

Carl E Renshaw

List of Publications by Year in descending order

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84
papers

2,762
citations

186265

28
h-index

197818

49
g-index

86
all docs

86
docs citations

86
times ranked

2450
citing authors

#	ARTICLE	IF	CITATIONS
1	On the relationship between mechanical and hydraulic apertures in rough-walled fractures. <i>Journal of Geophysical Research</i> , 1995, 100, 24629-24636.	3.3	298
2	Isotopic evolution of a seasonal snowpack and its melt. <i>Water Resources Research</i> , 2001, 37, 759-769.	4.2	193
3	Universal behaviour in compressive failure of brittle materials. <i>Nature</i> , 2001, 412, 897-900.	27.8	155
4	Landfill-Stimulated Iron Reduction and Arsenic Release at the Coakley Superfund Site (NH). <i>Environmental Science & Technology</i> , 2006, 40, 67-73.	10.0	132
5	Effect of mechanical interactions on the scaling of fracture length and aperture. <i>Nature</i> , 1997, 386, 482-484.	27.8	115
6	Rapid changes to global river suspended sediment flux by humans. <i>Science</i> , 2022, 376, 1447-1452.	12.6	102
7	Connectivity of joint networks with power law length distributions. <i>Water Resources Research</i> , 1999, 35, 2661-2670.	4.2	93
8	Impact of reach geometry on stream channel sensitivity to extreme floods. <i>Earth Surface Processes and Landforms</i> , 2014, 39, 1778-1789.	2.5	83
9	On the initiation of shear faults during brittle compressive failure: A new mechanism. <i>Journal of Geophysical Research</i> , 1999, 104, 695-705.	3.3	73
10	Temporal and spatial scales of geomorphic adjustments to reduced competency following flow regulation in bedload-dominated systems. <i>Geomorphology</i> , 2010, 118, 105-117.	2.6	70
11	Influence of subcritical fracture growth on the connectivity of fracture networks. <i>Water Resources Research</i> , 1996, 32, 1519-1530.	4.2	68
12	Mechanical controls on the spatial density of opening-mode fracture networks. <i>Geology</i> , 1997, 25, 923.	4.4	65
13	ASSESSMENT OF METHODS FOR MEASURING EMBEDDEDNESS: APPLICATION TO SEDIMENTATION IN FLOW REGULATED STREAMS ¹ . <i>Journal of the American Water Resources Association</i> , 2006, 42, 1671-1682.	2.4	53
14	The educational effectiveness of computer-based instruction. <i>Computers and Geosciences</i> , 2000, 26, 677-682.	4.2	48
15	Measuring fracture apertures: A comparison of methods. <i>Geophysical Research Letters</i> , 2000, 27, 289-292.	4.0	46
16	Gradients in stream power influence lateral and downstream sediment flux in floods. <i>Geology</i> , 2015, 43, 983-986.	4.4	41
17	Predicting the type, location and magnitude of geomorphic responses to dam removal: Role of hydrologic and geomorphic constraints. <i>Geomorphology</i> , 2015, 251, 20-30.	2.6	40
18	Differentiating the relative importance of land cover change and geomorphic processes on fine sediment sequestration in a logged watershed. <i>Geomorphology</i> , 2013, 185, 67-77.	2.6	39

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19	Short and long-term changes to bed mobility and bed composition under altered sediment regimes. <i>Geomorphology</i> , 2006, 76, 43-53.	2.6	36
20	Sediment transport constraints on river response to regulation. <i>Geomorphology</i> , 2011, 126, 245-251.	2.6	36
21	Permeability reductions induced by sorption of surfactant. <i>Water Resources Research</i> , 1997, 33, 371-378.	4.2	34
22	The use of stream flow routing for direct channel precipitation with isotopically-based hydrograph separations: the role of new water in stormflow generation. <i>Journal of Hydrology</i> , 2003, 273, 205-216.	5.4	33
23	Shear faulting and localized heating in ice: The influence of confinement. <i>Acta Materialia</i> , 2010, 58, 5043-5056.	7.9	33
24	Effects of prestrain on the ductile-to-brittle transition of ice. <i>Acta Materialia</i> , 2016, 108, 110-127.	7.9	33
25	A study of solute transport mechanisms using rare earth element tracers and artificial rainstorms on snow. <i>Water Resources Research</i> , 2001, 37, 1425-1435.	4.2	32
26	Measurement of ⁷ Be in soils and sediments by gamma spectroscopy. <i>Chemical Geology</i> , 2012, 291, 175-185.	3.3	31
27	Spatially coherent regional changes in seasonal extreme streamflow events in the United States and Canada since 1950. <i>Science Advances</i> , 2020, 6, .	10.3	31
28	Impact of Land Disturbance on the Fate of Arsenical Pesticides. <i>Journal of Environmental Quality</i> , 2006, 35, 61-67.	2.0	29
29	Flow and sediment regimes at tributary junctions on a regulated river: impact on sediment residence time and benthic macroinvertebrate communities. <i>Hydrological Processes</i> , 2009, 23, 284-296.	2.6	29
30	The role of chronic and episodic disturbances on channel-hillslope coupling: the persistence and legacy of extreme floods. <i>Earth Surface Processes and Landforms</i> , 2016, 41, 1437-1447.	2.5	29
31	Toward Improved Accuracy of Remote Sensing Approaches for Quantifying Suspended Sediment: Implications for Suspended Sediment Monitoring. <i>Journal of Geophysical Research F: Earth Surface</i> , 2020, 125, e2019JF005033.	2.8	28
32	The use of short-lived radionuclides to quantify transitional bed material transport in a regulated river. <i>Earth Surface Processes and Landforms</i> , 2007, 32, 509-524.	2.5	27
33	A study of solute redistribution and transport in seasonal snowpack using natural and artificial tracers. <i>Journal of Hydrology</i> , 2008, 357, 243-254.	5.4	27
34	Glacier Calving Rates Due to Subglacial Discharge, Fjord Circulation, and Free Convection. <i>Journal of Geophysical Research F: Earth Surface</i> , 2018, 123, 2189-2204.	2.8	26
35	Sample bias and the scaling of hydraulic conductivity in fractured rock. <i>Geophysical Research Letters</i> , 1998, 25, 121-124.	4.0	25
36	Transition in brittle failure mode in ice under low confinement. <i>Acta Materialia</i> , 2009, 57, 345-355.	7.9	25

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37	Quantitative Retention of Atmospherically Deposited Elements by Native Vegetation Is Traced by the Fallout Radionuclides ⁷ Be and ²¹⁰ Pb. Environmental Science & Technology, 2014, 48, 12022-12030.	10.0	25
38	Plastic faulting: Brittle-like failure under high confinement. Journal of Geophysical Research, 2004, 109, n/a-n/a.	3.3	23
39	Strengthening of columnar-grained freshwater ice through cyclic flexural loading. Journal of Glaciology, 2020, 66, 556-566.	2.2	21
40	Fine particle deposition to porous beds. Water Resources Research, 2011, 47, .	4.2	20
41	Geogenic As and Mo groundwater contamination caused by an abundance of domestic supply wells. Applied Geochemistry, 2017, 77, 68-79.	3.0	20
42	Surficial redistribution of fallout ¹³¹ iodine in a small temperate catchment. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 4064-4069.	7.1	19
43	Strengthening ice through cyclic loading. Journal of Glaciology, 2017, 63, 663-669.	2.2	19
44	Effects of Computer-Based Role-Playing on Decision Making Skills. Journal of Educational Computing Research, 1997, 17, 147-164.	5.5	18
45	Relationship between altitude and lithium in groundwater in the United States of America: results of a 1992-2003 study. Geospatial Health, 2014, 9, 231.	0.8	18
46	Maps for brittle and brittle-like failure in ice. Cold Regions Science and Technology, 2014, 97, 1-6.	3.5	18
47	The Effect of Multiple Formats on Understanding Complex Visual Displays. Journal of Geoscience Education, 2004, 52, 115-121.	1.4	17
48	Estimation of fracture zone geometry from steady-state hydraulic head data using iterative sequential cokriging. Geophysical Research Letters, 1996, 23, 2685-2688.	4.0	16
49	Beryllium-7 and lead-210 chronometry of modern soil processes: The Linked Radionuclide Accumulation model, LRC. Geochimica Et Cosmochimica Acta, 2016, 180, 109-125.	3.9	16
50	Limits on rock strength under high confinement. Earth and Planetary Science Letters, 2007, 258, 307-314.	4.4	15
51	Experimental studies on mechanical properties and ductile-to-brittle transition of ice-silica mixtures: Young's modulus, compressive strength, and fracture toughness. Journal of Geophysical Research: Solid Earth, 2017, 122, 6014-6030.	3.4	15
52	Erosion and physical transport via overland flow of arsenic and lead bound to silt-sized particles. Geomorphology, 2011, 128, 85-91.	2.6	14
53	The role of damage and recrystallization in the elastic properties of columnar ice. Journal of Glaciology, 2015, 61, 461-480.	2.2	14
54	The impact of run-of-river dams on sediment longitudinal connectivity and downstream channel equilibrium. Geomorphology, 2021, 376, 107568.	2.6	14

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55	Improving computer-assisted instruction in teaching higher-order skills. <i>Computers and Education</i> , 2004, 42, 169-180.	8.3	13
56	Fine particle deposition to initially starved, stationary, planar beds. <i>Sedimentology</i> , 2009, 56, 1976-1991.	3.1	13
57	Increased Fractured Rock Permeability After Percolation Despite Limited Crack Growth. <i>Journal of Geophysical Research: Solid Earth</i> , 2020, 125, e2019JB019240.	3.4	13
58	Experimental observation of the onset of fracture percolation in columnar ice. <i>Geophysical Research Letters</i> , 2017, 44, 1795-1802.	4.0	11
59	Behavior of saline ice under cyclic flexural loading. <i>Cryosphere</i> , 2021, 15, 2415-2428.	3.9	11
60	Plastic faulting in saltwater ice. <i>Journal of Glaciology</i> , 2014, 60, 447-452.	2.2	10
61	Seasonal controls on meteoric ⁷ Be in coarse-grained river channels. <i>Hydrological Processes</i> , 2014, 28, 2738-2748.	2.6	10
62	Joint isotopic mass balance: a novel approach to quantifying channel bed to channel margins sediment transfer during storm events. <i>Earth Surface Processes and Landforms</i> , 2015, 40, 1563-1573.	2.5	10
63	Are intermediate depth earthquakes caused by plastic faulting?. <i>Earth and Planetary Science Letters</i> , 2013, 382, 32-37.	4.4	9
64	Rapid response of New England (USA) rivers to shifting boundary conditions: Processes, time frames, and pathways to post-flood channel equilibrium. <i>Geology</i> , 2019, 47, 997-1000.	4.4	9
65	Strength-limiting mechanisms in high-confinement brittle-like failure: Adiabatic transformational faulting. <i>Journal of Geophysical Research: Solid Earth</i> , 2017, 122, 1088-1106.	3.4	7
66	The flexural strength of bonded ice. <i>Cryosphere</i> , 2021, 15, 2957-2967.	3.9	7
67	Cyclic strengthening of lake ice. <i>Journal of Glaciology</i> , 2021, 67, 182-185.	2.2	7
68	Relaxation of Flexure-Induced Strengthening of Ice. <i>Geophysical Research Letters</i> , 0, , .	4.0	6
69	Experimental Verification of the Isotropic Onset of Percolation in 3D Crack Networks in Polycrystalline Materials With Implications for the Applicability of Percolation Theory to Crustal Rocks. <i>Journal of Geophysical Research: Solid Earth</i> , 2021, 126, .	3.4	6
70	Non-linear rate dependent deformation under compression due to state variable friction. <i>Geophysical Research Letters</i> , 1998, 25, 2205-2208.	4.0	5
71	A mechanistic understanding of channel evolution following dam removal. <i>Geomorphology</i> , 2021, 395, 107971.	2.6	5
72	Sorption Behavior and Aerosol-Particulate Transitions of ⁷ Be, ¹⁰ Be, and ²¹⁰ Pb: A Basis for Fallout Radionuclide Chronometry. <i>Environmental Science & Technology</i> , 2021, 55, 14957-14967.	10.0	5

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73	Experimental Observation of the Onset of Percolation in Freshwater Granular Ice. Journal of Geophysical Research: Solid Earth, 2019, 124, 2445-2456.	3.4	4
74	Design and Assessment of a Skills-Based Geoscience Curriculum. Journal of Geoscience Education, 2014, 62, 668-678.	1.4	3
75	Aerosol Populations, Processes, and Ages in Bulk Deposition: Insights From a 9-Year Study of ⁷ Be, ²¹⁰ Pb, Sulfate, and Major/Trace Elements. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2021JD035612.	3.3	3
76	Elastic source model of the North Mono eruption (1325–1368 A.D.) based on shoreline deformation. Bulletin of Volcanology, 2010, 72, 1141-1152.	3.0	2
77	On the restoration of strength through stress-driven healing of faults in ice. Acta Materialia, 2016, 117, 306-310.	7.9	2
78	Effect of compressive loading on first-year sea-ice permeability. Journal of Glaciology, 2018, 64, 443-449.	2.2	2
79	Mechanisms of Cyclic Strengthening and Recovery of Polycrystalline Ice. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, 2022, , 3-8.	0.2	2
80	Fracture, Friction, and Permeability of Ice. Annual Review of Earth and Planetary Sciences, 2022, 50, 323-343.	11.0	2
81	The use of "rock hard"™-sodium sulphate tablets for quickly determining preferential water flow routes in soils. Earth Surface Processes and Landforms, 1989, 14, 443-446.	2.5	1
82	Response to Comment on "Landfill-Stimulated Iron Reduction and Arsenic Release at the Coakley Superfund Site (NH)" Environmental Science & Technology, 2006, 40, 4039-4039.	10.0	1
83	Reply to Discussion "Assessment of Methods for Measuring Embeddedness: Application to Sedimentation in Flow Regulated Streams" by John P. Potyondy and Traci L. Sylte ^{1,2,3} . Journal of the American Water Resources Association, 2008, 44, 262-264.	2.4	1
84	Seasonal and Longitudinal Variations in Suspended Load Connectivity Between River Channels and Their Margins. Water Resources Research, 2022, 58, .	4.2	1