

David W Eaton

List of Publications by Year in descending order

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117
papers

5,071
citations

87723

38
h-index

98622

67
g-index

120
all docs

120
docs citations

120
times ranked

3028
citing authors

#	ARTICLE	IF	CITATIONS
1	The interplay between cm- and m-scale geological and geomechanical heterogeneity in organic-rich mudstones: Implications for reservoir characterization of unconventional shale plays. <i>Journal of Natural Gas Science and Engineering</i> , 2022, 97, 104363.	2.1	5
2	Integrated interpretation: Defining risk corridors by combining 3-D seismic interpretation with induced seismicity hypocenters. <i>Tectonophysics</i> , 2022, 827, 229263.	0.9	2
3	InSAR data reveal that the largest hydraulic fracturing-induced earthquake in Canada, to date, is a slow-slip event. <i>Scientific Reports</i> , 2022, 12, 2043.	1.6	26
4	Seismic Anisotropy Reveals Stress Changes around a Fault as It Is Activated by Hydraulic Fracturing. <i>Seismological Research Letters</i> , 2022, 93, 1737-1752.	0.8	4
5	The Influence of a Transitional Stress Regime on the Source Characteristics of Induced Seismicity and Fault Activation: Evidence from the 30 November 2018 Fort St. John ML 4.5 Induced Earthquake Sequence. <i>Bulletin of the Seismological Society of America</i> , 2022, 112, 1336-1355.	1.1	8
6	Spatiotemporal Clustering of Seismicity in the Kiskatinaw Seismic Monitoring and Mitigation Area. <i>Frontiers in Earth Science</i> , 2022, 10, .	0.8	3
7	Unprecedented quiescence in resource development area allows detection of long-lived latent seismicity. <i>Solid Earth</i> , 2021, 12, 765-783.	1.2	10
8	Large-scale Fracture Systems Are Permeable Pathways for Fault Activation During Hydraulic Fracturing. <i>Journal of Geophysical Research: Solid Earth</i> , 2021, 126, e2020JB020311.	1.4	40
9	Change in microseismic anisotropy lag time reveals stress changes around a fault. , 2021, , .		0
10	Vertical and lateral facies variability in organic-rich mudstones at the reservoir scale: A case study from the Devonian Duvernay formation of Alberta, Canada. <i>Marine and Petroleum Geology</i> , 2021, 132, 105232.	1.5	5
11	Characterization of damage processes in Montney siltstone under triaxial compression using acoustic emission and diagnostic imaging. <i>Geophysical Journal International</i> , 2021, 228, 2005-2017.	1.0	3
12	Ground-Motion Analysis of Hydraulic-Fracturing Induced Seismicity at Close Epicentral Distance. <i>Bulletin of the Seismological Society of America</i> , 2020, 110, 331-344.	1.1	2
13	Anatomy of a buried thrust belt activated during hydraulic fracturing. <i>Tectonophysics</i> , 2020, 795, 228640.	0.9	17
14	Determining elastic properties of organic-rich shales from core, wireline logs and 3-D seismic: A comparative study from the Duvernay play, Alberta, Canada. <i>Journal of Natural Gas Science and Engineering</i> , 2020, 84, 103637.	2.1	4
15	A Long-Lived Swarm of Hydraulic Fracturing-Induced Seismicity Provides Evidence for Aseismic Slip. <i>Bulletin of the Seismological Society of America</i> , 2020, 110, 2205-2215.	1.1	31
16	Machine Learning-Based Analysis of Geological Susceptibility to Induced Seismicity in the Montney Formation, Canada. <i>Geophysical Research Letters</i> , 2020, 47, e2020GL089651.	1.5	31
17	Static Ground Displacement for an Induced Earthquake Recorded on Broadband Seismometers. <i>Bulletin of the Seismological Society of America</i> , 2020, 110, 2216-2224.	1.1	2
18	Application of focal-time analysis for improved induced seismicity depth control: A case study from the Montney Formation, British Columbia, Canada. <i>Geophysics</i> , 2020, 85, KS185-KS196.	1.4	3

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19	Automated Microseismic Processing and Integrated Interpretation of Induced Seismicity during a Multistage Hydraulic-Fracturing Stimulation, Alberta, Canada. Bulletin of the Seismological Society of America, 2020, 110, 2018-2030.	1.1	9
20	Real-time Earthquake Location Based on the Kalman Filter Formulation. Geophysical Research Letters, 2020, 47, e2019GL086240.	1.5	2
21	Developments in understanding seismicity triggered by hydraulic fracturing. Nature Reviews Earth & Environment, 2020, 1, 264-277.	12.2	123
22	Episodic Lithospheric Deformation in Eastern Tibet Inferred From Seismic Anisotropy. Geophysical Research Letters, 2020, 47, e2019GL085721.	1.5	69
23	Seismic hazard due to fluid injections. Physical Review Research, 2020, 2, .	1.3	10
24	The influence of competing regional stress regimes on the generation of hydraulic fracturing-induced microseismicity. , 2020, , .		1
25	Energy-stack: a fast and robust method for real-time microseismic event-detection. Technical Papers ... Rio Oil & Gas, 2020, 20, 3-4.	0.0	0
26	Integrated interpretation: Using seismic data to de-risk development of the Duvernay Formation, western Canada. , 2020, , .		0
27	The role of aseismic slip in hydraulic fracturing-induced seismicity. Science Advances, 2019, 5, eav7172.	4.7	173
28	Microseismicity reveals fault activation before Mw 4.1 hydraulic-fracturing induced earthquake. Geophysical Journal International, 2019, 218, 534-546.	1.0	50
29	Synthetic modelling to recognize potential duplex waves from basement faults in western Canada. , 2019, , .		0
30	What controls the maximum magnitude of injection-induced earthquakes?. The Leading Edge, 2018, 37, 135-140.	0.4	38
31	Microseismic monitoring of a tight light oil reservoir: A case history in the Cardium Halo Play, Alberta. Interpretation, 2018, 6, SE39-SE48.	0.5	1
32	Inversion and interpretation of seismic-derived rock properties in the Duvernay play. Interpretation, 2018, 6, SE1-SE14.	0.5	22
33	Induced Seismicity Characterization during Hydraulic Fracture Monitoring with a Shallow Wellbore Geophone Array and Broadband Sensors. Seismological Research Letters, 2018, 89, 1641-1651.	0.8	89
34	Bilinear Magnitude-Frequency Distributions and Characteristic Earthquakes During Hydraulic Fracturing. Geophysical Research Letters, 2018, 45, 12,866.	1.5	32
35	Increased likelihood of induced seismicity in highly overpressured shale formations. Geophysical Journal International, 2018, 214, 751-757.	1.0	82
36	Integration of outcrop, subsurface, and microseismic interpretation for rock-mass characterization: An example from the Duvernay Formation, Western Canada. Interpretation, 2018, 6, T919-T936.	0.5	8

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37	A regularized approach for estimation of a composite focal mechanism from a set of microearthquakes. <i>Geophysics</i> , 2018, 83, KS65-KS75.	1.4	3
38	Stress inversion of shear-tensile focal mechanisms with application to hydraulic fracture monitoring. <i>Geophysical Journal International</i> , 2018, 215, 546-563.	1.0	20
39	Induced Seismicity Near Fox Creek, Alberta: Interpretation of Source Mechanisms. , 2018, , .		1
40	Fluid flow and thermal modeling for tracking induced seismicity near the Graham disposal well, British Columbia, Canada. , 2018, , .		2
41	DuVerNet: Neural network for induced-seismicity detection in the Kaybob Duvernay, Canada production region. , 2018, , .		1
42	Persistent postinjection induced seismicity near Fox Creek, Alberta. , 2018, , .		1
43	Focal-time estimation: A new method for stratigraphic depth control of induced seismicity. , 2018, , .		0
44	Moment tensor and stress inversion based on hydraulic-fracturing induced events. , 2018, , .		0
45	Stick-split mechanism for anthropogenic fluid-induced tensile rock failure. <i>Geology</i> , 2016, 44, 503-506.	2.0	17
46	Rayleigh wave azimuthally anisotropic phase velocity maps beneath western Canada. <i>Journal of Geophysical Research: Solid Earth</i> , 2016, 121, 1821-1834.	1.4	17
47	Hydraulic Fracturing and Seismicity in the Western Canada Sedimentary Basin. <i>Seismological Research Letters</i> , 2016, 87, 631-647.	0.8	329
48	A review and appraisal of arrival-time picking methods for downhole microseismic data. <i>Geophysics</i> , 2016, 81, KS71-KS91.	1.4	145
49	Refinement of arrival-time picks using a cross-correlation based workflow. <i>Journal of Applied Geophysics</i> , 2016, 135, 55-66.	0.9	14
50	Fault activation by hydraulic fracturing in western Canada. <i>Science</i> , 2016, 354, 1406-1409.	6.0	400
51	Nontrivial clustering of microseismicity induced by hydraulic fracturing. <i>Geophysical Research Letters</i> , 2016, 43, 10,672.	1.5	22
52	Discriminating induced seismicity from natural earthquakes using moment tensors and source spectra. <i>Journal of Geophysical Research: Solid Earth</i> , 2016, 121, 972-993.	1.4	90
53	Reservoir characterization using microseismic facies analysis integrated with surface seismic attributes. <i>Interpretation</i> , 2016, 4, T167-T181.	0.5	9
54	Reply to comment by Hampel et al. on "Stress and fault parameters affecting fault slip magnitude and activation time during a glacial cycle". <i>Tectonics</i> , 2015, 34, 2359-2366.	1.3	10

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55	Two crustal low-velocity channels beneath SE Tibet revealed by joint inversion of Rayleigh wave dispersion and receiver functions. <i>Earth and Planetary Science Letters</i> , 2015, 415, 16-24.	1.8	229
56	Large variations in lithospheric thickness of western Laurentia: Tectonic inheritance or collisional reworking?. <i>Precambrian Research</i> , 2015, 266, 579-586.	1.2	17
57	Focal Mechanisms of Some Inferred Induced Earthquakes in Alberta, Canada. <i>Seismological Research Letters</i> , 2015, 86, 1078-1085.	0.8	37
58	Energy-based hydraulic fracture numerical simulation: Parameter selection and model validation using microseismicity. <i>Geophysics</i> , 2015, 80, W33-W44.	1.4	11
59	Body Wave Separation in the Time-Frequency Domain. <i>IEEE Geoscience and Remote Sensing Letters</i> , 2015, 12, 364-368.	1.4	33
60	2b... or not 2b? Interpreting magnitude distributions from microseismic catalogs. <i>First Break</i> , 2015, 33, .	0.2	22
61	Interpretation of harmonic resonances observed during microseismic experiments. , 2015, , .		0
62	Scaling relations and spectral characteristics of tensile microseisms: evidence for opening/closing cracks during hydraulic fracturing. <i>Geophysical Journal International</i> , 2014, 196, 1844-1857.	1.0	58
63	Crustal structure beneath SE Tibet from joint analysis of receiver functions and Rayleigh wave dispersion. <i>Geophysical Research Letters</i> , 2014, 41, 1479-1484.	1.5	63
64	Breakdown of the Gutenberg-Richter relation for microearthquakes induced by hydraulic fracturing: influence of stratabound fractures. <i>Geophysical Prospecting</i> , 2014, 62, 806-818.	1.0	57
65	On the implementation of faults in finite-element glacial isostatic adjustment models. <i>Computers and Geosciences</i> , 2014, 62, 150-159.	2.0	41
66	The effect of earth rheology and ice-sheet size on fault slip and magnitude of postglacial earthquakes. <i>Earth and Planetary Science Letters</i> , 2014, 388, 71-80.	1.8	49
67	Plateau uplift in western Canada caused by lithospheric delamination along a craton edge. <i>Nature Geoscience</i> , 2014, 7, 830-833.	5.4	86
68	Spatiotemporal variations in the b-value of earthquake magnitude-frequency distributions: Classification and causes. <i>Tectonophysics</i> , 2014, 615-616, 1-11.	0.9	118
69	Characteristics of fluid-induced resonances observed during microseismic monitoring. <i>Journal of Geophysical Research: Solid Earth</i> , 2014, 119, 8207-8222.	1.4	14
70	Stress and fault parameters affecting fault slip magnitude and activation time during a glacial cycle. <i>Tectonics</i> , 2014, 33, 1461-1476.	1.3	43
71	Ephemeral isopycnicity of cratonic mantle keels. <i>Nature Geoscience</i> , 2013, 6, 967-970.	5.4	36
72	Seismic imaging of the lithosphere beneath Hudson Bay: Episodic growth of the Laurentian mantle keel. <i>Earth and Planetary Science Letters</i> , 2013, 373, 179-193.	1.8	61

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73	Crustal anisotropy beneath Hudson Bay from ambient noise tomography: Evidence for post-orogenic lower-crustal flow?. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	31
74	Moment tensors, state of stress and their relation to post-glacial rebound in northeastern Canada. <i>Geophysical Journal International</i> , 2012, 189, 1741-1752.	1.0	27
75	Crustal structure beneath Hudson Bay from ambient-noise tomography: implications for basin formation. <i>Geophysical Journal International</i> , 2011, 184, 65-82.	1.0	46
76	Combining double-difference relocation with regional depth-phase modelling to improve hypocentre accuracy. <i>Geophysical Journal International</i> , 2011, 185, 871-889.	1.0	20
77	Solid angles and the impact of receiver-array geometry on microseismic moment-tensor inversion. <i>Geophysics</i> , 2011, 76, WC77-WC85.	1.4	83
78	Precambrian plate tectonics: Seismic evidence from northern Hudson Bay, Canada. <i>Geology</i> , 2011, 39, 91-94.	2.0	43
79	The lithospheric root beneath Hudson Bay, Canada from Rayleigh wave dispersion: No clear seismological distinction between Archean and Proterozoic mantle. <i>Lithos</i> , 2010, 120, 144-159.	0.6	33
80	Enhancing base-metal exploration with seismic imagingThis article is one of a series of papers published in this Special Issue on the theme "Lithoprobe" parameters, processes, and the evolution of a continent. <i>Canadian Journal of Earth Sciences</i> , 2010, 47, 741-760.	0.6	25
81	Formation of cratonic mantle keels by arc accretion: Evidence from S receiver functions. <i>Geophysical Research Letters</i> , 2010, 37, .	1.5	74
82	Precise seismic-wave velocity atop Earth's core: No evidence for outer-core stratification. <i>Physics of the Earth and Planetary Interiors</i> , 2010, 180, 59-65.	0.7	38
83	Lithospheric architecture and tectonic evolution of the Hudson Bay region. <i>Tectonophysics</i> , 2010, 480, 1-22.	0.9	49
84	Resolution of microseismic moment tensors: A synthetic modeling study. , 2009, , .		6
85	The elusive lithosphere-asthenosphere boundary (LAB) beneath cratons. <i>Lithos</i> , 2009, 109, 1-22.	0.6	365
86	Velocity-conductivity relationships for mantle mineral assemblages in Archean cratonic lithosphere based on a review of laboratory data and Hashin-Shtrikman extremal bounds. <i>Lithos</i> , 2009, 109, 131-143.	0.6	89
87	Western Quebec seismic zone (Canada): Clustered, midcrustal seismicity along a Mesozoic hot spot track. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	32
88	Empirical transfer functions: Application to determination of outermost core velocity structure using SmKS phases. <i>Geophysical Research Letters</i> , 2007, 34, .	1.5	4
89	Seismic evidence for convection-driven motion of the North American plate. <i>Nature</i> , 2007, 446, 428-431.	13.7	87
90	New insights into the lithosphere beneath the Superior Province from Rayleigh wave dispersion and receiver function analysis. <i>Geophysical Journal International</i> , 2007, 169, 1043-1068.	1.0	71

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91	Seismic anisotropy beneath Dronning Maud Land, Antarctica, revealed by shear wave splitting. <i>Geophysical Journal International</i> , 2007, 171, 339-351.	1.0	7
92	Improving seismic resolution of outermost core structure by multichannel analysis and deconvolution of broadband SmKS phases. <i>Physics of the Earth and Planetary Interiors</i> , 2006, 155, 104-119.	0.7	36
93	Tectonic fabric of the subcontinental lithosphere: Evidence from seismic, magnetotelluric and mechanical anisotropy. <i>Physics of the Earth and Planetary Interiors</i> , 2006, 158, 85-91.	0.7	16
94	Upper-mantle velocity structure of the lower Great Lakes region. <i>Tectonophysics</i> , 2006, 420, 267-281.	0.9	19
95	Crustal thickness and VP/VS variations in the Grenville orogen (Ontario, Canada) from analysis of teleseismic receiver functions. <i>Tectonophysics</i> , 2006, 420, 223-238.	0.9	63
96	Multi-genetic origin of the continental Moho: insights from Lithoprobe. <i>Terra Nova</i> , 2006, 18, 34-43.	0.9	55
97	Backscattering from spherical elastic inclusions and accuracy of the Kirchhoff approximation for curved interfaces. <i>Geophysical Journal International</i> , 2006, 166, 1249-1258.	1.0	8
98	Delineating the Tuwu porphyry copper deposit at Xinjiang, China, with seismic-reflection profiling. <i>Geophysics</i> , 2005, 70, B53-B60.	1.4	7
99	On the roles of magnetization and topography in the scaling behaviour of magnetic-anomaly fields. <i>Geophysical Journal International</i> , 2004, 160, 46-54.	1.0	2
100	Lithospheric anisotropy structure inferred from collocated teleseismic and magnetotelluric observations: Great Slave Lake shear zone, northern Canada. <i>Geophysical Research Letters</i> , 2004, 31, .	1.5	46
101	Structure of the crust and upper mantle of the Great Slave Lake shear zone, northwestern Canada, from teleseismic analysis and gravity modelling. <i>Canadian Journal of Earth Sciences</i> , 2003, 40, 1203-1218.	0.6	21
102	Seismic methods for deep mineral exploration: Mature technologies adapted to new targets. <i>The Leading Edge</i> , 2003, 22, 580-585.	0.4	38
103	3. Influence of Morphology and Surface Roughness on the Seismic Response of Massive Sulfides, Based on Elastic-Wave Kirchhoff Modeling. , 2003, , 45-58.		6
104	Proterozoic tectonic accretion and growth of western Laurentia: results from Lithoprobe studies in northern Alberta. <i>Canadian Journal of Earth Sciences</i> , 2002, 39, 313-329.	0.6	38
105	Development of 3-D seismic exploration technology for deep nickel-copper deposits—A case history from the Sudbury basin, Canada. <i>Geophysics</i> , 2000, 65, 1890-1899.	1.4	80
106	Seismic imaging of the upper mantle beneath the Rocky Mountain foreland, southwestern Alberta. <i>Canadian Journal of Earth Sciences</i> , 2000, 37, 1493-1507.	0.6	20
107	The 3-D crustal structure in the Manicouagan region: new seismic and gravity constraints. <i>Canadian Journal of Earth Sciences</i> , 2000, 37, 307-324.	0.6	12
108	Tectonic entrapment and its role in the evolution of continental lithosphere: An example from the Precambrian of western Canada. <i>Tectonics</i> , 2000, 19, 116-134.	1.3	76

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109	Physical properties and seismic imaging of massive sulfides. <i>Geophysics</i> , 2000, 65, 1882-1889.	1.4	76
110	Seismic-reflection and potential-field studies of the Vulcan structure, western Canada: A Paleoproterozoic Pyrenees?. <i>Journal of Geophysical Research</i> , 1999, 104, 23255-23269.	3.3	46
111	Weak elastic-wave scattering from massive sulfide orebodies. <i>Geophysics</i> , 1999, 64, 289-299.	1.4	31
112	Winagami reflection sequence: Seismic evidence for postcollisional magmatism in the Proterozoic of western Canada. <i>Geology</i> , 1997, 25, 199.	2.0	46
113	Geologists probe buried craton in western Canada. <i>Eos</i> , 1997, 78, 493.	0.1	4
114	A relic proterozoic subduction zone in western Canada: New evidence from seismic reflection and receiver function data. <i>Geophysical Research Letters</i> , 1996, 23, 3791-3794.	1.5	33
115	LITHOPROBE reflection studies of Archean and Proterozoic crust in Canada. <i>Tectonophysics</i> , 1996, 264, 65-88.	0.9	35
116	Seismic images of eclogites, crustal-scale extension, and Moho relief in the eastern Grenville province, Quebec. <i>Geology</i> , 1995, 23, 855.	2.0	46
117	Detection and analysis of microseismic events using a Matched Filtering Algorithm (MFA). <i>Geophysical Journal International</i> , 0, , ggw168.	1.0	19