Asif S Usmani

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.

116 papers	2,426 citations	26 h-index	44 g-index
123 ext. papers	2,868 ext. citations	3.4 avg, IF	5.19 L-index

#	Paper	IF	Citations
116	A computational approach for modelling composite slabs in fire within OpenSees framework. *Engineering Structures*, **2022**, 255, 113909	4.7	2
115	An intelligent tunnel firefighting system and small-scale demonstration. *Tunnelling and Underground Space Technology*, **2022**, 120, 104301	5.7	4
114	Model characterisation of localised burning impact from localised fire tests to travelling fire scenarios. *Journal of Building Engineering*, **2022**, 104601	5.2	1
113	Response of restrained stainless steel corrugated web beams at elevated temperature. *Structures*, **2022**, 41, 668-683	3.4	
112	Perspectives of Using Artificial Intelligence in Building Fire Safety **2022**, 139-159		
111	Integrated nonlinear structural simulation of composite buildings in fire. *Engineering Structures*, **2021**, 252, 113593	4.7	2
110	Bridge fires in the 21st century: A literature review. *Fire Safety Journal*, **2021**, 126, 103487	3.3	0
109	Modelling concrete slabs subjected to fires using nonlinear layered shell elements and concrete damage-plasticity material. *Engineering Structures*, **2021**, 234, 111977	4.7	8
108	Smart Detection of Fire Source in Tunnel Based on the Numerical Database and Artificial Intelligence. *Fire Technology*, **2021**, 57, 657-682	3	20
107	Perspectives of big experimental database and artificial intelligence in tunnel fire research. *Tunnelling and Underground Space Technology*, **2021**, 108, 103691	5.7	13
106	Isogeometric analysis-based design of post-tensioned concrete beam towards construction-oriented topology optimization. *Structural and Multidisciplinary Optimization*, **2021**, 64, 4237	3.6	0
105	Evolution of fire models for estimating structural fire-resistance. *Fire Safety Journal*, **2021**, 124, 103367	3.3	10
104	Framework for fire risk assessment of bridges. *Structures*, **2021**, 33, 523-532	3.4	5
103	An extended travelling fire method framework for performance-based structural design. *Fire and Materials*, **2020**, 44, 437-457	1.8	13
102	A thermo-mechanical analysis of stainless steel structures in fire. *Engineering Structures*, **2020**, 210, 110091	4.7	1
101	Safety of Structures in Fire. *Lecture Notes in Civil Engineering*, **2020**, 1153-1160	0.3	
100	Effect of elevated temperatures on the shear-friction behaviour of concrete: Experimental and analytical study. *Engineering Structures*, **2020**, 225, 111305	4.7	3

99	Preference-driven Kriging-based multiobjective optimization method with a novel multipoint infill criterion and application to airfoil shape design. *Aerospace Science and Technology*, **2020**, 96, 105555	4.9	14
98	Analysis of Restrained Composite Perforated Beams during Fire Using a Hybrid Simulation Approach. *Journal of Structural Engineering*, **2020**, 146, 04020002	3	4
97	Remaining fire resistance of steel frames following a moderate earthquake – A case study. *Journal of Constructional Steel Research*, **2020**, 164, 105754	3.8	5
96	Prima Facie Evidence of the Fast Impact of a Lightning Stroke on the Lower Ionosphere. *Geophysical Research Letters*, **2020**, 47, e2020GL090274	4.9	1
95	Damage investigation of cementitious fire resistive coatings under complex loading. *Construction and Building Materials*, **2019**, 204, 659-674	6.7	6
94	Virtual hybrid simulation of beams with web openings in fire. *Journal of Structural Fire Engineering*, **2019**, 11, 118-134	0.9	3
93	Feasibility of dimensionally reduced heat transfer analysis for structural members subjected to localised fire. *Advances in Structural Engineering*, **2018**, 21, 1708-1722	1.9	6
92	Towards scenario fires – modelling structural response to fire using an integrated computational tool. *Advances in Structural Engineering*, **2018**, 21, 2056-2067	1.9	13
91	Fire resistance of composite steel & concrete highway bridges. *Journal of Constructional Steel Research*, **2018**, 148, 707-719	3.8	7
90	Evaluating the potential of simulation assisted energy management systems: A case for electrical heating optimisation. *Energy and Buildings*, **2018**, 174, 579-586	7	6
89	Computational performance of beam-column elements in modelling structural members subjected to localised fire. *Engineering Structures*, **2018**, 156, 490-502	4.7	13
88	Analysis of restrained composite beams exposed to fire using a hybrid simulation approach. *Engineering Structures*, **2018**, 172, 956-966	4.7	15
87	A critical review of 'travelling fires' scenarios for performance-based structural engineering. *Fire Safety Journal*, **2017**, 91, 568-578	3.3	37
86	Temperature-dependent nonlinear analysis of shallow shells: A theoretical approach. *Composite Structures*, **2016**, 141, 1-13	5.3	2
85	On thermo-mechanical nonlinear behaviour of shallow shells. *International Journal of Non-Linear Mechanics*, **2016**, 82, 114-123	2.8	2
84	Damage mechanisms in cementitious coatings on steel members under axial loading. *Construction and Building Materials*, **2015**, 90, 18-35	6.7	8
83	Temperature-dependent nonlinear behaviour of thin rectangular plates exposed to through-depth thermal gradients. *Composite Structures*, **2015**, 132, 652-664	5.3	3
82	Damage mechanisms in cementitious coatings on steel members in bending. *Proceedings of the Institution of Civil Engineers: Structures and Buildings*, **2015**, 168, 351-369	0.9	5

81	Heat Transfer Principles in Thermal Calculation of Structures in Fire. *Fire Safety Journal*, **2015**, 78, 85-95	3.3	15
80	Fire safety assessment of super tall buildings: A case study on Shanghai Tower. *Case Studies in Fire Safety*, **2015**, 4, 28-38		9
79	Progressive collapse mechanisms investigation of planar steel moment frames under localized fire. *Journal of Constructional Steel Research*, **2015**, 115, 160-168	3.8	30
78	Effect of Bracing Systems on Fire-Induced Progressive Collapse of Steel Structures Using OpenSees. *Fire Technology*, **2015**, 51, 1249-1273	3	23
77	OpenSees Software Architecture for the Analysis of Structures in Fire. *Journal of Computing in Civil Engineering*, **2015**, 29, 04014030	5	21
76	Analysis of Composite Steel-concrete Beams Exposed to Fire using OpenSees. *Journal of Structural Fire Engineering*, **2015**, 6, 1-20	0.9	3
75	Full-scale fire test on an earthquake-damaged reinforced concrete frame. *Fire Safety Journal*, **2015**, 73, 1-19	3.3	29
74	An application of the PEER performance based earthquake engineering framework to structures in fire. *Engineering Structures*, **2014**, 66, 100-115	4.7	49
73	Progressive Collapse Resistance of Braced Steel Frames Exposed to Fire **2014**,		1
72	Modelling of Steel-Concrete Composite Structures in Fire Using OpenSees. *Advances in Structural Engineering*, **2014**, 17, 249-264	1.9	15
71	Progressive Collapse Mechanisms of Steel Frames Exposed to Fire. *Advances in Structural Engineering*, **2014**, 17, 381-398	1.9	24
70	Influence of fire scenarios on progressive collapse mechanisms of steel framed structures. *Steel Construction*, **2014**, 7, 169-172	1.5	5
69	An analytical study of the nonlinear thermo-mechanical behaviour of thin isotropic rectangular plates. *Computers and Structures*, **2014**, 141, 1-8	4.5	5
68	Testing of Full-scale RC Frame under Simulated Fire Following Earthquake. *Journal of Structural Fire Engineering*, **2014**, 5, 215-228	0.9	4
67	Mechanical Properties of Undamaged and Damaged Steel Rebars at Elevated Temperatures. *Journal of Structural Fire Engineering*, **2014**, 5, 251-260	0.9	2
66	Analytical model for the composite effect of coupled beams with discrete shear connectors. *Structural Engineering and Mechanics*, **2014**, 52, 369-389		2
65	The World Trade Center 9/11 Disaster and Progressive Collapse of Tall Buildings. *Fire Technology*, **2013**, 49, 741-765	3	23
64	Numerical Investigation of Thermal Responses of a Composite Structure in Horizontally Travelling fires Using OpenSees. *Procedia Engineering*, **2013**, 62, 736-744		3

63	Modeling fire-induced radiative heat transfer in smoke-filled structural cavities. *International Journal of Thermal Sciences*, **2013**, 66, 24-33	4.1	3
62	Simulating the behavior of restrained steel beams to flame impingement from localized-fires. *Journal of Constructional Steel Research*, **2013**, 83, 156-165	3.8	39
61	Modeling of steel frame structures in fire using OpenSees. *Computers and Structures*, **2013**, 118, 90-99	4.5	47
60	BIM Integrated Workflow Management and Monitoring System for Modular Buildings. *International Journal of 3-D Information Modeling*, **2013**, 2, 17-28		3
59	Tall building collapse mechanisms initiated by fire: Mechanisms and design methodology. *Engineering Structures*, **2012**, 36, 90-103	4.7	43
58	Using Opensees for Structures in Fire. *Journal of Structural Fire Engineering*, **2012**, 3, 57-70	0.9	21
57	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	0.9	19
56	Managing dynamic enterprise and urgent workloads on clouds using layered queuing and historical performance models. *Simulation Modelling Practice and Theory*, **2011**, 19, 1479-1495	3.9	18
55	**2010**,		10
54	FireGrid: An e-infrastructure for next-generation emergency response support. *Journal of Parallel and Distributed Computing*, **2010**, 70, 1128-1141	4.4	59
53	Bonded Fibre Reinforced Polymer Strengthening in a Real Fire. *Advances in Structural Engineering*, **2009**, 12, 867-878	1.9	27
52	A very simple method for assessing tall building safety in major fires. *International Journal of Steel Structures*, **2009**, 9, 17-28	1.3	11
51	An Architecture for an Integrated Fire Emergency Response System for the Built Environment. *Fire Safety Science*, **2008**, 9, 427-438		8
50	Collapse of tall buildings in multi-storey fires. *Fire Safety Science*, **2008**, 9, 1291-1302		
49	Structural Response of Tall Buildings to Multiple Floor Fires. *Journal of Structural Engineering*, **2007**, 133, 1719-1732	3	25
48	Finite element modelling of the pelvis: inclusion of muscular and ligamentous boundary conditions. *Medical Engineering and Physics*, **2007**, 29, 739-48	2.4	148
47	Composite steel-framed structures in fire with protected and unprotected edge beams. *Journal of Constructional Steel Research*, **2007**, 63, 1138-1150	3.8	19
46	Behaviour of concrete structures in fire. *Thermal Science*, **2007**, 11, 37-52	1.2	60

45	Constitutive models for impacted morsellised cortico-cancellous bone. *Biomaterials*, **2006**, 27, 2162-70	15.6	20
44	3D non-linear analysis of the acetabular construct following impaction grafting. *Computer Methods in Biomechanics and Biomedical Engineering*, **2006**, 9, 125-33	2.1	8
43	Behavior of Structures in Fire and Real Design - A Case Study. *Journal of Fire Protection Engineering*, **2006**, 16, 5-35		26
42	Innovative Structural Engineering for Tall Buildings in Fire. *Structural Engineering International: Journal of the International Association for Bridge and Structural Engineering (IABSE)*, **2006**, 16, 142-147	1	4
41	The elastic properties of morsellised cortico-cancellous bone graft are dependent on its prior loading. *Journal of Biomechanics*, **2006**, 39, 1517-26	2.9	10
40	Effect of fire on composite long span truss floor systems. *Journal of Constructional Steel Research*, **2006**, 62, 303-315	3.8	10
39	Stability of the World Trade Center Twin Towers Structural Frame in Multiple Floor Fires. *Journal of Engineering Mechanics - ASCE*, **2005**, 131, 654-657	2.4	37
38	The effect of acetabular cup size on the short-term stability of revision hip arthroplasty: a finite element investigation. *Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine*, **2004**, 218, 239-49	1.7	16
37	Limit capacity of laterally restrained reinforced concrete floor slabs in fire. *Cement and Concrete Composites*, **2004**, 26, 127-140	8.6	23
36	Bending and membrane action in concrete slabs. *Fire and Materials*, **2004**, 28, 139-157	1.8	10
35	Behaviour of a small composite steel frame structure in a 'long-cool' and a 'short-hot' fire. *Fire Safety Journal*, **2004**, 39, 327-357	3.3	42
34	Case Study of the Failure of a Cross Vault: Church of Holyrood Abbey. *Journal of Architectural Engineering*, **2003**, 9, 109-117	1.5	18
33	How did the WTC towers collapse: a new theory. *Fire Safety Journal*, **2003**, 38, 501-533	3.3	122
32	Possible 'panel instability' in composite deck floor systems under fire. *Journal of Constructional Steel Research*, **2003**, 59, 1397-1433	3.8	4
31	Techniques to improve the shear strength of impacted bone graft: the effect of particle size and washing of the graft. *Journal of Bone and Joint Surgery - Series A*, **2003**, 85, 639-46	5.6	104
30	Assessment of the Structural Response of Masonry Cross Vaults. *Strain*, **2002**, 38, 119-127	1.7	25
29	A structural analysis of the Cardington British Steel Corner Test. *Journal of Constructional Steel Research*, **2002**, 58, 427-442	3.8	50
28	An Adaptive Finite Element Solution for Cohesive Sediment Transport. *Proceedings in Marine Science*, **2002**, 627-641		2

27	h -ADAPTIVITY AND "HONEST" GFEM FOR ADVECTION-DOMINATED TRANSPORT. *Numerical Heat Transfer, Part B: Fundamentals*, **2002**, 41, 339-359	1.3	3
26	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	4.5	10
25	Fundamental principles of structural behaviour under thermal effects. *Fire Safety Journal*, **2001**, 36, 721-744	3.3	169
24	Modelling of heated composite floor slabs with reference to the Cardington experiments. *Fire Safety Journal*, **2001**, 36, 745-767	3.3	39
23	Heat transfer analysis of the composite slab in the Cardington frame fire tests. *Fire Safety Journal*, **2001**, 36, 815-839	3.3	44
22	A structural analysis of the first Cardington test. *Journal of Constructional Steel Research*, **2001**, 57, 581-601	3.3	63
21	Structural behaviour in fire compartment under different heating regimes Part 2: (slab mean temperatures). *Fire Safety Journal*, **2000**, 35, 117-130	3.3	9
20	Structural behaviour in fire compartment under different heating regimes Part 1 (slab thermal gradients). *Fire Safety Journal*, **2000**, 35, 99-116	3.3	21
19	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	4.5	53
18	Mechanical considerations in impaction bone grafting. *Journal of Bone and Joint Surgery: British Volume*, **1999**, 81, 118-24		99
17	Accuracy of NDE in bridge assessment. *Engineering Structures*, **1998**, 20, 979-984	4.7	20
16	An h-adaptive SUPG-FEM solution of the pure advection equation. *Applied Numerical Mathematics*, **1998**, 26, 193-202	2.5	4
15	Finite element solution of incompressible flows using an explicit segregated approach. *Archives of Computational Methods in Engineering*, **1995**, 2, 69-93	7.8	12
14	Efficient mould filling simulation in castings by an explicit finite element method. *International Journal for Numerical Methods in Fluids*, **1995**, 20, 493-506	1.9	56
13	Aspects of adaptive mesh generation based on domain decomposition and Delaunay triangulation. *Finite Elements in Analysis and Design*, **1995**, 20, 47-70	2.2	18
12	Finite Element Analysis for Heat Transfer **1994**,		44
11	The analysis of mould filling in castings using the finite element method. *Journal of Materials Processing Technology*, **1993**, 38, 291-302	5.3	14
10	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	2.4	63

9	Finite element modelling of natural-convection-controlled change of phase. *International Journal for Numerical Methods in Fluids*, **1992**, 14, 1019-1036	1.9	26
8	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	2.4	43
7	Solidification in castings by finite element method. *Materials Science and Technology*, **1990**, 6, 482-490	1.5	6
6	OpenFIRE: An Open Computational Framework for Structural Response to Real Fires. *Fire Technology*,1	3	2
5	A real-time forecast of tunnel fire based on numerical database and artificial intelligence. *Building Simulation*,1	3.9	8
4	Facade Fire Hazards of Bench-Scale Aluminum Composite Panel with Flame-Retardant Core. *Fire Technology*,1	3	5
3	Modeling the collapse of the Plasco Building. Part I: Reconstruction of fire. *Building Simulation*,1	3.9	2
2	Thermal Analysis Infrastructure in OpenSees for Fire and its Smart Application Interface Towards Natural Fire Modelling. *Fire Technology*,1	3	5
1	The Collapse of World Trade Center 7: Revisited. *Fire Technology*,1	3	0