

# Roberto Brighenti

## List of Publications by Year in descending order

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125  
papers

2,683  
citations

147801

31  
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233421

45  
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127  
all docs

127  
docs citations

127  
times ranked

1652  
citing authors

#	ARTICLE	IF	CITATIONS
1	A statistically-based continuum theory for polymers with transient networks. <i>Journal of the Mechanics and Physics of Solids</i> , 2017, 107, 1-20.	4.8	110
2	Buckling of cracked thin-plates under tension or compression. <i>Thin-Walled Structures</i> , 2005, 43, 209-224.	5.3	83
3	Part-through cracks in round bars under cyclic combined axial and bending loading. <i>International Journal of Fatigue</i> , 1996, 18, 33-39.	5.7	80
4	Expected principal stress directions under multiaxial random loading. Part I: theoretical aspects of the weight function method. <i>International Journal of Fatigue</i> , 1999, 21, 83-88.	5.7	80
5	Optimal fiber content and distribution in fiber-reinforced solids using a reliability and NURBS based sequential optimization approach. <i>Structural and Multidisciplinary Optimization</i> , 2015, 51, 99-112.	3.5	76
6	Statistical Damage Mechanics of Polymer Networks. <i>Macromolecules</i> , 2018, 51, 6609-6622.	4.8	74
7	Expected principal stress directions under multiaxial random loading. Part II: numerical simulation and experimental assessment through the weight function method. <i>International Journal of Fatigue</i> , 1999, 21, 89-96.	5.7	66
8	Fracture behaviour of plain and fiber-reinforced concrete with different water content under mixed mode loading. <i>Materials &amp; Design</i> , 2010, 31, 2032-2042.	5.1	66
9	Debris flow hazard mitigation: A simplified analytical model for the design of flexible barriers. <i>Computers and Geotechnics</i> , 2013, 54, 1-15.	4.7	66
10	Numerical buckling analysis of compressed or tensioned cracked thin plates. <i>Engineering Structures</i> , 2005, 27, 265-276.	5.3	65
11	Laser-based additively manufactured polymers: a review on processes and mechanical models. <i>Journal of Materials Science</i> , 2021, 56, 961-998.	3.7	65
12	Surface cracks in notched round bars under cyclic tension and bending. <i>International Journal of Fatigue</i> , 2006, 28, 251-260.	5.7	63
13	A fracture plane approach in multiaxial high-cycle fatigue of metals. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2000, 23, 355-364.	3.4	56
14	Optimization of fiber distribution in fiber reinforced composite by using NURBS functions. <i>Computational Materials Science</i> , 2014, 83, 463-473.	3.0	54
15	A notch multiaxial-fatigue approach based on damage mechanics. <i>International Journal of Fatigue</i> , 2012, 39, 122-133.	5.7	51
16	Fatigue growth of a surface crack in a welded T-joint. <i>International Journal of Fatigue</i> , 2005, 27, 59-69.	5.7	48
17	Surface cracks in fatigued structural components: a review. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2013, 36, 1209-1222.	3.4	47
18	A numerical analysis on the interaction of twin coplanar flaws. <i>Engineering Fracture Mechanics</i> , 2004, 71, 485-499.	4.3	46

#	ARTICLE	IF	CITATIONS
19	SURFACE FLAWS IN CYLINDRICAL SHAFTS UNDER ROTARY BENDING. Fatigue and Fracture of Engineering Materials and Structures, 1998, 21, 1027-1035.	3.4	45
20	Fatigue life assessment under a complex multiaxial load history: an approach based on damage mechanics. Fatigue and Fracture of Engineering Materials and Structures, 2012, 35, 141-153.	3.4	45
21	Buckling sensitivity analysis of cracked thin plates under membrane tension or compression loading. Nuclear Engineering and Design, 2009, 239, 965-980.	1.7	42
22	A genetic algorithm applied to optimisation of patch repairs for cracked plates. Computer Methods in Applied Mechanics and Engineering, 2006, 196, 466-475.	6.6	41
23	Smart Polymers for Advanced Applications: A Mechanical Perspective Review. Frontiers in Materials, 2020, 7, .	2.4	40
24	FATIGUE PROPAGATION OF SURFACE FLAWS IN ROUND BARS: A THREE-PARAMETER THEORETICAL MODEL. Fatigue and Fracture of Engineering Materials and Structures, 1996, 19, 1471-1480.	3.4	39
25	Circumferential surface flaws in pipes under cyclic axial loading. Engineering Fracture Mechanics, 1998, 60, 383-396.	4.3	39
26	Application of the element-free Galerkin meshless method to 3-D fracture mechanics problems. Engineering Fracture Mechanics, 2005, 72, 2808-2820.	4.3	39
27	Fatigue growth simulation of part-through flaws in thick-walled pipes under rotary bending. International Journal of Fatigue, 2000, 22, 1-9.	5.7	36
28	Influence of the cold-drawing process on fatigue crack growth of a V-notched round bar. International Journal of Fatigue, 2010, 32, 1136-1145.	5.7	36
29	Nonlinear deformation behaviour of auxetic cellular materials with reentrant lattice structure. Fatigue and Fracture of Engineering Materials and Structures, 2016, 39, 599-610.	3.4	36
30	Part-through cracks in pipes under cyclic bending. Nuclear Engineering and Design, 1998, 185, 1-10.	1.7	33
31	Patch repair design optimisation for fracture and fatigue improvements of cracked plates. International Journal of Solids and Structures, 2007, 44, 1115-1131.	2.7	32
32	Buckling and fracture behaviour of cracked thin plates under shear loading. Materials & Design, 2011, 32, 1347-1355.	5.1	32
33	Fibre distribution optimisation in fibre-reinforced composites by a genetic algorithm. Composite Structures, 2005, 71, 1-15.	5.8	31
34	Notched shells with surface cracks under complex loading. International Journal of Mechanical Sciences, 2006, 48, 638-649.	6.7	29
35	Notched double-curvature shells with cracks under pulsating internal pressure. International Journal of Pressure Vessels and Piping, 2009, 86, 443-453.	2.6	27
36	Smart behaviour of layered plates through the use of auxetic materials. Thin-Walled Structures, 2014, 84, 432-442.	5.3	27

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37	Strain Field Self-Diagnostic Poly(dimethylsiloxane) Elastomers. <i>Chemistry of Materials</i> , 2017, 29, 7450-7457.	6.7	27
38	Cutting resistance of soft materials: Effects of blade inclination and friction. <i>Theoretical and Applied Fracture Mechanics</i> , 2019, 101, 200-206.	4.7	26
39	A micromechanical-based model of stimulus responsive liquid crystal elastomers. <i>International Journal of Solids and Structures</i> , 2021, 219-220, 92-105.	2.7	26
40	Fracture mechanics approach for a partially debonded cylindrical fibre. <i>Composites Part B: Engineering</i> , 2013, 53, 169-178.	12.0	25
41	Micromechanical crack growth-based fatigue damage in fibrous composites. <i>International Journal of Fatigue</i> , 2016, 82, 98-109.	5.7	25
42	The fracture mechanics in cutting: A comparative study on hard and soft polymeric materials. <i>International Journal of Mechanical Sciences</i> , 2018, 148, 554-564.	6.7	25
43	The effect of crack insertion for FDM printed PLA materials on Mode I and Mode II fracture toughness. <i>Procedia Structural Integrity</i> , 2020, 28, 1134-1139.	0.8	25
44	A micro-mechanical model for statistically unidirectional and randomly distributed fibre-reinforced solids. <i>Mathematics and Mechanics of Solids</i> , 2012, 17, 876-893.	2.4	24
45	Numerical modelling of the fracture behaviour of brittle materials reinforced with unidirectional or randomly distributed fibres. <i>Mechanics of Materials</i> , 2012, 52, 12-27.	3.2	24
46	Circumferentially notched pipe with an external surface crack under complex loading. <i>International Journal of Mechanical Sciences</i> , 2003, 45, 1929-1947.	6.7	22
47	Phase field approach for simulating failure of viscoelastic elastomers. <i>European Journal of Mechanics, A/Solids</i> , 2021, 85, 104092.	3.7	22
48	Use of incompatible displacement modes in a finite element model to analyze the dynamic behavior of unreinforced masonry panels. <i>Computers and Structures</i> , 1995, 57, 47-57.	4.4	20
49	A mechanical model for fiber reinforced composite materials with elasto-plastic matrix and interface debonding. <i>Computational Materials Science</i> , 2004, 29, 475-493.	3.0	20
50	Swelling mechanism in smart polymers responsive to mechano-chemical stimuli. <i>Journal of the Mechanics and Physics of Solids</i> , 2020, 143, 104011.	4.8	20
51	Cracking behaviour of fibre-reinforced cementitious composites: A comparison between a continuous and a discrete computational approach. <i>Engineering Fracture Mechanics</i> , 2013, 103, 103-114.	4.3	19
52	A three-parameter model for fatigue behaviour of circumferential surface flaws in pipes. <i>International Journal of Mechanical Sciences</i> , 2000, 42, 1255-1269.	6.7	18
53	Sickle-shaped crack in a round bar under complex Mode I loading. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2007, 30, 524-534.	3.4	18
54	Mechanics of interface debonding in fibre-reinforced materials. <i>Journal of Composite Materials</i> , 2016, 50, 2699-2718.	2.4	18

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55	Influence of a central straight crack on the buckling behaviour of thin plates under tension, compression or shear loading. <i>International Journal of Mechanics and Materials in Design</i> , 2010, 6, 73-87.	3.0	17
56	A simple statistical approach to model the time-dependent response of polymers with reversible cross-links. <i>Composites Part B: Engineering</i> , 2017, 115, 257-265.	12.0	17
57	Static crack extension prediction in aluminium alloy at low temperature. <i>Engineering Fracture Mechanics</i> , 2008, 75, 510-525.	4.3	16
58	Damage mechanics and Paris regime in fatigue life assessment of metals. <i>International Journal of Pressure Vessels and Piping</i> , 2013, 104, 57-68.	2.6	16
59	Influence of material microvoids and heterogeneities on fatigue crack propagation. <i>Acta Mechanica</i> , 2014, 225, 3123-3135.	2.1	16
60	External surface cracks in shells under cyclic internal pressure. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2000, 23, 467-476.	3.4	14
61	Axially-cracked pipes under pulsating internal pressure. <i>International Journal of Fatigue</i> , 2000, 22, 559-567.	5.7	14
62	Mechanical behavior of photopolymerized materials. <i>Journal of the Mechanics and Physics of Solids</i> , 2021, 153, 104456.	4.8	14
63	Stress-intensity factors at the interface edge of a partially detached fibre. <i>Theoretical and Applied Fracture Mechanics</i> , 2013, 67-68, 1-13.	4.7	12
64	On the Auxetic Behaviour of Metamaterials with Re-entrant Cell Structures. <i>Procedia Engineering</i> , 2015, 109, 410-417.	1.2	12
65	How Soft Polymers Cope with Cracks and Notches. <i>Applied Sciences (Switzerland)</i> , 2019, 9, 1086.	2.5	12
66	Multiphysics modelling of the mechanical properties in polymers obtained via photo-induced polymerization. <i>International Journal of Advanced Manufacturing Technology</i> , 2021, 117, 481-499.	3.0	12
67	Mechanics of materials with embedded unstable molecules. <i>International Journal of Solids and Structures</i> , 2019, 162, 21-35.	2.7	11
68	Surface cracks in shells under different hoop stress distributions. <i>International Journal of Pressure Vessels and Piping</i> , 2000, 77, 503-509.	2.6	10
69	Mechanics of responsive polymers via conformationally switchable molecules. <i>Journal of the Mechanics and Physics of Solids</i> , 2018, 113, 65-81.	4.8	10
70	Critical Fracture Plane Under Multiaxial Random Loading by Means of Euler Angles Averaging. <i>European Structural Integrity Society</i> , 1999, , 166-178.	0.1	9
71	Numerical modelling of the fatigue behavior of fibre-reinforced composites. <i>Composites Part B: Engineering</i> , 2004, 35, 197-210.	12.0	9
72	Fracture and fatigue properties of metallic alloys S275 J2 and Al7075 T6 at low temperatures. <i>Journal of Materials Science</i> , 2008, 43, 4780-4788.	3.7	9

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73	Rate-dependent failure mechanism of elastomers. International Journal of Mechanical Sciences, 2017, 130, 448-457.	6.7	9
74	Geometrically non-linear bending of plates: Implications in curved building façades. Construction and Building Materials, 2019, 214, 698-708.	7.2	9
75	A new continuum FE approach for fracture mechanics discontinuous problems. Computational Materials Science, 2009, 45, 367-377.	3.0	8
76	Some considerations on failure of solids and liquids. Strength of Materials, 2010, 42, 154-166.	0.5	8
77	A novel finite element formulation for beams with composite cross-section. International Journal of Mechanical Sciences, 2014, 89, 112-122.	6.7	8
78	Defect tolerance at various strain rates in elastomeric materials: An experimental investigation. Engineering Fracture Mechanics, 2017, 183, 79-93.	4.3	8
79	pH-Driven Conformational Switching of Quinoxaline Cavitands in Polymer Matrices. Synlett, 2018, 29, 2503-2508.	1.8	8
80	Controlled morphing of architected liquid crystal elastomer elements: modeling and simulations. Mechanics Research Communications, 2022, 121, 103858.	1.8	8
81	Notch effect in highly deformable material sheets. Thin-Walled Structures, 2016, 105, 90-100.	5.3	7
82	External Longitudinal Flaws in Pipes Under Complex Loading. Journal of Pressure Vessel Technology, Transactions of the ASME, 2001, 123, 139-145.	0.6	6
83	A computational approach to evaluate the mechanical influence of fibres on brittle-matrix composite materials. Computational Materials Science, 2012, 64, 212-215.	3.0	6
84	Continuous and lattice models to describe crack paths in brittle-matrix composites with random and unidirectional fibres. Engineering Fracture Mechanics, 2013, 108, 170-182.	4.3	6
85	Dynamic behaviour of solids and granular materials: a force potential-based particle method. International Journal for Numerical Methods in Engineering, 2016, 105, 936-959.	2.8	6
86	Viscous and Failure Mechanisms in Polymer Networks: A Theoretical Micromechanical Approach. Materials, 2019, 12, 1576.	2.9	6
87	Optimum Patch Repair Shapes for Cracked Members. International Journal of Mechanics and Materials in Design, 2004, 1, 365-381.	3.0	5
88	Fracture behaviour of brittle fibre-reinforced solids by a new FE formulation. Composite Structures, 2009, 91, 324-336.	5.8	5
89	Influence of Residual Stresses on Fatigue Crack Propagation in Pearlitic Cold-Drawn Steel Wires. Materials Science Forum, 0, 681, 229-235.	0.3	5
90	Crack path dependence on inhomogeneities of material microstructure. Frattura Ed Integrità Strutturale, 2012, 6, 6-16.	0.9	5

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91	Defect tolerance in soft materials. <i>Procedia Structural Integrity</i> , 2016, 2, 2788-2795.	0.8	5
92	Micromechanical model for preferentially-oriented short-fibre-reinforced materials under cyclic loading. <i>Engineering Fracture Mechanics</i> , 2016, 167, 138-150.	4.3	5
93	A physics-based micromechanical model for electroactive viscoelastic polymers. <i>Journal of Intelligent Material Systems and Structures</i> , 2018, 29, 2902-2918.	2.5	5
94	Mechanics of innovative responsive polymers. <i>Mechanics Research Communications</i> , 2019, 100, 103403.	1.8	5
95	Debris flow impact on a flexible barrier: laboratory flume experiments and force-based mechanical model validation. <i>Natural Hazards</i> , 2021, 106, 735-756.	3.4	5
96	Smart actuation of liquid crystal elastomer elements: cross-link density-controlled response. <i>Smart Materials and Structures</i> , 2022, 31, 015012.	3.5	5
97	Mechanical characterization of additively manufactured photopolymerized polymers. <i>Mechanics of Advanced Materials and Structures</i> , 2023, 30, 1853-1864.	2.6	5
98	A new discontinuous FE formulation for crack path prediction in brittle solids. <i>International Journal of Solids and Structures</i> , 2008, 45, 6501-6517.	2.7	4
99	Computational techniques for simulation of damage and failure in composite materials. , 2015, , 199-219.		4
100	Defect sensitivity to failure of highly deformable polymeric materials. <i>Theoretical and Applied Fracture Mechanics</i> , 2017, 88, 107-116.	4.7	4
101	Stress field near a notch root under pure bending. <i>Materials Science</i> , 1998, 34, 640-646.	0.9	3
102	A micromechanical model for the prediction of the temperature fracture behaviour dependence in metallic alloys. <i>Engineering Fracture Mechanics</i> , 2008, 75, 3646-3662.	4.3	3
103	A Plasticity-Like Discontinuous FE Approach for Plain and Fiber-Reinforced Brittle Materials. <i>Mechanics of Advanced Materials and Structures</i> , 2012, 19, 277-289.	2.6	3
104	Fatigue Crack Propagation Simulating Fibre Debonding in Cyclically Loaded Composites. , 2014, 3, 357-362.		3
105	Mechanical modelling of self-diagnostic polymers. <i>Procedia Structural Integrity</i> , 2018, 13, 819-824.	0.8	3
106	Size effect in beams with rounded-tip V-notch. <i>Materials Science</i> , 1996, 32, 325-331.	0.9	2
107	Discontinuous FE approach and lattice models to describe cracking behaviour in fibre-reinforced brittle materials. <i>Procedia Engineering</i> , 2011, 10, 2098-2103.	1.2	2
108	A general discrete element approach for particulate materials. <i>International Journal of Mechanics and Materials in Design</i> , 2017, 13, 267-286.	3.0	2

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109	Defect sensitivity of highly deformable polymeric materials with different intrinsic qualities at various strain rates. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2018, 41, 806-820.	3.4	2
110	Fatigue crack growth in welded S355 specimens subjected to combined loadings. <i>Frattura Ed Integrita Strutturale</i> , 2019, 13, 10-17.	0.9	2
111	On Mode I crack mechanism in the puncturing of soft tissues. <i>Procedia Structural Integrity</i> , 2022, 41, 656-663.	0.8	2
112	A Potential-Based Smoothed Particle Hydrodynamics Approach for the Dynamic Failure Assessment of Compact and Granular Materials. <i>Physical Mesomechanics</i> , 2015, 18, 402-415.	1.9	1
113	A fracture mechanics based model for the analysis of seal effectiveness. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2016, 39, 1445-1460.	3.4	1
114	Cutting resistance of polymeric materials: experimental and theoretical investigation. <i>Procedia Structural Integrity</i> , 2018, 13, 137-142.	0.8	1
115	A phase-field approach for crack modelling of elastomers. <i>Procedia Structural Integrity</i> , 2019, 18, 694-702.	0.8	1
116	Fatigue tests of materials with the controlled energy parameter amplitude. <i>Procedia Structural Integrity</i> , 2019, 17, 503-508.	0.8	1
117	Crack Paths 2012 (CP 2012). <i>Engineering Fracture Mechanics</i> , 2013, 108, 1-2.	4.3	0
118	Damage Mechanics and Critical Plane Approach to Multiaxial Fatigue. <i>Key Engineering Materials</i> , 0, 592-593, 239-245.	0.4	0
119	Fracture toughness of highly deformable polymeric materials. <i>Procedia Structural Integrity</i> , 2017, 3, 18-24.	0.8	0
120	Photopolymerized additive manufacturing materials: Modeling of the printing process, mechanical behavior, and sensitivity analysis. <i>Material Design and Processing Communications</i> , 0, , e225.	0.9	0
121	A Simplified Analytical Model for the Design of Flexible Barriers Against Debris Flows. , 2014, , 725-730.		0
122	Part-Through Cracked Structures Under Cyclic Loading. , 1997, , 65-99.		0
123	Crack paths in soft thin sheets. <i>Frattura Ed Integrita Strutturale</i> , 2019, 13, 1-9.	0.9	0
124	Mechanics of Chemo-Mechanical Stimuli Responsive Soft Polymers. <i>Lecture Notes in Mechanical Engineering</i> , 2020, , 627-637.	0.4	0
125	New experimental techniques for fracture testing of highly deformable materials. <i>Frattura Ed Integrita Strutturale</i> , 2016, 10, 161-171.	0.9	0