CO <sub>2</sub> storage in formations containing both aquifers and coal seams. <i>Energy Procedia</i> , 2011, 4, 3095-3102.	1.8	8
93	Methodology for the economic assessment of enhanced coal mine methane drainage (ECMM) as a fugitive emissions reduction strategy. <i>International Journal of Greenhouse Gas Control</i> , 2012, 8, 34-44.	4.6	8
94	Modeling moisture movement in revegetating waste heaps: 1. Development of a finite element model for liquid and vapor transport. <i>Water Resources Research</i> , 1993, 29, 1435-1443.	4.2	7
95	Impact of thermal processes on CO <sub>2</sub> injectivity into a coal seam. <i>IOP Conference Series: Materials Science and Engineering</i> , 2010, 10, 012090.	0.6	7
96	The variation in produced gas composition from mixed gas coal seam reservoirs. <i>International Journal of Coal Geology</i> , 2019, 201, 62-75.	5.0	7
97	An analysis of perturbation based methods for the treatment of parameter uncertainty in numerical groundwater models. <i>Transport in Porous Media</i> , 1995, 21, 225-240.	2.6	5
98	A Quasi-Analytical Model for Soil Solute Movement under Plant Water Use. <i>Soil Science Society of America Journal</i> , 1996, 60, 1350-1355.	2.2	4
99	Optimal management of water movement in irrigation bays. <i>Environmental Modelling and Software</i> , 1998, 14, 171-179.	4.5	4
100	Dual Porosity Processes in Coal Seam Reservoirs: The Effect of Heterogeneity of Coal Matrices. , 2010, , .		4
101	Characterisation of Bowen Basin Coal Shrinkage and Geomechanical Properties and Their Influence on Reservoir Permeability. , 2013, , .		4
102	Water flow behaviour in nanochannels: the surface-force effect and slip length. <i>SN Applied Sciences</i> , 2019, 1, 1.	2.9	4
103	A simple analytical solution for unsaturated solute migration under dynamic water movement conditions and root zone effects. <i>Geological Society Special Publication</i> , 2002, 193, 255-264.	1.3	3
104	A Note on the Characteristic Length/Time of Dual-Porosity Models for Geologically Fractured Media. <i>Key Engineering Materials</i> , 2006, 312, 263-268.	0.4	2
105	Coalbed Methane Production: Why Coal Permeability Matters. , 2010, , .		2
106	Experimental Investigation of Gas Diffusion in Coal – Comparison Between Crushed and Intact Core Samples. , 2016, , .		2
107	Controls on CH <sub>4</sub> Adsorption on Shales: Characterisation of Beetaloo Sub-Basin Gas Shales and Comparison to Global Shales. , 2018, , .		2
108	Simulation of salt migration in an oil shale dump subject to natural rainfall. <i>Fuel</i> , 1994, 73, 1617-1623.	6.4	1

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109	A Multi-Component Dual-Porosity Model for Gas Reservoir Flow With Adsorption Behaviour. , 2006, , .		1
110	Impact of Effective Stress and CH <sub>4</sub> -CO <sub>2</sub> Counter-Diffusion on CO <sub>2</sub> Enhanced Coalbed Methane Recovery. , 2008, , .		1
111	A fully coupled gas flow, coal deformation and thermal transport model for the injection of carbon dioxide into coal seams. , 2011, , 69-93.		1
112	A New Method for the Estimation of Lost Gas During the Measurement of the Gas Content of Coal. , 2015, , .		1
113	Predictions of fracture growth in Walloon coals using a layer fracture model. APPEA Journal, 2018, 58, 765.	0.2	1
114	Evaluation of Conservative Tracers for Coal Seam Reservoirs. , 2019, , .		1
115	Moisture movement in spent oil shale waste dumps. Fuel, 1990, 69, 1091-1094.	6.4	0
116	Laboratory Study of Anisotropic Permeability of Tight Sandstone and Shale from Cooper Basin, Australia. , 2018, , .		0
117	Hydraulic Fracturing Treatment of Low-Permeability Coal Seam Gas Reservoirs with Finely Layered Coals. , 2018, , .		0
118	Characterisation of Reservoir Pressure and Temperature Impact on Diffusion Behaviour of Beetaloo Basin Shales. , 2019, , .		0
119	Baymod. , 2005, , 315-336.		0
120	Stimulating methane generation within coal seam reservoirs. APPEA Journal, 2015, 55, 441.	0.2	0
121	A Multicomponent Dual-Porosity Model for Gas Reservoir Flow With Adsorption Behaviour. , 0, , .		0