James K Guest

List of Publications by Year
in descending order

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92 papers	5,150 citations	136885 32 h-index	106281 65 g-index
97 all docs	97 docs citations	97 times ranked	2503 citing authors

#	Article	IF	Citations
1	Sensitivity of the stress field of the proximal femur predicted by CTâ€based FE analysis to modeling uncertainties. Journal of Orthopaedic Research, 2022, 40, 1163-1173.	1.2	1
2	Topology-optimized bulk metallic glass cellular materials for energy absorption. Scripta Materialia, 2022, 208, 114361.	2.6	12
3	Topology optimization of additively manufactured fluidic components free of internal support structures. Computer Methods in Applied Mechanics and Engineering, 2022, 389, 114270.	3.4	8
4	Topology optimization considering multi-axis machining constraints using projection methods. Computer Methods in Applied Mechanics and Engineering, 2022, 390, 114464.	3.4	12
5	Topology optimization of steel deck building diaphragms. Journal of Constructional Steel Research, 2022, 191, 107186.	1.7	1
6	Topology optimization with linearized buckling criteria in 250 lines of Matlab. Structural and Multidisciplinary Optimization, 2021, 63, 3045-3066.	1.7	34
7	FEMOSSA : Patientâ€specific finite element simulation of the prostateâ€“rectum spacer placement, a predictive model for prostate cancer radiotherapy. Medical Physics, 2021, 48, 3438-3452.	1.6	10
8	Revisiting element removal for density-based structural topology optimization with reintroduction by Heaviside projection. Computer Methods in Applied Mechanics and Engineering, 2021, 380, 113799.	3.4	16
9	Robust topology optimization under loading uncertainties via stochastic reduced order models. International Journal for Numerical Methods in Engineering, 2021, 122, 5718-5743.	1.5	4
10	Optimizing Topology and Fiber Orientations With Minimum Length Scale Control in Laminated Composites. Journal of Mechanical Design, Transactions of the ASME, 2021, 143, .	1.7	7
11	Topology optimization based on reduction methods with applications to multiscale design and additive manufacturing. Frontiers of Mechanical Engineering, 2020, 15, 151-165.	2.5	13
12	Electrodeposition of Hydroxyapatite on a Metallic 3D-Woven Bioscaffold. Coatings, 2020, 10, 715.	1.2	11
13	Topology Optimization of Truss Structures Considering Stress and Stability Constraints. , 2019, , .		2
14	Topology optimization of piezo modal transducers considering electrode connectivity constraints. Computer Methods in Applied Mechanics and Engineering, 2019, 356, 101-115.	3.4	11
15	Novel Building Diaphragm Layouts Generated through Topology Optimization. Ce/Papers, 2019, 3, 505-510.	0.1	1
16	Imperfect architected materials: Mechanics and topology optimization. MRS Bulletin, 2019, 44, 766-772.	1.7	51
17	Topology Optimization of Three-Dimensional Woven Materials Using a Ground Structure Design Variable Representation. Journal of Mechanical Design, Transactions of the ASME, 2019, 141, .	1.7	15
18	Adaptive topology optimization for incompressible laminar flow problems with mass flow constraints. Computer Methods in Applied Mechanics and Engineering, 2019, 346, 612-641.	3.4	22

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19	Optimizing Topology and Fiber Orientations With Minimum Length Scale Control in Laminated Composites. , 2019, , .		0
20	An Adaptive and Efficient Boundary Approach for Density-Based Topology Optimization. , 2019, , .		0
21	Critical heat dissipation length scales in fully dense thermite foils. Combustion and Flame, 2018, 190, 432-440.	2.8	2
22	System-wise equivalent static loads for the design of flexible mechanisms. Computer Methods in Applied Mechanics and Engineering, 2018, 329, 312-331.	3.4	11
23	Projection-Based Overhang Constraints: Implementing an Efficient Adjoint Formulation for Sensitivity Analysis. , 2018, , .		1
24	Damping of selectively bonded 3D woven lattice materials. Scientific Reports, 2018, 8, 14572.	1.6	7
25	Projection-based two-phase minimum and maximum length scale control in topology optimization. Structural and Multidisciplinary Optimization, 2018, 58, 1845-1860.	1.7	56
26	Combining a distributed flow manifold and 3D woven metallic lattices to enhance fluidic and thermal properties for heat transfer applications. International Journal of Heat and Mass Transfer, 2017, 108, 2169-2180.	2.5	7
27	Topology optimization of magnetic source distributions for diamagnetic and superconducting levitation. Journal of Magnetism and Magnetic Materials, 2017, 438, 60-69.	1.0	9
28	Topology optimization for linear stationary stochastic dynamics: Applications to frame structures. Structural Safety, 2017, 67, 116-131.	2.8	30
29	Structural Topology Optimization Considering Complexity. , 2017, , .		1
30	3-D phononic crystals with ultra-wide band gaps. Scientific Reports, 2017, 7, 43407.	1.6	50
31	Maximizing bandgap width and in-plane stiffness of porous phononic plates for tailoring flexural guided waves: Topology optimization and experimental validation. Mechanics of Materials, 2017, 105, 188-203.	1.7	26
32	Topology Optimization of Components With Embedded Objects Using Discrete Object Projection. , 2017, , .		5
33	Topology Optimization for Additive Manufacturing Considering Layer-Based Minimum Feature Sizes. , 2017, , .		2
34	Topology optimization of continuum structures subjected to filtered white noise stochastic excitations. Computer Methods in Applied Mechanics and Engineering, 2017, 324, 438-456.	3.4	18
35	Topology optimization for transient response of structures subjected to dynamic loads. , 2017, , .		19
36	Topology Optimization for Architected Materials Design. Annual Review of Materials Research, 2016, 46, 211-233.	4.3	163

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37	Topology Optimization of 3D Woven Micro-lattices using a Projection-based Ground Structure Approach. , 2016, , .		2
38	Research on optimum design and construction process of tensegrity tower structures. Advances in Structural Engineering, 2016, 19, 409-419.	1.2	2
39	Optimal design of tunable phononic bandgap plates under equibiaxial stretch. Smart Materials and Structures, 2016, 25, 055025.	1.8	33
40	Special issue dedicated to Founding Editor George Rozvany. Structural and Multidisciplinary Optimization, 2016, 54, 1107-1111.	1.7	0
41	Two-level optimization for a new family of cold-formed steel lipped channel sections against local and distortional buckling. Thin-Walled Structures, 2016, 108, 64-74.	2.7	16
42	Topology optimization considering overhang constraints: Eliminating sacrificial support material in additive manufacturing through design. Structural and Multidisciplinary Optimization, 2016, 54, 1157-1172.	1.7	333
43	Topology Optimization of Nonlinear Cellular Materials. , 2016, , .		1
44	Topology Optimization for Additive Manufacturing: New Projection-based Design Algorithms. , 2016, , .		6
45	Experimental investigation of 3D woven Cu lattices for heat exchanger applications. International Journal of Heat and Mass Transfer, 2016, 96, 296-311.	2.5	34
46	3D metallic glass cellular structures. Acta Materialia, 2016, 105, 35-43.	3.8	69
47	Topology Optimization of Fixed-Geometry Fluid Diodes. Journal of Mechanical Design, Transactions of the ASME, 2015, 137, .	1.7	60
48	Topology Optimization as a Teaching Tool for Undergraduate Education in Structural Engineering. , 2015, , .		1
49	Topology Optimization of Cellular Materials With Maximized Energy Absorption. , 2015, , .		7
50	Damping behavior of 3D woven metallic lattice materials. Scripta Materialia, 2015, 106, 1-4.	2.6	19
51	Three-Dimensional Force Flow Paths and Reinforcement Design in Concrete via Stress-Dependent Truss-Continuum Topology Optimization. Journal of Engineering Mechanics - ASCE, 2015, 141, .	1.6	24
52	Optimizing the layout of discrete objects in structures and materials: A projection-based topology optimization approach. Computer Methods in Applied Mechanics and Engineering, 2015, 283, 330-351.	3.4	54
53	Incorporating fabrication cost into topology optimization of discrete structures and lattices. Structural and Multidisciplinary Optimization, 2015, 51, 385-396.	1.7	52
54	Multiple-Material Topology Optimization of Compliant Mechanisms Created Via PolyJet Three-Dimensional Printing. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2014, 136, .	1.3	210

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55	Projection-Based Topology Optimization Using Discrete Object Sets. , 2014, , .		5
56	New Projection Methods for Two-Phase Minimum and Maximum Length Scale Control in Topology Optimization. , 2014, , .		2
57	Topology Optimization for Additive Manufacturing: Considering Maximum Overhang Constraint. , 2014, , .		65
58	Structural Optimization of Deploying Structures Composed of Linkages. Journal of Computing in Civil Engineering, 2014, 28, 04014010.	2.5	19
59	Topology Optimization for Cellular Material Design. Materials Research Society Symposia Proceedings, 2014, 1662, 1.	0.1	2
60	Structural optimization and model fabrication of a double-ring deployable antenna truss. Acta Astronautica, 2014, 94, 843-851.	1.7	52
61	Optimizing inclusion shapes and patterns in periodic materials using Discrete Object Projection. Structural and Multidisciplinary Optimization, 2014, 50, 65-80.	1.7	34
62	Permeability measurements and modeling of topology-optimized metallic 3-D woven lattices. Acta Materialia, 2014, 81, 326-336.	3.8	40
63	Shape optimization of cold-formed steel columns with fabrication and geometric end-use constraints. Thin-Walled Structures, 2014, 85, 271-290.	2.7	49
64	Considering Constructability in Structural Topology Optimization. , 2014, , .		12
65	Reinforced Concrete Force Visualization and Design Using Bilinear Truss-Continuum Topology Optimization. Journal of Structural Engineering, 2013, 139, 607-618.	1.7	77
66	Santiago Calatravaâ€™s Alamillo Bridge and the Idea of the Structural Engineer as Artist. Journal of Bridge Engineering, 2013, 18, 936-945.	1.4	13
67	Reliability-based topology optimization of trusses with stochastic stiffness. Structural Safety, 2013, 43, 41-49.	2.8	55
68	Optimizing Inclusion Shapes and Patterns using Heaviside Projection Topology Optimization. , 2012, , .		0
69	Casting and Milling Restrictions in Topology Optimization via Projection-Based Algorithms. , 2012, , .		36
70	Computationally generated cross-property bounds for stiffness and fluid permeability using topology optimization. International Journal of Solids and Structures, 2012, 49, 3397-3408.	1.3	73
71	Structural Topology Optimization: Moving Beyond Linear Elastic Design Objectives. , 2012, , .		2
72	Topology optimization of continuum structures under uncertainty â€“ A Polynomial Chaos approach. Computer Methods in Applied Mechanics and Engineering, 2012, 201-204, 263-275.	3.4	131

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73	Shape optimization of cold-formed steel columns. Thin-Walled Structures, 2011, 49, 1492-1503.	2.7	69
74	Optimal design of trusses with geometric imperfections: Accounting for global instability. International Journal of Solids and Structures, 2011, 48, 3011-3019.	1.3	51
75	Eliminating beta-continuation from Heaviside projection and density filter algorithms. Structural and Multidisciplinary Optimization, 2011, 44, 443-453.	1.7	146
76	Robust topology optimization of structures with uncertainties in stiffness â€“ Application to truss structures. Computers and Structures, 2011, 89, 1131-1141.	2.4	158
77	Reducing dimensionality in topology optimization using adaptive design variable fields. International Journal for Numerical Methods in Engineering, 2010, 81, 1019-1045.	1.5	104
78	A Multi-Mesh Strategy for Continuum Topology Optimization under Correlated Uncertainties. , 2010, , .		1
79	Improved Projection-Based Algorithms for Continuum Topology Optimization. , 2010, , .		1
80	Reinforced Concrete Design with Topology Optimization. , 2010, , .		9
81	Structural Topology Optimization Considering Correlated Uncertainties in Elastic Modulus. , 2010, , .		6
82	Optimal Design of Trusses With Geometric Imperfections. , 2010, , .		1
83	Level set topology optimization of fluids in Stokes flow. International Journal for Numerical Methods in Engineering, 2009, 79, 1284-1308.	1.5	156
84	Topology optimization with multiple phase projection. Computer Methods in Applied Mechanics and Engineering, 2009, 199, 123-135.	3.4	182
85	Imposing maximum length scale in topology optimization. Structural and Multidisciplinary Optimization, 2009, 37, 463-473.	1.7	194
86	Structural optimization under uncertain loads and nodal locations. Computer Methods in Applied Mechanics and Engineering, 2008, 198, 116-124.	3.4	178
87	Topology Optimization of Continuum Structures Using HPM Encoded Genetic Algorithms. , 2008, , .		2
88	Design of maximum permeability material structures. Computer Methods in Applied Mechanics and Engineering, 2007, 196, 1006-1017.	3.4	175
89	A Penalty Function for Enforcing Maximum Length Scale Criterion in Topology Optimization. , 2006, , .		6
90	Optimizing multifunctional materials: Design of microstructures for maximized stiffness and fluid permeability. International Journal of Solids and Structures, 2006, 43, 7028-7047.	1.3	271

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91	Topology optimization of creeping fluid flows using a Darcyâ€“Stokes finite element. International Journal for Numerical Methods in Engineering, 2006, 66, 461-484.	1.5	226
92	Achieving minimum length scale in topology optimization using nodal design variables and projection functions. International Journal for Numerical Methods in Engineering, 2004, 61, 238-254.	1.5	976