

# Kapil Khandelwal

## List of Publications by Citations

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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	Progressive collapse analysis of seismically designed steel braced frames. <i>Journal of Constructional Steel Research</i> , <b>2009</b> , 65, 699-708	3.8	143
60	Collapse Behavior of Steel Special Moment Resisting Frame Connections. <i>Journal of Structural Engineering</i> , <b>2007</b> , 133, 646-655	3	114
59	Pushdown resistance as a measure of robustness in progressive collapse analysis. <i>Engineering Structures</i> , <b>2011</b> , 33, 2653-2661	4.7	107
58	Macromodel-Based Simulation of Progressive Collapse: Steel Frame Structures. <i>Journal of Structural Engineering</i> , <b>2008</b> , 134, 1070-1078	3	89
57	A triaxiality and Lode parameter dependent ductile fracture criterion. <i>Engineering Fracture Mechanics</i> , <b>2014</b> , 128, 121-138	4.2	74
56	Ductile Web Fracture Initiation in Steel Shear Links. <i>Journal of Structural Engineering</i> , <b>2006</b> , 132, 1192-1200		48
55	Volume preserving projection filters and continuation methods in topology optimization. <i>Engineering Structures</i> , <b>2015</b> , 85, 144-161	4.7	46
54	A micromechanical model for ductile fracture prediction in ASTM A992 steels. <i>Engineering Fracture Mechanics</i> , <b>2013</b> , 102, 101-117	4.2	43
53	Gurson model parameters for ductile fracture simulation in ASTM A992 steels. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , <b>2014</b> , 37, 171-183	3	39
52	Topology optimization of energy absorbing structures with maximum damage constraint. <i>International Journal for Numerical Methods in Engineering</i> , <b>2017</b> , 112, 737-775	2.4	36
51	Analysis of three-dimensional curved beams using isogeometric approach. <i>Engineering Structures</i> , <b>2016</b> , 117, 560-574	4.7	36
50	A micromechanical cyclic void growth model for ultra-low cycle fatigue. <i>International Journal of Fatigue</i> , <b>2015</b> , 70, 24-37	5	34
49	Experimental Studies and Models for Ductile Fracture in ASTM A992 Steels at High Triaxiality. <i>Journal of Structural Engineering</i> , <b>2014</b> , 140, 04013044	3	32
48	Comparison of robustness of metaheuristic algorithms for steel frame optimization. <i>Engineering Structures</i> , <b>2015</b> , 102, 40-60	4.7	31
47	Design-driven harmony search (DDHS) in steel frame optimization. <i>Engineering Structures</i> , <b>2014</b> , 59, 798-808	4.7	30
46	Performance evaluation of sandwich panel systems for blast mitigation. <i>Engineering Structures</i> , <b>2013</b> , 56, 2119-2130	4.7	30
45	Topology optimization of structures with anisotropic plastic materials using enhanced assumed strain elements. <i>Structural and Multidisciplinary Optimization</i> , <b>2017</b> , 55, 1965-1988	3.6	28

44	A unified framework for nonlinear path-dependent sensitivity analysis in topology optimization. <i>International Journal for Numerical Methods in Engineering</i> , <b>2018</b> , 115, 1-56	2.4	25
43	Modeling of high temperature creep in ASTM A992 structural steels. <i>Engineering Structures</i> , <b>2014</b> , 80, 426-434	4.7	24
42	Topology optimization of pressure dependent elastoplastic energy absorbing structures with material damage constraints. <i>Finite Elements in Analysis and Design</i> , <b>2017</b> , 133, 42-61	2.2	23
41	Two-point gradient-based MMA (TGMMA) algorithm for topology optimization. <i>Computers and Structures</i> , <b>2014</b> , 131, 34-45	4.5	23
40	Complex step derivative approximation for numerical evaluation of tangent moduli. <i>Computers and Structures</i> , <b>2014</b> , 140, 1-13	4.5	23
39	Design of energy dissipating elastoplastic structures under cyclic loads using topology optimization. <i>Structural and Multidisciplinary Optimization</i> , <b>2017</b> , 56, 391-412	3.6	22
38	Computational design of finite strain auxetic metamaterials via topology optimization and nonlinear homogenization. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2019</b> , 356, 490-527	5.7	21
37	A finite strain continuum damage model for simulating ductile fracture in steels. <i>Engineering Fracture Mechanics</i> , <b>2014</b> , 116, 172-189	4.2	21
36	Failure resistant topology optimization of structures using nonlocal elastoplastic-damage model. <i>Structural and Multidisciplinary Optimization</i> , <b>2018</b> , 58, 1589-1618	3.6	20
35	A framework for implementation of RVE-based multiscale models in computational homogenization using isogeometric analysis. <i>International Journal for Numerical Methods in Engineering</i> , <b>2018</b> , 114, 1018-1051	2.4	19
34	Modeling of nonlocal damage-plasticity in beams using isogeometric analysis. <i>Computers and Structures</i> , <b>2016</b> , 165, 76-95	4.5	19
33	Design of fracture resistant energy absorbing structures using elastoplastic topology optimization. <i>Structural and Multidisciplinary Optimization</i> , <b>2017</b> , 56, 1447-1475	3.6	19
32	Connection topology optimization of steel moment frames using metaheuristic algorithms. <i>Engineering Structures</i> , <b>2015</b> , 100, 276-292	4.7	17
31	A coupled microvoid elongation and dilation based ductile fracture model for structural steels. <i>Engineering Fracture Mechanics</i> , <b>2015</b> , 145, 15-42	4.2	16
30	Fast-to-Compute Weakly Coupled Ductile Fracture Model for Structural Steels. <i>Journal of Structural Engineering</i> , <b>2014</b> , 140, 04014018	3	16
29	Topology optimization for minimum compliance using a control strategy. <i>Engineering Structures</i> , <b>2013</b> , 48, 674-682	4.7	16
28	Design of periodic elastoplastic energy dissipating microstructures. <i>Structural and Multidisciplinary Optimization</i> , <b>2019</b> , 59, 461-483	3.6	15
27	On the locking free isogeometric formulations for 3-D curved Timoshenko beams. <i>Finite Elements in Analysis and Design</i> , <b>2018</b> , 143, 46-65	2.2	14

26	Automatic implementation of finite strain anisotropic hyperelastic models using hyper-dual numbers. <i>Computational Mechanics</i> , <b>2015</b> , 55, 229-248	4	12
25	Bi-material topology optimization for energy dissipation with inertia and material rate effects under finite deformations. <i>Finite Elements in Analysis and Design</i> , <b>2019</b> , 164, 18-41	2.2	11
24	Performance of cubic convergent methods for implementing nonlinear constitutive models. <i>Computers and Structures</i> , <b>2015</b> , 156, 83-100	4.5	11
23	Topology optimization of geometrically nonlinear trusses with spurious eigenmodes control. <i>Engineering Structures</i> , <b>2017</b> , 131, 324-344	4.7	11
22	Complex Perturbation Method for Sensitivity Analysis of Nonlinear Trusses. <i>Journal of Structural Engineering</i> , <b>2017</b> , 143, 04016154	3	11
21	Topology optimization of structures with length-scale effects using elasticity with microstructure theory. <i>Computers and Structures</i> , <b>2015</b> , 157, 165-177	4.5	11
20	Topology optimization with incompressible materials under small and finite deformations using mixed u/p elements. <i>International Journal for Numerical Methods in Engineering</i> , <b>2018</b> , 115, 1015-1052	2.4	10
19	An adaptive quadratic approximation for structural and topology optimization. <i>Computers and Structures</i> , <b>2015</b> , 151, 130-147	4.5	10
18	Design of dissipative multimaterial viscoelastic-hyperelastic systems at finite strains via topology optimization. <i>International Journal for Numerical Methods in Engineering</i> , <b>2019</b> , 119, 1037-1068	2.4	9
17	Assessment of Progressive Collapse Residual Capacity Using Pushdown Analysis <b>2008</b> ,		9
16	Numerically approximated Cauchy integral (NACI) for implementation of constitutive models. <i>Finite Elements in Analysis and Design</i> , <b>2014</b> , 89, 33-51	2.2	7
15	Progressive Collapse of Moment Resisting Steel Frame Buildings <b>2005</b> , 1		7
14	An isogeometric approach for analysis of phononic crystals and elastic metamaterials with complex geometries. <i>Computational Mechanics</i> , <b>2018</b> , 62, 285-307	4	6
13	Computational Models for Ductile Fracture Prediction in Structural Engineering Applications <b>2014</b> , 3, 1947-1955		5
12	Topology optimization of structures with gradient elastic material. <i>Structural and Multidisciplinary Optimization</i> , <b>2017</b> , 56, 371-390	3.6	4
11	Topology optimization of dissipative metamaterials at finite strains based on nonlinear homogenization. <i>Structural and Multidisciplinary Optimization</i> , <b>2020</b> , 62, 1419-1455	3.6	4
10	Macro Models for Progressive Collapse Analysis of Steel Moment Frame Buildings <b>2007</b> ,		4
9	On the performance evaluation of stochastic finite elements in linear and nonlinear problems. <i>Computers and Structures</i> , <b>2021</b> , 243, 106408	4.5	4

8	Hybrid Cellular Automaton: A Novel Framework for Non-Linear Topology Optimization <b>2010</b> ,		3
7	Optimized bi-material layouts for energy dissipating composites under finite deformations. <i>International Journal of Solids and Structures</i> , <b>2020</b> , 193-194, 152-171	3-1	2
6	Catenary Action during Collapse of Steel MRF Buildings <b>2006</b> , 1		2
5	Topology Optimization of Energy-Dissipating Plastic Structures with Shear Modified Gurson-Vergaard-Needleman Model. <i>Journal of Structural Engineering</i> , <b>2020</b> , 146, 04020229	3	2
4	On the application of multipoint Root-Solvers for improving global convergence of fracture problems. <i>Engineering Fracture Mechanics</i> , <b>2018</b> , 193, 77-95	4-2	1
3	Finite strain FE2 analysis with data-driven homogenization using deep neural networks. <i>Computers and Structures</i> , <b>2022</b> , 263, 106742	4-5	1
2	A computational framework for homogenization and multiscale stability analyses of nonlinear periodic materials. <i>International Journal for Numerical Methods in Engineering</i> ,	2-4	1
1	Closure to Complex Perturbation Method for Sensitivity Analysis of Nonlinear Trusses by Ravi Kiran, Lei Li, and Kapil Khandelwal. <i>Journal of Structural Engineering</i> , <b>2017</b> , 143, 07017006	3	