

Andrew S Whittaker

List of Publications by Citations

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142
papers

4,377
citations

38
h-index

62
g-index

150
ext. papers

5,192
ext. citations

3
avg, IF

5.81
L-index

#	Paper	IF	Citations
142	Energy Dissipation Systems for Seismic Applications: Current Practice and Recent Developments. <i>Journal of Structural Engineering</i> , 2008 , 134, 3-21	3	387
141	Blast testing of ultra-high performance fibre and FRP-retrofitted concrete slabs. <i>Engineering Structures</i> , 2009 , 31, 2060-2069	4.7	226
140	Performance of reinforced concrete buildings during the August 17, 1999 Kocaeli, Turkey earthquake, and seismic design and construction practise in Turkey. <i>Engineering Structures</i> , 2003 , 25, 103-114	4.7	223
139	Testing of Passive Energy Dissipation Systems. <i>Earthquake Spectra</i> , 1993 , 9, 335-370	3.4	157
138	Prediction and validation of sidesway collapse of two scale models of a 4-story steel moment frame. <i>Earthquake Engineering and Structural Dynamics</i> , 2011 , 40, 807-825	4	139
137	Characterization and Modeling of Friction Pendulum Bearings Subjected to Multiple Components of Excitation. <i>Journal of Structural Engineering</i> , 2004 , 130, 433-442	3	121
136	Elastic and Inelastic Seismic Response of Buildings with Damping Systems. <i>Earthquake Spectra</i> , 2002 , 18, 531-547	3.4	115
135	An advanced numerical model of elastomeric seismic isolation bearings. <i>Earthquake Engineering and Structural Dynamics</i> , 2014 , 43, 1955-1974	4	97
134	Seismic Response Modification Factors. <i>Journal of Structural Engineering</i> , 1999 , 125, 438-444	3	82
133	Seismic Performance of Industrial Facilities Affected by the 1999 Turkey Earthquake. <i>Journal of Performance of Constructed Facilities</i> , 2006 , 20, 28-36	2	80
132	Experimental Evaluation of Plate-Reinforced Steel Moment-Resisting Connections. <i>Journal of Structural Engineering</i> , 2002 , 128, 483-491	3	79
131	Vertical Stiffness of Elastomeric and LeadRubber Seismic Isolation Bearings. <i>Journal of Structural Engineering</i> , 2007 , 133, 1227-1236	3	77
130	Characterizing friction in sliding isolation bearings. <i>Earthquake Engineering and Structural Dynamics</i> , 2015 , 44, 1409-1425	4	76
129	Seismic Fragility of Suspended Ceiling Systems. <i>Earthquake Spectra</i> , 2007 , 23, 21-40	3.4	74
128	Displacement Estimates for Performance-Based Seismic Design. <i>Journal of Structural Engineering</i> , 1998 , 124, 905-912	3	74
127	Seismic performance assessment of base-isolated safety-related nuclear structures. <i>Earthquake Engineering and Structural Dynamics</i> , 2010 , 39, 1421-1442	4	64
126	Evaluation of Simplified Methods of Analysis of Yielding Structures with Damping Systems. <i>Earthquake Spectra</i> , 2002 , 18, 501-530	3.4	63

125	Acoustic emission monitoring of a reinforced concrete shear wall by b-value based outlier analysis. <i>Structural Health Monitoring</i> , 2013 , 12, 3-13	4.4	62
124	A probabilistic seismic risk assessment procedure for nuclear power plants: (I) Methodology. <i>Nuclear Engineering and Design</i> , 2011 , 241, 3996-4003	1.8	61
123	Modeling strength degradation in lead rubber bearings under earthquake shaking. <i>Earthquake Engineering and Structural Dynamics</i> , 2010 , 39, 1533-1549	4	61
122	Damage Assessment of Reinforced Concrete Structures Using Fractal Analysis of Residual Crack Patterns. <i>Experimental Mechanics</i> , 2013 , 53, 1607-1619	2.6	60
121	Equivalent Lateral Force and Modal Analysis Procedures of the 2000 NEHRP Provisions for Buildings with Damping Systems. <i>Earthquake Spectra</i> , 2003 , 19, 959-980	3.4	60
120	Investigation of Air-Blast Effects from Spherical-and Cylindrical-Shaped Charges. <i>International Journal of Protective Structures</i> , 2010 , 1, 345-362	1.5	56
119	Performance estimates in seismically isolated bridge structures. <i>Engineering Structures</i> , 2004 , 26, 1261-1278	4.78	56
118	Maximum Spectral Demands in the Near-Fault Region. <i>Earthquake Spectra</i> , 2008 , 24, 319-341	3.4	55
117	Finite difference analysis of simply supported RC slabs for blast loadings. <i>Engineering Structures</i> , 2009 , 31, 2825-2832	4.7	54
116	Monitoring Crack Propagation in Reinforced Concrete Shear Walls by Acoustic Emission. <i>Journal of Structural Engineering</i> , 2013 , 139, 04013010	3	50
115	Scaling Earthquake Ground Motions for Performance-Based Assessment of Buildings. <i>Journal of Structural Engineering</i> , 2011 , 137, 311-321	3	46
114	Cover-Plate and Flange-Plate Steel Moment-Resisting Connections. <i>Journal of Structural Engineering</i> , 2002 , 128, 474-482	3	46
113	BIDIRECTIONAL MODELLING OF HIGH-DAMPING RUBBER BEARINGS. <i>Journal of Earthquake Engineering</i> , 2004 , 8, 161-185	1.8	43
112	Finite element modeling of steel-plate concrete composite wall piers. <i>Engineering Structures</i> , 2015 , 100, 369-384	4.7	41
111	In-Plane Seismic Behavior of Rectangular Steel-Plate Composite Wall Piers. <i>Journal of Structural Engineering</i> , 2015 , 141, 04014176	3	41
110	Numerical modeling of close-in detonations of high explosives. <i>Engineering Structures</i> , 2014 , 81, 88-97	4.7	41
109	Linear and nonlinear soil-structure interaction analysis of buildings and safety-related nuclear structures. <i>Soil Dynamics and Earthquake Engineering</i> , 2018 , 107, 218-233	3.5	39
108	Equivalent linear and nonlinear site response analysis for design and risk assessment of safety-related nuclear structures. <i>Nuclear Engineering and Design</i> , 2014 , 275, 107-121	1.8	39

107	Numerical modelling of steel-plate concrete composite shear walls. <i>Engineering Structures</i> , 2017 , 150, 1-11	4.7	39
106	Extracting rotational components of earthquake ground motion using data recorded at multiple stations. <i>Earthquake Engineering and Structural Dynamics</i> , 2013 , 42, 451-468	4	38
105	Validation of the 2000 NEHRP Provisions Equivalent Lateral Force and Modal Analysis Procedures for Buildings with Damping Systems. <i>Earthquake Spectra</i> , 2003 , 19, 981-999	3.4	38
104	Seismic Behavior of Low-Aspect-Ratio Reinforced Concrete Shear Walls. <i>ACI Structural Journal</i> , 2015 , 112,	1.7	37
103	Estimating Rotational Components of Ground Motion Using Data Recorded at a Single Station. <i>Journal of Engineering Mechanics - ASCE</i> , 2012 , 138, 1141-1156	2.4	35
102	Retrofit of pre-Northridge steel moment-resisting frames using fluid viscous dampers. <i>Structural Design of Tall Buildings</i> , 2001 , 10, 371-390		35
101	Time-domain soil-structure interaction analysis of nuclear facilities. <i>Nuclear Engineering and Design</i> , 2016 , 298, 264-270	1.8	34
100	Seismic Analysis of Conventional and Isolated LNG Tanks Using Mechanical Analogs. <i>Earthquake Spectra</i> , 2008 , 24, 599-616	3.4	33
99	In-Plane Behavior and Design of Rectangular SC Wall Piers without Boundary Elements. <i>Journal of Structural Engineering</i> , 2016 , 142, 04016026	3	32
98	An equivalent accidental eccentricity to account for the effects of torsional ground motion on structures. <i>Engineering Structures</i> , 2014 , 69, 1-11	4.7	32
97	Experimental investigation of cavitation in elastomeric seismic isolation bearings. <i>Engineering Structures</i> , 2015 , 101, 290-305	4.7	31
96	Vertical Earthquake Loads on Seismic Isolation Systems in Bridges. <i>Journal of Structural Engineering</i> , 2008 , 134, 1696-1704	3	28
95	Incident and Normally Reflected Overpressure and Impulse for Detonations of Spherical High Explosives in Free Air. <i>Journal of Structural Engineering</i> , 2015 , 141, 04015057	3	27
94	Seismic demands on secondary systems in base-isolated nuclear power plants. <i>Earthquake Engineering and Structural Dynamics</i> , 2007 , 36, 1741-1761	4	27
93	Characterizing rotational components of earthquake ground motion using a surface distribution method and response of sample structures. <i>Engineering Structures</i> , 2015 , 99, 685-707	4.7	25
92	SEISMIC ISOLATION OF NUCLEAR POWER PLANTS. <i>Nuclear Engineering and Technology</i> , 2014 , 46, 569-580		24
91	Air-Blast Effects on Structural Shapes of Finite Width. <i>Journal of Structural Engineering</i> , 2010 , 136, 152-159		24
90	Seismic analysis and design of steel-plate concrete composite shear wall piers. <i>Engineering Structures</i> , 2017 , 133, 105-123	4.7	23

89	Experimental and analytical studies on the performance of hybrid isolation systems. <i>Earthquake Engineering and Structural Dynamics</i> , 2002 , 31, 421-443	4	23
88	Viscous Heating of Fluid Dampers. II: Large-Amplitude Motions. <i>Journal of Engineering Mechanics - ASCE</i> , 1998 , 124, 1217-1223	2.4	22
87	Development and performance evaluation of large-scale auxetic protective systems for localised impulsive loads. <i>International Journal of Protective Structures</i> , 2019 , 10, 390-417	1.5	21
86	Earthquake Performance of Porcelain Transformer Bushings. <i>Earthquake Spectra</i> , 2004 , 20, 205-223	3.4	21
85	Evaluation of pre-Northridge steel moment-resisting frame joints. <i>Structural Design of Tall Buildings</i> , 1998 , 7, 263-283		19
84	Seismic Evaluation and Retrofit of 230-kV Porcelain Transformer Bushings. <i>Earthquake Spectra</i> , 2001 , 17, 597-616	3.4	19
83	Response of base-isolated nuclear structures for design and beyond-design basis earthquake shaking. <i>Earthquake Engineering and Structural Dynamics</i> , 2013 , 42, 339-356	4	18
82	Response of base-isolated nuclear structures to extreme earthquake shaking. <i>Nuclear Engineering and Design</i> , 2015 , 295, 860-874	1.8	17
81	Analytical modeling of rectangular SC wall panels. <i>Journal of Constructional Steel Research</i> , 2015 , 105, 49-59	3.8	17
80	A Rate Dependent Stress-Strain Relationship Model for Normal, High and Ultra-High Strength Concrete. <i>International Journal of Protective Structures</i> , 2013 , 4, 451-466	1.5	17
79	Orientation of Maximum Spectral Demand in the Near-Fault Region. <i>Earthquake Spectra</i> , 2009 , 25, 707-734	3.4	17
78	Seismic Performance of Pre-Northridge Welded Steel Moment Connections to Built-Up Box Columns. <i>Journal of Structural Engineering</i> , 2008 , 134, 289-299	3	17
77	Seismic probabilistic risk assessment for seismically isolated safety-related nuclear facilities. <i>Nuclear Engineering and Design</i> , 2017 , 313, 386-400	1.8	16
76	Influence of Charge Shape and Point of Detonation on Blast-Resistant Design. <i>Journal of Structural Engineering</i> , 2016 , 142, 04015109	3	16
75	A validated numerical model for predicting the in-plane seismic response of lightly reinforced, low-aspect ratio reinforced concrete shear walls. <i>Engineering Structures</i> , 2018 , 168, 589-611	4.7	16
74	Damage states and fragility functions for link beams in eccentrically braced frames. <i>Journal of Constructional Steel Research</i> , 2011 , 67, 1299-1309	3.8	16
73	Fragility functions for low aspect ratio reinforced concrete walls. <i>Engineering Structures</i> , 2010 , 32, 2894-2901	3.7	16
72	Fatigue-Life Evaluation of Steel Post Structures. I: Background and Analysis. <i>Journal of Structural Engineering</i> , 2000 , 126, 322-330	3	16

71	Seismic isolation of nuclear power plants: Past, present and future. <i>Nuclear Engineering and Design</i> , 2018 , 338, 290-299	1.8	16
70	TNT Equivalency for Overpressure and Impulse for Detonations of Spherical Charges of High Explosives. <i>International Journal of Protective Structures</i> , 2015 , 6, 567-579	1.5	15
69	NEHRP Site Amplification Factors and the NGA Relationships. <i>Earthquake Spectra</i> , 2010 , 26, 583-593	3.4	15
68	Seismic evaluation and analysis of high-voltage substation disconnect switches. <i>Engineering Structures</i> , 2007 , 29, 3538-3549	4.7	14
67	Using seismic isolation to reduce risk and capital cost of safety-related nuclear structures. <i>Nuclear Engineering and Design</i> , 2018 , 326, 268-284	1.8	14
66	Multihazard Design and Cost-Benefit Analysis of Buildings with Special Moment-Resisting Steel Frames. <i>Journal of Structural Engineering</i> , 2019 , 145, 04019031	3	13
65	Cross-platform implementation, verification and validation of advanced mathematical models of elastomeric seismic isolation bearings. <i>Engineering Structures</i> , 2018 , 175, 926-943	4.7	13
64	Extreme earthquake response of nuclear power plants isolated using sliding bearings. <i>Nuclear Engineering and Design</i> , 2017 , 316, 9-25	1.8	12
63	Interaction Curves for In-Plane and Out-of-Plane Behaviors of Unreinforced Masonry Walls. <i>Journal of Earthquake Engineering</i> , 2015 , 19, 60-84	1.8	11
62	Hurricane Wind and Storm Surge Effects on Coastal Bridges under a Changing Climate. <i>Transportation Research Record</i> , 2020 , 2674, 23-32	1.7	11
61	Theoretical Studies of the XY-FP Seismic Isolation Bearing for Bridges. <i>Journal of Bridge Engineering</i> , 2010 , 15, 631-638	2.7	11
60	Fatigue-Life Evaluation of Steel Post Structures. II: Experimentation. <i>Journal of Structural Engineering</i> , 2000 , 126, 331-340	3	11
59	Response History Analysis for the Design of New Buildings in the NEHRP Provisions and ASCE/SEI 7 Standard: Part II - Structural Analysis Procedures and Acceptance Criteria. <i>Earthquake Spectra</i> , 2017 , 33, 397-417	3.4	10
58	Automated Detection and Measurement of Cracks in Reinforced Concrete Components. <i>ACI Structural Journal</i> , 2015 , 112,	1.7	10
57	A Cyclic Backbone Curve for Shear-Critical Reinforced Concrete Walls. <i>Journal of Structural Engineering</i> , 2019 , 145, 04019006	3	9
56	Simulation of wind-borne missile impact using Lagrangian and Smooth Particle Hydrodynamics formulations. <i>International Journal of Impact Engineering</i> , 2018 , 117, 1-12	4	9
55	Bayesian decision and mixture models for AE monitoring of steel-concrete composite shear walls. <i>Smart Materials and Structures</i> , 2015 , 24, 115028	3.4	9
54	Effects of Large Cumulative Travel on the Behavior of Lead-Rubber Seismic Isolation Bearings. <i>Journal of Structural Engineering</i> , 2010 , 136, 491-501	3	9

53	Experimental Study of the XY-Friction Pendulum Bearing for Bridge Applications. <i>Journal of Bridge Engineering</i> , 2009 , 14, 193-202	2.7	9
52	Evolution of seismic building design practice in Japan. <i>Structural Design of Tall Buildings</i> , 1998 , 7, 93-111		9
51	Property Modification Factors for Seismically Isolated Bridges. <i>Journal of Bridge Engineering</i> , 2006 , 11, 371-377	2.7	9
50	Forensic studies of a large cover-plate steel moment-resisting connection. <i>Structural Design of Tall Buildings</i> , 2002 , 11, 265-283		9
49	Physical and Numerical Simulations of the Seismic Response of a 1,100 kV Power Transformer Bushing. <i>Earthquake Spectra</i> , 2018 , 34, 1515-1541	3.4	8
48	. <i>Journal of Earthquake Engineering</i> , 2004 , 8, 161	1.8	8
47	Dynamic Interaction of High-Voltage Power Transformer Bushings, Turrets, and Tanks. <i>Earthquake Spectra</i> , 2018 , 34, 397-421	3.4	8
46	Predictive Equations for the Peak Shear Strength of Low-Aspect Ratio Reinforced Concrete Walls. <i>Journal of Earthquake Engineering</i> , 2012 , 16, 159-187	1.8	7
45	Response of Base-Isolated Nuclear Structures for Design and Beyond-Design Basis Earthquake Shaking 2010 ,		7
44	Design of concrete walls and slabs for wind-borne missile loadings. <i>Engineering Structures</i> , 2019 , 194, 357-369	4.7	6
43	Blast-Wave Clearing for Detonations of High Explosives. <i>Journal of Structural Engineering</i> , 2019 , 145, 04019049	3	6
42	Correlation of horizontal and vertical components of strong ground motion for response-history analysis of safety-related nuclear facilities. <i>Nuclear Engineering and Design</i> , 2016 , 310, 273-279	1.8	6
41	Effect of seismic hazard definition on isolation-system displacements in nuclear power plants. <i>Engineering Structures</i> , 2017 , 148, 424-435	4.7	6
40	Concentrically Loaded Circular Steel Plates Bearing on Plain Concrete. <i>Journal of Structural Engineering</i> , 2006 , 132, 1784-1792	3	6
39	Analytical Solutions for Seismic Fluid-Structure Interaction of Head-Supported Cylindrical Tanks. <i>Journal of Engineering Mechanics - ASCE</i> , 2020 , 146, 04020112	2.4	6
38	Experimental and numerical studies of seismic fluid-structure interaction in a base-supported cylindrical vessel. <i>Earthquake Engineering and Structural Dynamics</i> , 2021 , 50, 1395-1413	4	6
37	Seismic Design of Steel Structures 2001 , 409-462		6
36	Simulation of cellular structures under large deformations using the material point method. <i>International Journal of Impact Engineering</i> , 2019 , 134, 103385	4	5

35	Quantification of the Blast-Loading Parameters of Large-Scale Explosions. <i>Journal of Structural Engineering</i> , 2015 , 141, 04015009	3	5
34	Numerical investigations of structure-soil-structure interaction in buildings. <i>Engineering Structures</i> , 2020 , 215, 110709	4-7	5
33	A bio-mimetic cellular structure for mitigating the effects of impulsive loadings [A numerical study. <i>Journal of Sandwich Structures and Materials</i> , 2020 , 109963622090858	2.1	5
32	A simplified analysis procedure for performance-based earthquake engineering of buildings. <i>Engineering Structures</i> , 2017 , 150, 719-735	4-7	5
31	Experimental Behavior of Dual Steel System. <i>Journal of Structural Engineering</i> , 1989 , 115, 183-200	3	5
30	An experimental investigation of the effects of out-of-plane loading on the in-plane seismic response of SC wall piers. <i>Engineering Structures</i> , 2019 , 190, 380-388	4-7	4
29	On the Calculation of Peak Ground Velocity for Seismic Performance Assessment. <i>Earthquake Spectra</i> , 2015 , 31, 785-794	3-4	4
28	Seismic Performance Assessment of an Ultra-High Voltage Power Transformer. <i>Earthquake Spectra</i> , 2019 , 35, 423-445	3-4	4
27	On the design of a dense array to extract rotational components of earthquake ground motion. <i>Bulletin of Earthquake Engineering</i> , 2017 , 15, 827-860	3-7	4
26	Collapse Assessment of Steel Moment Resisting Frames Under Earthquake Shaking. <i>Computational Methods in Applied Sciences (Springer)</i> , 2011 , 1-19	0-4	4
25	Review of analytical studies on seismic fluid-structure interaction of base-supported cylindrical tanks. <i>Engineering Structures</i> , 2021 , 233, 111589	4-7	4
24	Damage and Peak Shear Strength of Low-Aspect-Ratio Reinforced Concrete Shear Walls. <i>Journal of Structural Engineering</i> , 2019 , 145, 04019141	3	3
23	Vulnerability Assessment of Conventional and Base-Isolated Nuclear Power Plants to Blast Loadings. <i>International Journal of Protective Structures</i> , 2013 , 4, 545-563	1-5	3
22	A probabilistic seismic risk assessment procedure for nuclear power plants: (II) Application. <i>Nuclear Engineering and Design</i> , 2011 ,	1-8	3
21	Empirical Formulas for the Design of Reinforced Concrete Nuclear Power Plants to Resist the Effects of Wind-Borne Missile Impact: A Critical Review. <i>Nuclear Technology</i> , 2018 , 204, 119-130	1-4	2
20	Response of Systems and Components in a Base-Isolated Nuclear Power Plant Building Impacted by a Large Commercial Aircraft. <i>Journal of Structural Engineering</i> , 2018 , 144, 04018153	3	2
19	Seismic Energy Dissipation Systems for Buildings 2004 ,		2
18	Towards standardized nuclear reactors: Seismic isolation and the cost impact of the earthquake load case. <i>Nuclear Engineering and Design</i> , 2022 , 386, 111487	1-8	2

17	Characterizing the Benefits of Seismic Isolation for Nuclear Structures: A Framework for Risk-Based Decision Making		2
16	Peak Strength of Shear-Critical Reinforced Concrete Walls. <i>ACI Structural Journal</i> , 2019 , 116,	1.7	2
15	Enhancing Toughness of Medium-Density Fiberboard by Mimicking Nacreous Structures through Advanced Manufacturing Techniques. <i>Journal of Structural Engineering</i> , 2020 , 146, 04020001	3	2
14	Validation of numerical models for seismic fluid-structure-interaction analysis of nuclear, safety-related equipment. <i>Nuclear Engineering and Design</i> , 2021 , 379, 111179	1.8	2
13	Verification of numerical models for seismic fluid-structure interaction analysis of internal components in liquid-filled advanced reactors. <i>Earthquake Engineering and Structural Dynamics</i> , 2021 , 50, 1692-1712	4	2
12	Reflection Coefficients and Reflected Scaled Impulses from Detonations of High Explosives as a Function of Angle of Incidence. <i>Journal of Structural Engineering</i> , 2017 , 143, 04017043	3	1
11	Seismic Probabilistic Risk Assessment for Nuclear Power Plants 2013 , 35-49		1
10	Reconnaissance and preliminary assessment of a damaged high-rise building near Ground Zero. <i>Structural Design of Tall and Special Buildings</i> , 2003 , 12, 371-391	1.8	1
9	Nonlinear procedures for seismic evaluation of buildings. <i>Structural Design of Tall Buildings</i> , 1999 , 8, 1-13		1
8	Seismic isolation: A pathway to standardized advanced nuclear reactors. <i>Nuclear Engineering and Design</i> , 2022 , 387, 111445	1.8	1
7	Updated Fragility Functions for Shear-Critical Reinforced Concrete Walls. <i>ACI Structural Journal</i> , 2019 , 116,	1.7	1
6	Near-Field Blast Assessment of Reinforced Concrete Components. <i>International Journal of Protective Structures</i> , 2015 , 6, 487-508	1.5	0
5	A process to verify numerical models for seismic fluid-structure interaction in advanced reactor vessels. <i>Nuclear Engineering and Design</i> , 2022 , 387, 111580	1.8	0
4	FRP retrofitted RC slabs using finite difference model. <i>Transactions of Tianjin University</i> , 2008 , 14, 344-347		0
3	Erratum for Analytical Solutions for Seismic Fluid-Structure Interaction of Head-Supported Cylindrical Tanks by Ching-Ching Yu and Andrew S. Whittaker. <i>Journal of Engineering Mechanics - ASCE</i> , 2021 , 147, 08221002	2.4	
2	Cost- and Risk-Based Seismic Design Optimization of Nuclear Power Plant Safety Systems. <i>Nuclear Technology</i> , 2021 , 207, 1687-1711	1.4	
1	Simulation of projectile impact on steel plate-lined, reinforced concrete panels using the smooth particle hydrodynamics formulation. <i>International Journal of Protective Structures</i> , 2021 , 14, 1962110420	1.5	