Andrew S Whittaker

List of Publications by Year
in descending order

146 papers	6,060 citations	61977 43 h-index	82542 72 g-index
150 all docs	150 docs citations	150 times ranked	3085 citing authors

#	Article	IF	Citations
1	Energy Dissipation Systems for Seismic Applications: Current Practice and Recent Developments. Journal of Structural Engineering, 2008, 134, 3-21.	3.4	516
2	Performance of reinforced concrete buildings during the August 17, 1999 Kocaeli, Turkey earthquake, and seismic design and construction practise in Turkey. Engineering Structures, 2003, 25, 103-114.	5.3	303
3	Blast testing of ultra-high performance fibre and FRP-retrofitted concrete slabs. Engineering Structures, 2009, 31, 2060-2069.	5.3	285
4	Testing of Passive Energy Dissipation Systems. Earthquake Spectra, 1993, 9, 335-370.	3.1	192
5	Prediction and validation of sidesway collapse of two scale models of a 4â€story steel moment frame. Earthquake Engineering and Structural Dynamics, 2011, 40, 807-825.	4.4	168
6	Characterization and Modeling of Friction Pendulum Bearings Subjected to Multiple Components of Excitation. Journal of Structural Engineering, 2004, 130, 433-442.	3.4	162
7	An advanced numerical model of elastomeric seismic isolation bearings. Earthquake Engineering and Structural Dynamics, 2014, 43, 1955-1974.	4.4	140
8	Seismic Performance of Industrial Facilities Affected by the 1999 Turkey Earthquake. Journal of Performance of Constructed Facilities, 2006, 20, 28-36.	2.0	126
9	Elastic and Inelastic Seismic Response of Buildings with Damping Systems. Earthquake Spectra, 2002, 18, 531-547.	3.1	125
10	Characterizing friction in sliding isolation bearings. Earthquake Engineering and Structural Dynamics, 2015, 44, 1409-1425.	4.4	117
11	Vertical Stiffness of Elastomeric and Leadâ€“Rubber Seismic Isolation Bearings. Journal of Structural Engineering, 2007, 133, 1227-1236.	3.4	109
12	Seismic Response Modification Factors. Journal of Structural Engineering, 1999, 125, 438-444.	3.4	105
13	Seismic Fragility of Suspended Ceiling Systems. Earthquake Spectra, 2007, 23, 21-40.	3.1	100
14	Damage Assessment of Reinforced Concrete Structures Using Fractal Analysis of Residual Crack Patterns. Experimental Mechanics, 2013, 53, 1607-1619.	2.0	94
15	Displacement Estimates for Performance-Based Seismic Design. Journal of Structural Engineering, 1998, 124, 905-912.	3.4	91
16	Experimental Evaluation of Plate-Reinforced Steel Moment-Resisting Connections. Journal of Structural Engineering, 2002, 128, 483-491.	3.4	90
17	Modeling strength degradation in leadâ€“rubber bearings under earthquake shaking. Earthquake Engineering and Structural Dynamics, 2010, 39, 1533-1549.	4.4	88
18	Maximum Spectral Demands in the Near-Fault Region. Earthquake Spectra, 2008, 24, 319-341.	3.1	82

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19	Acoustic emission monitoring of a reinforced concrete shear wall by b-valueâ€“based outlier analysis. Structural Health Monitoring, 2013, 12, 3-13.	7.5	80
20	In-Plane Seismic Behavior of Rectangular Steel-Plate Composite Wall Piers. Journal of Structural Engineering, 2015, 141, .	3.4	77
21	Seismic performance assessment of baseâ€isolated safetyâ€related nuclear structures. Earthquake Engineering and Structural Dynamics, 2010, 39, 1421-1442.	4.4	75
22	Evaluation of Simplified Methods of Analysis of Yielding Structures with Damping Systems. Earthquake Spectra, 2002, 18, 501-530.	3.1	74
23	A probabilistic seismic risk assessment procedure for nuclear power plants: (I) Methodology. Nuclear Engineering and Design, 2011, 241, 3996-4003.	1.7	73
24	Equivalent Lateral Force and Modal Analysis Procedures of the 2000 NEHRP Provisions for Buildings with Damping Systems. Earthquake Spectra, 2003, 19, 959-980.	3.1	72
25	Performance estimates in seismically isolated bridge structures. Engineering Structures, 2004, 26, 1261-1278.	5.3	70
26	Investigation of Air-Blast Effects from Spherical-and Cylindrical-Shaped Charges. International Journal of Protective Structures, 2010, 1, 345-362.	2.3	70
27	Monitoring Crack Propagation in Reinforced Concrete Shear Walls by Acoustic Emission. Journal of Structural Engineering, 2013, 139, .	3.4	68
28	Linear and nonlinear soil-structure interaction analysis of buildings and safety-related nuclear structures. Soil Dynamics and Earthquake Engineering, 2018, 107, 218-233.	3.8	68
29	Scaling Earthquake Ground Motions for Performance-Based Assessment of Buildings. Journal of Structural Engineering, 2011, 137, 311-321.	3.4	66
30	Equivalent linear and nonlinear site response analysis for design and risk assessment of safety-related nuclear structures. Nuclear Engineering and Design, 2014, 275, 107-121.	1.7	65
31	BIDIRECTIONAL MODELLING OF HIGH-DAMPING RUBBER BEARINGS. Journal of Earthquake Engineering, 2004, 8, 161-185.	2.5	64
32	Finite difference analysis of simply supported RC slabs for blast loadings. Engineering Structures, 2009, 31, 2825-2832.	5.3	63
33	Numerical modelling of steel-plate concrete composite shear walls. Engineering Structures, 2017, 150, 1-11.	5.3	63
34	Finite element modeling of steel-plate concrete composite wall piers. Engineering Structures, 2015, 100, 369-384.	5.3	62
35	Numerical modeling of close-in detonations of high explosives. Engineering Structures, 2014, 81, 88-97.	5.3	58
36	Time-domain soil-structure interaction analysis of nuclear facilities. Nuclear Engineering and Design, 2016, 298, 264-270.	1.7	57

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37	Seismic Behavior of Low-Aspect-Ratio Reinforced Concrete Shear Walls. ACI Structural Journal, 2015, 112, .	0.2	57
38	Cover-Plate and Flange-Plate Steel Moment-Resisting Connections. Journal of Structural Engineering, 2002, 128, 474-482.	3.4	55
39	In-Plane Behavior and Design of Rectangular SC Wall Piers without Boundary Elements. Journal of Structural Engineering, 2016, 142, .	3.4	53
40	Seismic Analysis of Conventional and Isolated LNG Tanks Using Mechanical Analogs. Earthquake Spectra, 2008, 24, 599-616.	3.1	48
41	Retrofit of pre-Northridge steel moment-resisting frames using fluid viscous dampers. Structural Design of Tall Buildings, 2001, 10, 371-390.	0.3	46
42	Experimental investigation of cavitation in elastomeric seismic isolation bearings. Engineering Structures, 2015, 101, 290-305.	5.3	46
43	Development and performance evaluation of large-scale auxetic protective systems for localised impulsive loads. International Journal of Protective Structures, 2019, 10, 390-417.	2.3	46
44	Validation of the 2000 NEHRP Provisionsâ€™ Equivalent Lateral Force and Modal Analysis Procedures for Buildings with Damping Systems. Earthquake Spectra, 2003, 19, 981-999.	3.1	44
45	Estimating Rotational Components of Ground Motion Using Data Recorded at a Single Station. Journal of Engineering Mechanics - ASCE, 2012, 138, 1141-1156.	2.9	43
46	Extracting rotational components of earthquake ground motion using data recorded at multiple stations. Earthquake Engineering and Structural Dynamics, 2013, 42, 451-468.	4.4	43
47	Incident and Normally Reflected Overpressure and Impulse for Detonations of Spherical High Explosives in Free Air. Journal of Structural Engineering, 2015, 141, .	3.4	40
48	Experimental and analytical studies on the performance of hybrid isolation systems. Earthquake Engineering and Structural Dynamics, 2002, 31, 421-443.	4.4	38
49	An equivalent accidental eccentricity to account for the effects of torsional ground motion on structures. Engineering Structures, 2014, 69, 1-11.	5.3	37
50	Seismic analysis and design of steel-plate concrete composite shear wall piers. Engineering Structures, 2017, 133, 105-123.	5.3	35
51	Vertical Earthquake Loads on Seismic Isolation Systems in Bridges. Journal of Structural Engineering, 2008, 134, 1696-1704.	3.4	34
52	SEISMIC ISOLATION OF NUCLEAR POWER PLANTS. Nuclear Engineering and Technology, 2014, 46, 569-580.	2.3	33
53	Characterizing rotational components of earthquake ground motion using a surface distribution method and response of sample structures. Engineering Structures, 2015, 99, 685-707.	5.3	33
54	Seismic isolation of nuclear power plants: Past, present and future. Nuclear Engineering and Design, 2018, 338, 290-299.	1.7	33

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55	Extreme earthquake response of nuclear power plants isolated using sliding bearings. Nuclear Engineering and Design, 2017, 316, 9-25.	1.7	32
56	Viscous Heating of Fluid Dampers. II: Large-Amplitude Motions. Journal of Engineering Mechanics - ASCE, 1998, 124, 1217-1223.	2.9	31
57	Seismic demands on secondary systems in baseâ€isolated nuclear power plants. Earthquake Engineering and Structural Dynamics, 2007, 36, 1741-1761.	4.4	31
58	Earthquake Performance of Porcelain Transformer Bushings. Earthquake Spectra, 2004, 20, 205-223.	3.1	29
59	Fragility functions for low aspect ratio reinforced concrete walls. Engineering Structures, 2010, 32, 2894-2901.	5.3	29
60	Air-Blast Effects on Structural Shapes of Finite Width. Journal of Structural Engineering, 2010, 136, 152-159.	3.4	29
61	Influence of Charge Shape and Point of Detonation on Blast-Resistant Design. Journal of Structural Engineering, 2016, 142, .	3.4	29
62	Seismic Evaluation and Retrofit of 230-kV Porcelain Transformer Bushings. Earthquake Spectra, 2001, 17, 597-616.	3.1	27
63	Response of baseâ€isolated nuclear structures for design and beyondâ€design basis earthquake shaking. Earthquake Engineering and Structural Dynamics, 2013, 42, 339-356.	4.4	26
64	Seismic probabilistic risk assessment for seismically isolated safety-related nuclear facilities. Nuclear Engineering and Design, 2017, 313, 386-400.	1.7	26
65	Cross-platform implementation, verification and validation of advanced mathematical models of elastomeric seismic isolation bearings. Engineering Structures, 2018, 175, 926-943.	5.3	26
66	A validated numerical model for predicting the in-plane seismic response of lightly reinforced, low-aspect ratio reinforced concrete shear walls. Engineering Structures, 2018, 168, 589-611.	5.3	26
67	Hurricane Wind and Storm Surge Effects on Coastal Bridges under a Changing Climate. Transportation Research Record, 2020, 2674, 23-32.	1.9	26
68	Seismic Performance of Pre-Northridge Welded Steel Moment Connections to Built-Up Box Columns. Journal of Structural Engineering, 2008, 134, 289-299.	3.4	25
69	Seismic evaluation and analysis of high-voltage substation disconnect switches. Engineering Structures, 2007, 29, 3538-3549.	5.3	24
70	Damage states and fragility functions for link beams in eccentrically braced frames. Journal of Constructional Steel Research, 2011, 67, 1299-1309.	3.9	24
71	Evaluation of pre-Northridge steel moment-resisting frame joints. Structural Design of Tall Buildings, 1998, 7, 263-283.	0.3	23
72	Orientation of Maximum Spectral Demand in the Near-Fault Region. Earthquake Spectra, 2009, 25, 707-717.	3.1	22

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73	A Rate Dependent Stress-Strain Relationship Model for Normal, High and Ultra-High Strength Concrete. International Journal of Protective Structures, 2013, 4, 451-466.	2.3	22
74	Response of base-isolated nuclear structures to extreme earthquake shaking. Nuclear Engineering and Design, 2015, 295, 860-874.	1.7	21
75	Analytical modeling of rectangular SC wall panels. Journal of Constructional Steel Research, 2015, 105, 49-59.	3.9	21
76	Multihazard Design and Cost-Benefit Analysis of Buildings with Special Momentâ€“Resisting Steel Frames. Journal of Structural Engineering, 2019, 145, .	3.4	21
77	Interaction Curves for In-Plane and Out-of-Plane Behaviors of Unreinforced Masonry Walls. Journal of Earthquake Engineering, 2015, 19, 60-84.	2.5	20
78	Using seismic isolation to reduce risk and capital cost of safety-related nuclear structures. Nuclear Engineering and Design, 2018, 326, 268-284.	1.7	20
79	TNT Equivalency for Overpressure and Impulse for Detonations of Spherical Charges of High Explosives. International Journal of Protective Structures, 2015, 6, 567-579.	2.3	19
80	Numerical investigations of structure-soil-structure interaction in buildings. Engineering Structures, 2020, 215, 110709.	5.3	19
81	NEHRP Site Amplification Factors and the NGA Relationships. Earthquake Spectra, 2010, 26, 583-593.	3.1	18
82	Fatigue-Life Evaluation of Steel Post Structures. I: Background and Analysis. Journal of Structural Engineering, 2000, 126, 322-330.	3.4	17
83	Bayesian decision and mixture models for AE monitoring of steelâ€“concrete composite shear walls. Smart Materials and Structures, 2015, 24, 115028.	3.5	16
84	Experimental Study of the XY-Friction Pendulum Bearing for Bridge Applications. Journal of Bridge Engineering, 2009, 14, 193-202.	2.9	15
85	A Cyclic Backbone Curve for Shear-Critical Reinforced Concrete Walls. Journal of Structural Engineering, 2019, 145, .	3.4	15
86	Experimental and numerical studies of seismic fluidâ€structure interaction in a baseâ€supported cylindrical vessel. Earthquake Engineering and Structural Dynamics, 2021, 50, 1395-1413.	4.4	15
87	Effects of Large Cumulative Travel on the Behavior of Lead-Rubber Seismic Isolation Bearings. Journal of Structural Engineering, 2010, 136, 491-501.	3.4	14
88	Theoretical Studies of the XY-FP Seismic Isolation Bearing for Bridges. Journal of Bridge Engineering, 2010, 15, 631-638.	2.9	13
89	Automated Detection and Measurement of Cracks in Reinforced Concrete Components. ACI Structural Journal, 2015, 112, .	0.2	13
90	Dynamic Interaction of High-Voltage Power Transformer Bushings, Turrets, and Tanks. Earthquake Spectra, 2018, 34, 397-421.	3.1	13

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91	Review of analytical studies on seismic fluid-structure interaction of base-supported cylindrical tanks. Engineering Structures, 2021, 233, 111589.	5.3	13
92	Forensic studies of a large cover-plate steel moment-resisting connection. Structural Design of Tall Buildings, 2002, 11, 265-283.	0.3	12
93	Property Modification Factors for Seismically Isolated Bridges. Journal of Bridge Engineering, 2006, 11, 371-377.	2.9	12
94	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. Earthquake Spectra, 2017, 33, 397-417.	3.1	12
95	Simulation of wind-borne missile impact using Lagrangian and Smooth Particle Hydrodynamics formulations. International Journal of Impact Engineering, 2018, 117, 1-12.	5.0	12
96	Physical and Numerical Simulations of the Seismic Response of a 1,100 kV Power Transformer Bushing. Earthquake Spectra, 2018, 34, 1515-1541.	3.1	12
97	Seismic isolation: A pathway to standardized advanced nuclear reactors. Nuclear Engineering and Design, 2022, 387, 111445.	1.7	12
98	Fatigue-Life Evaluation of Steel Post Structures. II: Experimentation. Journal of Structural Engineering, 2000, 126, 331-340.	3.4	11
99	Title is missing!. Journal of Earthquake Engineering, 2004, 8, 161.	2.5	11
100	Blast-Wave Clearing for Detonations of High Explosives. Journal of Structural Engineering, 2019, 145, .	3.4	11
101	Evolution of seismic building design practice in Japan. Structural Design of Tall Buildings, 1998, 7, 93-111.	0.3	10
102	A probabilistic seismic risk assessment procedure for nuclear power plants: (II) Application. Nuclear Engineering and Design, 2011, 241, 3985-3995.	1.7	10
103	Effect of seismic hazard definition on isolation-system displacements in nuclear power plants. Engineering Structures, 2017, 148, 424-435.	5.3	10
104	A bio-mimetic cellular structure for mitigating the effects of impulsive loadings â€“ A numerical study. Journal of Sandwich Structures and Materials, 2021, 23, 1929-1955.	3.5	10
105	Towards standardized nuclear reactors: Seismic isolation and the cost impact of the earthquake load case. Nuclear Engineering and Design, 2022, 386, 111487.	1.7	10
106	Experimental Behavior of Dual Steel System. Journal of Structural Engineering, 1989, 115, 183-200.	3.4	9
107	Seismic Design of Steel Structures. , 2001, , 409-462.		9
108	Response of Base-Isolated Nuclear Structures for Design and Beyond-Design Basis Earthquake Shaking. , 2010, , .		8

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109	Predictive Equations for the Peak Shear Strength of Low-Aspect Ratio Reinforced Concrete Walls. Journal of Earthquake Engineering, 2012, 16, 159-187.	2.5	8
110	Quantification of the Blast-Loading Parameters of Large-Scale Explosions. Journal of Structural Engineering, 2015, 141, .	3.4	8
111	Correlation of horizontal and vertical components of strong ground motion for response-history analysis of safety-related nuclear facilities. Nuclear Engineering and Design, 2016, 310, 273-279.	1.7	8
112	Simulation of cellular structures under large deformations using the material point method. International Journal of Impact Engineering, 2019, 134, 103385.	5.0	8
113	Design of concrete walls and slabs for wind-borne missile loadings. Engineering Structures, 2019, 194, 357-369.	5.3	8
114	Analytical Solutions for Seismic Fluid-Structure Interaction of Head-Supported Cylindrical Tanks. Journal of Engineering Mechanics - ASCE, 2020, 146, .	2.9	8
115	Peak Strength of Shear-Critical Reinforced Concrete Walls. ACI Structural Journal, 2019, 116, .	0.2	8
116	Concentrically Loaded Circular Steel Plates Bearing on Plain Concrete. Journal of Structural Engineering, 2006, 132, 1784-1792.	3.4	7
117	Validation of numerical models for seismic fluid-structure-interaction analysis of nuclear, safety-related equipment. Nuclear Engineering and Design, 2021, 379, 111179.	1.7	7
118	A simplified analysis procedure for performance-based earthquake engineering of buildings. Engineering Structures, 2017, 150, 719-735.	5.3	6
119	Seismic Performance Assessment of an Ultra-Highâ€“Voltage Power Transformer. Earthquake Spectra, 2019, 35, 423-445.	3.1	6
120	Verification of numerical models for seismic fluidâ€structure interaction analysis of internal components in liquidâ€filled advanced reactors. Earthquake Engineering and Structural Dynamics, 2021, 50, 1692-1712.	4.4	6
121	On the Calculation of Peak Ground Velocity for Seismic Performance Assessment. Earthquake Spectra, 2015, 31, 785-794.	3.1	5
122	Reflection Coefficients and Reflected Scaled Impulses from Detonations of High Explosives as a Function of Angle of Incidence. Journal of Structural Engineering, 2017, 143, .	3.4	5
123	Damage and Peak Shear Strength of Low-Aspect-Ratio Reinforced Concrete Shear Walls. Journal of Structural Engineering, 2019, 145, 04019141.	3.4	5
124	Collapse Assessment of Steel Moment Resisting Frames Under Earthquake Shaking. Computational Methods in Applied Sciences (Springer), 2011, , 1-19.	0.3	4
125	Vulnerability Assessment of Conventional and Base-Isolated Nuclear Power Plants to Blast Loadings. International Journal of Protective Structures, 2013, 4, 545-563.	2.3	4
126	On the design of a dense array to extract rotational components of earthquake ground motion. Bulletin of Earthquake Engineering, 2017, 15, 827-860.	4.1	4

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127	Empirical Formulas for the Design of Reinforced Concrete Nuclear Power Plants to Resist the Effects of Wind-Borne Missile Impact: A Critical Review. Nuclear Technology, 2018, 204, 119-130.	1.2	4
128	An experimental investigation of the effects of out-of-plane loading on the in-plane seismic response of SC wall piers. Engineering Structures, 2019, 190, 380-388.	5.3	4
129	Updated Fragility Functions for Shear-Critical Reinforced Concrete Walls. ACI Structural Journal, 2019, 116, .	0.2	4
130	Validation of a numerical model of a seismically isolated, cylindrical, fluidâ€filled vessel. Earthquake Engineering and Structural Dynamics, 2022, 51, 1857-1873.	4.4	4
131	Development, verification, and validation of comprehensive acoustic fluidâ€structure interaction capabilities in an openâ€source computational platform. Earthquake Engineering and Structural Dynamics, 2022, 51, 2188-2219.	4.4	4
132	Near-Field Blast Assessment of Reinforced Concrete Components. International Journal of Protective Structures, 2015, 6, 487-508.	2.3	3
133	A process to verify numerical models for seismic fluid-structure interaction in advanced reactor vessels. Nuclear Engineering and Design, 2022, 387, 111580.	1.7	3
134	Response of Systems and Components in a Base-Isolated Nuclear Power Plant Building Impacted by a Large Commercial Aircraft. Journal of Structural Engineering, 2018, 144, .	3.4	2
135	Enhancing Toughness of Medium-Density Fiberboard by Mimicking Nacreous Structures through Advanced Manufacturing Techniques. Journal of Structural Engineering, 2020, 146, 04020001.	3.4	2
136	Seismic EnergyDissipation Systems for Buildings. , 2004, , .		2
137	Nonlinear procedures for seismic evaluation of buildings. Structural Design of Tall Buildings, 1999, 8, 1-13.	0.3	1
138	Reconnaissance and preliminary assessment of a damaged high-rise building near Ground Zero. Structural Design of Tall and Special Buildings, 2003, 12, 371-391.	1.9	1
139	Rectangular SC Wall Piers: Summary of Seismic Behavior and Design. , 2015, , .		1
140	Cost- and Risk-Based Seismic Design Optimization of Nuclear Power Plant Safety Systems. Nuclear Technology, 2021, 207, 1687-1711.	1.2	1
141	FRP retrofitted RC slabs using finite difference model. Transactions of Tianjin University, 2008, 14, 344-347.	6.4	0
142	Seismic Protection of Small Modular Reactors. , 2011, , .		0
143	Forensic Evaluation of Earthquake-Damaged Reinforced Concrete Shear Walls. , 2018, , .		0
144	Simulation of projectile impact on steel plate-lined, reinforced concrete panels using the smooth particle hydrodynamics formulation. International Journal of Protective Structures, 2022, 13, 65-79.	2.3	0

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145	Advanced concretes for high temperature applications. , 2019, , .		0
146	Seismic Behavior of Reinforced Concrete Walls at Elevated Temperatures. ACI Structural Journal, 2019, 116, .	0.2	0