

# Christopher J Bean

## List of Publications by Year in descending order

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101  
papers

2,558  
citations

186265

28  
h-index

223800

46  
g-index

102  
all docs

102  
docs citations

102  
times ranked

2105  
citing authors

#	ARTICLE	IF	CITATIONS
1	Segmented lateral dyke growth in a rifting event at Bárðarbunga volcanic system, Iceland. <i>Nature</i> , 2015, 517, 191-195.	27.8	436
2	Long-period seismicity in the shallow volcanic edifice formed from slow-rupture earthquakes. <i>Nature Geoscience</i> , 2014, 7, 71-75.	12.9	132
3	The broad-band fractal nature of heterogeneity in the upper crust from petrophysical logs. <i>Geophysical Journal International</i> , 1998, 132, 489-507.	2.4	107
4	Numerical simulation of seismic waves using a discrete particle scheme. <i>Geophysical Journal International</i> , 2000, 141, 595-604.	2.4	89
5	Influence of near-surface volcanic structure on long-period seismic signals and on moment tensor inversions: Simulated examples from Mount Etna. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	82
6	A 3D discrete numerical elastic lattice method for seismic wave propagation in heterogeneous media with topography. <i>Geophysical Research Letters</i> , 2004, 31, .	4.0	77
7	Observation of diffusion processes in earthquake populations and implications for the predictability of seismicity systems. <i>Journal of Geophysical Research</i> , 2000, 105, 28081-28094.	3.3	52
8	Moment-tensor inversion of LP events recorded on Etna in 2004 using constraints obtained from wave simulation tests. <i>Geophysical Research Letters</i> , 2007, 34, .	4.0	52
9	Analysis of sustained long-period activity at Etna Volcano, Italy. <i>Journal of Volcanology and Geothermal Research</i> , 2007, 160, 340-354.	2.1	49
10	Multiscaling nature of sonic velocities and lithology in the upper crystalline crust: Evidence from the KTB main borehole. <i>Geophysical Research Letters</i> , 1999, 26, 275-278.	4.0	43
11	Time reverse location of seismic long-period events recorded on Mt Etna. <i>Geophysical Journal International</i> , 2011, 184, 452-462.	2.4	41
12	The coupling between very long period seismic events, volcanic tremor, and degassing rates at Mount Etna volcano. <i>Journal of Geophysical Research: Solid Earth</i> , 2013, 118, 4910-4921.	3.4	38
13	Tremor-rich shallow dyke formation followed by silent magma flow at Bárðarbunga in Iceland. <i>Nature Geoscience</i> , 2017, 10, 299-304.	12.9	36
14	A new look at the Rockall region, offshore Ireland. <i>Marine and Petroleum Geology</i> , 1991, 8, 410-416.	3.3	35
15	On the cause of 1/f-power spectral scaling in borehole sonic logs. <i>Geophysical Research Letters</i> , 1996, 23, 3119-3122.	4.0	34
16	Interface scattering versus body scattering in subbasalt imaging and application of prestack wave equation datuming. <i>Geophysics</i> , 2002, 67, 1593-1601.	2.6	33
17	Temporal evolution of long-period seismicity at Etna Volcano, Italy, and its relationships with the 2004-2005 eruption. <i>Earth and Planetary Science Letters</i> , 2008, 266, 205-220.	4.4	33
18	Some remarks on the estimation of fractal scaling parameters from borehole wire-line logs. <i>Geophysical Research Letters</i> , 1997, 24, 1271-1274.	4.0	32

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19	Volcano topography, structure and intrinsic attenuation: Their relative influences on a simulated 3D visco-elastic wavefield. <i>Journal of Volcanology and Geothermal Research</i> , 2009, 183, 122-136.	2.1	32
20	Properties of the near-field term and its effect on polarisation analysis and source locations of long-period (LP) and very-long-period (VLP) seismic events at volcanoes. <i>Journal of Volcanology and Geothermal Research</i> , 2010, 192, 35-47.	2.1	32
21	Spatio-temporal analysis of stress diffusion in a mining-induced seismicity system. <i>Geophysical Research Letters</i> , 1999, 26, 3697-3700.	4.0	31
22	Numerical investigations of passive and reactive flow through generic single fractures with heterogeneous permeability. <i>Earth and Planetary Science Letters</i> , 2003, 213, 271-284.	4.4	31
23	Seasonal cycles of seismic velocity variations detected using coda wave interferometry at Fogo volcano, S�o Miguel, Azores, during 2003�2004. <i>Journal of Volcanology and Geothermal Research</i> , 2009, 181, 231-246.	2.1	31
24	Source geometry from exceptionally high resolution long period event observations at Mt Etna during the 2008 eruption. <i>Geophysical Research Letters</i> , 2009, 36, .	4.0	31
25	Seismic swarms, fault plane solutions, and stress tensors for S�o Miguel Island central region (Azores). <i>Journal of Seismology</i> , 2012, 16, 389-407.	1.3	31
26	Heterogeneity in a self-organized critical earthquake model. <i>Geophysical Research Letters</i> , 1996, 23, 383-386.	4.0	30
27	Seismicity response to stress perturbations, analysed for a world-wide catalogue. <i>Geophysical Journal International</i> , 2003, 154, 179-195.	2.4	30
28	Helicopter vs. volcanic tremor: Characteristic features of seismic harmonic tremor on volcanoes. <i>Journal of Volcanology and Geothermal Research</i> , 2015, 304, 108-117.	2.1	30
29	Caldera resurgence during the 2018 eruption of Sierra Negra volcano, Gal�pagos Islands. <i>Nature Communications</i> , 2021, 12, 1397.	12.8	30
30	Seismic image quality beneath strongly scattering structures and implications for lower crustal imaging: numerical simulations. <i>Geophysical Journal International</i> , 2001, 145, 423-435.	2.4	27
31	Multiple coincident eruptive seismic tremor sources during the 2014�2015 eruption at Holuhraun, Iceland. <i>Journal of Geophysical Research: Solid Earth</i> , 2017, 122, 2972-2987.	3.4	27
32	Time reversal imaging of synthetic volcanic tremor sources. <i>Geophysical Research Letters</i> , 2009, 36, .	4.0	26
33	Propagation of microseisms from the deep ocean to land. <i>Geophysical Research Letters</i> , 2014, 41, 6374-6379.	4.0	25
34	Time and magnitude predictions in shocks due to chaotic fault interactions. <i>Geophysical Research Letters</i> , 1992, 19, 119-122.	4.0	24
35	Statistical measures of crustal heterogeneity from reflection seismic data: The role of seismic bandwidth. <i>Geophysical Research Letters</i> , 1999, 26, 3241-3244.	4.0	24
36	Fracture properties from seismic data � a numerical investigation. <i>Geophysical Research Letters</i> , 2002, 29, 9-1.	4.0	24

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37	Analysis of dynamics of vulcanian activity of Ubinas volcano, using multicomponent seismic antennas. <i>Journal of Volcanology and Geothermal Research</i> , 2014, 270, 35-52.	2.1	23
38	Dispersion analysis and computational efficiency of elastic lattice methods for seismic wave propagation. <i>Computers and Geosciences</i> , 2009, 35, 1768-1775.	4.2	21
39	A numerical study of passive transport through fault zones. <i>Earth and Planetary Science Letters</i> , 2003, 214, 633-643.	4.4	20
40	Validation of elastic wave measurements of rock fracture compliance using numerical discrete particle simulations. <i>Geophysical Prospecting</i> , 2009, 57, 883-895.	1.9	20
41	Moment tensor inversion of explosive long period events recorded on Arenal volcano, Costa Rica, constrained by synthetic tests. <i>Journal of Volcanology and Geothermal Research</i> , 2010, 194, 189-200.	2.1	20
42	A comparison of published experimental data with a coupled lattice Boltzmann-analytic advection-diffusion method for reactive transport in porous media. <i>Journal of Hydrology</i> , 2002, 268, 143-157.	5.4	19
43	An irregular lattice method for elastic wave propagation. <i>Geophysical Journal International</i> , 2011, 187, 1699-1707.	2.4	19
44	P-wave anisotropy in the lower lithosphere. <i>Earth and Planetary Science Letters</i> , 1990, 99, 58-65.	4.4	18
45	Moment tensor inversion for the source location and mechanism of long period (LP) seismic events from 2009 at Turrialba volcano, Costa Rica. <i>Journal of Volcanology and Geothermal Research</i> , 2013, 258, 215-223.	2.1	18
46	Modelling fluid induced seismicity on a nearby active fault. <i>Geophysical Journal International</i> , 2013, 194, 1613-1624.	2.4	18
47	Seismic ground vibrations give advanced early-warning of subglacial floods. <i>Nature Communications</i> , 2020, 11, 2504.	12.8	18
48	Understanding Seismic Waves Generated by Train Traffic via Modeling: Implications for Seismic Imaging and Monitoring. <i>Seismological Research Letters</i> , 2021, 92, 287-300.	1.9	18
49	Seismic Noise Characterization in Proximity to Strong Microseism Sources in the Northeast Atlantic. <i>Bulletin of the Seismological Society of America</i> , 2016, 106, 464-477.	2.3	17
50	Origin of spurious single forces in the source mechanism of volcanic seismicity. <i>Journal of Volcanology and Geothermal Research</i> , 2013, 262, 1-6.	2.1	16
51	Evidence for chaotic behaviour in seismic wave scattering. <i>Geophysical Research Letters</i> , 1991, 18, 1901-1904.	4.0	15
52	A Lattice Boltzmann Method for Elastic Wave Propagation in a Poisson Solid. <i>Bulletin of the Seismological Society of America</i> , 2012, 102, 1224-1234.	2.3	15
53	Imaging magma storage below Teide volcano (Tenerife) using scattered seismic wavefields. <i>Geophysical Journal International</i> , 2012, 191, 695-706.	2.4	14
54	Eruptive fracture location forecasts from high-frequency events on Piton de la Fournaise Volcano. <i>Geophysical Research Letters</i> , 2013, 40, 4599-4603.	4.0	14

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55	A brittle failure model for long-period seismic events recorded at Turrialba Volcano, Costa Rica. <i>Journal of Geophysical Research: Solid Earth</i> , 2015, 120, 1452-1472.	3.4	14
56	Locating volcano-seismic signals in the presence of rough topography: wave simulations on Arenal volcano, Costa Rica. <i>Geophysical Journal International</i> , 2009, 179, 1547-1557.	2.4	13
57	Investigating the source characteristics of long-period (LP) seismic events recorded on Piton de la Fournaise volcano, La Réunion. <i>Journal of Volcanology and Geothermal Research</i> , 2013, 258, 1-11.	2.1	13
58	Helicopter location and tracking using seismometer recordings. <i>Geophysical Journal International</i> , 2017, 209, 901-908.	2.4	13
59	The dynamics of a long-lasting effusive eruption modulated by Earth tides. <i>Earth and Planetary Science Letters</i> , 2020, 536, 116145.	4.4	13
60	How deep ocean-land coupling controls the generation of secondary microseism Love waves. <i>Nature Communications</i> , 2021, 12, 2332.	12.8	13
61	Coda wave imaging of the Long Valley Caldera using a spatial stacking technique. <i>Geophysical Research Letters</i> , 1997, 24, 1547-1550.	4.0	12
62	Fracture-frequency prediction from borehole wireline logs using artificial neural networks. <i>Geophysical Prospecting</i> , 1999, 47, 1031-1044.	1.9	12
63	Multifractal Modeling and Analyses of Crustal Heterogeneity. , 2003, , 207-236.		12
64	Amplitude and recurrence time analysis of LP activity at Mount Etna, Italy. <i>Journal of Geophysical Research: Solid Earth</i> , 2015, 120, 6474-6486.	3.4	11
65	Micrometre-scale deformation observations reveal fundamental controls on geological rifting. <i>Scientific Reports</i> , 2016, 6, 36676.	3.3	11
66	A passive low-frequency seismic experiment in the Albertine Graben, Uganda. <i>Geophysical Prospecting</i> , 2013, 61, 39-61.	1.9	10
67	Response of the San Jacinto Fault Zone to static stress changes from the 1992 Landers earthquake. <i>Journal of Geophysical Research: Solid Earth</i> , 2014, 119, 8914-8935.	3.4	10
68	New observations of displacement steps associated with volcano seismic long-period events, constrained by step table experiments. <i>Geophysical Research Letters</i> , 2015, 42, 3855-3862.	4.0	10
69	Correlation of Wavefield-Separated Ocean-Generated Microseisms with North Atlantic Source Regions. <i>Bulletin of the Seismological Society of America</i> , 2016, 106, 1002-1010.	2.3	10
70	Source Separation on Seismic Data: Application in a Geophysical Setting. <i>IEEE Signal Processing Magazine</i> , 2012, 29, 16-28.	5.6	9
71	Monitoring microseismicity of the Hengill Geothermal Field in Iceland. <i>Scientific Data</i> , 2022, 9, 220.	5.3	9
72	Power-law random behaviour of seismic reflectivity in boreholes and its relationship to crustal deformation models. <i>Earth and Planetary Science Letters</i> , 1993, 117, 423-429.	4.4	8

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73	A multibranch, multitarget neural network for rapid point-source inversion in a microseismic environment: examples from the Hengill Geothermal Field, Iceland. <i>Geophysical Journal International</i> , 2022, 229, 999-1016.	2.4	8
74	Temporal changes in seismic wave propagation towards the end of the 2002 Mt Etna eruption. <i>Geophysical Journal International</i> , 2009, 178, 1779-1788.	2.4	7
75	Sub-basalt seismic imaging using optical-to-acoustic model building and wave equation datuming processing. <i>Marine and Petroleum Geology</i> , 2010, 27, 555-562.	3.3	7
76	Separation and location of microseism sources. <i>Geophysical Research Letters</i> , 2013, 40, 3118-3122.	4.0	7
77	Wave height quantification using land based seismic data with grammatical evolution. , 2014, , .		7
78	Enhancing interpretability with diffraction imaging using plane-wave destruction aided by frequency-wavenumber f-k filtering. <i>Interpretation</i> , 2020, 8, T541-T554.	1.1	7
79	Full-Waveform based methods for Microseismic Monitoring Operations: an Application to Natural and Induced Seismicity in the Hengill Geothermal Area, Iceland. <i>Advances in Geosciences</i> , 0, 54, 129-136.	12.0	7
80	An earthquake model with magnitude-sensitive dynamics. <i>Geophysical Research Letters</i> , 1993, 20, 1403-1406.	4.0	6
81	Persistent shallow background microseismicity on Hekla volcano, Iceland: A potential monitoring tool. <i>Journal of Volcanology and Geothermal Research</i> , 2014, 289, 224-237.	2.1	6
82	Pre-migration diffraction separation using generative adversarial networks. <i>Geophysical Prospecting</i> , 2021, 69, 949-967.	1.9	6
83	Deformation-controlled long-period seismicity in low-cohesion volcanic sediments. <i>Nature Geoscience</i> , 2021, 14, 942-948.	12.9	6
84	RETREAT: A REal-Time TREMor Analysis Tool for Seismic Arrays, With Applications for Volcano Monitoring. <i>Frontiers in Earth Science</i> , 2020, 8, .	1.8	5
85	The use of a parallel virtual machine (PVM) for finite-difference wave simulations. <i>Computers and Geosciences</i> , 1997, 23, 771-783.	4.2	4
86	Sub-basalt imaging problems and the application of Artificial Neural Networks. <i>Journal of Applied Geophysics</i> , 2001, 48, 183-197.	2.1	4
87	Estimating lateral and vertical resolution in receiver function data for shallow crust exploration. <i>Geophysical Journal International</i> , 2019, 218, 2045-2053.	2.4	4
88	Dynamic earthquake triggering response tracks evolving unrest at Sierra Negra volcano, Galápagos Islands. <i>Science Advances</i> , 2021, 7, eabh0894.	10.3	4
89	Seismic tremor reveals slow fracture propagation prior to the 2018 eruption at Sierra Negra volcano, Galápagos. <i>Earth and Planetary Science Letters</i> , 2022, 586, 117533.	4.4	4
90	Relocation of long-period (LP) seismic events reveals en echelon fractures in the upper edifice of Turrialba volcano, Costa Rica. <i>Geophysical Research Letters</i> , 2016, 43, 10,105.	4.0	3

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91	SN-CAST: seismic network capability assessment software tool for regional networks-examples from Ireland. <i>Journal of Seismology</i> , 2019, 23, 493-504.	1.3	3
92	P-wave sections in a realistic anisotropic lithosphere. <i>Geophysical Journal International</i> , 1991, 107, 709-714.	2.4	2
93	Comment on "Diffusion of epicenters of earthquake aftershocks, Omori's law, and generalized continuous-time random walk models". <i>Physical Review E</i> , 2004, 69, 063101; discussion 063102.	2.1	2
94	Quantifying strong seismic propagation effects in the upper volcanic edifice using sensitivity kernels. <i>Earth and Planetary Science Letters</i> , 2021, 554, 116683.	4.4	2
95	The influence of non-regularly decaying coda wave envelopes upon the estimation of coda Q. <i>Geophysical Research Letters</i> , 1996, 23, 3087-3090.	4.0	1
96	Sub-basalt imaging using converted waves: numerical modelling. <i>Geological Society Special Publication</i> , 2001, 188, 223-235.	1.3	1
97	Assessing the potential of passive seismic receiver functions for ore body exploration. <i>Geophysical Prospecting</i> , 2020, 68, 2094-2103.	1.9	1
98	2D Synthetic dataset of numerical simulations of long-period seismicity in a volcanic edifice and related sensitivity kernels. <i>Data in Brief</i> , 2021, 34, 106673.	1.0	0
99	North Atlantic Oscillation (NAO) Climate Index Hidden in Ocean Generated Secondary Microseisms. <i>Geophysical Research Letters</i> , 2021, 48, e2021GL093657.	4.0	0
100	Effect of nonlinear surface interaction on seismic response of a fracture. , 2002, , .		0
101	Characterization and location of flow-induced seismic signals in karst using passive seismic. , 2021, , .		0