

# Asif S Usmani

## List of Publications by Year in descending order

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120  
papers

3,453  
citations

126708

33  
h-index

168136

53  
g-index

124  
all docs

124  
docs citations

124  
times ranked

1625  
citing authors

#	ARTICLE	IF	CITATIONS
1	Facade Fire Hazards of Bench-Scale Aluminum Composite Panel with Flame-Retardant Core. Fire Technology, 2023, 59, 5-28.	1.5	13
2	A real-time forecast of tunnel fire based on numerical database and artificial intelligence. Building Simulation, 2022, 15, 511-524.	3.0	43
3	Modeling the collapse of the Plasco Building. Part I: Reconstruction of fire. Building Simulation, 2022, 15, 583-596.	3.0	9
4	OpenFIRE: An Open Computational Framework for Structural Response to Real Fires. Fire Technology, 2022, 58, 1011-1038.	1.5	8
5	Integrated nonlinear structural simulation of composite buildings in fire. Engineering Structures, 2022, 252, 113593.	2.6	8
6	An intelligent tunnel firefighting system and small-scale demonstration. Tunnelling and Underground Space Technology, 2022, 120, 104301.	3.0	41
7	A computational approach for modelling composite slabs in fire within OpenSees framework. Engineering Structures, 2022, 255, 113909.	2.6	5
8	Modelling concrete slabs subjected to localised fire action with OpenSees. Journal of Structural Fire Engineering, 2022, ahead-of-print, .	0.4	0
9	Model characterisation of localised burning impact from localised fire tests to travelling fire scenarios. Journal of Building Engineering, 2022, 54, 104601.	1.6	5
10	Response of restrained stainless steel corrugated web beams at elevated temperature. Structures, 2022, 41, 668-683.	1.7	2
11	Perspectives of Using Artificial Intelligence in Building Fire Safety. , 2022, , 139-159.		5
12	Smart Detection of Fire Source in Tunnel Based on the Numerical Database and Artificial Intelligence. Fire Technology, 2021, 57, 657-682.	1.5	81
13	Perspectives of big experimental database and artificial intelligence in tunnel fire research. Tunnelling and Underground Space Technology, 2021, 108, 103691.	3.0	39
14	Modelling concrete slabs subjected to fires using nonlinear layered shell elements and concrete damage-plasticity material. Engineering Structures, 2021, 234, 111977.	2.6	21
15	Isogeometric analysis-based design of post-tensioned concrete beam towards construction-oriented topology optimization. Structural and Multidisciplinary Optimization, 2021, 64, 4237-4253.	1.7	5
16	Evolution of fire models for estimating structural fire-resistance. Fire Safety Journal, 2021, 124, 103367.	1.4	27
17	Framework for fire risk assessment of bridges. Structures, 2021, 33, 523-532.	1.7	11
18	Thermal Analysis Infrastructure in OpenSees for Fire and its Smart Application Interface Towards Natural Fire Modelling. Fire Technology, 2021, 57, 2955-2980.	1.5	12

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19	Bridge fires in the 21st century: A literature review. <i>Fire Safety Journal</i> , 2021, 126, 103487.	1.4	18
20	Preference-driven Kriging-based multiobjective optimization method with a novel multipoint infill criterion and application to airfoil shape design. <i>Aerospace Science and Technology</i> , 2020, 96, 105555.	2.5	23
21	Analysis of Restrained Composite Perforated Beams during Fire Using a Hybrid Simulation Approach. <i>Journal of Structural Engineering</i> , 2020, 146, 04020002.	1.7	5
22	Remaining fire resistance of steel frames following a moderate earthquake – A case study. <i>Journal of Constructional Steel Research</i> , 2020, 164, 105754.	1.7	8
23	Prima Facie Evidence of the Fast Impact of a Lightning Stroke on the Lower Ionosphere. <i>Geophysical Research Letters</i> , 2020, 47, e2020GL090274.	1.5	4
24	An extended travelling fire method framework for performance-based structural design. <i>Fire and Materials</i> , 2020, 44, 437-457.	0.9	30
25	A thermo-mechanical analysis of stainless steel structures in fire. <i>Engineering Structures</i> , 2020, 210, 110091.	2.6	3
26	Safety of Structures in Fire. <i>Lecture Notes in Civil Engineering</i> , 2020, , 1153-1160.	0.3	0
27	Effect of elevated temperatures on the shear-friction behaviour of concrete: Experimental and analytical study. <i>Engineering Structures</i> , 2020, 225, 111305.	2.6	13
28	Damage investigation of cementitious fire resistive coatings under complex loading. <i>Construction and Building Materials</i> , 2019, 204, 659-674.	3.2	9
29	Virtual hybrid simulation of beams with web openings in fire. <i>Journal of Structural Fire Engineering</i> , 2019, 11, 118-134.	0.4	5
30	Feasibility of dimensionally reduced heat transfer analysis for structural members subjected to localised fire. <i>Advances in Structural Engineering</i> , 2018, 21, 1708-1722.	1.2	11
31	Towards scenario fires – modelling structural response to fire using an integrated computational tool. <i>Advances in Structural Engineering</i> , 2018, 21, 2056-2067.	1.2	18
32	Computational performance of beam-column elements in modelling structural members subjected to localised fire. <i>Engineering Structures</i> , 2018, 156, 490-502.	2.6	20
33	Analysis of restrained composite beams exposed to fire using a hybrid simulation approach. <i>Engineering Structures</i> , 2018, 172, 956-966.	2.6	22
34	Fire resistance of composite steel & concrete highway bridges. <i>Journal of Constructional Steel Research</i> , 2018, 148, 707-719.	1.7	12
35	Evaluating the potential of simulation assisted energy management systems: A case for electrical heating optimisation. <i>Energy and Buildings</i> , 2018, 174, 579-586.	3.1	8
36	A critical review of –travelling fire–scenarios for performance-based structural engineering. <i>Fire Safety Journal</i> , 2017, 91, 568-578.	1.4	58

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37	Temperature-dependent nonlinear analysis of shallow shells: A theoretical approach. Composite Structures, 2016, 141, 1-13.	3.1	2
38	On thermo-mechanical nonlinear behaviour of shallow shells. International Journal of Non-Linear Mechanics, 2016, 82, 114-123.	1.4	3
39	Analysis of Composite Steel-concrete Beams Exposed to Fire using OpenSees. Journal of Structural Fire Engineering, 2015, 6, 1-20.	0.4	5
40	Full-scale fire test on an earthquake-damaged reinforced concrete frame. Fire Safety Journal, 2015, 73, 1-19.	1.4	49
41	Damage mechanisms in cementitious coatings on steel members under axial loading. Construction and Building Materials, 2015, 90, 18-35.	3.2	9
42	Temperature-dependent nonlinear behaviour of thin rectangular plates exposed to through-depth thermal gradients. Composite Structures, 2015, 132, 652-664.	3.1	4
43	Damage mechanisms in cementitious coatings on steel members in bending. Proceedings of the Institution of Civil Engineers: Structures and Buildings, 2015, 168, 351-369.	0.4	6
44	Heat transfer principles in thermal calculation of structures in fire. Fire Safety Journal, 2015, 78, 85-95.	1.4	27
45	Fire safety assessment of super tall buildings: A case study on Shanghai Tower. Case Studies in Fire Safety, 2015, 4, 28-38.	1.0	12
46	Progressive collapse mechanisms investigation of planar steel moment frames under localized fire. Journal of Constructional Steel Research, 2015, 115, 160-168.	1.7	43
47	Effect of Bracing Systems on Fire-Induced Progressive Collapse of Steel Structures Using OpenSees. Fire Technology, 2015, 51, 1249-1273.	1.5	37
48	OpenSees Software Architecture for the Analysis of Structures in Fire. Journal of Computing in Civil Engineering, 2015, 29, .	2.5	44
49	An application of the PEER performance based earthquake engineering framework to structures in fire. Engineering Structures, 2014, 66, 100-115.	2.6	73
50	Progressive Collapse Resistance of Braced Steel Frames Exposed to Fire. , 2014, , .		4
51	Modelling of Steel-Concrete Composite Structures in Fire Using OpenSees. Advances in Structural Engineering, 2014, 17, 249-264.	1.2	21
52	Progressive Collapse Mechanisms of Steel Frames Exposed to Fire. Advances in Structural Engineering, 2014, 17, 381-398.	1.2	35
53	Influence of fire scenarios on progressive collapse mechanisms of steel framed structures. Steel Construction, 2014, 7, 169-172.	0.4	8
54	An analytical study of the nonlinear thermo-mechanical behaviour of thin isotropic rectangular plates. Computers and Structures, 2014, 141, 1-8.	2.4	5

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55	Testing of Full-scale RC Frame under Simulated Fire Following Earthquake. Journal of Structural Fire Engineering, 2014, 5, 215-228.	0.4	4
56	Mechanical Properties of Undamaged and Damaged Steel Rebars at Elevated Temperatures. Journal of Structural Fire Engineering, 2014, 5, 251-260.	0.4	2
57	Analytical model for the composite effect of coupled beams with discrete shear connectors. Structural Engineering and Mechanics, 2014, 52, 369-389.	1.0	2
58	The World Trade Center 9/11 Disaster and Progressive Collapse of Tall Buildings. Fire Technology, 2013, 49, 741-765.	1.5	28
59	Numerical Investigation of Thermal Responses of a Composite Structure in Horizontally Travelling fires Using OpenSees. Procedia Engineering, 2013, 62, 736-744.	1.2	7
60	Modeling fire-induced radiative heat transfer in smoke-filled structural cavities. International Journal of Thermal Sciences, 2013, 66, 24-33.	2.6	4
61	Simulating the behavior of restrained steel beams to flame impingement from localized-fires. Journal of Constructional Steel Research, 2013, 83, 156-165.	1.7	53
62	Modeling of steel frame structures in fire using OpenSees. Computers and Structures, 2013, 118, 90-99.	2.4	60
63	BIM Integrated Workflow Management and Monitoring System for Modular Buildings. International Journal of 3-D Information Modeling, 2013, 2, 17-28.	0.2	3
64	Full-scale testing of a damaged reinforced concrete frame in fire. Proceedings of the Institution of Civil Engineers: Structures and Buildings, 2012, 165, 335-346.	0.4	22
65	Nonlinear stress analysis of plates under thermo-mechanical loads. Journal of Physics: Conference Series, 2012, 382, 012022.	0.3	2
66	Using Openses for Structures in Fire. Journal of Structural Fire Engineering, 2012, 3, 57-70.	0.4	26
67	Tall building collapse mechanisms initiated by fire: Mechanisms and design methodology. Engineering Structures, 2012, 36, 90-103.	2.6	65
68	Managing dynamic enterprise and urgent workloads on clouds using layered queuing and historical performance models. Simulation Modelling Practice and Theory, 2011, 19, 1479-1495.	2.2	20
69	Resource management of enterprise cloud systems using layered queuing and historical performance models. , 2010, , .		16
70	FireGrid: An e-infrastructure for next-generation emergency response support. Journal of Parallel and Distributed Computing, 2010, 70, 1128-1141.	2.7	86
71	Bonded Fibre Reinforced Polymer Strengthening in a Real Fire. Advances in Structural Engineering, 2009, 12, 867-878.	1.2	27
72	A very simple method for assessing tall building safety in major fires. International Journal of Steel Structures, 2009, 9, 17-28.	0.6	12

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73	An Architecture for an Integrated Fire Emergency Response System for the Built Environment. <i>Fire Safety Science</i> , 2008, 9, 427-438.	0.3	13
74	Collapse of tall buildings in multi-storey fires. <i>Fire Safety Science</i> , 2008, 9, 1291-1302.	0.3	0
75	Structural Response of Tall Buildings to Multiple Floor Fires. <i>Journal of Structural Engineering</i> , 2007, 133, 1719-1732.	1.7	32
76	Finite element modelling of the pelvis: Inclusion of muscular and ligamentous boundary conditions. <i>Medical Engineering and Physics</i> , 2007, 29, 739-748.	0.8	207
77	Composite steel-framed structures in fire with protected and unprotected edge beams. <i>Journal of Constructional Steel Research</i> , 2007, 63, 1138-1150.	1.7	20
78	Behaviour of concrete structures in fire. <i>Thermal Science</i> , 2007, 11, 37-52.	0.5	93
79	Behavior of Structures in Fire and Real Design - A Case Study. <i>Journal of Fire Protection Engineering</i> , 2006, 16, 5-35.	0.8	35
80	Innovative Structural Engineering for Tall Buildings in Fire. <i>Structural Engineering International: Journal of the International Association for Bridge and Structural Engineering (IABSE)</i> , 2006, 16, 142-147.	0.5	4
81	The elastic properties of morsellised cortico-cancellous bone graft are dependent on its prior loading. <i>Journal of Biomechanics</i> , 2006, 39, 1517-1526.	0.9	13
82	Effect of fire on composite long span truss floor systems. <i>Journal of Constructional Steel Research</i> , 2006, 62, 303-315.	1.7	12
83	Constitutive models for impacted morsellised cortico-cancellous bone. <i>Biomaterials</i> , 2006, 27, 2162-2170.	5.7	24
84	3D non-linear analysis of the acetabular construct following impaction grafting. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2006, 9, 125-133.	0.9	10
85	Stability of the World Trade Center Twin Towers Structural Frame in Multiple Floor Fires. <i>Journal of Engineering Mechanics - ASCE</i> , 2005, 131, 654-657.	1.6	45
86	The effect of acetabular cup size on the short-term stability of revision hip arthroplasty: A finite element investigation. <i>Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine</i> , 2004, 218, 239-249.	1.0	22
87	Limit capacity of laterally restrained reinforced concrete floor slabs in fire. <i>Cement and Concrete Composites</i> , 2004, 26, 127-140.	4.6	31
88	Bending and membrane action in concrete slabs. <i>Fire and Materials</i> , 2004, 28, 139-157.	0.9	11
89	Behaviour of a small composite steel frame structure in a "long-cool" and a "short-hot" fire. <i>Fire Safety Journal</i> , 2004, 39, 327-357.	1.4	51
90	How did the WTC towers collapse: a new theory. <i>Fire Safety Journal</i> , 2003, 38, 501-533.	1.4	158

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91	Possible "panel instability"™ in composite deck floor systems under fire. Journal of Constructional Steel Research, 2003, 59, 1397-1433.	1.7	5
92	Case Study of the Failure of a Cross Vault: Church of Holyrood Abbey. Journal of Architectural Engineering, 2003, 9, 109-117.	0.8	27
93	TECHNIQUES TO IMPROVE THE SHEAR STRENGTH OF IMPACTED BONE GRAFT. Journal of Bone and Joint Surgery - Series A, 2003, 85, 639-646.	1.4	125
94	An Adaptive Finite Element Solution for Cohesive Sediment Transport. Proceedings in Marine Science, 2002, , 627-641.	0.1	2
95	h-ADAPTIVITY AND "HONEST" GFEM FOR ADVECTION-DOMINATED TRANSPORT. Numerical Heat Transfer, Part B: Fundamentals, 2002, 41, 339-359.	0.6	4
96	Assessment of the Structural Response of Masonry Cross Vaults. Strain, 2002, 38, 119-127.	1.4	31
97	A structural analysis of the Cardington British Steel Corner Test. Journal of Constructional Steel Research, 2002, 58, 427-442.	1.7	63
98	h-Adaptive finite element solution of unsteady thermally driven cavity problem. International Journal of Numerical Methods for Heat and Fluid Flow, 2001, 11, 172-195.	1.6	11
99	Fundamental principles of structural behaviour under thermal effects. Fire Safety Journal, 2001, 36, 721-744.	1.4	218
100	Modelling of heated composite floor slabs with reference to the Cardington experiments. Fire Safety Journal, 2001, 36, 745-767.	1.4	49
101	Heat transfer analysis of the composite slab in the Cardington frame fire tests. Fire Safety Journal, 2001, 36, 815-839.	1.4	55
102	A structural analysis of the first Cardington test. Journal of Constructional Steel Research, 2001, 57, 581-601.	1.7	73
103	Structural behaviour in fire compartment under different heating regimes " part 2: (slab mean) Tj ETQq1 1 0.784314 rgBT /Overlock 10	1.4	10
104	Structural behaviour in fire compartment under different heating regimes " Part 1 (slab thermal) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	1.4	25
105	h-Adaptive finite element solution of high Rayleigh number thermally driven cavity problem. International Journal of Numerical Methods for Heat and Fluid Flow, 2000, 10, 598-615.	1.6	63
106	Mechanical considerations in impaction bone grafting. Journal of Bone and Joint Surgery: British Volume, 1999, 81, 118-24.	3.4	104
107	Accuracy of NDE in bridge assessment. Engineering Structures, 1998, 20, 979-984.	2.6	22
108	An h-adaptive SUPG-FEM solution of the pure advection equation. Applied Numerical Mathematics, 1998, 26, 193-202.	1.2	5

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109	SOLUTION OF ADVECTION PROBLEMS USING h-ADAPTIVE FEM WITH DISCONTINUITY CAPTURING SUPG METHOD. , 1997, , .		1
110	Efficient mould filling simulation in castings by an explicit finite element method. International Journal for Numerical Methods in Fluids, 1995, 20, 493-506.	0.9	59
111	Aspects of adaptive mesh generation based on domain decomposition and Delaunay triangulation. Finite Elements in Analysis and Design, 1995, 20, 47-70.	1.7	22
112	Finite element solution of incompressible flows using an explicit segregated approach. Archives of Computational Methods in Engineering, 1995, 2, 69-93.	6.0	14
113	Finite Element Analysis for Heat Transfer. , 1994, , .		59
114	The analysis of mould filling in castings using the finite element method. Journal of Materials Processing Technology, 1993, 38, 291-302.	3.1	14
115	A finite element model for the simulations of mould filling in metal casting and the associated heat transfer. International Journal for Numerical Methods in Engineering, 1992, 35, 787-806.	1.5	68
116	Finite element modelling of natural-convection-controlled change of phase. International Journal for Numerical Methods in Fluids, 1992, 14, 1019-1036.	0.9	37
117	Finite element analysis of heat transfer and flow problems using adaptive remeshing including application to solidification problems. International Journal for Numerical Methods in Engineering, 1991, 32, 767-781.	1.5	62
118	Solidification in castings by finite element method. Materials Science and Technology, 1990, 6, 482-490.	0.8	9
119	The Collapse of World Trade Center 7: Revisited. Fire Technology, 0, , 1.	1.5	4
120	A Review on Structural Fire Tests of Two-Way Composite Floors. Fire Technology, 0, , .	1.5	0