

# Grant P Steven

## List of Publications by Year in descending order

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72  
papers

2,471  
citations

185998

28  
h-index

214527

47  
g-index

72  
all docs

72  
docs citations

72  
times ranked

1580  
citing authors

#	ARTICLE	IF	CITATIONS
1	Phase field fracture in elasto-plastic solids: Incorporating phenomenological failure criteria for ductile materials. Computer Methods in Applied Mechanics and Engineering, 2022, 391, 114580.	3.4	15
2	A time-dependent mechanobiology-based topology optimization to enhance bone growth in tissue scaffolds. Journal of Biomechanics, 2021, 117, 110233.	0.9	23
3	On design of carbon fiber reinforced plastic (CFRP) laminated structure with different failure criteria. International Journal of Mechanical Sciences, 2021, 196, 106251.	3.6	20
4	A path-dependent level set topology optimization with fracture criterion. Computers and Structures, 2021, 249, 106515.	2.4	12
5	A machine learning-based multiscale model to predict bone formation in scaffolds. Nature Computational Science, 2021, 1, 532-541.	3.8	17
6	Finite periodic topology optimization with oriented unit-cells. Structural and Multidisciplinary Optimization, 2021, 64, 1765-1779.	1.7	8
7	Tonal optimization of bells utilizing evolutionary shape optimization. Journal of Sound and Vibration, 2021, 509, 116233.	2.1	0
8	Machine learning based topology optimization of fiber orientation for variable stiffness composite structures. International Journal for Numerical Methods in Engineering, 2021, 122, 6736-6755.	1.5	14
9	Time-dependent topology optimization of bone plates considering bone remodeling. Computer Methods in Applied Mechanics and Engineering, 2020, 359, 112702.	3.4	36
10	Level-set topology optimization for maximizing fracture resistance of brittle materials using phase-field fracture model. International Journal for Numerical Methods in Engineering, 2020, 121, 2929-2945.	1.5	28
11	Topology optimization for periodic multi-component structures with stiffness and frequency criteria. Structural and Multidisciplinary Optimization, 2020, 61, 2271-2289.	1.7	16
12	On the benefits of applying topology optimization to structural design of aircraft components. Structural and Multidisciplinary Optimization, 2019, 60, 1245-1266.	1.7	33
13	Topology Optimization Applied to Transpiration Cooling. AIAA Journal, 2019, 57, 297-312.	1.5	9
14	On the effect of fluid-structure interactions and choice of algorithm in multi-physics topology optimisation. Finite Elements in Analysis and Design, 2018, 145, 32-54.	1.7	13
15	Configurational optimization of multi-cell topologies for multiple oblique loads. Structural and Multidisciplinary Optimization, 2018, 57, 469-488.	1.7	67
16	Multiobjective and multi-physics topology optimization using an updated smart normal constraint bi-directional evolutionary structural optimization method. Structural and Multidisciplinary Optimization, 2018, 57, 665-688.	1.7	22
17	Producing Smart Pareto Sets for Multi-objective Topology Optimisation Problems. , 2018, , 145-162.		0
18	Topology Optimization of Multicell Tubes Under Out-of-Plane Crushing Using a Modified Artificial Bee Colony Algorithm. Journal of Mechanical Design, Transactions of the ASME, 2017, 139, .	1.7	34

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19	A Bi-directional Evolutionary Structural Optimisation algorithm with an added connectivity constraint. Finite Elements in Analysis and Design, 2017, 131, 25-42.	1.7	18
20	Novel Moving Isosurface Threshold Technique for Optimization of Structures Under Dynamic Loading. AIAA Journal, 2017, 55, 638-651.	1.5	8
21	Topology optimisation of micro fluidic mixers considering fluid-structure interactions with a coupled Lattice Boltzmann algorithm. Journal of Computational Physics, 2017, 349, 11-32.	1.9	16
22	A simple alternative formulation for structural optimisation with dynamic and buckling objectives. Structural and Multidisciplinary Optimization, 2017, 55, 969-986.	1.7	18
23	A novel method for the vibration optimisation of structures subjected to dynamic loading. Advances in Aircraft and Spacecraft Science, 2017, 4, 169-184.	0.5	1
24	Topology and shape optimization methods using evolutionary algorithms: a review. Structural and Multidisciplinary Optimization, 2015, 52, 613-631.	1.7	145
25	Homogenization and inverse homogenization for 3D composites of complex architecture. Engineering Computations, 2006, 23, 432-450.	0.7	6
26	An evolutionary shape optimization for elastic contact problems subject to multiple load cases. Computer Methods in Applied Mechanics and Engineering, 2005, 194, 3394-3415.	3.4	36
27	Effective optimisation of continuum topologies through a multi-GA system. Computer Methods in Applied Mechanics and Engineering, 2005, 194, 3416-3437.	3.4	19
28	Towards automated 3D finite element modeling of direct fiber reinforced composite dental bridge. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2005, 74B, 520-528.	1.6	58
29	Evolutionary topology optimization for temperature reduction of heat conducting fields. International Journal of Heat and Mass Transfer, 2004, 47, 5071-5083.	2.5	149
30	Knowledge-based algorithms in fixed-grid GA shape optimization. International Journal for Numerical Methods in Engineering, 2003, 58, 643-660.	1.5	11
31	An evolutionary approach to elastic contact optimization of frame structures. Finite Elements in Analysis and Design, 2003, 40, 61-81.	1.7	22
32	Bridge topology optimisation with stress, displacement and frequency constraints. Computers and Structures, 2003, 81, 131-145.	2.4	49
33	Discrete sensitivity-based evolutionary design optimization. , 2003, , 2373-2377.		0
34	Determination of an Optimal Topology with a Predefined Number of Cavities. AIAA Journal, 2002, 40, 739-744.	1.5	11
35	Aircraft wing design automation with ESO and GESO. International Journal of Vehicle Design, 2002, 28, 356.	0.1	9
36	Performance-Based Optimization for Strut-Tie Modeling of Structural Concrete. Journal of Structural Engineering, 2002, 128, 815-823.	1.7	49

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37	Effect of Yarn Waviness on Strength of 3D Orthogonal Woven CFRP Composite Materials. Journal of Reinforced Plastics and Composites, 2002, 21, 153-173.	1.6	21
38	A performance-based optimization method for topology design of continuum structures with mean compliance constraints. Computer Methods in Applied Mechanics and Engineering, 2002, 191, 1471-1489.	3.4	63
39	Preliminary Studies on the Optimum Shape of Dental Bridges. Computer Methods in Biomechanics and Biomedical Engineering, 2001, 4, 77-92.	0.9	14
40	Evolutionary thickness design with stiffness maximization and stress minimization criteria. International Journal for Numerical Methods in Engineering, 2001, 52, 979-995.	1.5	13
41	Stress based optimization of torsional shafts using an evolutionary procedure. International Journal of Solids and Structures, 2001, 38, 5661-5677.	1.3	13
42	Evolutionary structural optimization for connection topology design of multi-component systems. Engineering Computations, 2001, 18, 460-479.	0.7	53
43	Mechanical Behavior for 3-D Orthogonal Woven E-Glass/Epoxy Composites. Journal of Reinforced Plastics and Composites, 2001, 20, 274-303.	1.6	30
44	Lateral buckling behavior of pneumatically stiffened, reinforced composite beams in bending. AIAA Journal, 2001, 39, 303-307.	1.5	0
45	Structural topology design with multiple thermal criteria. Engineering Computations, 2000, 17, 715-734.	0.7	50
46	Photoelastic evaluation of metallic inserts of optimised shape. Composites Science and Technology, 2000, 60, 95-106.	3.8	14
47	Evolutionary structural optimisation (ESO) for combined topology and size optimisation of discrete structures. Computer Methods in Applied Mechanics and Engineering, 2000, 188, 743-754.	3.4	27
48	Evolutionary structural optimization for stress minimization problems by discrete thickness design. Computers and Structures, 2000, 78, 769-780.	2.4	37
49	Shape optimisation of adhesive fillets. International Journal of Adhesion and Adhesives, 2000, 20, 221-231.	1.4	101
50	Optimal Topology Design of Bracing Systems for Multistory Steel Frames. Journal of Structural Engineering, 2000, 126, 823-829.	1.7	76
51	Models for Predicting Thermomechanical Properties of Three-Dimensional Orthogonal Woven Composites. Journal of Reinforced Plastics and Composites, 1999, 18, 151-185.	1.6	32
52	Displacement minimization of thermoelastic structures by evolutionary thickness design. Computer Methods in Applied Mechanics and Engineering, 1999, 179, 361-378.	3.4	80
53	Evolutionary shape optimization for stress minimization. Mechanics Research Communications, 1999, 26, 657-664.	1.0	21
54	Micromechanics models for the elastic constants and failure strengths of plain weave composites. Composite Structures, 1999, 47, 797-804.	3.1	40

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55	Shape and topology design for heat conduction by Evolutionary Structural Optimization. International Journal of Heat and Mass Transfer, 1999, 42, 3361-3371.	2.5	175
56	Micromechanics models for mechanical and thermomechanical properties of 3D through-the-thickness angle interlock woven composites. Composites Part A: Applied Science and Manufacturing, 1999, 30, 637-648.	3.8	58
57	A mixed model for composite beams with piezoelectric actuators and sensors. Smart Materials and Structures, 1999, 8, 417-432.	1.8	63
58	Evolutionary Structural Optimisation Incorporating Tension and Compression Materials. Advances in Structural Engineering, 1999, 2, 273-288.	1.2	24
59	Optimization of thin shell structures subjected to thermal loading. Structural Engineering and Mechanics, 1999, 7, 401-412.	1.0	11
60	A Review on the Modelling of Piezoelectric Sensors and Actuators Incorporated in Intelligent Structures. Journal of Intelligent Material Systems and Structures, 1998, 9, 3-19.	1.4	257
61	Variations in Posteroanterior Stiffness in the Thoracolumbar Spine: Preliminary Observations and Proposed Mechanisms. Physical Therapy, 1998, 78, 1277-1287.	1.1	35
62	Failure Analysis of Composite T-Joints Including Inserts. Journal of Reinforced Plastics and Composites, 1997, 16, 1642-1658.	1.6	46
63	Buckling mode transition in hat-stiffened composite panels loaded in uniaxial compression. Composite Structures, 1997, 37, 253-267.	3.1	36
64	Homogenization of multicomponent composite orthotropic materials using FEA. Communications in Numerical Methods in Engineering, 1997, 13, 517-531.	1.3	35
65	Vibration of pretwisted cantilever shallow conical shells. International Journal of Solids and Structures, 1997, 34, 2771-2774.	1.3	0
66	Homogenization of multicomponent composite orthotropic materials using FEA. , 1997, 13, 517.		2
67	Topology Design of Structures Subjected to Thermal Loading by Evolutionary Optimization Procedure. , 1997, , .		5
68	Multiple cutout optimization in composite plates using evolutionary structural optimization. Structural Engineering and Mechanics, 1997, 5, 609-624.	1.0	8
69	A strain softening element to model fibre pull-out. Communications in Applied Numerical Methods, 1986, 2, 633-638.	0.5	0
70	Penalty method constraints for mesh grading in two-dimensional elasticity. Communications in Applied Numerical Methods, 1985, 1, 219-232.	0.5	1
71	Internally discontinuous finite elements for moving interface problems. International Journal for Numerical Methods in Engineering, 1982, 18, 569-582.	1.5	19
72	Consistent mass matrix in fluid sloshing problems. AIAA Journal, 1976, 14, 245-247.	1.5	19