

# Alexandros A Taflanidis

## List of Publications by Year in descending order

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127  
papers

3,026  
citations

186254

28  
h-index

197805

49  
g-index

129  
all docs

129  
docs citations

129  
times ranked

1578  
citing authors

#	ARTICLE	IF	CITATIONS
1	Tuned-mass-damper-inerter optimal design and performance assessment for multi-storey hysteretic buildings under seismic excitation. Bulletin of Earthquake Engineering, 2023, 21, 1541-1576.	4.1	20
2	Special Collection on the EMI Conference Student Competition Finalist Papers. Journal of Engineering Mechanics - ASCE, 2022, 148, .	2.9	0
3	Integration of Node Classification in Storm Surge Surrogate Modeling. Journal of Marine Science and Engineering, 2022, 10, 551.	2.6	5
4	Incorporation of sea level rise in storm surge surrogate modeling. Natural Hazards, 2021, 105, 531-563.	3.4	11
5	Advancing the Design of Resilient and Sustainable Buildings: An Integrated Life-Cycle Analysis. Journal of Structural Engineering, 2021, 147, .	3.4	17
6	Dissipation Effects of Coastal Vegetation on Nearshore Structures under Wave Runup Loading. Journal of Structural Engineering, 2021, 147, .	3.4	6
7	Analysis and optimization of a nonlinear dual-mode floor isolation system subjected to earthquake excitations. Earthquake Engineering and Structural Dynamics, 2021, 50, 2334-2354.	4.4	5
8	Improvements in storm surge surrogate modeling for synthetic storm parameterization, node condition classification and implementation to small size databases. Natural Hazards, 2021, 109, 1349-1386.	3.4	8
9	Kriging metamodeling for seismic response distribution estimation. Earthquake Engineering and Structural Dynamics, 2021, 50, 3550-3576.	4.4	12
10	Storm hazard analysis over extended geospatial grids utilizing surrogate models. Coastal Engineering, 2021, 168, 103855.	4.0	24
11	Multi-fidelity Monte Carlo for seismic risk assessment applications. Structural Safety, 2021, 93, 102129.	5.3	11
12	Cost of Safety: Holistic Analysis of Market-Based Solutions for Housing in Haiti. Natural Hazards Review, 2021, 22, .	1.5	1
13	Probabilistic Storm Surge Estimation for Landfalling Hurricanes: Advancements in Computational Efficiency Using Quasi-Monte Carlo Techniques. Journal of Marine Science and Engineering, 2021, 9, 1322.	2.6	5
14	Applications of Reduced Order and Surrogate Modeling in Structural Dynamics. Conference Proceedings of the Society for Experimental Mechanics, 2020, , 297-299.	0.5	1
15	Evolutionary Multi-Objective Optimization Under Uncertainty Through Adaptive Kriging in Augmented Input Space. Journal of Mechanical Design, Transactions of the ASME, 2020, 142, .	2.9	5
16	Bayesian identification of electromechanical properties in piezoelectric energy harvesters. Mechanical Systems and Signal Processing, 2020, 141, 106506.	8.0	14
17	Bayesian calibration of hysteretic reduced order structural models for earthquake engineering applications. Engineering Structures, 2020, 224, 111204.	5.3	20
18	Geospatial Environments for Hurricane Risk Assessment: Applications to Situational Awareness and Resilience Planning in New Jersey. Frontiers in Built Environment, 2020, 6, .	2.3	24

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19	The Housing Market Value Chain: An Integrated Approach for Mitigating Risk in Informal Residential Construction in Haiti. <i>Sustainability</i> , 2020, 12, 8006.	3.2	3
20	Adaptive design of experiments for global Kriging metamodeling through cross-validation information. <i>Structural and Multidisciplinary Optimization</i> , 2020, 62, 1135-1157.	3.5	19
21	Surrogate modeling of hydrodynamic forces between multiple floating bodies through a hierarchical interaction decomposition. <i>Journal of Computational Physics</i> , 2020, 408, 109298.	3.8	5
22	Reduced order modeling of hysteretic structural response and applications to seismic risk assessment. <i>Engineering Structures</i> , 2020, 209, 110135.	5.3	22
23	Coastal Hazards System: A Probabilistic Coastal Hazard Analysis Framework. <i>Journal of Coastal Research</i> , 2020, 95, 1211.	0.3	21
24	StormSim-CHRPS: Coastal Hazards Rapid Prediction System. <i>Journal of Coastal Research</i> , 2020, 95, 1320.	0.3	4
25	Accelerating MCMC via Kriging-based adaptive independent proposals and delayed rejection. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2019, 355, 1124-1147.	6.6	16
26	Validation of stochastic ground motion model modification by comparison to seismic demand of recorded ground motions. <i>Bulletin of Earthquake Engineering</i> , 2019, 17, 2871-2898.	4.1	10
27	Multi-objective optimal design of inerter-based vibration absorbers for earthquake protection of multi-storey building structures. <i>Journal of the Franklin Institute</i> , 2019, 356, 7754-7784.	3.4	88
28	Bayesian model averaging for Kriging regression structure selection. <i>Probabilistic Engineering Mechanics</i> , 2019, 56, 58-70.	2.7	8
29	Advancing Resilient and Sustainable Buildings through a New Normative Workflow for Integrated Life-Cycle Assessments. , 2019, , .		3
30	Multi-objective optimization for design under uncertainty problems through surrogate modeling in augmented input space. <i>Structural and Multidisciplinary Optimization</i> , 2019, 59, 351-372.	3.5	9
31	Hazard-compatible modification of stochastic ground motion models. <i>Earthquake Engineering and Structural Dynamics</i> , 2018, 47, 1774-1798.	4.4	13
32	Multiobjective Design of Supplemental Seismic Protective Devices Utilizing Lifecycle Performance Criteria. <i>Journal of Structural Engineering</i> , 2018, 144, .	3.4	15
33	Adaptive Kriging Stochastic Sampling and Density Approximation and Its Application to Rare-Event Estimation. <i>ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering</i> , 2018, 4, .	1.7	11
34	Modification of stochastic ground motion models for matching target intensity measures. <i>Earthquake Engineering and Structural Dynamics</i> , 2018, 47, 3-24.	4.4	19
35	Optimal tuned mass-damper-inerter (TMDI) design for seismically excited MDOF structures with model uncertainties based on reliability criteria. <i>Structural Control and Health Monitoring</i> , 2018, 25, e2082.	4.0	199
36	Risk-informed optimization of the tuned mass-damper-inerter (TMDI) for the seismic protection of multi-storey building structures. <i>Engineering Structures</i> , 2018, 177, 836-850.	5.3	80

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37	Advances in surrogate modeling for storm surge prediction: storm selection and addressing characteristics related to climate change. <i>Natural Hazards</i> , 2018, 94, 1225-1253.	3.4	25
38	Field reconnaissance and overview of the impact of Hurricane Matthew on Haiti's Tiburon Peninsula. <i>Natural Hazards</i> , 2018, 94, 627-653.	3.4	11
39	Optimization of height-wise damper distributions considering practical design issues. <i>Engineering Structures</i> , 2018, 173, 768-786.	5.3	14
40	A New Normative Workflow for Integrated Life-Cycle Assessment. , 2018, , .		1
41	A New Adaptive Rejection Sampling Method Using Kernel Density Approximations and Its Application to Subset Simulation. <i>ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering</i> , 2017, 3, .	1.7	16
42	Experimental evaluation of four ground-motion scaling methods for dynamic response-history analysis of nonlinear structures. <i>Bulletin of Earthquake Engineering</i> , 2017, 15, 1899-1924.	4.1	5
43	Sequential approximate optimization for design under uncertainty problems utilizing Kriging metamodeling in augmented input space. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2017, 315, 369-395.	6.6	50
44	Tuning of stochastic ground motion models for compatibility with ground motion prediction equations. <i>Earthquake Engineering and Structural Dynamics</i> , 2016, 45, 893-912.	4.4	18
45	Efficient Evaluation of Sobol's Indices Utilizing Samples from an Auxiliary Probability Density Function. <i>Journal of Engineering Mechanics - ASCE</i> , 2016, 142, .	2.9	19
46	Surrogate modeling for peak or time-dependent storm surge prediction over an extended coastal region using an existing database of synthetic storms. <i>Natural Hazards</i> , 2016, 81, 909-938.	3.4	64
47	Multi-objective risk-informed design of floor isolation systems. <i>Earthquake Engineering and Structural Dynamics</i> , 2016, 45, 1293-1313.	4.4	29
48	Natural Hazard Probabilistic Risk Assessment Through Surrogate Modeling. , 2016, , 59-86.		2
49	An Analytical Modeling Framework for Primary Lateral-Load-Resisting Unreinforced Masonry Walls. <i>Earthquake Spectra</i> , 2016, 32, 367-392.	3.1	1
50	Modeling and experimental validation of a new type of tuned liquid damper. <i>Acta Mechanica</i> , 2016, 227, 3275-3294.	2.1	45
51	Life-cycle based design of mass dampers for the Chilean region and its application for the evaluation of the effectiveness of tuned liquid dampers with floating roof. <i>Bulletin of Earthquake Engineering</i> , 2016, 14, 943-970.	4.1	21
52	Characterization and design of tuned liquid dampers with floating roof considering arbitrary tank cross-sections. <i>Journal of Sound and Vibration</i> , 2016, 368, 36-54.	3.9	20
53	Kriging metamodeling in seismic risk assessment based on stochastic ground motion models. <i>Earthquake Engineering and Structural Dynamics</i> , 2015, 44, 2377-2399.	4.4	80
54	An efficient computational procedure for the dynamic analysis of liquid storage tanks. <i>Engineering Structures</i> , 2015, 85, 206-218.	5.3	24

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55	Performance assessment and optimization of fluid viscous dampers through life-cycle cost criteria and comparison to alternative design approaches. Bulletin of Earthquake Engineering, 2015, 13, 1003-1028.	4.1	88
56	Non-parametric stochastic subset optimization for design problems with reliability constraints. Structural and Multidisciplinary Optimization, 2015, 52, 1185-1204.	3.5	10
57	Non-parametric stochastic subset optimization utilizing multivariate boundary kernels and adaptive stochastic sampling. Advances in Engineering Software, 2015, 89, 3-16.	3.8	11
58	A Nonlinear Frame Test Structure with Repeatable Behavior for Experimental Dynamic Response History Investigation. Journal of Earthquake Engineering, 2015, 19, 1279-1299.	2.5	1
59	Probabilistic measures for assessing appropriateness of robust design optimization solutions. Structural and Multidisciplinary Optimization, 2015, 51, 813-834.	3.5	12
60	Development of Real-Time Tools for Hurricane Risk Assessment. , 2014, , .		4
61	CyberEye: Development of integrated cyber-infrastructure to support rapid hurricane risk assessment. Journal of Wind Engineering and Industrial Aerodynamics, 2014, 133, 211-224.	3.9	14
62	SURROGATE MODELING FOR HURRICANE WAVE AND INUNDATION PREDICTION. , 2014, , 185-213.		0
63	Sample-based evaluation of global probabilistic sensitivity measures. Computers and Structures, 2014, 144, 103-118.	4.4	32
64	Adaptive importance sampling for optimization under uncertainty problems. Computer Methods in Applied Mechanics and Engineering, 2014, 279, 133-162.	6.6	23
65	Reliability-based assessment/design of floor isolation systems. Engineering Structures, 2014, 78, 41-56.	5.3	47
66	Comparison of alternative stochastic ground motion models for seismic risk characterization. Soil Dynamics and Earthquake Engineering, 2014, 58, 48-65.	3.8	31
67	Adaptive Implementation of Importance Sampling in Optimization under Uncertainty. , 2014, , .		0
68	Adaptive Kriging for Simulation-based Design under Uncertainty - Development of Metamodels in Augmented Input Space and Adaptive Tuning of Their Characteristics. , 2014, , .		3
69	Advances in Simulation-Based Quantification/Assessment of Seismic Risk Supported by Stochastic Ground Motion Modeling. , 2014, , .		0
70	Implementation/optimization of moving least squares response surfaces for approximation of hurricane/storm surge and wave responses. Natural Hazards, 2013, 66, 955-983.	3.4	25
71	Non-parametric stochastic subset optimization for optimal-reliability design problems. Computers and Structures, 2013, 126, 86-99.	4.4	21
72	Ground motion scaling methods for linear-elastic structures: an integrated experimental and analytical investigation. Earthquake Engineering and Structural Dynamics, 2013, 42, 1281-1300.	4.4	14

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73	Life-cycle seismic loss estimation and global sensitivity analysis based on stochastic ground motion modeling. <i>Engineering Structures</i> , 2013, 54, 192-206.	5.3	16
74	Adaptive Importance Sampling for Optimization under Uncertainty Using Stochastic Simulation. , 2013, , .		0
75	Optimal causal control of a wave energy converter in a random sea. <i>Applied Ocean Research</i> , 2013, 42, 1-15.	4.1	106
76	Parsimonious modeling of hysteretic structural response in earthquake engineering: Calibration/validation and implementation in probabilistic risk assessment. <i>Engineering Structures</i> , 2013, 49, 1017-1033.	5.3	21
77	Offshore wind turbine risk quantification/evaluation under extreme environmental conditions. <i>Reliability Engineering and System Safety</i> , 2013, 115, 19-32.	8.9	33
78	Kriging metamodeling for approximation of high-dimensional wave and surge responses in real-time storm/hurricane risk assessment. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2013, 261-262, 24-38.	6.6	133
79	Impact of modeling and excitation uncertainties on operational and structural reliability of tension leg platforms. <i>Applied Ocean Research</i> , 2013, 43, 131-147.	4.1	16
80	Experimental Evaluation of Ground Motion Scaling Methods for Nonlinear Analysis of Structural Systems. , 2013, , .		1
81	Rapid Assessment of Wave and Surge Risk during Landfalling Hurricanes: Probabilistic Approach. <i>Journal of Waterway, Port, Coastal and Ocean Engineering</i> , 2013, 139, 171-182.	1.2	45
82	Life-Cycle Cost Based Optimal Retrofitting of Structures by Fluid Dampers. , 2013, , .		3
83	PRIOR AND POSTERIOR ROBUST STOCHASTIC PREDICTIONS FOR DYNAMICAL SYSTEMS USING PROBABILITY LOGIC. , 2013, 3, 271-288.		55
84	Empowerment Model for Sustainable Residential Reconstruction in L'ogÃcne, Haiti, after the January 2010 Earthquake. <i>Leadership and Management in Engineering</i> , 2012, 12, 271-287.	0.3	8
85	Seismic Hazard Characterization through Stochastic Ground Motion Modeling. , 2012, , .		1
86	Tropical cyclone inundation potential on the Hawaiian Islands of Oahu and Kauai. <i>Ocean Modelling</i> , 2012, 52-53, 54-68.	2.4	97
87	Calibration of a Reusable Nonlinear Beam-Column Connection for Use in an Experimental Ground Motion Scaling Study. , 2012, , .		1
88	The Haitian housing dilemma: can sustainability and hazard-resilience be achieved?. <i>Bulletin of Earthquake Engineering</i> , 2012, 10, 765-771.	4.1	21
89	Stochastic subset optimization incorporating moving least squares response surface methodologies for stochastic sampling. <i>Advances in Engineering Software</i> , 2012, 44, 3-14.	3.8	24
90	Global sensitivity analysis for stochastic ground motion modeling in seismic-risk assessment. <i>Soil Dynamics and Earthquake Engineering</i> , 2012, 38, 128-143.	3.8	26

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91	Stochastic sampling using moving least squares response surface approximations. Probabilistic Engineering Mechanics, 2012, 28, 216-224.	2.7	66
92	Cyber-Eye: Integrated Cyber-Infrastructure to Support Hurricane Risk Assessment. , 2012, , .		4
93	Rapid Probabilistic Assessment of Wave and Surge Hurricane Risk. , 2012, , .		0
94	Seismic Risk Assessment and Sensitivity Analysis in Terms of Life-Cycle Repair Cost. , 2011, , .		0
95	Analysis and design of offshore energy conversion devices under modeling uncertainties. , 2011, , .		3
96	Probabilistic Hurricane Surge Risk Estimation through High-Fidelity Numerical Simulation and Response Surface Approximations. , 2011, , .		4
97	Design of Supplemental Dampers for Seismic Risk Reduction of Isolated Bridges. , 2011, , .		0
98	Swims Hawaii Hurricane Wave, Surge, and Runup Inundation Fast Forecasting Tool. , 2011, , .		11
99	Optimal probabilistic design of seismic dampers for the protection of isolated bridges against near-fault seismic excitations. Engineering Structures, 2011, 33, 3496-3508.	5.3	38
100	A simulation-based framework for risk assessment and probabilistic sensitivity analysis of base-isolated structures. Earthquake Engineering and Structural Dynamics, 2011, 40, 1629-1651.	4.4	44
101	Evaluation of Ground Motion Scaling Methods for Analysis of Structural Systems. , 2011, , .		2
102	Assessment of Residential Housing in L'ogÃne, Haiti, and Identification of Needs for Rebuilding after the January 2010 Earthquake. Earthquake Spectra, 2011, 27, 299-322.	3.1	21
103	Robust Stochastic Design of Viscous Dampers for Base Isolation Applications. Computational Methods in Applied Sciences (Springer), 2011, , 305-329.	0.3	8
104	Robust Stochastic Design of Linear Controlled Systems for Performance Optimization. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2010, 132, .	1.6	6
105	Reliability-based optimal design of linear dynamical systems under stochastic stationary excitation and model uncertainty. Engineering Structures, 2010, 32, 1446-1458.	5.3	24
106	Performance measures and optimal design of linear structural systems under stochastic stationary excitation. Structural Safety, 2010, 32, 305-315.	5.3	19
107	Reliability-Based Design Using Two-Stage Stochastic Optimization with a Treatment of Model Prediction Errors. Journal of Engineering Mechanics - ASCE, 2010, 136, 1460-1473.	2.9	26
108	Probabilistically-robust performance optimization for controlled linear stochastic systems. , 2009, , .		3

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109	Stochastic Subset Optimization for reliability optimization and sensitivity analysis in system design. Computers and Structures, 2009, 87, 318-331.	4.4	59
110	Life-cycle cost optimal design of passive dissipative devices. Structural Safety, 2009, 31, 508-522.	5.3	87
111	Simulation-based robust design of mass dampers for response mitigation of tension leg platforms. Engineering Structures, 2009, 31, 847-857.	5.3	40
112	Performance optimization for linear stochastic systems with probabilistic parametric uncertainties. , 2009, , .		0
113	Probabilistically robust nonlinear design of control systems for base-isolated structures. Structural Control and Health Monitoring, 2008, 15, 697-719.	4.0	35
114	Stochastic Subset Optimization for optimal reliability problems. Probabilistic Engineering Mechanics, 2008, 23, 324-338.	2.7	75
115	An efficient framework for optimal robust stochastic system design using stochastic simulation. Computer Methods in Applied Mechanics and Engineering, 2008, 198, 88-101.	6.6	113
116	Reliability-Based Performance Objectives and Probabilistic Robustness in Structural Control Applications. Journal of Engineering Mechanics - ASCE, 2008, 134, 291-301.	2.9	53
117	Non-linear stochastic controllers for semiactive and regenerative systems with guaranteed quadratic performance boundsâ€”Part 2: Output feedback control. Structural Control and Health Monitoring, 2007, 14, 1121-1137.	4.0	7
118	Non-linear stochastic controllers for semiactive and regenerative systems with guaranteed quadratic performance boundsâ€”Part 1: State feedback control. Structural Control and Health Monitoring, 2007, 14, 1101-1120.	4.0	17
119	Robust reliability-based design of liquid column mass dampers under earthquake excitation using an analytical reliability approximation. Engineering Structures, 2007, 29, 3525-3537.	5.3	54
120	Reliability-based control optimization for active base isolation systems. Structural Control and Health Monitoring, 2006, 13, 705-723.	4.0	38
121	Analytical approximation for stationary reliability of certain and uncertain linear dynamic systems with higher-dimensional output. Earthquake Engineering and Structural Dynamics, 2006, 35, 1247-1267.	4.4	16
122	Optimal design and performance of liquid column mass dampers for rotational vibration control of structures under white noise excitation. Engineering Structures, 2005, 27, 524-534.	5.3	23
123	Non-Parametric Stochastic Subset Optimization for System Design Optimization under Uncertainty. , 0, , .		1
124	Stochastic Subset Optimization with Response Surface Approximations for Stochastic Design. , 0, , .		1
125	Relative Entropy Estimation through Stochastic Sampling and Stochastic Simulation Techniques. , 0, , .		5
126	Optimal Design of Nonlinear Viscous Dampers for Protection of Isolated Bridges. , 0, , 370-398.		0



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127	Addressing the different sources of excitation variability in seismic response distribution estimation using kriging metamodeling. Earthquake Engineering and Structural Dynamics, 0, , .	4.4	1