Paul D. Bons

List of Publications by Year
in descending order

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147 papers	5,363 citations	70961 41 h-index	106150 65 g-index
177 all docs	177 docs citations	177 times ranked	3528 citing authors

#	Article	IF	Citations
1	A review of the formation of tectonic veins and their microstructures. Journal of Structural Geology, 2012, 43, 33-62.	1.0	507
2	Mechanisms of fluid flow and fluid-rock interaction in fossil metamorphic hydrothermal systems inferred from vein-wallrock patterns, geometry and microstructure. Geofluids, 2001, 1, 137-162.	0.3	233
3	The formation of large quartz veins by rapid ascent of fluids in mobile hydrofractures. Tectonophysics, 2001, 336, 1-17.	0.9	147
4	Development of crystal morphology during unitaxial growth in a progressively widening vein: II. Numerical simulations of the evolution of antitaxial fibrous veins. Journal of Structural Geology, 2001, 23, 873-885.	1.0	122
5	Divergent double subduction: Tectonic and petrologic consequences. Geology, 1997, 25, 755.	2.0	113
6	Crystallographic preferred orientation development by dissolutionâ€“precipitation creep. Journal of Structural Geology, 2000, 22, 1713-1722.	1.0	107
7	Elle: the numerical simulation of metamorphic and deformation microstructures. Computers and Geosciences, 2001, 27, 17-30.	2.0	99
8	Hydrothermal vein formation by extension-driven dewatering of the middle crust: An example from SW Germany. Earth and Planetary Science Letters, 2009, 286, 387-395.	1.8	94
9	The development of oblique preferred orientations in zeolite films and membranes. Microporous and Mesoporous Materials, 2003, 62, 9-16.	2.2	87
10	Melt extraction and accumulation from partially molten rocks. Lithos, 2004, 78, 25-42.	0.6	87
11	Development of crystal morphology during unitaxial growth in a progressively widening vein: I. The numerical model. Journal of Structural Geology, 2001, 23, 865-872.	1.0	84
12	On the applicability of Fick's law to diffusion in inhomogeneous systems. European Journal of Physics, 2005, 26, 913-925.	0.3	84
13	New experiment to model self-organized critical transport and accumulation of melt and hydrocarbons from their source rocks. Geology, 2001, 29, 919.	2.0	79
14	Fluid mixing from below in unconformity-related hydrothermal ore deposits. Geology, 2014, 42, 1035-1038.	2.0	78
15	A tale of two viscosities. Journal of Structural Geology, 2009, 31, 719-736.	1.0	75
16	Evaluation of sampling methods for fracture network characterization using outcrops. AAPG Bulletin, 2013, 97, 1545-1566.	0.7	74
17	Experimental simulation of the formation of fibrous veins by localised dissolution-precipitation creep. Mineralogical Magazine, 1997, 61, 53-63.	0.6	73
18	A new stylolite classification scheme to estimate compaction and local permeability variations. Sedimentary Geology, 2016, 346, 60-71.	1.0	69

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19	Stepwise accumulation and ascent of magmas. Journal of Metamorphic Geology, 2001, 19, 627-633.	1.6	67
20	The influence of strain localisation on the rotation behaviour of rigid objects in experimental shear zones. Journal of Structural Geology, 2002, 24, 485-499.	1.0	67
21	Syndeformational grain growth: microstructures and kinetics. Journal of Structural Geology, 1992, 14, 1101-1109.	1.0	66
22	A newly defined Late Ordovician magmaticâ€thermal event in the Mt Painter Province, northern Flinders Ranges, South Australia. Australian Journal of Earth Sciences, 2003, 50, 611-631.	0.4	64
23	The formation of antitaxial calcite veins with well-developed fibres, Oppaminda Creek, South Australia. Journal of Structural Geology, 2005, 27, 231-248.	1.0	64
24	Multiscale modeling of ice deformation behavior. Journal of Structural Geology, 2014, 61, 78-108.	1.0	64
25	Are polymers suitable rock analogs?. Tectonophysics, 2002, 350, 35-47.	0.9	63
26	The formation of veins and their microstructures. Journal of the Virtual Explorer, 0, 02, .	0.0	63
27	Reactivity of dolomitizing fluids and Mg source evaluation of fault-controlled dolomitization at the BenicÃssim outcrop analogue (Maestrat basin, E Spain). Marine and Petroleum Geology, 2014, 55, 26-42.	1.5	62
28	Numerical modelling of porphyroclast and porphyroblast rotation in anisotropic rocks. Tectonophysics, 2013, 587, 4-29.	0.9	61
29	Origin and pre-Cenozoic evolution of the south Qiangtang basement, Central Tibet. Tectonophysics, 2014, 623, 52-66.	0.9	61
30	Numerical simulations of polycrystal growth in veins. Journal of Structural Geology, 2005, 27, 217-230.	1.0	59
31	Numerical simulation of fibre growth in antitaxial strain fringes. Journal of Structural Geology, 2000, 22, 1311-1324.	1.0	56
32	Converging flow and anisotropy cause large-scale folding in Greenland's ice sheet. Nature Communications, 2016, 7, 11427.	5.8	56
33	Î´ objects as a gauge for stress sensitivity of strain rate in mylonites. Earth and Planetary Science Letters, 1993, 120, 239-245.	1.8	53
34	Micro-shear zones in experimentally deformed octachloropropane. Journal of Structural Geology, 1999, 21, 323-334.	1.0	52
35	The analysis of progressive deformation in rock analogues. Journal of Structural Geology, 1993, 15, 403-411.	1.0	51
36	Apparent boudinage in dykes. Journal of Structural Geology, 2004, 26, 625-636.	1.0	49

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37	Finding what is now not there anymore: Recognizing missing fluid and magma volumes. Geology, 2008, 36, 851.	2.0	49
38	Deformation of melt-bearing systemsâ€"insight from in situ grain-scale analogue experiments. Journal of Structural Geology, 2005, 27, 1666-1679.	1.0	48
39	New constraints on Phanerozoic magmatic and hydrothermal events in the Mt Painter Province, South Australia. Gondwana Research, 2013, 24, 700-712.	3.0	48
40	Single layer folding in simple shear. Journal of Structural Geology, 2013, 50, 209-220.	1.0	47
41	The development of Î´-clasts in non-linear viscous materials: a numerical approach. Tectonophysics, 1997, 270, 29-41.	0.9	46
42	Strain localization and porphyroclast rotation. Geology, 2011, 39, 275-278.	2.0	43
43	The Jabal Akhdar dome in the Oman Mountains: Evolution of a dynamic fracture system. Numerische Mathematik, 2014, 314, 1104-1139.	0.7	43
44	A new type of numerical experiment on the spatial and temporal patterns of localization of deformation in a material with a coupling of grain size and rheology. Earth and Planetary Science Letters, 2005, 239, 309-326.	1.8	40
45	Liquid-distribution and attainment of textural equilibrium in a partially-molten crystalline system with a high-dihedral-angle liquid phase. Earth and Planetary Science Letters, 2007, 262, 517-532.	1.8	40
46	Full-field predictions of ice dynamic recrystallisation under simple shear conditions. Earth and Planetary Science Letters, 2016, 450, 233-242.	1.8	38
47	Fracture network evaluation program (FraNEP): A software for analyzing 2D fracture trace-line maps. Computers and Geosciences, 2013, 60, 11-22.	2.0	36
48	Dynamic recrystallisation of ice aggregates during co-axial viscoplastic deformation: a numerical approach. Journal of Glaciology, 2016, 62, 359-377.	1.1	36
49	Activation of stylolites as conduits for overpressured fluid flow in dolomitized platform carbonates. Geological Society Special Publication, 2018, 459, 157-176.	0.8	36
50	The influence of matrix rheology and vorticity on fabric development of populations of rigid objects during plane strain deformation. Tectonophysics, 2002, 351, 315-329.	0.9	35
51	Greenland Ice Sheet: Higher Nonlinearity of Ice Flow Significantly Reduces Estimated Basal Motion. Geophysical Research Letters, 2018, 45, 6542-6548.	1.5	35
52	Small-scale disturbances in the stratigraphy of the NEEM ice core: observations and numerical model simulations. Cryosphere, 2016, 10, 359-370.	1.5	34
53	Early Cretaceous exhumation of the Qiangtang Terrane during collision with the Lhasa Terrane, Central Tibet. Terra Nova, 2017, 29, 382-391.	0.9	34
54	Crystallographic preferred orientations of ice deformed in direct-shear experiments at low temperatures. Cryosphere, 2019, 13, 351-371.	1.5	34

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55	Development of antitaxial strain fringes during non-coaxial deformation: an experimental study. Journal of Structural Geology, 2003, 25, 263-275.	1.0	33
56	Strain and vorticity analysis using small-scale faults and associated drag folds. Journal of Structural Geology, 2007, 29, 1882-1899.	1.0	33
57	A new front-tracking method to model anisotropic grain and phase boundary motion in rocks. Computers and Geosciences, 2008, 34, 201-212.	2.0	32
58	Numerical simulations of microstructures using the Elle platform: A modern research and teaching tool. Journal of the Geological Society of India, 2010, 75, 110-127.	0.5	32
59	When do folds unfold during progressive shear?. Geology, 2013, 41, 563-566.	2.0	32
60	Computer experiments to investigate complex fibre patterns in natural antitaxial strain fringes. Journal of Metamorphic Geology, 2001, 19, 217-231.	1.6	31
61	Dynamic recrystallization during deformation of polycrystalline ice: insights from numerical simulations. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2017, 375, 20150346.	1.6	31
62	Anisotropic scaling of tectonic stylolites: A fossilized signature of the stress field?. Journal of Geophysical Research, 2010, 115, .	3.3	30
63	Deformation of a crystalline aggregate with a small percentage of high-dihedral-angle liquid: Implications for coreâ€“mantle differentiation during planetary formation. Earth and Planetary Science Letters, 2011, 305, 124-134.	1.8	30
64	Dominance of microstructural processes and their effect on microstructural development: insights from numerical modelling of dynamic recrystallization. Geological Society Special Publication, 2002, 200, 149-170.	0.8	29
65	South Variscan terrane accretion: Sardinian constraints on the intra-Alpine Variscides. Journal of Structural Geology, 2006, 28, 1277-1291.	1.0	29
66	Experimental deformation of two-phase rock analogues. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1994, 175, 221-229.	2.6	28
67	Analogue experiments and numerical modelling on the relation between microgeometry and flow properties of polyphase materials. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1994, 175, 237-245.	2.6	28
68	Age and metasomatic alteration of the Mt Neill Granite at Nooldoonooldoona Waterhole, Mt Painter Inlier, South Australia. Australian Journal of Earth Sciences, 2001, 48, 721.	0.4	27
69	The origin of fibrous veins: constraints from geochemistry. Geological Society Special Publication, 2002, 200, 103-118.	0.8	27
70	Disequilibrium melt distribution during static recrystallization. Geology, 2003, 31, 1009.	2.0	27
71	Stylolite-controlled diagenesis of a mudstone carbonate reservoir: A case study from the Zechstein_2_Carbonate (Central European Basin, NW Germany). Marine and Petroleum Geology, 2019, 109, 88-107.	1.5	26
72	The Cretaceous crustal shortening and thickening of the South Qiangtang Terrane and implications for proto-Tibetan Plateau formation. Gondwana Research, 2020, 78, 141-155.	3.0	26

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73	The integration of experimental in-situ EBSD observations and numerical simulations: a novel technique of microstructural process analysis. Journal of Microscopy, 2004, 213, 273-284.	0.8	25
74	Granite formation: Stepwise accumulation of melt or connected networks?. Earth and Environmental Science Transactions of the Royal Society of Edinburgh, 2009, 100, 105-115.	0.3	25
75	Long-lived crustal-scale fluid flow: the hydrothermal mega-breccia of Hidden Valley, Mt. Painter Inlier, South Australia. International Journal of Earth Sciences, 2013, 102, 1219-1236.	0.9	25
76	Tectonic evolution and high-pressure rock exhumation in the Qiangtang terrane, central Tibet. Solid Earth, 2015, 6, 457-473.	1.2	24
77	Competition between grain growth and grain-size reduction in polar ice. Journal of Glaciology, 2011, 57, 942-948.	1.1	23
78	Metasomatism and metallogeny of A-type granites of the Mt Painterâ€“Mt Babbage Inliers, South Australia. Lithos, 2012, 151, 83-104.	0.6	22
79	Strain localization and dynamic recrystallization in the iceâ€“air aggregate: a numerical study. Cryosphere, 2016, 10, 3071-3089.	1.5	22
80	Subgrain Rotation Recrystallization During Shearing: Insights From Fullâ€Field Numerical Simulations of Halite Polycrystals. Journal of Geophysical Research: Solid Earth, 2017, 122, 8810-8827.	1.4	22
81	An apparatus to experimentally model the dynamics of ductile shear zones. Tectonophysics, 1996, 256, 145-164.	0.9	21
82	A general unified expression for solute and heat dispersion in homogeneous porous media. Water Resources Research, 2013, 49, 6166-6178.	1.7	20
83	Analytical model for tracer dispersion in porous media. Physical Review E, 2012, 85, 011306.	0.8	19
84	Influence of bubbles on grain growth in ice. Journal of Structural Geology, 2014, 61, 123-132.	1.0	19
85	Transport efficiency and dynamics of hydraulic fracture networks. Frontiers in Physics, 2015, 3, .	1.0	19
86	Layered intrusions and traffic jams. Geology, 2015, 43, 71-74.	2.0	19
87	Crustal-scale folding: Palaeozoic deformation of the Mt Painter Inlier, South Australia. Geological Society Special Publication, 2014, 394, 53-77.	0.8	17
88	Erosion rates on subalpine paleosurfaces in the western Mediterranean by in-situ 10Be concentrations in granites: implications for surface processes and long-term landscape evolution in Corsica (France). International Journal of Earth Sciences, 2008, 97, 549-564.	0.9	16
89	Modelo de flujo de fractura basado en imÃ¡genes satelitales de Wajid Sandstone, Saudi Arabia. Hydrogeology Journal, 2010, 18, 1699-1712.	0.9	16
90	What happens to deformed rocks after deformation? A refined model for recovery based on numerical simulations. Geological Society Special Publication, 2014, 394, 215-234.	0.8	16

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91	Emplacement and geochemical evolution of highly evolved syenites investigated by a combined structural and geochemical field study: The lujavrites of the IlÃmaussaq complex, SW Greenland. Lithos, 2015, 231, 62-76.	0.6	16
92	Stylolites and stylolite networks as primary controls on the geometry and distribution of carbonate diagenetic alterations. Marine and Petroleum Geology, 2022, 136, 105444.	1.5	16
93	Freestone dykesâ€"an alkaliâ€rich Jurassic dyke population in eastern Victoria. Australian Journal of Earth Sciences, 1999, 46, 1-9.	0.4	15
94	Age and metasomatic alteration of the Mt Neill Granite at Nooldoonooldoona Waterhole, Mt Painter Inlier, South Australia. Australian Journal of Earth Sciences, 2001, 48, 721-730.	0.4	15
95	Porphyroblast rotation versus nonrotation: Conflict resolution!. Geology, 2009, 37, e182-e188.	2.0	15
96	Crystal mat-formation as an igneous layering-forming process: Textural and geochemical evidence from the â€˜lower layeredâ€™ nepheline syenite sequence of the IlÃmaussaq complex, South Greenland. Lithos, 2015, 224-225, 295-309.	0.6	15
97	Out of Africa by spontaneous migration waves. PLoS ONE, 2019, 14, e0201998.	1.1	15
98	The effect of dynamic recrystallisation on the rheology and microstructures of partially molten rocks. Journal of Structural Geology, 2019, 118, 224-235.	1.0	15
99	A stratigraphy-based method for reconstructing ice core orientation. Annals of Glaciology, 2021, 62, 191-202.	2.8	15
100	The Relevance of Grain Dissection for Grain Size Reduction in Polar Ice: Insights from Numerical Models and Ice Core Microstructure Analysis. Frontiers in Earth Science, 2017, 5, .	0.8	14
101	Quantitative analysis of stylolite networks in different platform carbonate facies. Marine and Petroleum Geology, 2020, 114, 104203.	1.5	14
102	Modeling of anisotropic grain growth in minerals. , 2001, , .		13
103	Potential evidence of fossilised Neoproterozoic deep life: SEM observations on calcite veins from Oppaminda Creek, Arkaroola, South Australia. International Journal of Earth Sciences, 2009, 98, 327-343.	0.9	13
104	Time for anisotropy: The significance of mechanical anisotropy for the development of deformation structures. Journal of Structural Geology, 2019, 125, 41-47.	1.0	12
105	Subduction Reversal in a Divergent Double Subduction Zone Drives the Exhumation of Southern Qiangtang Blueschistâ€Bearing MÃ©lange, Central Tibet. Tectonics, 2020, 39, e2019TC006051.	1.3	12
106	Self consistent modelling of the creep behavior of mixtures of camphor and octachloropropane. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1994, 175, 231-236.	2.6	11
107	Strain analysis in deformation experiments with pattern matching or a stereoscope. Journal of Structural Geology, 1995, 17, 917-921.	1.0	11
108	Phase-field simulations of partial melts in geological materials. Computers and Geosciences, 2009, 35, 1907-1916.	2.0	11

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109	GRAVITATIONAL FRACTIONATION OF ISOTOPES AND DISSOLVED COMPONENTS AS A FIRST-ORDER PROCESS IN CRUSTAL FLUIDS. Economic Geology, 2013, 108, 1195-1201.	1.8	11
110	From Migmatites to Plutons: Power Law Relationships in theÂEvolution of Magmatic Bodies. Pure and Applied Geophysics, 2015, 172, 1787-1801.	0.8	11
111	Comment on â€œFirst records of syn-diagenetic non-tectonic folding in Quaternary thermogene travertines caused by hydrothermal incremental veiningâ€•by Billi et al. Tectonophysics 700â€“701 (2017) 60â€“79. Tectonophysics, 2017, 721, 491-500.	0.9	11
112	Shear localisation in anisotropic, non-linear viscous materials that develop a CPO: A numerical study. Journal of Structural Geology, 2019, 124, 81-90.	1.0	11
113	Animations of dynamic recrystallization with the numerical modelling system Elle. Journal of the Virtual Explorer, 0, 04, .	0.0	11
114	Divergent double subduction:Tectonic and petrologic consequences: Comment and Reply. Geology, 1998, 26, 1051.	2.0	10
115	High-strain deformation of conglomerates: Numerical modelling, strain analysis, and an example from the Wutai Mountains, North China Craton. Journal of Structural Geology, 2018, 114, 222-234.	1.0	9
116	Image analysis of microstructures in natural and experimental samples. Computer Methods in the Geosciences, 1996, , 135-166.	0.0	8
117	Mayer Kangri metamorphic complexes in Central Qiangtang (Tibet, western China): implications for the Triassicâ€“early Jurassic tectonics associated with the Paleo-Tethys Ocean. International Journal of Earth Sciences, 2018, 107, 757-776.	0.9	8
118	Petrogenesis and tectonic setting of the early-middle triassic subduction-related granite in the eastern segment of East Kunlun: evidences from petrology, geochemistry, and zircon U-Pb-Hf isotopes. International Geology Review, 2022, 64, 698-721.	1.1	8
119	A vector of high-temperature paleo-fluid flow deduced from mass transfer across permeability barriers (quartz veins). Geofluids, 2005, 5, 67-82.	0.3	7
120	Tension gash-like back-arc basin opening and its control on subduction rollback inferred from Tertiary faulting in Sardinia. Tectonics, 2006, 25, n/a-n/a.	1.3	7
121	Interaction between Crustal-Scale Darcy and Hydrofracture Fluid Transport: A Numerical Study. Geofluids, 2020, 2020, 1-14.	0.3	7
122	Comment on â€œExceptionally high heat flux needed to sustain the Northeast Greenland Ice Streamâ€•by Smith-Johnsen et al.Â(2020). Cryosphere, 2021, 15, 2251-2254.	1.5	7
123	Analogue modelling of segregation and ascent of magma. Journal of the Virtual Explorer, 0, 04, .	0.0	6
124	Hillslope evolution by nonlinear creep and landsliding: An experimental study: Comment and Reply. Geology, 2002, 30, 481.	2.0	4
125	The numerical simulation of microstructure. Geological Society Special Publication, 2002, 200, 137-147.	0.8	4
126	Accumulation and self-organization in hydrofracturetransport of fluids. Journal of Geochemical Exploration, 2003, 78-79, 667-670.	1.5	4

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127	The Application of In Situ 3D X-Ray Diffraction in Annealing Experiments: First Interpretation of Substructure Development in Deformed NaCl. Materials Science Forum, 2012, 715-716, 461-466.	0.3	4
128	Simplified numerical model for clarifying scaling behavior in the intermediate dispersion regime in homogeneous porous media. Computer Physics Communications, 2014, 185, 3291-3301.	3.0	4
129	Seismic Anisotropy of Temperate Ice in Polar Ice Sheets. Journal of Geophysical Research F: Earth Surface, 2020, 125, e2020JF005714.	1.0	4
130	Origin of Meteoric Fluids in Extensional Detachments. Geofluids, 2020, 2020, 1-8.	0.3	4
131	Texture characterization of some large hailstones with an automated technique. Journal of Glaciology, 2021, 67, 1190-1204.	1.1	4
132	Can changes in deformation regimes be inferred from crystallographic preferred orientations in polar ice?. Cryosphere, 2022, 16, 2009-2024.	1.5	4
133	Relationship between stylolite morphology and the sealing potential of stylolite-bearing carbonate cap rocks. Bulletin of the Geological Society of America, 2023, 135, 689-711.	1.6	4
134	Numerical Experiments into the Localization of Deformation during Recrystallization Flow. Materials Science Forum, 2004, 467-470, 647-652.	0.3	3
135	Granite formation: Stepwise accumulation of melt or connected networks?. , 2010, , .		2
136	Using elliptical best fits to characterize dental shapes. American Journal of Physical Anthropology, 2016, 159, 342-347.	2.1	2
137	VIEPS/Mainz Microstructure Course. Journal of the Virtual Explorer, 0, 02, .	0.0	2
138	Animations of progressive fibrous vein and fringe formation. Journal of the Virtual Explorer, 0, 04, .	0.0	2
139	Folds inside pebbles: When do they form during conglomerate deformation? Numerical modelling and comparison with the Hutuo Group conglomerates, North China Craton. Journal of Structural Geology, 2022, 160, 104620.	1.0	2
140	Photograph of the Month: Antitaxial fibrous calcite vein, Arkaroola, South Australia. Journal of Structural Geology, 2009, 31, 627.	1.0	1
141	Ice microstructures and microdynamics. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2017, 375, 20160438.	1.6	1
142	Numerical simulation of disequilibrium structures in solid-melt systems during grain-growth. Journal of the Virtual Explorer, 0, 15, .	0.0	1
143	Structural Controls on Basin- and Crustal-Scale Fluid Flow and Resulting Mineral Reactions. Geofluids, 2022, 2022, 1-6.	0.3	1
144	Microdynamics of ice. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2017, 375, 20160437.	1.6	0

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145	Controls on Convective Fluid Flow Systems Resulting in the Formation of Massive Diagenetic Alterations. Advances in Science, Technology and Innovation, 2019, , 223-224.	0.2	0
146	Microprocess Simulations. , 2008, , 75-206.		0
147	Case studies and coupling of processes. , 2008, , 207-266.		0