Cristiano Collettini

List of Publications by Year
in descending order

93 papers	5,954 citations	61857 43 h-index	74018 75 g-index
95 all docs	95 docs citations	95 times ranked	3618 citing authors

#	Article	IF	Citations
1	Aftershocks driven by a high-pressure CO2 source at depth. Nature, 2004, 427, 724-727.	13.7	714
2	Fault zone fabric and fault weakness. Nature, 2009, 462, 907-910.	13.7	444
3	Normal faults, normal friction?. Geology, 2001, 29, 927.	2.0	229
4	Fault zone weakening and character of slip along low-angle normal faults: insights from the Zuccale fault, Elba, Italy. Journal of the Geological Society, 2004, 161, 1039-1051.	0.9	182
5	The mechanical paradox of low-angle normal faults: Current understanding and open questions. Tectonophysics, 2011, 510, 253-268.	0.9	159
6	Stabilization of fault slip by fluid injection in the laboratory and in situ. Science Advances, 2019, 5, eaau4065.	4.7	149
7	Faults smooth gradually as a function of slip. Earth and Planetary Science Letters, 2011, 302, 185-193.	1.8	148
8	The role of fluid pressure in induced vs. triggered seismicity: insights from rock deformation experiments on carbonates. Scientific Reports, 2016, 6, 24852.	1.6	143
9	A low-angle normal fault in the Umbria region (Central Italy): a mechanical model for the related microseismicity. Tectonophysics, 2002, 359, 97-115.	0.9	137
10	Precursory changes in seismic velocity for the spectrum of earthquake failure modes. Nature Geoscience, 2016, 9, 695-700.	5.4	134
11	The development and behaviour of low-angle normal faults during Cenozoic asymmetric extension in the Northern Apennines, Italy. Journal of Structural Geology, 2006, 28, 333-352.	1.0	122
12	Frictional stability and earthquake triggering during fluid pressure stimulation of an experimental fault. Earth and Planetary Science Letters, 2017, 477, 84-96.	1.8	120
13	Architecture and mechanics of an active lowâ€angle normal fault: Alto Tiberina Fault, northern Apennines, Italy. Journal of Geophysical Research, 2007, 112, .	3.3	119
14	Development of interconnected talc networks and weakening of continental low-angle normal faults. Geology, 2009, 37, 567-570.	2.0	119
15	Fault structure, frictional properties and mixed-mode fault slip behavior. Earth and Planetary Science Letters, 2011, 311, 316-327.	1.8	115
16	Can grain size sensitive flow lubricate faults during the initial stages of earthquake propagation?. Earth and Planetary Science Letters, 2015, 431, 48-58.	1.8	108
17	Fault zone architecture and deformation processes within evaporitic rocks in the upper crust. Tectonics, 2008, 27, .	1.3	104
18	Beyond Byerlee friction, weak faults and implications for slip behavior. Earth and Planetary Science Letters, 2019, 519, 245-263.	1.8	98

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19	Thermal decomposition along natural carbonate faults during earthquakes. Geology, 2013, 41, 927-930.	2.0	94
20	Frictional strength and healing behavior of phyllosilicateâ€rich faults. Journal of Geophysical Research, 2012, 117, .	3.3	93
21	Heterogeneous strength and fault zone complexity of carbonate-bearing thrusts with possible implications for seismicity. Earth and Planetary Science Letters, 2014, 408, 307-318.	1.8	84
22	Fault architecture and deformation mechanisms in exhumed analogues of seismogenic carbonate-bearing thrusts. Journal of Structural Geology, 2013, 55, 167-181.	1.0	73
23	Contemporary crustal extension in the Umbriaâ€“Marche Apennines from regional CGPS networks and comparison between geodetic and seismic deformation. Tectonophysics, 2009, 476, 3-12.	0.9	71
24	Earthquakes and fault zone structure. Geology, 2014, 42, 343-346.	2.0	67
25	Connecting seismically active normal faults with Quaternary geological structures in a complex extensional environment: The Colfiorito 1997 case history (northern Apennines, Italy). Tectonics, 2005, 24, n/a-n/a.	1.3	66
26	Evolution of the elastic moduli of seismogenic Triassic Evaporites subjected to cyclic stressing. Tectonophysics, 2013, 592, 67-79.	0.9	66
27	A slip tendency analysis to test mechanical and structural control on aftershock rupture planes. Earth and Planetary Science Letters, 2007, 255, 402-413.	1.8	65
28	Laboratory measurements of the physical properties of Triassic Evaporites from Central Italy and correlation with geophysical data. Tectonophysics, 2010, 492, 121-132.	0.9	64
29	Frictional properties and slip stability of active faults within carbonateâ€“evaporite sequences: The role of dolomite and anhydrite. Earth and Planetary Science Letters, 2013, 369-370, 220-232.	1.8	64
30	Frictional behavior of talcâ€calcite mixtures. Journal of Geophysical Research: Solid Earth, 2015, 120, 6614-6633.	1.4	61
31	On the evolution of elastic properties during laboratory stickâ€slip experiments spanning the transition from slow slip to dynamic rupture. Journal of Geophysical Research: Solid Earth, 2016, 121, 8569-8594.	1.4	61
32	The influence of normal stress and sliding velocity on the frictional behaviour of calcite at room temperature: insights from laboratory experiments and microstructural observations. Geophysical Journal International, 2016, 205, 548-561.	1.0	61
33	A novel and versatile apparatus for brittle rock deformation. International Journal of Rock Mechanics and Minings Sciences, 2014, 66, 114-123.	2.6	59
34	Fault structure and slip localization in carbonate-bearing normal faults: An example from the Northern Apennines of Italy. Journal of Structural Geology, 2014, 67, 154-166.	1.0	59
35	Fluid Injection and the Mechanics of Frictional Stability of Shaleâ€Bearing Faults. Journal of Geophysical Research: Solid Earth, 2018, 123, 8364-8384.	1.4	59
36	Recognizing the seismic cycle along ancient faults: CO2-induced fluidization of breccias in the footwall of a sealing low-angle normal fault. Journal of Structural Geology, 2008, 30, 1034-1046.	1.0	58

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37	A multidisciplinary study of a natural example of a CO2 geological reservoir in central Italy. International Journal of Greenhouse Gas Control, 2013, 12, 72-83.	2.3	57
38	A mechanical model for complex fault patterns induced by evaporite dehydration and cyclic changes in fluid pressure. Journal of Structural Geology, 2007, 29, 1573-1584.	1.0	56
39	Frictional heterogeneities on carbonateâ€bearing normal faults: Insights from the Monte Maggio Fault, Italy. Journal of Geophysical Research: Solid Earth, 2014, 119, 9062-9076.	1.4	53
40	The Gubbio fault: can different methods give pictures of the same object?. Journal of Geodynamics, 2003, 36, 51-66.	0.7	52
41	Frictional Properties of a Low-Angle Normal Fault Under In Situ Conditions: Thermally-Activated Velocity Weakening. Pure and Applied Geophysics, 2014, 171, 2641-2664.	0.8	52
42	Slow-to-fast transition of giant creeping rockslides modulated by undrained loading in basal shear zones. Nature Communications, 2020, 11, 1352.	5.8	52
43	Brittle versus ductile deformation as the main control on the transport properties of lowâ€porosity anhydrite rocks. Journal of Geophysical Research, 2009, 114, .	3.3	46
44	Fault weakening due to CO ₂ degassing in the Northern Apennines: short- and long-term processes. Geological Society Special Publication, 2008, 299, 175-194.	0.8	45
45	Frictional Behavior of Input Sediments to the Hikurangi Trench, New Zealand. Geochemistry, Geophysics, Geosystems, 2018, 19, 2973-2990.	1.0	41
46	Looking at fault reactivation matching structural geology and seismological data. Journal of Structural Geology, 2005, 27, 937-942.	1.0	40
47	Fault strength in thin-skinned tectonic wedges across the smectite-illite transition: Constraints from friction experiments and critical tapers. Geology, 2015, 43, 923-926.	2.0	40
48	Frictional-viscous flow, seismicity and the geology of weak faults: a review and future directions. Geological Society Special Publication, 2008, 299, 151-173.	0.8	38
49	Switches in the minimum compressive stress direction induced by overpressure beneath a low-permeability fault zone. Terra Nova, 2006, 18, 224-231.	0.9	36
50	Pressure solution seams in carbonatic fault rocks: mineralogy, micro/nanostructures and deformation mechanism. Contributions To Mineralogy and Petrology, 2014, 167, 1.	1.2	36
51	Evolution of shear fabric in granular fault gouge from stable sliding to stick slip and implications for fault slip mode. Geology, 0, , G39033.1.	2.0	36
52	Seismic expression of active extensional faults in northern Umbria (Central Italy). Journal of Geodynamics, 2000, 29, 309-321.	0.7	35
53	Interactions between low-angle normal faults and plutonism in the upper crust: Insights from the Island of Elba, Italy. Bulletin of the Geological Society of America, 2011, 123, 329-346.	1.6	35
54	Structural disorder of graphite and implications for graphite thermometry. Solid Earth, 2018, 9, 223-231.	1.2	33

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55	Growth and deformation mechanisms of talc along a natural fault: a micro/nanostructural investigation. Contributions To Mineralogy and Petrology, 2009, 158, 529-542.	1.2	32
56	Insights on the geometry and mechanics of the Umbriaâ€"Marche earthquakes (Central Italy) from the integration of field and laboratory data. Tectonophysics, 2009, 476, 99-109.	0.9	31
57	Frictional Properties of Opalinus Clay: Implications for Nuclear Waste Storage. Journal of Geophysical Research: Solid Earth, 2018, 123, 157-175.	1.4	31
58	Physical and Transport Property Variations Within Carbonateâ€Bearing Fault Zones: Insights From the Monte Maggio Fault (Central Italy). Geochemistry, Geophysics, Geosystems, 2017, 18, 4027-4042.	1.0	30
59	Using footwall structures to constrain the evolution of low-angle normal faults. Journal of the Geological Society, 2007, 164, 1187-1191.	0.9	29
60	Deformation Processes, Textural Evolution and Weakening in Retrograde Serpentinites. Minerals (Basel, Switzerland), 2018, 8, 241.	0.8	25
61	From mapped faults to fault-length earthquake magnitude (FLEM): a test on Italy with methodological implications. Solid Earth, 2019, 10, 1555-1579.	1.2	24
62	The Alto Tiberina Near Fault Observatory (northern Apennines, Italy). Annals of Geophysics, 2014, 57, .	0.5	24
63	Friction of Mineralogically Controlled Serpentinites and Implications for Fault Weakness. Journal of Geophysical Research: Solid Earth, 2018, 123, 6976-6991.	1.4	23
64	Friction and scale-dependent deformation processes of large experimental carbonate faults. Journal of Structural Geology, 2017, 100, 12-23.	1.0	22
65	Fault geometry and mechanics of marly carbonate multilayers: An integrated field and laboratory study from the Northern Apennines, Italy. Journal of Structural Geology, 2016, 93, 1-16.	1.0	20
66	A comparison of structural data and seismic images for low-angle normal faults in the Northern Apennines (Central Italy): constraints on activity. Geological Society Special Publication, 2004, 224, 95-112.	0.8	19
67	The internal structure of fault zones: fluid flow and mechanical properties. Geological Society Special Publication, 2008, 299, 1-3.	0.8	19
68	The Role of Shear Fabric in Controlling Breakdown Processes During Laboratory Slowâ€Slip Events. Journal of Geophysical Research: Solid Earth, 2020, 125, e2020JB020405.	1.4	19
69	The microstructural character and mechanical significance of fault rocks associated with a continental low-angle normal fault: the Zuccale Fault, Elba Island, Italy. Geological Society Special Publication, 2011, 359, 97-113.	0.8	18
70	The role of rheology, crustal structures and lithology in the seismicity distribution of the northern Apennines. Tectonophysics, 2017, 694, 280-291.	0.9	18
71	Complex geometry and kinematics of subsidiary faults within a carbonate-hosted relay ramp. Journal of Structural Geology, 2020, 130, 103915.	1.0	17
72	Bifurcations at the Stability Transition of Earthquake Faulting. Geophysical Research Letters, 2020, 47, e2020GL087985.	1.5	17

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73	Early weakening processes inside thrust fault. Tectonics, 2015, 34, 1396-1411.	1.3	16
74	Reactivation of normal faults as high-angle reverse faults due to low frictional strength: Experimental data from the Moonlight Fault Zone, New Zealand. Journal of Structural Geology, 2017, 105, 34-43.	1.0	16
75	The role of shale content and pore-water saturation on frictional properties of simulated carbonate faults. Tectonophysics, 2021, 807, 228811.	0.9	15
76	Do scaly clays control seismicity on faulted shale rocks?. Earth and Planetary Science Letters, 2018, 488, 59-67.	1.8	14
77	Fault-surface geometry controlled by faulting mechanisms: Experimental observations in limestone faults. Geology, 2017, 45, 851-854.	2.0	13
78	Experimental Insights Into Fault Reactivation in Gougeâ€Filled Fault Zones. Journal of Geophysical Research: Solid Earth, 2019, 124, 4189-4204.	1.4	13
79	The structural evolution of dilational stepovers in regional transtensional zones. Geological Society Special Publication, 2007, 290, 433-445.	0.8	12
80	The shallow boreholes at The AltotiBerina near fault Observatory (TABOO; northern Apennines of) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	1.0	12
81	The Internal Structure of Dilational Stepovers in Regional Transtension Zones. International Geology Review, 2008, 50, 291-304.	1.1	11
82	Modelling fluid flow in complex natural fault zones: Implications for natural and human-induced earthquake nucleation. Earth and Planetary Science Letters, 2020, 530, 115869.	1.8	10
83	Lithological and structural control on fracture frequency distribution within a carbonate-hosted relay ramp. Journal of Structural Geology, 2020, 137, 104085.	1.0	10
84	Frictional controls on the seismogenic zone: Insights from the Apenninic basement, Central Italy. Earth and Planetary Science Letters, 2022, 583, 117444.	1.8	10
85	Influence of calcite decarbonation on the frictional behavior of carbonate-bearing gouge: Implications for the instability of volcanic flanks and fault slip. Tectonophysics, 2015, 658, 128-136.	0.9	9
86	Strength evolution of simulated carbonate-bearing faults: The role of normal stress and slip velocity. Journal of Structural Geology, 2018, 109, 1-9.	1.0	7
87	Frictional properties of basalt experimental faults and implications for volcano-tectonic settings and geo-energy sites. Tectonophysics, 2021, 811, 228883.	0.9	6
88	The Role of Fault Rock Fabric in the Dynamics of Laboratory Faults. Journal of Geophysical Research: Solid Earth, 2022, 127, .	1.4	4
89	Frictional Strengthening Explored During Nonâ€Steady State Shearing: Implications for Fault Stability and Slip Event Recurrence Time. Journal of Geophysical Research: Solid Earth, 2020, 125, e2020JB020015.	1.4	3
90	Comment on â€œStructural controls on a carbon dioxide-driven mud volcano field in the Northern Apennines (Pieve Santo Stefano, Italy): Relations with pre-existing steep discontinuities and seismicityâ€• Journal of Structural Geology, 2009, 31, 853-856.	1.0	2

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91	Integrated Laboratories to Study Aseismic and Seismic Faulting. Eos, 2013, 94, 97-98.	0.1	1
92	Chapter 4 Fault Zone Structure and Deformation Processes along an Exhumed Low-Angle Normal Fault. International Geophysics, 2009, 94, 69-85.	0.6	0
93	Interactions between low-angle normal faults and plutonism in the upper crust: Insights from the Island of Elba, Italy: Reply. Bulletin of the Geological Society of America, 2012, 124, 1916-1917.	1.6	0