Wei Chen

List of Publications by Citations

205 papers	**12,045** citations	**51** h-index	**106** g-index
216 ext. papers	**14,751** ext. citations	**4.1** avg, IF	**6.65** L-index

#	Paper	IF	Citations
205	Commentary: The Materials Project: A materials genome approach to accelerating materials innovation. *APL Materials*, **2013**, 1, 011002	5.7	4073
204	Sequential Optimization and Reliability Assessment Method for Efficient Probabilistic Design. *Journal of Mechanical Design, Transactions of the ASME*, **2004**, 126, 225-233	3	637
203	A Procedure for Robust Design: Minimizing Variations Caused by Noise Factors and Control Factors. *Journal of Mechanical Design, Transactions of the ASME*, **1996**, 118, 478-485	3	374
202	An efficient algorithm for constructing optimal design of computer experiments. *Journal of Statistical Planning and Inference*, **2005**, 134, 268-287	0.8	356
201	Towards a Better Understanding of Modeling Feasibility Robustness in Engineering Design. *Journal of Mechanical Design, Transactions of the ASME*, **2000**, 122, 385-394	3	237
200	A comparative study of uncertainty propagation methods for black-box-type problems. *Structural and Multidisciplinary Optimization*, **2009**, 37, 239-253	3.6	196
199	Level set based robust shape and topology optimization under random field uncertainties. *Structural and Multidisciplinary Optimization*, **2010**, 41, 507-524	3.6	181
198	An Integrated Framework for Optimization Under Uncertainty Using Inverse Reliability Strategy. *Journal of Mechanical Design, Transactions of the ASME*, **2004**, 126, 562-570	3	179
197	Quantification of Model Uncertainty: Calibration, Model Discrepancy, and Identifiability. *Journal of Mechanical Design, Transactions of the ASME*, **2012**, 134,	3	163
196	An Approach to Decision-Based Design With Discrete Choice Analysis for Demand Modeling. *Journal of Mechanical Design, Transactions of the ASME*, **2003**, 125, 490-497	3	155
195	Relative Entropy Based Method for Probabilistic Sensitivity Analysis in Engineering Design. *Journal of Mechanical Design, Transactions of the ASME*, **2006**, 128, 326	3	148
194	A Variation-Based Method for Product Family Design. *Engineering Optimization*, **2002**, 34, 65-81	2	134
193	Computational microstructure characterization and reconstruction: Review of the state-of-the-art techniques. *Progress in Materials Science*, **2018**, 95, 1-41	42.2	132
192	A market-driven approach to product family design. *International Journal of Production Research*, **2009**, 47, 71-104	7.8	122
191	Methodology for Managing the Effect of Uncertainty in Simulation-Based Design. *AIAA Journal*, **2000**, 38, 1471-1478	2.1	120
190	Analytical Variance-Based Global Sensitivity Analysis in Simulation-Based Design Under Uncertainty. *Journal of Mechanical Design, Transactions of the ASME*, **2005**, 127, 875	3	119
189	Stochastic microstructure characterization and reconstruction via supervised learning. *Acta Materialia*, **2016**, 103, 89-102	8.4	115

188	Understanding the Effects of Model Uncertainty in Robust Design With Computer Experiments. *Journal of Mechanical Design, Transactions of the ASME*, **2006**, 128, 945-958	3	113
187	Descriptor-based methodology for statistical characterization and 3D reconstruction of microstructural materials. *Computational Materials Science*, **2014**, 85, 206-216	3.2	101
186	Toward a Better Understanding of Model Validation Metrics. *Journal of Mechanical Design, Transactions of the ASME*, **2011**, 133,	3	101
185	A new level-set based approach to shape and topology optimization under geometric uncertainty. *Structural and Multidisciplinary Optimization*, **2011**, 44, 1-18	3.6	99
184	A non-stationary covariance-based Kriging method for metamodelling in engineering design. *International Journal for Numerical Methods in Engineering*, **2007**, 71, 733-756	2.4	99
183	A better understanding of model updating strategies in validating engineering models. *Computer Methods in Applied Mechanics and Engineering*, **2009**, 198, 1327-1337	5.7	98
182	Statistical volume element method for predicting microstructure constitutive property relations. *Computer Methods in Applied Mechanics and Engineering*, **2008**, 197, 3516-3529	5.7	93
181	Computational microstructure characterization and reconstruction for stochastic multiscale material design. *CAD Computer Aided Design*, **2013**, 45, 65-76	2.9	92
180	A new sparse grid based method for uncertainty propagation. *Structural and Multidisciplinary Optimization*, **2010**, 41, 335-349	3.6	89
179	Bayesian Validation of Computer Models. *Technometrics*, **2009**, 51, 439-451	1.4	88
178	A Most Probable Point-Based Method for Efficient Uncertainty Analysis. *Journal of Design and Manufacturing Automation*, **2001**, 4, 47-66		82
177	Concurrent topology optimization of multiscale structures with multiple porous materials under random field loading uncertainty. *Structural and Multidisciplinary Optimization*, **2017**, 56, 1-19	3.6	81
176	A Descriptor-Based Design Methodology for Developing Heterogeneous Microstructural Materials System. *Journal of Mechanical Design, Transactions of the ASME*, **2014**, 136, 051007	3	80
175	Microstructural Materials Design Via Deep Adversarial Learning Methodology. *Journal of Mechanical Design, Transactions of the ASME*, **2018**, 140,	3	80
174	Enhancing Discrete Choice Demand Modeling for Decision-Based Design. *Journal of Mechanical Design, Transactions of the ASME*, **2005**, 127, 514	3	76
173	Time-variant reliability assessment through equivalent stochastic process transformation. *Reliability Engineering and System Safety*, **2016**, 152, 166-175	6.3	72
172	Highly efficient light-trapping structure design inspired by natural evolution. *Scientific Reports*, **2013**, 3, 1025	4.9	71
171	Collaborative Reliability Analysis under the Framework of Multidisciplinary Systems Design. *Optimization and Engineering*, **2005**, 6, 63-84	2.1	71

170	A Machine Learning-Based Design Representation Method for Designing Heterogeneous Microstructures. *Journal of Mechanical Design, Transactions of the ASME*, **2015**, 137,	3	70
169	A Design-Driven Validation Approach Using Bayesian Prediction Models. *Journal of Mechanical Design, Transactions of the ASME*, **2008**, 130,	3	69
168	Confidence-based adaptive extreme response surface for time-variant reliability analysis under random excitation. *Structural Safety*, **2017**, 64, 76-86	4.9	67
167	Improving Identifiability in Model Calibration Using Multiple Responses. *Journal of Mechanical Design, Transactions of the ASME*, **2012**, 134,	3	64
166	A level set approach for optimal design of smart energy harvesters. *Computer Methods in Applied Mechanics and Engineering*, **2010**, 199, 2532-2543	5.7	63
165	Robust design with arbitrary distributions using Gauss-type quadrature formula. *Structural and Multidisciplinary Optimization*, **2009**, 39, 227-243	3.6	60
164	Uncertainty quantification in multiscale simulation of woven fiber composites. *Computer Methods in Applied Mechanics and Engineering*, **2018**, 338, 506-532	5.7	58
163	A New Variable-Fidelity Optimization Framework Based on Model Fusion and Objective-Oriented Sequential Sampling. *Journal of Mechanical Design, Transactions of the ASME*, **2008**, 130,	3	58
162	Lagrangian Coordination for Enhancing the Convergence of Analytical Target Cascading. *AIAA Journal*, **2006**, 44, 2197-2207	2.1	56
161	Reliability-Based Design Optimization with Model Bias and Data Uncertainty. *SAE International Journal of Materials and Manufacturing*, **2013**, 6, 502-516	1	54
160	A Robust Concept Exploration Method for Enhancing Productivity in Concurrent Systems Design. *Concurrent Engineering Research and Applications*, **1997**, 5, 203-217	1.7	54
159	A Transfer Learning Approach for Microstructure Reconstruction and Structure-property Predictions. *Scientific Reports*, **2018**, 8, 13461	4.9	54
158	Computational uncertainty analysis in multiresolution materials via stochastic constitutive theory. *Computer Methods in Applied Mechanics and Engineering*, **2011**, 200, 309-325	5.7	53
157	Efficient Random Field Uncertainty Propagation in Design Using Multiscale Analysis. *Journal of Mechanical Design, Transactions of the ASME*, **2009**, 131,	3	52
156	An integrated computational intelligence approach to product concept generation and evaluation. *Mechanism and Machine Theory*, **2006**, 41, 567-583	4	52
155	Machine-Learning-Assisted De Novo Design of Organic Molecules and Polymers: Opportunities and Challenges. *Polymers*, **2020**, 12,	4.5	51
154	Optimizing Latin hypercube design for sequential sampling of computer experiments. *Engineering Optimization*, **2009**, 41, 793-810	2	49
153	Concurrent treatment of parametric uncertainty and metamodeling uncertainty in robust design. *Structural and Multidisciplinary Optimization*, **2013**, 47, 63-76	3.6	48

152	Efficient 3D porous microstructure reconstruction via Gaussian random field and hybrid optimization. *Journal of Microscopy*, **2013**, 252, 135-48	1.9	47
151	Incorporating social impact on new product adoption in choice modeling: A case study in green vehicles. *Transportation Research, Part D: Transport and Environment*, **2014**, 32, 421-434	6.4	46
150	New validation metrics for models with multiple correlated responses. *Reliability Engineering and System Safety*, **2014**, 127, 1-11	6.3	41
149	Impact of vehicle usage on consumer choice of hybrid electric vehicles. *Transportation Research, Part D: Transport and Environment*, **2012**, 17, 208-214	6.4	36
148	Toward the development of a quantitative tool for predicting dispersion of nanocomposites under non-equilibrium processing conditions. *Journal of Materials Science*, **2016**, 51, 4238-4249	4.3	35
147	Complexity science of multiscale materials via stochastic computations. *International Journal for Numerical Methods in Engineering*, **2009**, 80, 932-978	2.4	35
146	Choice Modeling for Usage Context-Based Design. *Journal of Mechanical Design, Transactions of the ASME*, **2012**, 134,	3	35
145	Weighted stochastic response surface method considering sample weights. *Structural and Multidisciplinary Optimization*, **2011**, 43, 837-849	3.6	33
144	Deep generative modeling for mechanistic-based learning and design of metamaterial systems. *Computer Methods in Applied Mechanics and Engineering*, **2020**, 372, 113377	5.7	33
143	Utilizing real and statistically reconstructed microstructures for the viscoelastic modeling of polymer nanocomposites. *Composites Science and Technology*, **2012**, 72, 1725-1732	8.6	32
142	Leveraging the nugget parameter for efficient Gaussian process modeling. *International Journal for Numerical Methods in Engineering*, **2018**, 114, 501-516	2.4	31
141	Multiscale finite element modeling of sheet molding compound (SMC) composite structure based on stochastic mesostructure reconstruction. *Composite Structures*, **2018**, 188, 25-38	5.3	31
140	Decision-Based Design **2013**,		31
139	Perspective: NanoMine: A material genome approach for polymer nanocomposites analysis and design. *APL Materials*, **2016**, 4, 053204	5.7	31
138	Bayesian Optimization for Materials Design with Mixed Quantitative and Qualitative Variables. *Scientific Reports*, **2020**, 10, 4924	4.9	30
137	Identifying interphase properties in polymer nanocomposites using adaptive optimization. *Composites Science and Technology*, **2018**, 162, 146-155	8.6	30
136	Enhanced sequential optimization and reliability assessment method for probabilistic optimization with varying design variance. *Structure and Infrastructure Engineering*, **2006**, 2, 261-275	2.9	30
135	Multi-scale design of three dimensional woven composite automobile fender using modified particle swarm optimization algorithm. *Composite Structures*, **2017**, 181, 73-83	5.3	29

134	Materials by Design for Stiff and Tough Hairy Nanoparticle Assemblies. *ACS Nano*, **2018**, 12, 7946-7958	16.7	28
133	Characterization and Design of Functional Quasi-Random Nanostructured Materials Using Spectral Density Function. *Journal of Mechanical Design, Transactions of the ASME*, **2017**, 139,	3	27
132	Design for structural flexibility using connected morphable components based topology optimization. *Science China Technological Sciences*, **2016**, 59, 839-851	3.5	27
131	A hierarchical choice modelling approach for incorporating customer preferences in vehicle package design. *International Journal of Product Development*, **2009**, 8, 228	0.7	27
130	A Latent Variable Approach to Gaussian Process Modeling with Qualitative and Quantitative Factors. *Technometrics*, **2020**, 62, 291-302	1.4	27
129	. *IEEE Transactions on Engineering Management*, **2009**, 56, 271-284	2.6	26
128	Objective-Oriented Sequential Sampling for Simulation Based Robust Design Considering Multiple Sources of Uncertainty. *Journal of Mechanical Design, Transactions of the ASME*, **2013**, 135,	3	25
127	A preposterior analysis to predict identifiability in the experimental calibration of computer models. *IIE Transactions*, **2016**, 48, 75-88		24
126	Multimodel Fusion Based Sequential Optimization. *AIAA Journal*, **2017**, 55, 241-254	2.1	24
125	Integrated Bayesian Hierarchical Choice Modeling to Capture Heterogeneous Consumer Preferences in Engineering Design. *Journal of Mechanical Design, Transactions of the ASME*, **2010**, 132,	3	24
124	A Data-Driven Network Analysis Approach to Predicting Customer Choice Sets for Choice Modeling in Engineering Design. *Journal of Mechanical Design, Transactions of the ASME*, **2015**, 137,	3	23
123	Stochastic Reassembly Strategy for Managing Information Complexity in Heterogeneous Materials Analysis and Design. *Journal of Mechanical Design, Transactions of the ASME*, **2013**, 135,	3	22
122	Enhanced probabilistic analytical target cascading with application to multi-scale design. *Engineering Optimization*, **2010**, 42, 581-592	2	22
121	Target Exploration for Disconnected Feasible Regions in Enterprise-Driven Multilevel Product Design. *AIAA Journal*, **2006**, 44, 67-77	2.1	22
120	Robust topology optimization of multi-material lattice structures under material and load uncertainties. *Frontiers of Mechanical Engineering*, **2019**, 14, 141-152	3.3	22
119	Globally Approximate Gaussian Processes for Big Data With Application to Data-Driven Metamaterials Design. *Journal of Mechanical Design, Transactions of the ASME*, **2019**, 141,	3	21
118	Quantifying uncertainties in the microvascular transport of nanoparticles. *Biomechanics and Modeling in Mechanobiology*, **2014**, 13, 515-26	3.8	21
117	A Multiscale Design Methodology for Hierarchical Systems With Random Field Uncertainty. *Journal of Mechanical Design, Transactions of the ASME*, **2010**, 132,	3	21

116	Integrating Bayesian Calibration, Bias Correction, and Machine Learning for the 2014 Sandia Verification and Validation Challenge Problem. *Journal of Verification, Validation and Uncertainty Quantification*, **2016**, 1,	0.9	20
115	Optimal Experimental Design of Human Appraisals for Modeling Consumer Preferences in Engineering Design. *Journal of Mechanical Design, Transactions of the ASME*, **2009**, 131,	3	20
114	Multidisciplinary Statistical Sensitivity Analysis Considering Both Aleatory and Epistemic Uncertainties. *AIAA Journal*, **2016**, 54, 1326-1338	2.1	20
113	Solution Processing Dependent Bulk Heterojunction Nanomorphology of P3HT/PCBM Thin Films. *ACS Applied Materials & Interfaces*, **2019**, 11, 17056-17067	9.5	19
112	A generalized uncertainty propagation criterion from benchmark studies of microstructured material systems. *Computer Methods in Applied Mechanics and Engineering*, **2013**, 254, 271-291	5.7	19
111	Understanding and modelling heterogeneity of human preferences for engineering design. *Journal of Engineering Design*, **2011**, 22, 583-601	1.8	19
110	Connected morphable components-based multiscale topology optimization. *Frontiers of Mechanical Engineering*, **2019**, 14, 129-140	3.3	19
109	Composition and processing dependent miscibility of P3HT and PCBM in organic solar cells by coarse-grained molecular simulations. *Computational Materials Science*, **2018**, 155, 112-115	3.2	19
108	Stochastic Constitutive Model of Isotropic Thin Fiber Networks Based on Stochastic Volume Elements. *Materials*, **2019**, 12,	3.5	18
107	Improved particle swarm optimization algorithm using design of experiment and data mining techniques. *Structural and Multidisciplinary Optimization*, **2015**, 52, 813-826	3.6	18
106	Computational analysis of particle reinforced viscoelastic polymer nanocomposites statistical study of representative volume element. *Journal of the Mechanics and Physics of Solids*, **2018**, 114, 55-74	5	18
105	Reliability-based design optimization of composite battery box based on modified particle swarm optimization algorithm. *Composite Structures*, **2018**, 204, 239-255	5.3	18
104	Design of Non-Deterministic Quasi-random Nanophotonic Structures Using Fourier Space Representations. *Scientific Reports*, **2017**, 7, 3752	4.9	18
103	Microstructure reconstruction and structural equation modeling for computational design of nanodielectrics. *Integrating Materials and Manufacturing Innovation*, **2015**, 4, 209-234	2.9	18
102	Multiresponse and Multistage Metamodeling Approach for Design Optimization. *AIAA Journal*, **2009**, 47, 206-218	2.1	18
101	Data-Driven Topology Optimization With Multiclass Microstructures Using Latent Variable Gaussian Process. *Journal of Mechanical Design, Transactions of the ASME*, **2021**, 143,	3	18
100	Nonhierarchical multi-model fusion using spatial random processes. *International Journal for Numerical Methods in Engineering*, **2016**, 106, 503-526	2.4	18
99	A numerical Bayesian-calibrated characterization method for multiscale prepreg preforming simulations with tension-shear coupling. *Composites Science and Technology*, **2019**, 170, 15-24	8.6	18

98	Effect of polydispersity on the bulk-heterojunction morphology of P3HT:PCBM solar cells. *Journal of Polymer Science, Part B: Polymer Physics*, **2019**, 57, 895-903	2.6	17
97	A Hierarchical Statistical Sensitivity Analysis Method for Complex Engineering Systems Design. *Journal of Mechanical Design, Transactions of the ASME*, **2008**, 130,	3	17
96	NanoMine schema: An extensible data representation for polymer nanocomposites. *APL Materials*, **2018**, 6, 111108	5.7	17
95	A Deep Adversarial Learning Methodology for Designing Microstructural Material Systems **2018**,		17
94	Uncertainty propagation of frequency response functions using a multi-output Gaussian Process model. *Computers and Structures*, **2019**, 217, 1-17	4.5	16
93	A Spatial-Random-Process Based Multidisciplinary System Uncertainty Propagation Approach With Model Uncertainty. *Journal of Mechanical Design, Transactions of the ASME*, **2015**, 137,	3	16
92	A Hierarchical Statistical Sensitivity Analysis Method for Multilevel Systems With Shared Variables. *Journal of Mechanical Design, Transactions of the ASME*, **2010**, 132,	3	16
91	Modeling customer preferences using multidimensional network analysis in engineering design. *Design Science*, **2016**, 2,	2.8	16
90	A Spectral Density Function Approach for Active Layer Design of Organic Photovoltaic Cells. *Journal of Mechanical Design, Transactions of the ASME*, **2018**, 140,	3	15
89	The archetype-genome exemplar in molecular dynamics and continuum mechanics. *Computational Mechanics*, **2014**, 53, 687-737	4	15
88	Stochastic reconstruction and microstructure modeling of SMC chopped fiber composites. *Composite Structures*, **2018**, 200, 153-164	5.3	15
87	Analyzing and Predicting Heterogeneous Customer Preferences in China's Auto Market Using Choice Modeling and Network Analysis. *SAE International Journal of Materials and Manufacturing*, **2015**, 8, 668-677	1	14
86	Topology optimization and fabrication of low frequency vibration energy harvesting microdevices. *Smart Materials and Structures*, **2015**, 24, 025005	3.4	14
85	Reduction of Epistemic Model Uncertainty in Simulation-Based Multidisciplinary Design. *Journal of Mechanical Design, Transactions of the ASME*, **2016**, 138,	3	13
84	Designing anisotropic microstructures with spectral density function. *Computational Materials Science*, **2020**, 179, 109559	3.2	12
83	Mining structure–property relationships in polymer nanocomposites using data driven finite element analysis and multi-task convolutional neural networks. *Molecular Systems Design and Engineering*, **2020**, 5, 962-975	4.6	12
82	Predicting the breakdown strength and lifetime of nanocomposites using a multi-scale modeling approach. *Journal of Applied Physics*, **2017**, 122, 065101	2.5	12
81	Characterization of the Optical Properties of Turbid Media by Supervised Learning of Scattering Patterns. *Scientific Reports*, **2017**, 7, 15259	4.9	12

80	Some Metrics and a Bayesian Procedure for Validating Predictive Models in Engineering Design **2006**,		12
79	A Network-Based Approach to Modeling and Predicting Product Coconsideration Relations. *Complexity*, **2018**, 2018, 1-14	1.6	12
78	A Most Probable Point-Based Method for Efficient Uncertainty Analysis. *Journal of Design and Manufacturing Automation*, **2001**, 1, 47-65		11
77	A numerical study of the overall stability of flexible giant crane booms. *Journal of Constructional Steel Research*, **2015**, 105, 12-27	3.8	10
76	Featureless adaptive optimization accelerates functional electronic materials design. *Applied Physics Reviews*, **2020**, 7, 041403	17.3	10
75	Data-driven metamaterial design with Laplace-Beltrami spectrum as Bhape-DNAB*Structural and Multidisciplinary Optimization*, **2020**, 61, 2613-2628	3.6	10
74	Examination of customer satisfaction surveys in choice modelling to support engineering design. *Journal of Engineering Design*, **2011**, 22, 669-687	1.8	10
73	Predicting product co-consideration and market competitions for technology-driven product design: a network-based approach. *Design Science*, **2018**, 4,	2.8	9
72	A System Uncertainty Propagation Approach With Model Uncertainty Quantification in Multidisciplinary Design **2014**,		9
71	Determination of ranged sets of design specifications by incorporating design-space heterogeneity. *Engineering Optimization*, **2008**, 40, 1011-1029	2	9
70	Transfer Learned Designer Polymers For Organic Solar Cells. *Journal of Chemical Information and Modeling*, **2021**, 61, 134-142	6.1	9
69	New Metrics for Validation of Data-Driven Random Process Models in Uncertainty Quantification. *Journal of Verification, Validation and Uncertainty Quantification*, **2016**, 1,	0.9	8
68	Topology optimization for light-trapping structure in solar cells. *Structural and Multidisciplinary Optimization*, **2014**, 50, 367-382	3.6	8
67	Analyzing Customer Preference to Product Optional Features in Supporting Product Configuration. *SAE International Journal of Materials and Manufacturing*, **2017**, 10, 320-332	1	8
66	Two-Stage Modeling of Customer Choice Preferences in Engineering Design Using Bipartite Network Analysis **2017**,		7
65	SURROGATE PREPOSTERIOR ANALYSES FOR PREDICTING AND ENHANCING IDENTIFIABILITY IN MODEL CALIBRATION **2015**, 5, 341-359		7
64	METASET: Exploring Shape and Property Spaces for Data-Driven Metamaterials Design. *Journal of Mechanical Design, Transactions of the ASME*, **2021**, 143,	3	7
63	Data-Centric Mixed-Variable Bayesian Optimization for Materials Design **2019**,		7

62	Polymer Nanocomposite Data: Curation, Frameworks, Access, and Potential for Discovery and Design. *ACS Macro Letters*, **2020**, 9, 1086-1094	6.6	7
61	Modeling Spatiotemporal Heterogeneity of Customer Preferences in Engineering Design **2018**,		7
60	Rethinking interphase representations for modeling viscoelastic properties for polymer nanocomposites. *Materialia*, **2019**, 6, 100277	3.2	6
59	Elasto-morphology of P3HT:PCBM bulk heterojunction organic solar cells. *Soft Matter*, **2020**, 16, 6743-6756	3.6	6
58	Enhanced Collaborative Optimization Using Alternating Direction Method of Multipliers. *Structural and Multidisciplinary Optimization*, **2018**, 58, 1571-1588	3.6	6
57	Enhanced Gaussian Process Metamodeling and Collaborative Optimization for Vehicle Suspension Design Optimization **2017**,		6
56	A Hybrid Approach to 3D Porous Microstructure Reconstruction via Gaussian Random Field **2012**,		6
55	Machine learned metaheuristic optimization of the bulk heterojunction morphology in P3HT:PCBM thin films. *Computational Materials Science*, **2021**, 187, 110119	3.2	6
54	Maximizing Solar Energy Utilization through Multicriteria Pareto Optimization of Energy Harvesting and Regulating Smart Windows. *Cell Reports Physical Science*, **2020**, 1, 100108	6.1	5
53	Input Mapping for Model Calibration with Application to Wing Aerodynamics. *AIAA Journal*, **2019**, 57, 2734-2745	2.1	5
52	Scalable Adaptive Batch Sampling in Simulation-Based Design With Heteroscedastic Noise. *Journal of Mechanical Design, Transactions of the ASME*, **2021**, 143,	3	5
51	Forecasting Technological Impacts on Customers Co-Consideration Behaviors: A Data-Driven Network Analysis Approach **2016**,		5
50	A Spectral Density Function Approach for Design of Organic Photovoltaic Cells **2018**,		5
49	Stability-ensured topology optimization of boom structures with volume and stress considerations. *Structural and Multidisciplinary Optimization*, **2017**, 55, 493-512	3.6	4
48	Updating Predictive Models: Calibration, Bias Correction and Identifiability **2010**,		4
47	Towards A Better Understanding of Model Validation Metrics **2010**,		4
46	Integration of Normative Decision-Making and Batch Sampling for Global Metamodeling. *Journal of Mechanical Design, Transactions of the ASME*, **2020**, 142,	3	4
45	Data-driven and topological design of structural metamaterials for fracture resistance. *Extreme Mechanics Letters*, **2022**, 50, 101528	3.9	4

44	Data centric nanocomposites design via mixed-variable Bayesian optimization. *Molecular Systems Design and Engineering*, **2020**, 5, 1376-1390	4.6	4
43	Investigating the effect of surface modification on the dispersion process of polymer nanocomposites. *Nanocomposites*, **2020**, 6, 111-124	3.4	4
42	Multi-Model Bayesian Optimization for Simulation-Based Design. *Journal of Mechanical Design, Transactions of the ASME*, **2021**, 143,	3	4
41	A modified particle swarm optimisation algorithm and its application in vehicle lightweight design. *International Journal of Vehicle Design*, **2017**, 73, 116	2.4	3
40	A Multidimensional Network Approach for Modeling Customer-Product Relations in Engineering Design **2015**,		3
39	Descriptor-Based Methodology for Designing Heterogeneous Microstructural Materials System **2013**,		3
38	Level Set Based Robust Shape and Topology Optimization Under Random Field Uncertainties **2009**,		3
37	Microstructure Reconstruction for Stochastic Multiscale Material Design **2011**,		3
36	A Multiscale Design Approach With Random Field Representation of Material Uncertainty **2008**,		3
35	A New Variable Fidelity Optimization Framework Based on Model Fusion and Objective-Oriented Sequential Sampling **2007**, 699		3
34	A Machine Learning-Based Design Representation Method for Designing Heterogeneous Microstructures **2014**,		3
33	Stochastic nonlinear analysis of unidirectional fiber composites using image-based microstructural uncertainty quantification. *Composite Structures*, **2021**, 260, 113470	5.3	3
32	An integrated computational materials engineering method for woven carbon fiber composites preforming process **2016**,		3
31	A Choice Modeling Approach for Usage Context-Based Design **2013**, 255-285		3
30	Fundamentals of Analytical Techniques for Modeling Consumer Preferences and Choices **2013**, 35-77		3
29	A New Weighted Stochastic Response Surface Method for Uncertainty Propagation **2010**,		2
28	Systematic Coarse-graining of Epoxy Resins with Machine Learning-Informed Energy Renormalization. *Npj Computational Materials*, **2021**, 7,	10.9	2
27	Elongated Nanodomains and Molecular Intermixing Induced Doping in Organic Photovoltaic Active Layers with Electric Field Treatment. *ACS Applied Polymer Materials*, **2020**, 2, 335-341	4.3	2

26	Scalable Gaussian Processes for Data-Driven Design Using Big Data With Categorical Factors. *Journal of Mechanical Design, Transactions of the ASME*, **2022**, 144,	3	2
25	Mechanical cloak via data-driven aperiodic metamaterial design.. *Proceedings of the National Academy of Sciences of the United States of America*, **2022**, 119, e2122185119	11.5	2
24	A mode tracking method in modal metamodeling for structures with clustered eigenvalues. *Computer Methods in Applied Mechanics and Engineering*, **2020**, 369, 113174	5.7	1
23	Robust Multi-material Topology Optimization for Lattice Structure Under Material Uncertainties **2018**, 1110-1123		1
22	A Decision-Based Design Approach to Product Family Design **2013**, 287-317		1
21	Incorporating Social Impact on New Product Adoption in Choice Modeling: A Case Study in Green Vehicles **2012**,		1
20	A New Sparse Grid Based Method for Uncertainty Propagation **2009**,		1
19	Materials Informatics and Data System for Polymer Nanocomposites Analysis and Design **2020**, 65-125		1
18	Data-driven multiscale design of cellular composites with multiclass microstructures for natural frequency maximization. *Composite Structures*, **2021**, 280, 114949	5.3	1
17	Data-Driven Multiscale Science for Tire Compounding: Methods and Future Directions. *Springer Series in Materials Science*, **2021**, 281-312	0.9	1
16	A new sparse grid based method for uncertainty propagation **2010**, 41, 335		1
15	Multi-response Approach to Improving Identifiability in Model Calibration **2017**, 69-127		1
14	Modeling Multi-Year Customers Considerations and Choices in China Auto Market Using Two-Stage Bipartite Network Analysis. *Networks and Spatial Economics*, **2021**, 21, 365-385	1.9	1
13	Multiscale simulation of fiber composites with spatially varying uncertainties **2020**, 355-384		1
12	IH-GAN: A conditional generative model for implicit surface-based inverse design of cellular structures. *Computer Methods in Applied Mechanics and Engineering*, **2022**, 396, 115060	5.7	1
11	A Weighted Statistical Network Modeling Approach to Product Competition Analysis. *Complexity*, **2022**, 2022, 1-16	1.6	0
10	Nonstationarity Analysis of Materials Microstructures via Fisher Score Vectors. *Acta Materialia*, **2021**, 211, 116818	8.4	0
9	Dynamic Control of Plasmonic Localization by Inverse Optimization of Spatial Phase Modulation. *ACS Photonics*, **2022**, 9, 351-359	6.3	0

LIST OF PUBLICATIONS

| 8 | Generalized de-homogenization via sawtooth-function-based mapping and its demonstration on data-driven frequency response optimization. *Computer Methods in Applied Mechanics and Engineering*, **2022**, 395, 114967 | 5.7 | 0 |

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