Kapil Khandelwal

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

61 papers	1,471 citations	22 h-index	37 g-index
64 ext. papers	1,695 ext. citations	3.6 avg, IF	5.46 L-index

#	Paper	IF	Citations
61	Finite strain FE2 analysis with data-driven homogenization using deep neural networks. *Computers and Structures*, **2022**, 263, 106742	4.5	1
60	On the performance evaluation of stochastic finite elements in linear and nonlinear problems. *Computers and Structures*, **2021**, 243, 106408	4.5	4
59	Topology optimization of dissipative metamaterials at finite strains based on nonlinear homogenization. *Structural and Multidisciplinary Optimization*, **2020**, 62, 1419-1455	3.6	4
58	Optimized bi-material layouts for energy dissipating composites under finite deformations. *International Journal of Solids and Structures*, **2020**, 193-194, 152-171	3.1	2
57	Topology Optimization of Energy-Dissipating Plastic Structures with Shear Modified Gurson□TvergaardⓃeedleman Model. *Journal of Structural Engineering*, **2020**, 146, 04020229	3	2
56	Bi-material topology optimization for energy dissipation with inertia and material rate effects under finite deformations. *Finite Elements in Analysis and Design*, **2019**, 164, 18-41	2.2	11
55	Design of dissipative multimaterial viscoelastic-hyperelastic systems at finite strains via topology optimization. *International Journal for Numerical Methods in Engineering*, **2019**, 119, 1037-1068	2.4	9
54	Computational design of finite strain auxetic metamaterials via topology optimization and nonlinear homogenization. *Computer Methods in Applied Mechanics and Engineering*, **2019**, 356, 490-527	5.7	21
53	Design of periodic elastoplastic energy dissipating microstructures. *Structural and Multidisciplinary Optimization*, **2019**, 59, 461-483	3.6	15
52	A unified framework for nonlinear path-dependent sensitivity analysis in topology optimization. *International Journal for Numerical Methods in Engineering*, **2018**, 115, 1-56	2.4	25
51	On the application of multipoint Root-Solvers for improving global convergence of fracture problems. *Engineering Fracture Mechanics*, **2018**, 193, 77-95	4.2	1
50	Failure resistant topology optimization of structures using nonlocal elastoplastic-damage model. *Structural and Multidisciplinary Optimization*, **2018**, 58, 1589-1618	3.6	20
49	On the locking free isogeometric formulations for 3-D curved Timoshenko beams. *Finite Elements in Analysis and Design*, **2018**, 143, 46-65	2.2	14
48	A framework for implementation of RVE-based multiscale models in computational homogenization using isogeometric analysis. *International Journal for Numerical Methods in Engineering*, **2018**, 114, 1018-1051	2.4	19
47	Topology optimization with incompressible materials under small and finite deformations using mixed u/p elements. *International Journal for Numerical Methods in Engineering*, **2018**, 115, 1015-1052	2.4	10
46	An isogeometric approach for analysis of phononic crystals and elastic metamaterials with complex geometries. *Computational Mechanics*, **2018**, 62, 285-307	4	6
45	Topology optimization of energy absorbing structures with maximum damage constraint. *International Journal for Numerical Methods in Engineering*, **2017**, 112, 737-775	2.4	36

44	Design of energy dissipating elastoplastic structures under cyclic loads using topology optimization. *Structural and Multidisciplinary Optimization*, **2017**, 56, 391-412	3.6	22
43	Topology optimization of pressure dependent elastoplastic energy absorbing structures with material damage constraints. *Finite Elements in Analysis and Design*, **2017**, 133, 42-61	2.2	23
42	Topology optimization of structures with gradient elastic material. *Structural and Multidisciplinary Optimization*, **2017**, 56, 371-390	3.6	4
41	Topology optimization of structures with anisotropic plastic materials using enhanced assumed strain elements. *Structural and Multidisciplinary Optimization*, **2017**, 55, 1965-1988	3.6	28
40	Closure to "Complex Perturbation Method for Sensitivity Analysis of Nonlinear Trusses" by Ravi Kiran, Lei Li, and Kapil Khandelwal. *Journal of Structural Engineering*, **2017**, 143, 07017006	3	
39	Design of fracture resistant energy absorbing structures using elastoplastic topology optimization. *Structural and Multidisciplinary Optimization*, **2017**, 56, 1447-1475	3.6	19
38	Topology optimization of geometrically nonlinear trusses with spurious eigenmodes control. *Engineering Structures*, **2017**, 131, 324-344	4.7	11
37	Complex Perturbation Method for Sensitivity Analysis of Nonlinear Trusses. *Journal of Structural Engineering*, **2017**, 143, 04016154	3	11
36	Modeling of nonlocal damage-plasticity in beams using isogeometric analysis. *Computers and Structures*, **2016**, 165, 76-95	4.5	19
35	Analysis of three-dimensional curved beams using isogeometric approach. *Engineering Structures*, **2016**, 117, 560-574	4.7	36
34	A coupled microvoid elongation and dilation based ductile fracture model for structural steels. *Engineering Fracture Mechanics*, **2015**, 145, 15-42	4.2	16
33	Connection topology optimization of steel moment frames using metaheuristic algorithms. *Engineering Structures*, **2015**, 100, 276-292	4.7	17
32	Automatic implementation of finite strain anisotropic hyperelastic models using hyper-dual numbers. *Computational Mechanics*, **2015**, 55, 229-248	4	12
31	Performance of cubic convergent methods for implementing nonlinear constitutive models. *Computers and Structures*, **2015**, 156, 83-100	4.5	11
30	Comparison of robustness of metaheuristic algorithms for steel frame optimization. *Engineering Structures*, **2015**, 102, 40-60	4.7	31
29	A micromechanical cyclic void growth model for ultra-low cycle fatigue. *International Journal of Fatigue*, **2015**, 70, 24-37	5	34
28	Topology optimization of structures with length-scale effects using elasticity with microstructure theory. *Computers and Structures*, **2015**, 157, 165-177	4.5	11
27	Volume preserving projection filters and continuation methods in topology optimization. *Engineering Structures*, **2015**, 85, 144-161	4.7	46

26	An adaptive quadratic approximation for structural and topology optimization. *Computers and Structures*, **2015**, 151, 130-147	4.5	10
25	A finite strain continuum damage model for simulating ductile fracture in steels. *Engineering Fracture Mechanics*, **2014**, 116, 172-189	4.2	21
24	Two-point gradient-based MMA (TGMMA) algorithm for topology optimization. *Computers and Structures*, **2014**, 131, 34-45	4.5	23
23	Modeling of high temperature creep in ASTM A992 structural steels. *Engineering Structures*, **2014**, 80, 426-434	4.7	24
22	Computational Models for Ductile Fracture Prediction in Structural Engineering Applications **2014**, 3, 1947-1955		5
21	Fast-to-Compute Weakly Coupled Ductile Fracture Model for Structural Steels. *Journal of Structural Engineering*, **2014**, 140, 04014018	3	16
20	Numerically approximated Cauchy integral (NACI) for implementation of constitutive models. *Finite Elements in Analysis and Design*, **2014**, 89, 33-51	2.2	7
19	Design-driven harmony search (DDHS) in steel frame optimization. *Engineering Structures*, **2014**, 59, 798-808	4.7	30
18	Complex step derivative approximation for numerical evaluation of tangent moduli. *Computers and Structures*, **2014**, 140, 1-13	4.5	23
17	Experimental Studies and Models for Ductile Fracture in ASTM A992 Steels at High Triaxiality. *Journal of Structural Engineering*, **2014**, 140, 04013044	3	32
16	A triaxiality and Lode parameter dependent ductile fracture criterion. *Engineering Fracture Mechanics*, **2014**, 128, 121-138	4.2	74
15	Gurson model parameters for ductile fracture simulation in ASTM A992 steels. *Fatigue and Fracture of Engineering Materials and Structures*, **2014**, 37, 171-183	3	39
14	A micromechanical model for ductile fracture prediction in ASTM A992 steels. *Engineering Fracture Mechanics*, **2013**, 102, 101-117	4.2	43
13	Topology optimization for minimum compliance using a control strategy. *Engineering Structures*, **2013**, 48, 674-682	4.7	16
12	Performance evaluation of sandwich panel systems for blast mitigation. *Engineering Structures*, **2013**, 56, 2119-2130	4.7	30
11	Pushdown resistance as a measure of robustness in progressive collapse analysis. *Engineering Structures*, **2011**, 33, 2653-2661	4.7	107
10	Hybrid Cellular Automaton: A Novel Framework for Non-Linear Topology Optimization **2010**,		3
9	Progressive collapse analysis of seismically designed steel braced frames. *Journal of Constructional Steel Research*, **2009**, 65, 699-708	3.8	143

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8	Macromodel-Based Simulation of Progressive Collapse: Steel Frame Structures. *Journal of Structural Engineering*, **2008**, 134, 1070-1078	3	89
7	Assessment of Progressive Collapse Residual Capacity Using Pushdown Analysis **2008**,		9
6	Collapse Behavior of Steel Special Moment Resisting Frame Connections. *Journal of Structural Engineering*, **2007**, 133, 646-655	3	114
5	Macro Models for Progressive Collapse Analysis of Steel Moment Frame Buildings **2007**,		4
4	Catenary Action during Collapse of Steel MRF Buildings **2006**, 1		2
3	Ductile Web Fracture Initiation in Steel Shear Links. *Journal of Structural Engineering*, **2006**, 132, 1192-1200	3	48
2	Progressive Collapse of Moment Resisting Steel Frame Buildings **2005**, 1		7
1	A computational framework for homogenization and multiscale stability analyses of nonlinear periodic materials. *International Journal for Numerical Methods in Engineering*,	2.4	1