Jonathan Ajo-Franklin

List of Publications by Year
in descending order

113 papers	4,742 citations	136950 32 h-index	110387 64 g-index
142 all docs	142 docs citations	142 times ranked	3317 citing authors

#	Article	IF	Citations
1	Field testing of fiber-optic distributed acoustic sensing (DAS) for subsurface seismic monitoring. The Leading Edge, 2013, 32, 699-706.	0.7	333
2	Illuminating seafloor faults and ocean dynamics with dark fiber distributed acoustic sensing. Science, 2019, 366, 1103-1107.	12.6	324
3	Distributed Acoustic Sensing Using Dark Fiber for Near-Surface Characterization and Broadband Seismic Event Detection. Scientific Reports, 2019, 9, 1328.	3.3	291
4	Distributed Acoustic Sensing for Seismic Monitoring of The Near Surface: A Traffic-Noise Interferometry Case Study. Scientific Reports, 2017, 7, 11620.	3.3	254
5	Fiberâ€Optic Network Observations of Earthquake Wavefields. Geophysical Research Letters, 2017, 44, 11,792.	4.0	248
6	Pore-Scale Controls on Calcite Dissolution Rates from Flow-through Laboratory and Numerical Experiments. Environmental Science & Technology, 2014, 48, 7453-7460.	10.0	154
7	On the Broadband Instrument Response of Fiberâ€Optic DAS Arrays. Journal of Geophysical Research: Solid Earth, 2020, 125, e2019JB018145.	3.4	138
8	Evaluation of mineral reactive surface area estimates for prediction of reactivity of a multi-mineral sediment. Geochimica Et Cosmochimica Acta, 2016, 188, 310-329.	3.9	108
9	Upscaling calcium carbonate precipitation rates from pore to continuum scale. Chemical Geology, 2012, 318-319, 60-74.	3.3	99
10	Continuous active-source seismic monitoring of C O2 injection in a brine aquifer. Geophysics, 2007, 72, A57-A61.	2.6	95
11	Measurement of accessible reactive surface area in a sandstone, with application to CO2 mineralization. Chemical Geology, 2012, 318-319, 113-125.	3.3	95
12	Monitoring a large volume CO2 injection: Year two results from SECARB project at Denburyâ€™s Cranfield, Mississippi, USA. Energy Procedia, 2011, 4, 3478-3485.	1.8	84
13	High-resolution characterization of a CO2 plume using crosswell seismic tomography: Cranfield, MS, USA. International Journal of Greenhouse Gas Control, 2013, 18, 497-509.	4.6	84
14	Applying compactness constraints to differential traveltime tomography. Geophysics, 2007, 72, R67-R75.	2.6	82
15	The Potential of DAS in Teleseismic Studies: Insights From the Goldstone Experiment. Geophysical Research Letters, 2019, 46, 1320-1328.	4.0	82
16	A 2.5D Reactive Transport Model for Fracture Alteration Simulation. Environmental Science & Technology, 2016, 50, 7564-7571.	10.0	79
17	Evaluation of accessible mineral surface areas for improved prediction of mineral reaction rates in porous media. Geochimica Et Cosmochimica Acta, 2017, 205, 31-49.	3.9	79
18	Full-wavefield inversion of surface waves for mapping embedded low-velocity zones in permafrost. Geophysics, 2014, 79, EN107-EN124.	2.6	73

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19	Pore-scale capillary pressure analysis using multi-scale X-ray micromotography. Advances in Water Resources, 2017, 104, 223-241.	3.8	63
20	Clay, Water, and Salt: Controls on the Permeability of Fine-Grained Sedimentary Rocks. Accounts of Chemical Research, 2017, 50, 2067-2074.	15.6	61
21	From Fluid Flow to Coupled Processes in Fractured Rock: Recent Advances and New Frontiers. Reviews of Geophysics, 2022, 60, e2021RG000744.	23.0	61
22	Quantitative characterization of soil micro-aggregates: New opportunities from sub-micron resolution synchrotron X-ray microtomography. Geoderma, 2017, 305, 382-393.	5.1	60
23	Constraining the reservoir model of an injected CO2 plume with crosswell CASSM at the Frio-II brine pilot. International Journal of Greenhouse Gas Control, 2011, 5, 1022-1030.	4.6	55
24	Geophysical monitoring and reactive transport modeling of ureolytically-driven calcium carbonate precipitation. Geochemical Transactions, 2011, 12, 7.	0.7	54
25	X-ray micro-tomography at the Advanced Light Source. Proceedings of SPIE, 2012, , .	0.8	54
26	Alteration and Erosion of Rock Matrix Bordering a Carbonate-Rich Shale Fracture. Environmental Science & Technology, 2017, 51, 8861-8868.	10.0	50
27	Utilizing distributed acoustic sensing and ocean bottom fiber optic cables for submarine structural characterization. Scientific Reports, 2021, 11, 5613.	3.3	49
28	Reactive Transport Model of Sulfur Cycling as Impacted by Perchlorate and Nitrate Treatments. Environmental Science & Technology, 2016, 50, 7010-7018.	10.0	45
29	Microbial Growth under Supercritical CO ₂. Applied and Environmental Microbiology, 2015, 81, 2881-2892.	3.1	44
30	On the complex conductivity signatures of calcite precipitation. Journal of Geophysical Research, 2010, 115, .	3.3	42
31	Hydrogeophysical Methods for Analyzing Aquifer Storage and Recovery Systems. Ground Water, 2011, 49, 250-269.	1.3	37
32	Time-lapse surface wave monitoring of permafrost thaw using distributed acoustic sensing and a permanent automated seismic source. , 2017, , .		37
33	Creation of a Mixedâ€Mode Fracture Network at Mesoscale Through Hydraulic Fracturing and Shear Stimulation. Journal of Geophysical Research: Solid Earth, 2020, 125, e2020JB019807.	3.4	36
34	Bioclogging and Permeability Alteration by L. mesenteroides in a Sandstone Reservoir: A Reactive Transport Modeling Study. Energy & Fuels, 2013, 27, 6538-6551.	5.1	33
35	Spatiotemporal changes of seismic attenuation caused by injected CO₂ at the Frioâ€I pilot site, Dayton, TX, USA. Journal of Geophysical Research: Solid Earth, 2017, 122, 7156-7171.	3.4	33
36	The CO2CRC Otway Project deployment of a Distributed Acoustic Sensing Network Coupled with Permanent Rotary Sources. , 2016, , .		33

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37	A survey of the geophysical properties of chlorinated DNAPLs. Journal of Applied Geophysics, 2006, 59, 177-189.	2.1	32
38	Investigating biomineralization using synchrotron based X-ray computed microtomography. Geophysical Research Letters, 2011, 38, n/a-n/a.	4.0	32
39	Constraining CO2 simulations by coupled modeling and inversion of electrical resistance and gas composition data. International Journal of Greenhouse Gas Control, 2013, 18, 510-522.	4.6	32
40	Attenuating Sulfidogenesis in a Soured Continuous Flow Column System With Perchlorate Treatment. Frontiers in Microbiology, 2018, 9, 1575.	3.5	32
41	Aquifer Monitoring Using Ambient Seismic Noise Recorded With Distributed Acoustic Sensing (DAS) Deployed on Dark Fiber. Journal of Geophysical Research: Solid Earth, 2021, 126, e2020JB021004.	3.4	31
42	Surface orbital vibrator (SOV) and fiber-optic DAS: Field demonstration of economical, continuous-land seismic time-lapse monitoring from the Australian CO₂CRC Otway site. , 2016, , .		30
43	Optimal experiment design for time-lapse traveltime tomography. Geophysics, 2009, 74, Q27-Q40.	2.6	29
44	Isotopic insights into microbial sulfur cycling in oil reservoirs. Frontiers in Microbiology, 2014, 5, 480.	3.5	29
45	Redatuming through a salt canopy and target-oriented salt-flank imaging. Geophysics, 2008, 73, S63-S71.	2.6	28
46	Interferometry of a roadside DAS array in Fairbanks, AK. , 2016, , .		28
47	Pore-scale multiphase flow modeling and imaging of CO2 exsolution in Sandstone. Journal of Petroleum Science and Engineering, 2017, 155, 63-77.	4.2	28
48	Close Observation of Hydraulic Fracturing at EGS Collab Experiment 1: Fracture Trajectory, Microseismic Interpretations, and the Role of Natural Fractures. Journal of Geophysical Research: Solid Earth, 2021, 126, e2020JB020840.	3.4	28
49	High-frequency seismic response during permeability reduction due to biopolymer clogging in unconsolidated porous media. Geophysics, 2013, 78, EN117-EN127.	2.6	27
50	A rock-physics investigation of unconsolidated saline permafrost: P-wave properties from laboratory ultrasonic measurements. Geophysics, 2016, 81, WA233-WA245.	2.6	27
51	An effective-medium model for P-wave velocities of saturated, unconsolidated saline permafrost. Geophysics, 2017, 82, EN33-EN50.	2.6	27
52	Distributed Acoustic Sensing Using Dark Fiber for Array Detection of Regional Earthquakes. Seismological Research Letters, 2021, 92, 2441-2452.	1.9	27
53	P and S wave responses of bacterial biopolymer formation in unconsolidated porous media. Journal of Geophysical Research G: Biogeosciences, 2016, 121, 1158-1177.	3.0	26
54	Dynamics of geologic CO ₂ storage and plume motion revealed by seismic coda waves. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 2464-2469.	7.1	25

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55	The dielectric properties of granular media saturated with DNAPL/water mixtures. Geophysical Research Letters, 2004, 31, n/a-n/a.	4.0	24
56	Biogenic sulfide control by nitrate and (per)chlorate â€“ A monitoring and modeling investigation. Chemical Geology, 2018, 476, 180-190.	3.3	23
57	Highâ€Resolution Ambient Noise Imaging of Geothermal Reservoir Using 3C Dense Seismic Nodal Array and Ultraâ€Short Observation. Journal of Geophysical Research: Solid Earth, 2021, 126, e2021JB021827.	3.4	23
58	Visualization and prediction of supercritical CO2 distribution in sandstones during drainage: An in situ synchrotron X-ray micro-computed tomography study. International Journal of Greenhouse Gas Control, 2017, 66, 230-245.	4.6	21
59	Next generation modeling of microbial souring â€“ Parameterization through genomic information. International Biodeterioration and Biodegradation, 2018, 126, 189-203.	3.9	21
60	Permafrost Degradation and Subsidence Observations during a Controlled Warming Experiment. Scientific Reports, 2018, 8, 10908.	3.3	21
61	Experimental development of low-frequency shear modulus and attenuation measurements in mated rock fractures: Shear mechanics due to asperity contact area changes with normal stress. Geophysics, 2017, 82, M19-M36.	2.6	18
62	The effect of CO2-induced dissolution on flow properties in Indiana Limestone: An in situ synchrotron X-ray micro-tomography study. International Journal of Greenhouse Gas Control, 2019, 82, 38-47.	4.6	18
63	A new mini-triaxial cell for combined high-pressure and high-temperature in situ synchrotron X-ray microtomography experiments up to 400Â°C and 24â€…MPa. Journal of Synchrotron Radiation, 2019, 26, 238-243.	2.4	18
64	The Sealing Mechanisms of a Fracture in Opalinus Clay as Revealed by in situ Synchrotron X-Ray Micro-Tomography. Frontiers in Earth Science, 2020, 8, .	1.8	17
65	In situ measurement of velocity-stress sensitivity using crosswell continuous active-source seismic monitoring. Geophysics, 2017, 82, D319-D326.	2.6	16
66	Multiâ€level continuous active source seismic monitoring (MLâ€CASSM): Mapping shallow hydrofracture evolution at a TCE contaminated site. , 2011, , .		16
67	Phase-weighted slant stacking for surface wave dispersion measurement. Geophysical Journal International, 2021, 226, 256-269.	2.4	15
68	A Field Test of Distributed Acoustic Sensing for Ambient Noise Recording. , 2015, , .		14
69	Pore-scale Evolution of Trapped CO2 at Early Stages Following Imbibition Using Micro-CT Imaging. Energy Procedia, 2017, 114, 4872-4878.	1.8	14
70	Evolution of propped fractures in shales: The microscale controlling factors as revealed by in situ X-Ray microtomography. Journal of Petroleum Science and Engineering, 2020, 188, 106861.	4.2	14
71	Dynamic Processes of CO 2 Storage in the Field: 1. Multiscale and Multipath Channeling of CO 2 Flow in the Hierarchical Fluvial Reservoir at Cranfield, Mississippi. Water Resources Research, 2020, 56, e2019EF001360.	4.2	13
72	Supercritical CO2 flow through a layered silica sand/calcite sand system: Experiment and modified maximal inscribed spheres analysis. International Journal of Greenhouse Gas Control, 2013, 14, 141-150.	4.6	12

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73	The Seismic Response to Injected Carbon Dioxide: Comparing Observations to Estimates Based Upon Fluid Flow Modeling. Journal of Geophysical Research: Solid Earth, 2019, 124, 6880-6907.	3.4	12
74	Testing of a permanent orbital surface source and distributed acoustic sensing for monitoring of unconventional reservoirs: Preliminary results from the Eagle Ford Shale. Geophysics, 2021, 86, P1-P12.	2.6	12
75	Measurement of Surface-Wave Phase-Velocity Dispersion on Mixed Inertial Seismometer â€“ Distributed Acoustic Sensing Seismic Noise Cross-Correlations. Bulletin of the Seismological Society of America, 2021, 111, 3432-3450.	2.3	12
76	Deep Learning for Surface Wave Identification in Distributed Acoustic Sensing Data. , 2020, , .		11
77	Statistical segmentation and porosity quantification of 3D x-ray microtomography. , 2011, , .		10
78	Strainâ€dependent partial slip on rock fractures under seismicâ€frequency torsion. Geophysical Research Letters, 2017, 44, 4756-4764.	4.0	10
79	Fracture detection and imaging through relative seismic velocity changes using distributed acoustic sensing and ambient seismic noise. The Leading Edge, 2017, 36, 1009-1017.	0.7	10
80	The emerging role of 4D synchrotron X-ray micro-tomography for climate and fossil energy studies: five experiments showing the present capabilities atÂbeamline 8.3.2 at the Advanced Light Source. Journal of Synchrotron Radiation, 2017, 24, 1237-1249.	2.4	10
81	Temporal integration of seismic traveltime tomography. , 2005, , .		10
82	Experimental evidence for dynamic friction on rock fractures from frequencyâ€dependent nonlinear hysteresis and harmonic generation. Journal of Geophysical Research: Solid Earth, 2017, 122, 4982-4999.	3.4	9
83	Modeling heat transport processes in enhanced geothermal systems: A validation study from EGS Collab Experiment 1. Geothermics, 2021, 97, 102254.	3.4	9
84	Watching the Cryosphere Thaw: Seismic Monitoring of Permafrost Degradation Using Distributed Acoustic Sensing During a Controlled Heating Experiment. Geophysical Research Letters, 2022, 49, .	4.0	9
85	The Imperial Valley Dark Fiber Project: Toward Seismic Studies Using DAS and Telecom Infrastructure for Geothermal Applications. Seismological Research Letters, 2022, 93, 2906-2919.	1.9	9
86	Imaging dipping sediments at a salt dome flank â€•VSP seismic interferometry and reverseâ€time migration. , 2006, , .		7
87	Interferometry of ambient noise from a trenched distributed acoustic sensing array. , 2015, , .		6
88	Redatumming through a salt canopy â€” Another saltâ€flank imaging strategy. , 2007, , .		6
89	Surface orbital vibrator for permanent seismic monitoring: A signal contents and repeatability appraisal. , 2017, , .		5
90	Microbial Sulfate Reduction and Perchlorate Inhibition in a Novel Mesoscale Tank Experiment. Energy & Fuels, 2018, 32, 12049-12065.	5.1	5

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91	A Multimodal 3D Imaging Study of Natural Gas Flow in Tight Sands. , 2011, , .		4
92	Introduction to this special section: Geophysical applications of fiber-optic distributed sensing. The Leading Edge, 2017, 36, 973-974.	0.7	4
93	Biofilm Feedbacks Alter Hydrological Characteristics of Fractured Rock Impacting Sulfidogenesis and Treatment. Energy & Fuels, 2019, 33, 10476-10486.	5.1	4
94	Improving Long-term Monitoring of Contaminated Groundwater at Sites where Attenuation-based Remedies are Deployed. Environmental Management, 2020, 66, 1142-1161.	2.7	4
95	The Eagle Ford Shale Laboratory: A Field Study of the Stimulated Reservoir Volume, Detailed Fracture Characteristics, and EOR Potential. , 2020, , .		4
96	IMAGING FRACTURE NETWORKS USING JOINT SEISMIC AND ELECTRICAL CHANGE DETECTION TECHNIQUES. , 2016, , .		4
97	Real-time and post-hoc compression for data from Distributed Acoustic Sensing. Computers and Geosciences, 2022, 166, 105181.	4.2	4
98	Ultrasonic properties of granular media saturated with DNAPL/water mixtures. Geophysical Research Letters, 2007, 34, .	4.0	3
99	Automated Parallel Data Processing Engine with Application to Large-Scale Feature Extraction. , 2018, , .		3
100	Flow and Permeability Evolution during Microbial Sulfate Reduction and Inhibition in Fractured Rocks. Energy & Fuels, 2021, 35, 1989-1997.	5.1	3
101	Integration of crosswell CASSM (Continuous active source seismic monitoring) and flow modeling for imaging of a CO 2 plume in a brine aquifer. , 2008, , .		3
102	Seismic monitoring of permeability reduction due to biopolymer formation in unconsolidated materials. , 2011, , .		3
103	Analysis of laboratory data on ultrasonic monitoring of permeability reduction due to biopolymer formation in unconsolidated granular media. Geophysical Prospecting, 2016, 64, 445-455.	1.9	1
104	Continuous active-source seismic monitoring of brine injections directly in the main fault at Mont Terri, Switzerland. , 2021, , .		1
105	Continuous crosswell monitoring of CO2 injection in a brine aquifer. , 2007, , .		1
106	Preliminary Characterization of a NAPLâ€Contaminated Site Using Borehole Geophysical Techniques. , 2003, , .		1
107	Surface-wave imaging of inversely dispersive media: A permafrost example. , 2017, , .		0
108	Field Observations, Experimental Studies, and Thermodynamic Modeling of CO2 Effects on Microbial Populations. , 2019, , 263-290.		0

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109	Tracking surficial aquifer state using DAS and ballistic Rayleigh waves. , 2021, , .		0
110	Effect of Immiscible Liquid Contaminants on Pâ€Wave Transmission through Natural Aquifer Samples. , 2003, , .		0
111	Relative particle motions of fluid and solid phases in porous media: A numerical study of seismic scattering in digitized granular models. , 2007, , .		0
112	Potentials of Applying Surface-Wave Methods for Imaging Subsurface Properties in Permafrost Soils. , 2012, , .		0
113	Measuring the effects of pore-pressure changes on seismic amplitude using crosswell continuous active-source seismic monitoring (CASSM). , 2017, , .		0