Costas Papadimitriou

List of Publications by Year
in descending order

133 papers	5,442 citations	87888 38 h-index	88630 70 g-index
144 all docs	144 docs citations	144 times ranked	2749 citing authors

#	Article	IF	Citations
1	Vibration-based Damage Localization and Quantification Framework of Large-Scale Truss Structures. Structural Health Monitoring, 2023, 22, 1376-1398.	7.5	2
2	A streamline approach to multiaxial fatigue monitoring using virtual sensing. Structural Control and Health Monitoring, 2022, 29, e2863.	4.0	0
3	Adaptive Bayesian Inference Framework for Joint Model and Noise Identification. Journal of Engineering Mechanics - ASCE, 2022, 148, .	2.9	4
4	Optimal sensor placement for parameter estimation and virtual sensing of strains on an offshore wind turbine considering sensor installation cost. Mechanical Systems and Signal Processing, 2022, 169, 108787.	8.0	18
5	Hierarchical Bayesian modeling framework for model updating and robust predictions in structural dynamics using modal features. Mechanical Systems and Signal Processing, 2022, 170, 108784.	8.0	23
6	A Bayesian Expectation-Maximization (BEM) methodology for joint input-state estimation and virtual sensing of structures. Mechanical Systems and Signal Processing, 2022, 169, 108602.	8.0	4
7	Nonlinear model updating through a hierarchical Bayesian modeling framework. Computer Methods in Applied Mechanics and Engineering, 2022, 392, 114646.	6.6	20
8	Robust optimised design of 3D printed elastic metastructures: A trade-off between complexity and vibration attenuation. Journal of Sound and Vibration, 2022, 529, 116896.	3.9	4
9	Statistics-based Bayesian modeling framework for uncertainty quantification and propagation. Mechanical Systems and Signal Processing, 2022, 174, 109102.	8.0	7
10	Monitoring gross vehicle weight with a probabilistic and influence line-free bridge weight-in-motion scheme based on a transmissibility-like index. Mechanical Systems and Signal Processing, 2022, 177, 109133.	8.0	3
11	Hierarchical Bayesian uncertainty quantification of Finite Element models using modal statistical information. Mechanical Systems and Signal Processing, 2022, 179, 109296.	8.0	9
12	Hierarchical Bayesian learning framework for multi-level modeling using multi-level data. Mechanical Systems and Signal Processing, 2022, 179, 109179.	8.0	5
13	A Bayesian framework for calibration of multiaxial fatigue curves. International Journal of Fatigue, 2022, 163, 107105.	5.7	2
14	A general substructure-based framework for input-state estimation using limited output measurements. Mechanical Systems and Signal Processing, 2021, 150, 107223.	8.0	24
15	Data-driven prediction and origin identification of epidemics in population networks. Royal Society Open Science, 2021, 8, 200531.	2.4	0
16	Hierarchical Bayesian Uncertainty Quantification for a Model of the Red Blood Cell. Physical Review Applied, 2021, 15, .	3.8	5
17	Optimal Sensor Placement for Reliable Virtual Sensing Using Modal Expansion and Information Theory. Sensors, 2021, 21, 3400.	3.8	18
18	A unified sampling-based framework for optimal sensor placement considering parameter and prediction inference. Mechanical Systems and Signal Processing, 2021, 161, 107950.	8.0	8

#	Article	IF	Citations
19	Optimal Sensor Placement for Response Reconstruction in Structural Dynamics. Conference Proceedings of the Society for Experimental Mechanics, 2020, , 205-210.	0.5	1
20	An analytical perspective on Bayesian uncertainty quantification and propagation in mode shape assembly. Mechanical Systems and Signal Processing, 2020, 135, 106376.	8.0	17
21	Optimal sensor placement for artificialÂswimmers. Journal of Fluid Mechanics, 2020, 884, .	3.4	25
22	Bayesian inference for damage identification based on analytical probabilistic model of scattering coefficient estimators and ultrafast wave scattering simulation scheme. Journal of Sound and Vibration, 2020, 468, 115083.	3.9	38
23	Accounting for Modeling Errors and Inherent Structural Variability through a Hierarchical Bayesian Model Updating Approach: An Overview. Sensors, 2020, 20, 3874.	3.8	22
24	Optimal Flow Sensing for Schooling Swimmers. Biomimetics, 2020, 5, 10.	3.3	13
25	Bayesian Model-Updating Using Features of Modal Data: Application to the Metsovo Bridge. Journal of Sensor and Actuator Networks, 2020, 9, 27.	3.9	18
26	Hierarchical Bayesian operational modal analysis: Theory and computations. Mechanical Systems and Signal Processing, 2020, 140, 106663.	8.0	33
27	Data-driven uncertainty quantification and propagation in structural dynamics through a hierarchical Bayesian framework. Probabilistic Engineering Mechanics, 2020, 60, 103047.	2.7	25
28	A fast Bayesian inference scheme for identification of local structural properties of layered composites based on wave and finite element-assisted metamodeling strategy and ultrasound measurements. Mechanical Systems and Signal Processing, 2020, 143, 106802.	8.0	21
29	Adaptive Kalman filters for nonlinear finite element model updating. Mechanical Systems and Signal Processing, 2020, 143, 106837.	8.0	68
30	Data-driven inference of the reproduction number for COVID-19 before and after interventions for 51 European countries. Swiss Medical Weekly, 2020, 150, w20313.	1.6	26
31	Optimal allocation of limited test resources for the quantification of COVID-19 infections. Swiss Medical Weekly, 2020, 150, w20445.	1.6	13
32	Structural health monitoring and fatigue damage estimation using vibration measurements and finite element model updating. Structural Health Monitoring, 2019, 18, 1189-1206.	7.5	53
33	Fatigue Monitoring and Remaining Lifetime Prognosis Using Operational Vibration Measurements. Conference Proceedings of the Society for Experimental Mechanics, 2019, , 133-136.	0.5	2
34	Sequential Bayesian estimation of state and input in dynamical systems using output-only measurements. Mechanical Systems and Signal Processing, 2019, 131, 659-688.	8.0	45
35	Input-state-parameter estimation of structural systems from limited output information. Mechanical Systems and Signal Processing, 2019, 126, 711-746.	8.0	65
36	Parametrization of Reduced-Order Models Based on Global Interface Reduction. Lecture Notes in Applied and Computational Mechanics, 2019, , 49-65.	2.2	0

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37	Reliability Analysis of Dynamical Systems. Lecture Notes in Applied and Computational Mechanics, 2019, , 69-111.	2.2	3
38	Bayesian Finite Element Model Updating. Lecture Notes in Applied and Computational Mechanics, 2019, , 179-227.	2.2	2
39	Detection of arterial wall abnormalities via Bayesian model selection. Royal Society Open Science, 2019, 6, 182229.	2.4	6
40	Implications of subsoil-foundation modelling on the dynamic characteristics of a monitored bridge. Structure and Infrastructure Engineering, 2019, 15, 180-192.	3.7	4
41	Accounting for amplitude of excitation in model updating through a hierarchical Bayesian approach: Application to a two-story reinforced concrete building. Mechanical Systems and Signal Processing, 2019, 123, 68-83.	8.0	43
42	Modeling Error Estimation and Response Prediction of a 10-Story Building Model Through a Hierarchical Bayesian Model Updating Framework. Frontiers in Built Environment, 2019, 5, .	2.3	22
43	Probabilistic hierarchical Bayesian framework for time-domain model updating and robust predictions. Mechanical Systems and Signal Processing, 2019, 123, 648-673.	8.0	55
44	Hierarchical Bayesian Calibration and Response Prediction of a 10-Story Building Model. Conference Proceedings of the Society for Experimental Mechanics, 2019, , 153-165.	0.5	1
45	Robust Optimal Sensor Placement for Response Reconstruction Using OutputOnly Vibration Measurements. , 2019, , .		1
46	Bayesian optimal sensor placement for crack identification in structures using strain measurements. Structural Control and Health Monitoring, 2018, 25, e2137.	4.0	29
47	Bayesian optimal estimation for output-only nonlinear system and damage identification of civil structures. Structural Control and Health Monitoring, 2018, 25, e2128.	4.0	64
48	Bayesian Annealed Sequential Importance Sampling: An Unbiased Version of Transitional Markov Chain Monte Carlo. ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part B: Mechanical Engineering, 2018, 4, .	1.1	19
49	Information-Driven Modeling of Structures Using a Bayesian Framework. Lecture Notes in Civil Engineering, 2018, , 38-61.	0.4	3
50	Experimental validation of the Kalman-type filters for online and real-time state and input estimation. JVC/Journal of Vibration and Control, 2017, 23, 2494-2519.	2.6	102
51	Optimal sensor placement for multi-setup modal analysis of structures. Journal of Sound and Vibration, 2017, 401, 214-232.	3.9	48
52	Implementation of an adaptive meta-model for Bayesian finite element model updating in time domain. Reliability Engineering and System Safety, 2017, 160, 174-190.	8.9	40
53	Data driven inference for the repulsive exponent of the Lennard-Jones potential in molecular dynamics simulations. Scientific Reports, 2017, 7, 16576.	3.3	19
54	Bayesian optimal experimental design for parameter estimation and response predictions in complex dynamical systems. Procedia Engineering, 2017, 199, 972-977.	1.2	7

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55	A Nonlinear Model Inversion Method for Joint System Parameter, Noise, and Input Identification of Civil Structures. Procedia Engineering, 2017, 199, 924-929.	1.2	3
56	Computational Framework for Online Estimation of Fatigue Damage using Vibration Measurements from a Limited Number of Sensors. Procedia Engineering, 2017, 199, 1906-1911.	1.2	7
57	Bayesian identification of the tendon fascicle's structural composition using finite element models for helical geometries. Computer Methods in Applied Mechanics and Engineering, 2017, 313, 744-758.	6.6	20
58	Probabilistic damage identification of a designed 9-story building using modal data in the presence of modeling errors. Engineering Structures, 2017, 131, 542-552.	5.3	41
59	Bayesian Optimal Sensor Placement for Modal Identification of Civil Infrastructures. Journal of Smart Cities, 2017, 2, .	0.5	21
60	A Bayesian Framework for Optimal Experimental Design in Structural Dynamics. Conference Proceedings of the Society for Experimental Mechanics, 2016, , 263-270.	0.5	1
61	Fusing heterogeneous data for the calibration of molecular dynamics force fields using hierarchical Bayesian models. Journal of Chemical Physics, 2016, 145, 244112.	3.0	21
62	Aerodynamic shape optimization for minimum robust drag and lift reliability constraint. Aerospace Science and Technology, 2016, 55, 24-33.	4.8	33
63	An enhanced substructure coupling technique for dynamic re-analyses: Application to simulation-based problems. Computer Methods in Applied Mechanics and Engineering, 2016, 307, 215-234.	6.6	26
64	Approximate Bayesian Computation for Granular and Molecular Dynamics Simulations. , 2016, , .		1
65	Sequential importance sampling for structural reliability analysis. Structural Safety, 2016, 62, 66-75.	5.3	149
66	Special Issue on Uncertainty Quantification and Propagation in Structural Systems. ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering, 2016, 2, .	1.7	4
67	Model-reduction techniques for reliability-based design problems of complex structural systems. Reliability Engineering and System Safety, 2016, 149, 204-217.	8.9	29
68	Robust and Reliability-Based Structural Topology Optimization Using a Continuous Adjoint Method. ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering, 2016, 2, .	1.7	5
69	Bayesian Uncertainty Quantification and Propagation (UQ+P): State-of-the-Art Tools for Linear and Nonlinear Structural Dynamics Models. CISM International Centre for Mechanical Sciences, Courses and Lectures, 2016, , 137-170.	0.6	3
70	Bayesian estimation of tension in bridge hangers using modal frequency measurements. Structural Monitoring and Maintenance, 2016, 3, 349-375.	1.7	6
71	OPTIMAL SENSOR PLACEMENT FOR THE ESTIMATION OF TURBULENCE MODEL PARAMETERS IN CFD. , 2015, 5, 545-568.		12
72	Hierarchical Bayesian model updating for structural identification. Mechanical Systems and Signal Processing, 2015, 64-65, 360-376.	8.0	182

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73	Experimental Validation of the Dual Kalman Filter for Online and Real-Time State and Input Estimation. Conference Proceedings of the Society for Experimental Mechanics, 2015, , 1-13.	0.5	1
74	Sensitivity Analysis for Uncertainty Propagation and Robust Design. , 2015, , .		0
75	Î4U: A high performance computing framework for Bayesian uncertainty quantification of complex models. Journal of Computational Physics, 2015, 284, 1-21.	3.8	89
76	X-TMCMC: Adaptive kriging for Bayesian inverse modeling. Computer Methods in Applied Mechanics and Engineering, 2015, 289, 409-428.	6.6	87
77	Bayesian uncertainty quantification of turbulence models based on high-order adjoint. Computers and Fluids, 2015, 120, 82-97.	2.5	22
78	A dual Kalman filter approach for state estimation via output-only acceleration measurements. Mechanical Systems and Signal Processing, 2015, 60-61, 866-886.	8.0	303
79	Reliability sensitivity analysis of stochastic finite element models. Computer Methods in Applied Mechanics and Engineering, 2015, 296, 327-351.	6.6	41
80	Nonlinear Gear Transmission System Numerical Dynamic Analysis and Experimental Validation. Conference Proceedings of the Society for Experimental Mechanics, 2014, , 159-167.	0.5	1
81	Model-reduction techniques for Bayesian finite element model updating using dynamic response data. Computer Methods in Applied Mechanics and Engineering, 2014, 279, 301-324.	6.6	65
82	Bayesian uncertainty quantification and propagation for discrete element simulations of granular materials. Computer Methods in Applied Mechanics and Engineering, 2014, 282, 218-238.	6.6	24
83	On prediction error correlation in Bayesian model updating. Journal of Sound and Vibration, 2013, 332, 4136-4152.	3.9	134
84	The use of updated robust reliability measures in stochastic dynamical systems. Computer Methods in Applied Mechanics and Engineering, 2013, 267, 293-317.	6.6	45
85	Data Driven, Predictive Molecular Dynamics for Nanoscale Flow Simulations under Uncertainty. Journal of Physical Chemistry B, 2013, 117, 14808-14816.	2.6	40
86	Component mode synthesis techniques for finite element model updating. Computers and Structures, 2013, 126, 15-28.	4.4	126
87	Optimal Sensor Location for Model Parameter Estimation in CFD. , 2013, , .		0
88	Fast Computing Techniques for Bayesian Uncertainty Quantification in Structural Dynamics. Conference Proceedings of the Society for Experimental Mechanics, 2013, , 25-31.	0.5	2
89	Bayesian Uncertainty Quantification and Propagation in Nonlinear Structural Dynamics. Conference Proceedings of the Society for Experimental Mechanics, 2013, , 33-41.	0.5	12
90	Bayesian uncertainty quantification and propagation in molecular dynamics simulations: A high performance computing framework. Journal of Chemical Physics, 2012, 137, 144103.	3.0	154

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91	Variability of updated finite element models and their predictions consistent with vibration measurements. Structural Control and Health Monitoring, 2012, 19, 630-654.	4.0	36
92	The effect of prediction error correlation on optimal sensor placement in structural dynamics. Mechanical Systems and Signal Processing, 2012, 28, 105-127.	8.0	159
93	Joint input-response estimation for structural systems based on reduced-order models and vibration data from a limited number of sensors. Mechanical Systems and Signal Processing, 2012, 29, 310-327.	8.0	203
94	Seismic and vibration tests for assessing the effectiveness of GFRP for retrofitting masonry structures. Smart Structures and Systems, 2012, 9, 207-230.	1.9	5
95	Fatigue predictions in entire body of metallic structures from a limited number of vibration sensors using Kalman filtering. Structural Control and Health Monitoring, 2011, 18, 554-573.	4.0	130
96	A Bayesian methodology for crack identification in structures using strain measurements. International Journal of Reliability and Safety, 2010, 4, 206.	0.2	7
97	Special issue of the Journal of Structural Safety in honor of Professor James L. Beck. Structural Safety, 2010, 32, 273-274.	5.3	0
98	Fatigue Reliability of Multidimensional Vibratory Degrading Systems under Random Loading. Journal of Engineering Mechanics - ASCE, 2010, 136, 179-188.	2.9	6
99	Bridge health monitoring system based on vibration measurements. Bulletin of Earthquake Engineering, 2009, 7, 469-483.	4.1	80
100	Structural identification of Egnatia Odos bridges based on ambient and earthquake induced vibrations. Bulletin of Earthquake Engineering, 2009, 7, 485-501.	4.1	26
101	Structural model updating and prediction variability using Pareto optimal models. Computer Methods in Applied Mechanics and Engineering, 2008, 198, 138-149.	6.6	59
102	Structural identification based on optimally weighted modal residuals. Mechanical Systems and Signal Processing, 2007, 21, 4-23.	8.0	71
103	Pareto Optimal Structural Models and Predictions Consistent With Data and Modal Residuals. , 2007, , .		0
104	Optimal experimental design in stochastic structural dynamics. Probabilistic Engineering Mechanics, 2005, 20, 67-78.	2.7	30
105	Pareto optimal sensor locations for structural identification. Computer Methods in Applied Mechanics and Engineering, 2005, 194, 1655-1673.	6.6	90
106	Design Optimization of Quarter-car Models with Passive and Semi-active Suspensions under Random Road Excitation. JVC/Journal of Vibration and Control, 2005, 11, 581-606.	2.6	192
107	Multi-objective framework for structural model identification. Earthquake Engineering and Structural Dynamics, 2005, 34, 665-685.	4.4	40
108	KINETIC PARAMETER ESTIMATION BY STANDARD OPTIMIZATION METHODS IN CATALYTIC CONVERTER MODELING. Chemical Engineering Communications, 2004, 191, 1473-1501.	2.6	8

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109	Optimal sensor placement methodology for parametric identification of structural systems. Journal of Sound and Vibration, 2004, 278, 923-947.	3.9	336
110	Bayesian Modeling and Updating. , 2004, , .		1
111	Leakage detection in water pipe networks using a Bayesian probabilistic framework. Probabilistic Engineering Mechanics, 2003, 18, 315-327.	2.7	142
112	Updating robust reliability using structural test data. Probabilistic Engineering Mechanics, 2001, 16, 103-113.	2.7	227
113	Optimal Sensor Placement Methodology for Identification with Unmeasured Excitation. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2001, 123, 677-686.	1.6	73
114	Closure to â€œNew Approximations for Reliability Integralsâ€•by David C. Polidori, James L. Beck, and Costas Papadimitriou. Journal of Engineering Mechanics - ASCE, 2001, 127, 207-209.	2.9	1
115	Treatment of Unidentifiability in Structural Model Updating. Advances in Structural Engineering, 2000, 3, 19-39.	2.4	39
116	A new stationary PDF approximation for non-linear oscillators. International Journal of Non-Linear Mechanics, 2000, 35, 657-673.	2.6	12
117	Direct derivation of response moment and cumulant equations for non-linear stochastic problems. International Journal of Non-Linear Mechanics, 2000, 35, 817-835.	2.6	7
118	Entropy-Based Optimal Sensor Location for Structural Model Updating. JVC/Journal of Vibration and Control, 2000, 6, 781-800.	2.6	276
119	New Approximations for Reliability Integrals. Journal of Engineering Mechanics - ASCE, 1999, 125, 466-475.	2.9	35
120	Asymptotic 2p-moment stability of stochastic linear systems. Mechanics Research Communications, 1999, 26, 21-29.	1.8	2
121	Response cumulants of nonlinear systems subject to external and multiplicative excitations. Probabilistic Engineering Mechanics, 1999, 14, 149-160.	2.7	9
122	Multi-criteria optimal structural design under uncertainty. Earthquake Engineering and Structural Dynamics, 1999, 28, 741-761.	4.4	53
123	A probabilistic approach to structural model updating. Soil Dynamics and Earthquake Engineering, 1998, 17, 495-507.	3.8	124
124	<title>Entropy-based optimal sensor location for structural damage detection</title>. , 1998, 3325, 161.		6
125	Mean-square stability of linear systems with small bounded stochastic perturbations of their coefficients. Mechanics Research Communications, 1997, 24, 231-236.	1.8	0
126	Stochastic cumulant analysis of MDOF systems with polynomial-type nonlinearities. Probabilistic Engineering Mechanics, 1996, 11, 1-13.	2.7	17

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127	Approximate analysis of response variability of uncertain linear systems. Probabilistic Engineering Mechanics, 1995, 10, 251-264.	2.7	33
128	Stochastic Response Cumulants of MDOF Linear Systems. Journal of Engineering Mechanics - ASCE, 1995, 121, 1181-1192.	2.9	11
129	Approximate analysis of higher cumulants for multi-degree-of-freedom random vibration. Probabilistic Engineering Mechanics, 1994, 9, 71-82.	2.7	12
130	Approximate Random Vibration Analysis of Classically Damped MDOF Systems. Journal of Engineering Mechanics - ASCE, 1994, 120, 75-96.	2.9	3
131	Moving resonance in nonlinear response to fully nonstationary stochastic ground motion. Probabilistic Engineering Mechanics, 1993, 8, 157-167.	2.7	39
132	Structural Dynamics: Recent Advances. Journal of Engineering Mechanics - ASCE, 1993, 119, 1505-1506.	2.9	4
133	Optimization Algorithms for System Integration. Advances in Science and Technology, 0, , .	0.2	0