# Roberto Brighenti

List of Publications by Year
in descending order



| 125 | 2,683 | 147801 | 233421 |
|---|---|---|---|
| papers | citations | 31 h-index | 45 g-index |

| 127 | 127 | 127 | 1652 |
|---|---|---|---|
| all docs | docs citations | times ranked | citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Mechanical characterization of additively manufactured photopolymerized polymers. Mechanics of Advanced Materials and Structures, 2023, 30, 1853-1864. | 2.6 | 5 |
| 2 | Smart actuation of liquid crystal elastomer elements: cross-link density-controlled response. Smart Materials and Structures, 2022, 31, 015012. | 3.5 | 5 |
| 3 | Controlled morphing of architected liquid crystal elastomer elements: modeling and simulations. Mechanics Research Communications, 2022, 121, 103858. | 1.8 | 8 |
| 4 | On Mode I crack mechanism in the puncturing of soft tissues. Procedia Structural Integrity, 2022, 41, 656-663. | 0.8 | 2 |
| 5 | Phase field approach for simulating failure of viscoelastic elastomers. European Journal of Mechanics, A/Solids, 2021, 85, 104092. | 3.7 | 22 |
| 6 | Laser-based additively manufactured polymers: a review on processes and mechanical models. Journal of Materials Science, 2021, 56, 961-998. | 3.7 | 65 |
| 7 | Debris flow impact on a flexible barrier: laboratory flume experiments and force-based mechanical model validation. Natural Hazards, 2021, 106, 735-756. | 3.4 | 5 |
| 8 | A micromechanical-based model of stimulus responsive liquid crystal elastomers. International Journal of Solids and Structures, 2021, 219-220, 92-105. | 2.7 | 26 |
| 9 | Multiphysics modelling of the mechanical properties in polymers obtained via photo-induced polymerization. International Journal of Advanced Manufacturing Technology, 2021, 117, 481-499. | 3.0 | 12 |
| 10 | Mechanical behavior of photopolymerized materials. Journal of the Mechanics and Physics of Solids, 2021, 153, 104456. | 4.8 | 14 |
| 11 | Smart Polymers for Advanced Applications: A Mechanical Perspective Review. Frontiers in Materials, 2020, 7, . | 2.4 | 40 |
| 12 | The effect of crack insertion for FDM printed PLA materials on Mode I and Mode II fracture toughness. Procedia Structural Integrity, 2020, 28, 1134-1139. | 0.8 | 25 |
| 13 | Swelling mechanism in smart polymers responsive to mechano-chemical stimuli. Journal of the Mechanics and Physics of Solids, 2020, 143, 104011. | 4.8 | 20 |
| 14 | Mechanics of Chemo-Mechanical Stimuli Responsive Soft Polymers. Lecture Notes in Mechanical Engineering, 2020, , 627-637. | 0.4 | 0 |
| 15 | A phase-field approach for crack modelling of elastomers. Procedia Structural Integrity, 2019, 18, 694-702. | 0.8 | 1 |
| 16 | Fatigue tests of materials with the controlled energy parameter amplitude. Procedia Structural Integrity, 2019, 17, 503-508. | 0.8 | 1 |
| 17 | Mechanics of innovative responsive polymers. Mechanics Research Communications, 2019, 100, 103403. | 1.8 | 5 |
| 18 | Viscous and Failure Mechanisms in Polymer Networks: A Theoretical Micromechanical Approach. Materials, 2019, 12, 1576. | 2.9 | 6 |

| # | Article | IF | Citations |
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| 19 | How Soft Polymers Cope with Cracks and Notches. Applied Sciences (Switzerland), 2019, 9, 1086. | 2.5 | 12 |
| 20 | Geometrically non-linear bending of plates: Implications in curved building faÃ§ades. Construction and Building Materials, 2019, 214, 698-708. | 7.2 | 9 |
| 21 | Cutting resistance of soft materials: Effects of blade inclination and friction. Theoretical and Applied Fracture Mechanics, 2019, 101, 200-206. | 4.7 | 26 |
| 22 | Mechanics of materials with embedded unstable molecules. International Journal of Solids and Structures, 2019, 162, 21-35. | 2.7 | 11 |
| 23 | Fatigue crack growth in welded S355 specimens subjected to combined loadings. Frattura Ed Integrita Strutturale, 2019, 13, 10-17. | 0.9 | 2 |
| 24 | Crack paths in soft thin sheets. Frattura Ed Integrita Strutturale, 2019, 13, 1-9. | 0.9 | 0 |
| 25 | Mechanics of responsive polymers via conformationally switchable molecules. Journal of the Mechanics and Physics of Solids, 2018, 113, 65-81. | 4.8 | 10 |
| 26 | Defect sensitivity of highly deformable polymeric materials with different intrinsic qualities at various strain rates. Fatigue and Fracture of Engineering Materials and Structures, 2018, 41, 806-820. | 3.4 | 2 |
| 27 | Cutting resistance of polymeric materials: experimental and theoretical investigation. Procedia Structural Integrity, 2018, 13, 137-142. | 0.8 | 1 |
| 28 | Mechanical modelling of self-diagnostic polymers. Procedia Structural Integrity, 2018, 13, 819-824. | 0.8 | 3 |
| 29 | The fracture mechanics in cutting: A comparative study on hard and soft polymeric materials. International Journal of Mechanical Sciences, 2018, 148, 554-564. | 6.7 | 25 |
| 30 | pH-Driven Conformational Switching of Quinoxaline Cavitands in Polymer Matrices. Synlett, 2018, 29, 2503-2508. | 1.8 | 8 |
| 31 | A physics-based micromechanical model for electroactive viscoelastic polymers. Journal of Intelligent Material Systems and Structures, 2018, 29, 2902-2918. | 2.5 | 5 |
| 32 | Statistical Damage Mechanics of Polymer Networks. Macromolecules, 2018, 51, 6609-6622. | 4.8 | 74 |
| 33 | A general discrete element approach for particulate materials. International Journal of Mechanics and Materials in Design, 2017, 13, 267-286. | 3.0 | 2 |
| 34 | Defect tolerance at various strain rates in elastomeric materials: An experimental investigation. Engineering Fracture Mechanics, 2017, 183, 79-93. | 4.3 | 8 |
| 35 | Rate-dependent failure mechanism of elastomers. International Journal of Mechanical Sciences, 2017, 130, 448-457. | 6.7 | 9 |
| 36 | A statistically-based continuum theory for polymers with transient networks. Journal of the Mechanics and Physics of Solids, 2017, 107, 1-20. | 4.8 | 110 |

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| 37 | Defect sensitivity to failure of highly deformable polymeric materials. Theoretical and Applied Fracture Mechanics, 2017, 88, 107-116. | 4.7 | 4 |
| 38 | Fracture toughness of highly deformable polymeric materials. Procedia Structural Integrity, 2017, 3, 18-24. | 0.8 | 0 |
| 39 | Strain Field Self-Diagnostic Poly(dimethylsiloxane) Elastomers. Chemistry of Materials, 2017, 29, 7450-7457. | 6.7 | 27 |
| 40 | A simple statistical approach to model the time-dependent response of polymers with reversible cross-links. Composites Part B: Engineering, 2017, 115, 257-265. | 12.0 | 17 |
| 41 | A fracture mechanics based model for the analysis of seal effectiveness. Fatigue and Fracture of Engineering Materials and Structures, 2016, 39, 1445-1460. | 3.4 | 1 |
| 42 | Nonlinear deformation behaviour of auxetic cellular materials with reâ€entrant lattice structure. Fatigue and Fracture of Engineering Materials and Structures, 2016, 39, 599-610. | 3.4 | 36 |
| 43 | Defect tolerance in soft materials. Procedia Structural Integrity, 2016, 2, 2788-2795. | 0.8 | 5 |
| 44 | Notch effect in highly deformable material sheets. Thin-Walled Structures, 2016, 105, 90-100. | 5.3 | 7 |
| 45 | 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 |
| 46 | Micromechanical model for preferentially-oriented short-fibre-reinforced materials under cyclic loading. Engineering Fracture Mechanics, 2016, 167, 138-150. | 4.3 | 5 |
| 47 | Mechanics of interface debonding in fibre-reinforced materials. Journal of Composite Materials, 2016, 50, 2699-2718. | 2.4 | 18 |
| 48 | Micromechanical crack growth-based fatigue damage in fibrous composites. International Journal of Fatigue, 2016, 82, 98-109. | 5.7 | 25 |
| 49 | New experimental techniques for fracture testing of highly deformable materials. Frattura Ed Integrita Strutturale, 2016, 10, 161-171. | 0.9 | 0 |
| 50 | On the Auxetic Behaviour of Metamaterials with Re-entrant Cell Structures. Procedia Engineering, 2015, 109, 410-417. | 1.2 | 12 |
| 51 | A Potential-Based Smoothed Particle Hydrodynamics Approach for the Dynamic Failure Assessment of Compact and Granular Materials. Physical Mesomechanics, 2015, 18, 402-415. | 1.9 | 1 |
| 52 | Computational techniques for simulation of damage and failure in composite materials. , 2015, , 199-219. | | 4 |
| 53 | Optimal fiber content and distribution in fiber-reinforced solids using a reliability and NURBS based sequential optimization approach. Structural and Multidisciplinary Optimization, 2015, 51, 99-112. | 3.5 | 76 |
| 54 | Optimization of fiber distribution in fiber reinforced composite by using NURBS functions. Computational Materials Science, 2014, 83, 463-473. | 3.0 | 54 |

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| 55 | Fatigue Crack Propagation Simulating Fibre Debonding in Cyclically Loaded Composites. , 2014, 3, 357-362. | | 3 |
| 56 | Smart behaviour of layered plates through the use of auxetic materials. Thin-Walled Structures, 2014, 84, 432-442. | 5.3 | 27 |
| 57 | Influence of material microvoids and heterogeneities on fatigue crack propagation. Acta Mechanica, 2014, 225, 3123-3135. | 2.1 | 16 |
| 58 | A novel finite element formulation for beams with composite cross-section. International Journal of Mechanical Sciences, 2014, 89, 112-122. | 6.7 | 8 |
| 59 | A Simplified Analytical Model for the Design of Flexible Barriers Against Debris Flows. , 2014, , 725-730. | | 0 |
| 60 | Fracture mechanics approach for a partially debonded cylindrical fibre. Composites Part B: Engineering, 2013, 53, 169-178. | 12.0 | 25 |
| 61 | Stress-intensity factors at the interface edge of a partially detached fibre. Theoretical and Applied Fracture Mechanics, 2013, 67-68, 1-13. | 4.7 | 12 |
| 62 | Surface cracks in fatigued structural components: a review. Fatigue and Fracture of Engineering Materials and Structures, 2013, 36, 1209-1222. | 3.4 | 47 |
| 63 | Crack Paths 2012 (CP 2012). Engineering Fracture Mechanics, 2013, 108, 1-2. | 4.3 | 0 |
| 64 | Continuous and lattice models to describe crack paths in brittleâ€“matrix composites with random and unidirectional fibres. Engineering Fracture Mechanics, 2013, 108, 170-182. | 4.3 | 6 |
| 65 | Debris flow hazard mitigation: A simplified analytical model for the design of flexible barriers. Computers and Geotechnics, 2013, 54, 1-15. | 4.7 | 66 |
| 66 | Cracking behaviour of fibre-reinforced cementitious composites: A comparison between a continuous and a discrete computational approach. Engineering Fracture Mechanics, 2013, 103, 103-114. | 4.3 | 19 |
| 67 | Damage mechanics and Paris regime in fatigue life assessment of metals. International Journal of Pressure Vessels and Piping, 2013, 104, 57-68. | 2.6 | 16 |
| 68 | A micro-mechanical model for statistically unidirectional and randomly distributed fibre-reinforced solids. Mathematics and Mechanics of Solids, 2012, 17, 876-893. | 2.4 | 24 |
| 69 | A Plasticity-Like Discontinuous FE Approach for Plain and Fiber-Reinforced Brittle Materials. Mechanics of Advanced Materials and Structures, 2012, 19, 277-289. | 2.6 | 3 |
| 70 | Crack path dependence on inhomogeneities of material microstructure. Frattura Ed Integrita Strutturale, 2012, 6, 6-16. | 0.9 | 5 |
| 71 | 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 |
| 72 | 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 |

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| 73 | A notch multiaxial-fatigue approach based on damage mechanics. International Journal of Fatigue, 2012, 39, 122-133. | 5.7 | 51 |
| 74 | Numerical modelling of the fracture behaviour of brittle materials reinforced with unidirectional or randomly distributed fibres. Mechanics of Materials, 2012, 52, 12-27. | 3.2 | 24 |
| 75 | Buckling and fracture behaviour of cracked thin plates under shear loading. Materials & Design, 2011, 32, 1347-1355. | 5.1 | 32 |
| 76 | Discontinuous FE approach and lattice models to describe cracking behaviour in fibre-reinforced brittle materials. Procedia Engineering, 2011, 10, 2098-2103. | 1.2 | 2 |
| 77 | Influence of a central straight crack on the buckling behaviour of thin plates under tension, compression or shear loading. International Journal of Mechanics and Materials in Design, 2010, 6, 73-87. | 3.0 | 17 |
| 78 | Some considerations on failure of solids and liquids. Strength of Materials, 2010, 42, 154-166. | 0.5 | 8 |
| 79 | Fracture behaviour of plain and fiber-reinforced concrete with different water content under mixed mode loading. Materials & Design, 2010, 31, 2032-2042. | 5.1 | 66 |
| 80 | 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 |
| 81 | Notched double-curvature shells with cracks under pulsating internal pressure. International Journal of Pressure Vessels and Piping, 2009, 86, 443-453. | 2.6 | 27 |
| 82 | Buckling sensitivity analysis of cracked thin plates under membrane tension or compression loading. Nuclear Engineering and Design, 2009, 239, 965-980. | 1.7 | 42 |
| 83 | Fracture behaviour of brittle fibre-reinforced solids by a new FE formulation. Composite Structures, 2009, 91, 324-336. | 5.8 | 5 |
| 84 | A new continuum FE approach for fracture mechanics discontinuous problems. Computational Materials Science, 2009, 45, 367-377. | 3.0 | 8 |
| 85 | Fracture and fatigue properties of metallic alloys S275 J2 and Al7075 T6 at low temperatures. Journal of Materials Science, 2008, 43, 4780-4788. | 3.7 | 9 |
| 86 | A new discontinuous FE formulation for crack path prediction in brittle solids. International Journal of Solids and Structures, 2008, 45, 6501-6517. | 2.7 | 4 |
| 87 | Static crack extension prediction in aluminium alloy at low temperature. Engineering Fracture Mechanics, 2008, 75, 510-525. | 4.3 | 16 |
| 88 | A micromechanical model for the prediction of the temperature fracture behaviour dependence in metallic alloys. Engineering Fracture Mechanics, 2008, 75, 3646-3662. | 4.3 | 3 |
| 89 | 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 |
| 90 | Sickle-shaped crack in a round bar under complex Mode I loading. Fatigue and Fracture of Engineering Materials and Structures, 2007, 30, 524-534. | 3.4 | 18 |

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| 91 | 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 |
| 92 | Surface cracks in notched round bars under cyclic tension and bending. International Journal of Fatigue, 2006, 28, 251-260. | 5.7 | 63 |
| 93 | Notched shells with surface cracks under complex loading. International Journal of Mechanical Sciences, 2006, 48, 638-649. | 6.7 | 29 |
| 94 | Fatigue growth of a surface crack in a welded T-joint. International Journal of Fatigue, 2005, 27, 59-69. | 5.7 | 48 |
| 95 | Application of the element-free Galerkin meshless method to 3-D fracture mechanics problems. Engineering Fracture Mechanics, 2005, 72, 2808-2820. | 4.3 | 39 |
| 96 | Buckling of cracked thin-plates under tension or compression. Thin-Walled Structures, 2005, 43, 209-224. | 5.3 | 83 |
| 97 | Fibre distribution optimisation in fibre-reinforced composites by a genetic algorithm. Composite Structures, 2005, 71, 1-15. | 5.8 | 31 |
| 98 | Numerical buckling analysis of compressed or tensioned cracked thin plates. Engineering Structures, 2005, 27, 265-276. | 5.3 | 65 |
| 99 | Optimum Patch Repair Shapes for Cracked Members. International Journal of Mechanics and Materials in Design, 2004, 1, 365-381. | 3.0 | 5 |
| 100 | A numerical analysis on the interaction of twin coplanar flaws. Engineering Fracture Mechanics, 2004, 71, 485-499. | 4.3 | 46 |
| 101 | Numerical modelling of the fatigue behavior of fibre-reinforced composites. Composites Part B: Engineering, 2004, 35, 197-210. | 12.0 | 9 |
| 102 | A mechanical model for fiber reinforced composite materials with elasto-plastic matrix and interface debonding. Computational Materials Science, 2004, 29, 475-493. | 3.0 | 20 |
| 103 | Circumferentially notched pipe with an external surface crack under complex loading. International Journal of Mechanical Sciences, 2003, 45, 1929-1947. | 6.7 | 22 |
| 104 | External Longitudinal Flaws in Pipes Under Complex Loading. Journal of Pressure Vessel Technology, Transactions of the ASME, 2001, 123, 139-145. | 0.6 | 6 |
| 105 | A three-parameter model for fatigue behaviour of circumferential surface flaws in pipes. International Journal of Mechanical Sciences, 2000, 42, 1255-1269. | 6.7 | 18 |
| 106 | A fracture plane approach in multiaxial high-cycle fatigue of metals. Fatigue and Fracture of Engineering Materials and Structures, 2000, 23, 355-364. | 3.4 | 56 |
| 107 | External surface cracks in shells under cyclic internal pressure. Fatigue and Fracture of Engineering Materials and Structures, 2000, 23, 467-476. | 3.4 | 14 |
| 108 | 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 |

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| 109 | Surface cracks in shells under different hoop stress distributions. International Journal of Pressure Vessels and Piping, 2000, 77, 503-509. | 2.6 | 10 |
| 110 | Axially-cracked pipes under pulsating internal pressure. International Journal of Fatigue, 2000, 22, 559-567. | 5.7 | 14 |
| 111 | Expected principal stress directions under multiaxial random loading. Part I: theoretical aspects of the weight function method. International Journal of Fatigue, 1999, 21, 83-88. | 5.7 | 80 |
| 112 | Expected principal stress directions under multiaxial random loading. Part II: numerical simulation and experimental assessment through the weight function method. International Journal of Fatigue, 1999, 21, 89-96. | 5.7 | 66 |
| 113 | Critical Fracture Plane Under Multiaxial Random Loading by Means of Euler Angles Averaging. European Structural Integrity Society, 1999, , 166-178. | 0.1 | 9 |
| 114 | Circumferential surface flaws in pipes under cyclic axial loading. Engineering Fracture Mechanics, 1998, 60, 383-396. | 4.3 | 39 |
| 115 | Stress field near a notch root under pure bending. Materials Science, 1998, 34, 640-646. | 0.9 | 3 |
| 116 | Part-through cracks in pipes under cyclic bending. Nuclear Engineering and Design, 1998, 185, 1-10. | 1.7 | 33 |
| 117 | SURFACE FLAWS IN CYLINDRICAL SHAFTS UNDER ROTARY BENDING. Fatigue and Fracture of Engineering Materials and Structures, 1998, 21, 1027-1035. | 3.4 | 45 |
| 118 | Part-Through Cracked Structures Under Cyclic Loading. , 1997, , 65-99. | | 0 |
| 119 | Size effect in beams with rounded-tip V-notch. Materials Science, 1996, 32, 325-331. | 0.9 | 2 |
| 120 | Part-through cracks in round bars under cyclic combined axial and bending loading. International Journal of Fatigue, 1996, 18, 33-39. | 5.7 | 80 |
| 121 | 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 |
| 122 | Use of incompatible displacement modes in a finite element model to analyze the dynamic behavior of unreinforced masonry panels. Computers and Structures, 1995, 57, 47-57. | 4.4 | 20 |
| 123 | Influence of Residual Stresses on Fatigue Crack Propagation in Pearlitic Cold-Drawn Steel Wires. Materials Science Forum, 0, 681, 229-235. | 0.3 | 5 |
| 124 | Damage Mechanics and Critical Plane Approach to Multiaxial Fatigue. Key Engineering Materials, 0, 592-593, 239-245. | 0.4 | 0 |
| 125 | Photopolymerized additive manufacturing materials: Modeling of the printing process, mechanical behavior, and sensitivity analysis. Material Design and Processing Communications, 0, , e225. | 0.9 | 0 |