Matteo Bruggi

List of Publications by Year
in descending order

82 papers	1,693 citations	304368 22 h-index	288905 40 g-index
82 all docs	82 docs citations	82 times ranked	1030 citing authors

#	Article	IF	Citations
1	Funicular Analysis of Ribbed Masonry Vaults: A Case Study. International Journal of Architectural Heritage, 2022, 16, 1809-1823.	1.7	8
2	Simultaneous design of the topology and the build orientation of Wire-and-Arc Additively Manufactured structural elements. Computers and Structures, 2021, 242, 106370.	2.4	23
3	Experimentally-validated orthotropic elastic model for Wire-and-Arc Additively Manufactured stainless steel. Additive Manufacturing, 2021, 42, 101999.	1.7	17
4	Conceptual Design of Diagrids and Hexagrids by Distribution of Lattice Structures. Frontiers in Built Environment, 2020, 6, .	1.2	5
5	Hierarchical Infills for Additive Manufacturing Through a Multiscale Approach. Journal of Optimization Theory and Applications, 2020, 187, 654-682.	0.8	2
6	A constrained force density method for the funicular analysis and design of arches, domes and vaults. International Journal of Solids and Structures, 2020, 193-194, 251-269.	1.3	27
7	Analysis of 3D linear elastic masonry-like structures through the API of a finite element software. Advances in Engineering Software, 2019, 133, 60-75.	1.8	10
8	Optimal 2D auxetic micro-structures with band gap. Meccanica, 2019, 54, 2001-2027.	1.2	27
9	Assessment of 3D Linear Elastic Masonry-Like Vaulted Structures. Key Engineering Materials, 2019, 817, 50-56.	0.4	1
10	Simple Homogenization-Topology Optimization Approach for the Pushover Analysis of Masonry Walls. International Journal of Architectural Heritage, 2018, 12, 395-408.	1.7	6
11	Optimal design accounting for uncertainty in loading amplitudes: A numerical investigation. Mechanics Based Design of Structures and Machines, 2018, 46, 552-566.	3.4	8
12	Topology optimization with a time-integral cost functional. Finite Elements in Analysis and Design, 2018, 140, 11-22.	1.7	9
13	Optimal Placement of MEMS Sensors for Damage Detection in Composite Plates. Micro and Nanosystems, 2018, 10, 65-74.	0.3	1
14	Topology optimization for microstructural design under stress constraints. Structural and Multidisciplinary Optimization, 2018, 58, 2677-2695.	1.7	53
15	Analysis of 3D no-tension masonry-like walls. Journal of Mechanics of Materials and Structures, 2018, 13, 631-646.	0.4	4
16	Evaluation of concrete production with solid residues obtained from fluidized-bed incineration of MSW-derived solid recovered fuel (SRF). Journal of Material Cycles and Waste Management, 2017, 19, 1374-1383.	1.6	7
17	Optimal strengthening of noâ€"tension structures with externally bonded reinforcing layers or ties. Structural and Multidisciplinary Optimization, 2017, 55, 1831-1846.	1.7	7
18	On the virtual element method for topology optimization on polygonal meshes: A numerical study. Computers and Mathematics With Applications, 2017, 74, 1091-1109.	1.4	47

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19	Synthesis of auxetic structures using optimization of compliant mechanisms and a micropolar material model. Structural and Multidisciplinary Optimization, 2017, 55, 1-12.	1.7	35
20	Topology optimization for minimum weight with compliance and simplified nominal stress constraints for fatigue resistance. Structural and Multidisciplinary Optimization, 2017, 55, 839-855.	1.7	53
21	A Multiscale Approach to the Smart Deployment of Micro-Sensors over Lightweight Structures. Sensors, 2017, 17, 1632.	2.1	3
22	A numerical method to generate optimal load paths in plain and reinforced concrete structures. Computers and Structures, 2016, 170, 26-36.	2.4	30
23	Optimization of auxetic structures for MEMS applications. , 2016, , .		4
24	Topology optimization with mixed finite elements on regular grids. Computer Methods in Applied Mechanics and Engineering, 2016, 305, 133-153.	3.4	30
25	A Multiscale Approach to the Smart Deployment of Micro-Sensors over Flexible Plates. Proceedings (mdpi), 2016, 1, .	0.2	1
26	FINITE ELEMENT APPROXIMATION OF A TIME-DEPENDENT TOPOLOGY OPTIMIZATION PROBLEM. , 2016, , .		0
27	ANALYSIS AND DESIGN OF REINFORCED CONCRETE STRUCTURES AS A TOPOLOGY OPTIMIZATION PROBLEM. , 2016, , .		0
28	VEM AND TOPOLOGY OPTIMIZATION ON POLYGONAL MESHES. , 2016, , .		0
29	Fiber-reinforcement of masonry arches and barrel vaults through topology optimization. , 2016, , 1037-1044.		0
30	Topology optimization for the development of eco-efficient masonry units. , 2015, , 425-445.		1
31	Assessment and Reduction of the Seismic Vulnerability of a Stone Masonry Vault. Periodica Polytechnica: Civil Engineering, 2015, 59, 287-296.	0.6	1
32	Analysis of no-tension structures under monotonic loading through an energy-based method. Computers and Structures, 2015, 159, 14-25.	2.4	20
33	Optimal FRP reinforcement of masonry walls out-of-plane loaded: A combined homogenizationâ€"topology optimization approach complying with masonry strength domain. Computers and Structures, 2015, 153, 49-74.	2.4	16
34	Optimal strengthening of concrete plates with unidirectional fiber-reinforcing layers. International Journal of Solids and Structures, 2015, 67-68, 311-325.	1.3	12
35	An Efficient Earth Magnetic Field MEMS Sensor: Modeling, Experimental Results, and Optimization. Journal of Microelectromechanical Systems, 2015, 24, 887-895.	1.7	18
36	Optimal FRP Reinforcement of Masonry Walls under In- and Out-of-Plane Loads. Key Engineering Materials, 2014, 624, 429-436.	0.4	1

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37	Geometry optimization of a Lorentz force, resonating MEMS magnetometer. Microelectronics Reliability, 2014, 54, 1192-1199.	0.9	18
38	Simple topology optimization strategy for the FRP reinforcement of masonry walls in two-way bending. Computers and Structures, 2014, 138, 86-101.	2.4	16
39	Finite element analysis of no–tension structures as a topology optimization problem. Structural and Multidisciplinary Optimization, 2014, 50, 957-973.	1.7	28
40	On the reliability of reusing bottom ash from municipal solid waste incineration as aggregate in concrete. Composites Part B: Engineering, 2014, 58, 502-509.	5.9	45
41	Smart sensing of damage in flexible plates through MEMS. International Journal of Mechanisms and Robotic Systems, 2014, 2, 67.	0.1	4
42	A robust approach to the optimization of structures made of unilateral material. , 2014, , 853-858.		0
43	A stress–based approach to the optimal design of structures with unilateral behavior of material or supports. Structural and Multidisciplinary Optimization, 2013, 48, 311-326.	1.7	25
44	Design of masonry blocks with enhanced thermomechanical performances by topology optimization. Construction and Building Materials, 2013, 48, 424-433.	3.2	14
45	Design of the optimal fiber-reinforcement for masonry structures via topology optimization. International Journal of Solids and Structures, 2013, 50, 2087-2106.	1.3	31
46	Optimal design of a resonating MEMS magnetometer: A multi-physics approach. , 2013, , .		3
47	Topology optimization of the fiber-reinforcement retrofitting existing structures. International Journal of Solids and Structures, 2013, 50, 121-136.	1.3	36
48	MEMS-based surface mounted health monitoring system for composite laminates. Microelectronics Journal, 2013, 44, 598-605.	1.1	23
49	Sensor deployment over damage-containing plates: A topology optimization approach. Journal of Intelligent Material Systems and Structures, 2013, 24, 1105-1122.	1.4	12
50	Optimization of sensor placement to detect damage in flexible plates. Engineering Optimization, 2013, 45, 659-676.	1.5	32
51	Topology optimization for minimum weight with compliance and stress constraints. Structural and Multidisciplinary Optimization, 2012, 46, 369-384.	1.7	181
52	Maximization of the fundamental eigenfrequency of micropolar solids through topology optimization. Structural and Multidisciplinary Optimization, 2012, 46, 549-560.	1.7	23
53	A numerical investigation on the size effect of fiber-reinforced concrete specimens in crack propagation. Computational Mechanics, 2012, 50, 99-117.	2.2	1
54	Topology optimization for thermal insulation: an application to building engineering. Engineering Optimization, 2011, 43, 1223-1242.	1.5	19

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55	A fully adaptive topology optimization algorithm with goal-oriented error control. Computers and Structures, 2011, 89, 1481-1493.	2.4	47
56	On the Automatic Generation of Strut and Tie Patterns under Multiple Load Cases with Application to the Aseismic Design of Concrete Structures. Advances in Structural Engineering, 2010, 13, 1167-1181.	1.2	25
57	Mixed Variational Formulations for Micro-cracked Continua in the Multifield Framework. Algorithms, 2009, 2, 606-622.	1.2	0
58	An alternative truly-mixed formulation to solve pressure load problems in topology optimization. Computer Methods in Applied Mechanics and Engineering, 2009, 198, 1500-1512.	3.4	38
59	Modeling cohesive crack growth via a truly-mixed formulation. Computer Methods in Applied Mechanics and Engineering, 2009, 198, 3836-3851.	3.4	13
60	Generating strut-and-tie patterns for reinforced concrete structures using topology optimization. Computers and Structures, 2009, 87, 1483-1495.	2.4	97
61	Cohesive crack propagation in a random elastic medium. Probabilistic Engineering Mechanics, 2008, 23, 23-35.	1.3	15
62	On an alternative approach to stress constraints relaxation in topology optimization. Structural and Multidisciplinary Optimization, 2008, 36, 125-141.	1.7	282
63	A mixed FEM approach to stress‐constrained topology optimization. International Journal for Numerical Methods in Engineering, 2008, 73, 1693-1714.	1.5	101
64	Eigenvalue-based optimization of incompressible media using mixed finite elements with application to isolation devices. Computer Methods in Applied Mechanics and Engineering, 2008, 197, 1262-1279.	3.4	20
65	On the solution of the checkerboard problem in mixed-FEM topology optimization. Computers and Structures, 2008, 86, 1819-1829.	2.4	20
66	Topology Optimization of Multi-Loaded Structures with Mixed Finite Elements. Advances in Structural Engineering, 2007, 10, 663-679.	1.2	4
67	A Truly Mixed Approach for Cohesive-Crack Propagation in Functionally Graded Materials. Mechanics of Advanced Materials and Structures, 2007, 14, 643-654.	1.5	6
68	Topology optimization of incompressible media using mixed finite elements. Computer Methods in Applied Mechanics and Engineering, 2007, 196, 3151-3164.	3.4	24
69	Topology Optimization of the Fiber-Reinforcement of No-Tension Masonry Walls. Key Engineering Materials, 0, 747, 36-43.	0.4	1
70	Towards the Development of a MEMS-Based Health Monitoring System for Lightweight Structures. , 0, , .		1
71	Analysis of Linear Elastic Masonry-Like Solids Subjected to Settlements. Key Engineering Materials, 0, 916, 155-162.	0.4	0
72	Optimal Reinforcement for Masonry Walls subject to Two-Way Bending. , 0, , .		0

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73	Stress Constraints in Compliance-Based Topology Optimization. , 0, , 101-123.		0
74	Mixed Finite-Elements for Eigenvalue Optimization of Incompressible Media. , 0, , .		0
75	Mixed Finite Element Analysis and Topology Optimization of Viscoelastic Devices. , 0, , .		0
76	Efficient Truly-Mixed Finite Elements for the Optimal Design of Structures. , 0, , .		0
77	Stress-Based Topology Optimization with Fatigue Failure Constraints. , 0, , .		0
78	A Strut-and-Tie Topology Optimization Model for the Pushover Analysis of In-Plane Loaded Masonry Walls. , 0, , .		0
79	Finite Element Analysis of Masonry Vaults using a Three-dimensional No-Tension Approach. , 0, , .		0
80	Minimization of the Thermal Transmittance of Masonry Blocks by Topology Optimization. , 0, , .		0
81	Mixed Finite-Element Approaches for Topology Optimization. , 0, , .		1
82	Optimal Fibre Reinforcement for Masonry Structures using Topology Optimization. , 0, , .		0