Glaucio H Paulino

List of Publications by Citations

227 papers	10,708 citations	56 h-index	92 g-index
234 ext. papers	12,369 ext. citations	4.1 avg, IF	7 L-index

#	Paper	IF	Citations
227	Cohesive Zone Models: A Critical Review of Traction-Separation Relationships Across Fracture Surfaces. *Applied Mechanics Reviews*, **2011**, 64,	8.6	379
226	PolyMesher: a general-purpose mesh generator for polygonal elements written in Matlab. *Structural and Multidisciplinary Optimization*, **2012**, 45, 309-328	3.6	328
225	Origami tubes assembled into stiff, yet reconfigurable structures and metamaterials. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, 12321-6	11.5	306
224	A unified potential-based cohesive model of mixed-mode fracture. *Journal of the Mechanics and Physics of Solids*, **2009**, 57, 891-908	5	303
223	Finite element evaluation of mixed mode stress intensity factors in functionally graded materials. *International Journal for Numerical Methods in Engineering*, **2002**, 53, 1903-1935	2.4	259
222	Bridging topology optimization and additive manufacturing. *Structural and Multidisciplinary Optimization*, **2016**, 53, 175-192	3.6	253
221	A bilinear cohesive zone model tailored for fracture of asphalt concrete considering viscoelastic bulk material. *Engineering Fracture Mechanics*, **2006**, 73, 2829-2848	4.2	250
220	On the Virtual Element Method for three-dimensional linear elasticity problems on arbitrary polyhedral meshes. *Computer Methods in Applied Mechanics and Engineering*, **2014**, 282, 132-160	5.7	233
219	PolyTop: a Matlab implementation of a general topology optimization framework using unstructured polygonal finite element meshes. *Structural and Multidisciplinary Optimization*, **2012**, 45, 329-357	3.6	160
218	Transient heat conduction in homogeneous and non-homogeneous materials by the Laplace transform Galerkin boundary element method. *Engineering Analysis With Boundary Elements*, **2002**, 26, 119-132	2.6	154
217	Concrete fracture prediction using bilinear softening. *Cement and Concrete Composites*, **2007**, 29, 300-312	2.6	149
216	Cohesive zone modeling of dynamic failure in homogeneous and functionally graded materials. *International Journal of Plasticity*, **2005**, 21, 1195-1254	7.6	149
215	Modeling bamboo as a functionally graded material: lessons for the analysis of affordable materials. *Journal of Materials Science*, **2006**, 41, 6991-7004	4.3	141
214	Computational implementation of the PPR potential-based cohesive model in ABAQUS: Educational perspective. *Engineering Fracture Mechanics*, **2012**, 93, 239-262	4.2	140
213	Mixed-mode fracture of orthotropic functionally graded materials using finite elements and the modified crack closure method. *Engineering Fracture Mechanics*, **2002**, 69, 1557-1586	4.2	139
212	Simulation of Crack Propagation in Asphalt Concrete Using an Intrinsic Cohesive Zone Model. *Journal of Engineering Mechanics - ASCE*, **2006**, 132, 1215-1223	2.4	136
211	Transient thermal stress analysis of an edge crack in a functionally graded material. *International Journal of Fracture*, **2001**, 107, 73-98	2.3	135

210	The simple boundary element method for transient heat conduction in functionally graded materials. *Computer Methods in Applied Mechanics and Engineering*, **2004**, 193, 4511-4539	5.7	131
209	T-stress, mixed-mode stress intensity factors, and crack initiation angles in functionally graded materials: a unified approach using the interaction integral method. *Computer Methods in Applied Mechanics and Engineering*, **2003**, 192, 1463-1494	5.7	129
208	Unraveling metamaterial properties in zigzag-base folded sheets. *Science Advances*, **2015**, 1, e1500224	14.3	126
207	Large-scale topology optimization using preconditioned Krylov subspace methods with recycling. *International Journal for Numerical Methods in Engineering*, **2007**, 69, 2441-2468	2.4	125
206	A computational paradigm for multiresolution topology optimization (MTOP). *Structural and Multidisciplinary Optimization*, **2010**, 41, 525-539	3.6	124
205	Stress-intensity factors for surface cracks in functionally graded materials under mode-I thermomechanical loading. *International Journal of Solids and Structures*, **2004**, 41, 1081-1118	3.1	124
204	Cohesive fracture modeling of elastic–plastic crack growth in functionally graded materials. *Engineering Fracture Mechanics*, **2003**, 70, 1885-1912	4.2	122
203	Polygonal finite elements for topology optimization: A unifying paradigm. *International Journal for Numerical Methods in Engineering*, **2010**, 82, 671-698	2.4	116
202	Cohesive fracture model for functionally graded fiber reinforced concrete. *Cement and Concrete Research*, **2010**, 40, 956-965	10.3	107
201	Consistent Formulations of the Interaction Integral Method for Fracture of Functionally Graded Materials. *Journal of Applied Mechanics, Transactions ASME*, **2005**, 72, 351-364	2.7	105
200	The interaction integral for fracture of orthotropic functionally graded materials: evaluation of stress intensity factors. *International Journal of Solids and Structures*, **2003**, 40, 3967-4001	3.1	105
199	Extrinsic cohesive modelling of dynamic fracture and microbranching instability in brittle materials. *International Journal for Numerical Methods in Engineering*, **2007**, 72, 893-923	2.4	102
198	Bar and hinge models for scalable analysis of origami. *International Journal of Solids and Structures*, **2017**, 124, 26-45	3.1	100
197	Connecting architecture and engineering through structural topology optimization. *Engineering Structures*, **2014**, 59, 716-726	4.7	97
196	An accurate scheme for mixed-mode fracture analysis of functionally graded materials using the interaction integral and micromechanics models. *International Journal for Numerical Methods in Engineering*, **2003**, 58, 1457-1497	2.4	92
195	Direct Extraction of Cohesive Fracture Properties from Digital Image Correlation: A Hybrid Inverse Technique. *Experimental Mechanics*, **2011**, 51, 143-163	2.6	86
194	Integral equations with hypersingular kernels—theory and applications to fracture mechanics. *International Journal of Engineering Science*, **2003**, 41, 683-720	5.7	84
193	Application of layout and topology optimization using pattern gradation for the conceptual design of buildings. *Structural and Multidisciplinary Optimization*, **2011**, 43, 165-180	3.6	82

192	Mode I fracture of adhesive joints using tailored cohesive zone models. *International Journal of Fracture*, **2009**, 157, 193-204	2.3	78
191	Symmetric Galerkin boundary integral formulation for interface and multi-zone problems. *International Journal for Numerical Methods in Engineering*, **1997**, 40, 3085-3101	2.4	77
190	Topology optimization with manufacturing constraints: A unified projection-based approach. *Advances in Engineering Software*, **2016**, 100, 97-112	3.6	77
189	A new approach to compute T-stress in functionally graded materials by means of the interaction integral method. *Engineering Fracture Mechanics*, **2004**, 71, 1907-1950	4.2	75
188	Nonlinear mechanics of non-rigid origami: an efficient computational approach. *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences*, **2017**, 473, 20170348	2.4	74
187	Assessment of Existing Micro-mechanical Models for Asphalt Mastics Considering Viscoelastic Effects. *Road Materials and Pavement Design*, **2008**, 9, 31-57	2.6	70
186	Dynamic stress intensity factors for homogeneous and smoothly heterogeneous materials using the interaction integral method. *International Journal of Solids and Structures*, **2006**, 43, 4830-4866	3.1	70
185	GRAND Ground structure based topology optimization for arbitrary 2D domains using MATLAB. *Structural and Multidisciplinary Optimization*, **2014**, 50, 861-882	3.6	68
184	Topological optimization for designing patient-specific large craniofacial segmental bone replacements. *Proceedings of the National Academy of Sciences of the United States of America*, **2010** , 107, 13222-7	11.5	68
183	Determination of the kink point in the bilinear softening model for concrete. *Engineering Fracture Mechanics*, **2008**, 75, 3806-3818	4.2	68
182	GRAND3 Ground structure based topology optimization for arbitrary 3D domains using MATLAB. *Structural and Multidisciplinary Optimization*, **2015**, 52, 1161-1184	3.6	67
181	Integration of singular enrichment functions in the generalized/extended finite element method for three-dimensional problems. *International Journal for Numerical Methods in Engineering*, **2009**, 78, 1220-1257	2.4	66
180	Mixed-mode J-integral formulation and implementation using graded elements for fracture analysis of nonhomogeneous orthotropic materials. *Mechanics of Materials*, **2003**, 35, 107-128	3.3	66
179	Improving multiresolution topology optimization via multiple discretizations. *International Journal for Numerical Methods in Engineering*, **2012**, 92, 507-530	2.4	65
178	Designing patient-specific 3D printed craniofacial implants using a novel topology optimization method. *Medical and Biological Engineering and Computing*, **2016**, 54, 1123-35	3.1	64
177	Multi-actuated functionally graded piezoelectric micro-tools design: A multiphysics topology optimization approach. *International Journal for Numerical Methods in Engineering*, **2009**, 77, 301-336	2.4	61
176	Untethered control of functional origami microrobots with distributed actuation. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 24096-24101	11.5	61
175	Computation of Mixed-Mode Stress Intensity Factors for Cracks in Three-Dimensional Functionally Graded Solids. *Journal of Engineering Mechanics - ASCE*, **2006**, 132, 1-15	2.4	60

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173	Single-Loop System Reliability-Based Design Optimization Using Matrix-Based System Reliability Method: Theory and Applications. *Journal of Mechanical Design, Transactions of the ASME*, **2010**, 132,	3	56
172	Correspondence Principle in Viscoelastic Functionally Graded Materials. *Journal of Applied Mechanics, Transactions ASME*, **2001**, 68, 129-132	2.7	56
171	A compact adjacency-based topological data structure for finite element mesh representation. *International Journal for Numerical Methods in Engineering*, **2005**, 64, 1529-1556	2.4	55
170	Polygonal finite elements for incompressible fluid flow. *International Journal for Numerical Methods in Fluids*, **2014**, 74, 134-151	1.9	54
169	Adaptive mesh refinement and coarsening for cohesive zone modeling of dynamic fracture. *International Journal for Numerical Methods in Engineering*, **2012**, 92, 1-35	2.4	54
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165	Single-loop system reliability-based topology optimization considering statistical dependence between limit-states. *Structural and Multidisciplinary Optimization*, **2011**, 44, 593-611	3.6	52
164	Topology optimization using polytopes. *Computer Methods in Applied Mechanics and Engineering*, **2015**, 293, 411-430	5.7	51
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162	A general topology-based framework for adaptive insertion of cohesive elements in finite element meshes. *Engineering With Computers*, **2008**, 24, 59-78	4.5	51
161	On Fracture Criteria for Mixed-Mode Crack Propagation in Functionally Graded Materials. *Mechanics of Advanced Materials and Structures*, **2007**, 14, 227-244	1.8	50
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158	Assessment of cohesive traction-separation relationships in ABAQUS: A comparative study. *Mechanics Research Communications*, **2016**, 78, 71-78	2.2	47
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156	Multi-material topology optimization with multiple volume constraints: a general approach applied to ground structures with material nonlinearity. *Structural and Multidisciplinary Optimization*, **2018**, 57, 161-182	3.6	46
155	Layout and material gradation in topology optimization of functionally graded structures: a global□local approach. *Structural and Multidisciplinary Optimization*, **2010**, 42, 855-868	3.6	46
154	Investigation of the Fracture Resistance of Hot-Mix Asphalt Concrete Using a Disk-Shaped Compact Tension Test		45
153	Study on the role of laser surface irradiation on damage and decohesion of Al/epoxy joints. *International Journal of Adhesion and Adhesives*, **2012**, 39, 33-41	3.4	44
152	Optimal design of periodic functionally graded composites with prescribed properties. *Structural and Multidisciplinary Optimization*, **2009**, 38, 469-489	3.6	44
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146	Identification of cohesive zone model and elastic parameters of fiber-reinforced cementitious composites using digital image correlation and a hybrid inverse technique. *Cement and Concrete Composites*, **2011**, 33, 572-585	8.6	41
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137	Dense Layered Molybdenum Disilicide–Silicon Carbide Functionally Graded Composites Formed by Field-Activated Synthesis. *Journal of the American Ceramic Society*, **2001**, 84, 962-968	3.8	36
136	HYPERSINGULAR RESIDUALS—A NEW APPROACH FOR ERROR ESTIMATION IN THE BOUNDARY ELEMENT METHOD. *International Journal for Numerical Methods in Engineering*, **1996**, 39, 2005-2029	2.4	36
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131	Stretchable origami robotic arm with omnidirectional bending and twisting. *Proceedings of the National Academy of Sciences of the United States of America*, **2021**, 118,	11.5	35
130	Adaptive dynamic cohesive fracture simulation using nodal perturbation and edge-swap operators. *International Journal for Numerical Methods in Engineering*, **2010**, 84, 1303-1343	2.4	34
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128	Global sensitivity analysis in the identification of cohesive models using full-field kinematic data. *International Journal of Solids and Structures*, **2015**, 55, 66-78	3.1	33
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117	Convex topology optimization for hyperelastic trusses based on the ground-structure approach. *Structural and Multidisciplinary Optimization*, **2015**, 51, 287-304	3.6	29
116	Design of complex bone internal structure using topology optimization with perimeter control. *Computers in Biology and Medicine*, **2018**, 94, 74-84	7	29
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97	Unraveling tensegrity tessellations for metamaterials with tunable stiffness and bandgaps. *Journal of the Mechanics and Physics of Solids*, **2019**, 131, 147-166	5	22
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