# Wei Chen

## List of Publications by Year in Descending Order



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 | Data-driven and topological design of structural metamaterials for fracture resistance. *Extreme Mechanics Letters*, **2022**, 50, 101528 | 3.9 | 4 |
| 204 | A Weighted Statistical Network Modeling Approach to Product Competition Analysis. *Complexity*, **2022**, 2022, 1-16 | 1.6 | 0 |
| 203 | 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 |
| 202 | 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 |
| 201 | Dynamic Control of Plasmonic Localization by Inverse Optimization of Spatial Phase Modulation. *ACS Photonics*, **2022**, 9, 351-359 | 6.3 | 0 |
| 200 | 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 |
| 199 | Designing active layer of organic solar cells using multi-fidelity molecular simulations and spectral density function. *Computational Materials Science*, **2022**, 211, 111491 | 3.2 | |
| 198 | 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 |
| 197 | Data-Driven Topology Optimization With Multiclass Microstructures Using Latent Variable Gaussian Process. *Journal of Mechanical Design, Transactions of the ASME*, **2021**, 143, | 3 | 18 |
| 196 | METASET: Exploring Shape and Property Spaces for Data-Driven Metamaterials Design. *Journal of Mechanical Design, Transactions of the ASME*, **2021**, 143, | 3 | 7 |
| 195 | Scalable Adaptive Batch Sampling in Simulation-Based Design With Heteroscedastic Noise. *Journal of Mechanical Design, Transactions of the ASME*, **2021**, 143, | 3 | 5 |
| 194 | Data-driven multiscale design of cellular composites with multiclass microstructures for natural frequency maximization. *Composite Structures*, **2021**, 280, 114949 | 5.3 | 1 |
| 193 | Direct Observations of Uniform Bulk Heterojunctions and the Energy Level Alignments in Nonfullerene Organic Photovoltaic Active Layers. *ACS Applied Materials & Interfaces*, **2021**, 13, 56430-56437 | 8.5 | |
| 192 | Systematic Coarse-graining of Epoxy Resins with Machine Learning-Informed Energy Renormalization. *Npj Computational Materials*, **2021**, 7, | 10.9 | 2 |
| 191 | Data-Driven Multiscale Science for Tire Compounding: Methods and Future Directions. *Springer Series in Materials Science*, **2021**, 281-312 | 0.9 | 1 |
| 190 | Stochastic nonlinear analysis of unidirectional fiber composites using image-based microstructural uncertainty quantification. *Composite Structures*, **2021**, 260, 113470 | 5.3 | 3 |
| 189 | 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 |

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| 188 | Latent variable Gaussian process models: A rank-based analysis and an alternative approach. *International Journal for Numerical Methods in Engineering*, **2021**, 122, 4007-4026 | 2.4 | |
| 187 | Multi-Model Bayesian Optimization for Simulation-Based Design. *Journal of Mechanical Design, Transactions of the ASME*, **2021**, 143, | 3 | 4 |
| 186 | Nonstationarity Analysis of Materials Microstructures via Fisher Score Vectors. *Acta Materialia*, **2021**, 211, 116818 | 8.4 | 0 |
| 185 | Machine learned metaheuristic optimization of the bulk heterojunction morphology in P3HT:PCBM thin films. *Computational Materials Science*, **2021**, 187, 110119 | 3.2 | 6 |
| 184 | Transfer Learned Designer Polymers For Organic Solar Cells. *Journal of Chemical Information and Modeling*, **2021**, 61, 134-142 | 6.1 | 9 |
| 183 | Data-Driven Preference Modelling in Engineering Systems Design **2021**, 1-34 | | |
| 182 | Featureless adaptive optimization accelerates functional electronic materials design. *Applied Physics Reviews*, **2020**, 7, 041403 | 17.3 | 10 |
| 181 | Elasto-morphology of P3HT:PCBM bulk heterojunction organic solar cells. *Soft Matter*, **2020**, 16, 6743-6754 | 3.6 | 6 |
| 180 | Bayesian Optimization for Materials Design with Mixed Quantitative and Qualitative Variables. *Scientific Reports*, **2020**, 10, 4924 | 4.9 | 30 |
| 179 | Impact of interfacial properties on the viscoelastic relaxation of hard–soft block copolymers using finite element analysis. *Journal of Materials Research*, **2020**, 35, 1857-1873 | 2.5 | |
| 178 | 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 |
| 177 | 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 |
| 176 | Data-driven metamaterial design with Laplace-Beltrami spectrum as "shape-DNA". *Structural and Multidisciplinary Optimization*, **2020**, 61, 2613-2628 | 3.6 | 10 |
| 175 | Machine-Learning-Assisted De Novo Design of Organic Molecules and Polymers: Opportunities and Challenges. *Polymers*, **2020**, 12, | 4.5 | 51 |
| 174 | Designing anisotropic microstructures with spectral density function. *Computational Materials Science*, **2020**, 179, 109559 | 3.2 | 12 |
| 173 | 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 |
| 172 | Integration of Normative Decision-Making and Batch Sampling for Global Metamodeling. *Journal of Mechanical Design, Transactions of the ASME*, **2020**, 142, | 3 | 4 |
| 171 | Materials Informatics and Data System for Polymer Nanocomposites Analysis and Design **2020**, 65-125 | | 1 |

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|---|---|---|---|
| 170 | 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 |
| 169 | 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 |
| 168 | Polymer Nanocomposite Data: Curation, Frameworks, Access, and Potential for Discovery and Design. *ACS Macro Letters*, **2020**, 9, 1086-1094 | 6.6 | 7 |
| 167 | Data centric nanocomposites design via mixed-variable Bayesian optimization. *Molecular Systems Design and Engineering*, **2020**, 5, 1376-1390 | 4.6 | 4 |
| 166 | Investigating the effect of surface modification on the dispersion process of polymer nanocomposites. *Nanocomposites*, **2020**, 6, 111-124 | 3.4 | 4 |
| 165 | A Latent Variable Approach to Gaussian Process Modeling with Qualitative and Quantitative Factors. *Technometrics*, **2020**, 62, 291-302 | 1.4 | 27 |
| 164 | Multiscale simulation of fiber composites with spatially varying uncertainties **2020**, 355-384 | | 1 |
| 163 | Stochastic Constitutive Model of Isotropic Thin Fiber Networks Based on Stochastic Volume Elements. *Materials*, **2019**, 12, | 3.5 | 18 |
| 162 | Solution Processing Dependent Bulk Heterojunction Nanomorphology of P3HT/PCBM Thin Films. *ACS Applied Materials & Interfaces*, **2019**, 11, 17056-17067 | 9.5 | 19 |
| 161 | Uncertainty propagation of frequency response functions using a multi-output Gaussian Process model. *Computers and Structures*, **2019**, 217, 1-17 | 4.5 | 16 |
| 160 | Rethinking interphase representations for modeling viscoelastic properties for polymer nanocomposites. *Materialia*, **2019**, 6, 100277 | 3.2 | 6 |
| 159 | Input Mapping for Model Calibration with Application to Wing Aerodynamics. *AIAA Journal*, **2019**, 57, 2734-2745 | 2.1 | 5 |
| 158 | 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 |
| 157 | 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 |
| 156 | Data-Centric Mixed-Variable Bayesian Optimization for Materials Design **2019**, | | 7 |
| 155 | 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 |
| 154 | Robust topology optimization of multi-material lattice structures under material and load uncertainties. *Frontiers of Mechanical Engineering*, **2019**, 14, 141-152 | 3.3 | 22 |
| 153 | Connected morphable components-based multiscale topology optimization. *Frontiers of Mechanical Engineering*, **2019**, 14, 129-140 | 3.3 | 19 |

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| 152 | 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 |
| 151 | Computational microstructure characterization and reconstruction: Review of the state-of-the-art techniques. *Progress in Materials Science*, **2018**, 95, 1-41 | 42.2 | 132 |
| 150 | Leveraging the nugget parameter for efficient Gaussian process modeling. *International Journal for Numerical Methods in Engineering*, **2018**, 114, 501-516 | 2.4 | 31 |
| 149 | Robust Multi-material Topology Optimization for Lattice Structure Under Material Uncertainties **2018**, 1110-1123 | | 1 |
| 148 | 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 |
| 147 | Identifying interphase properties in polymer nanocomposites using adaptive optimization. *Composites Science and Technology*, **2018**, 162, 146-155 | 8.6 | 30 |
| 146 | Uncertainty quantification in multiscale simulation of woven fiber composites. *Computer Methods in Applied Mechanics and Engineering*, **2018**, 338, 506-532 | 5.7 | 58 |
| 145 | Reliability-based design optimization of composite battery box based on modified particle swarm optimization algorithm. *Composite Structures*, **2018**, 204, 239-255 | 5.3 | 18 |
| 144 | Enhanced Collaborative Optimization Using Alternating Direction Method of Multipliers. *Structural and Multidisciplinary Optimization*, **2018**, 58, 1571-1588 | 3.6 | 6 |
| 143 | Predicting product co-consideration and market competitions for technology-driven product design: a network-based approach. *Design Science*, **2018**, 4, | 2.8 | 9 |
| 142 | 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 |
| 141 | NanoMine schema: An extensible data representation for polymer nanocomposites. *APL Materials*, **2018**, 6, 111108 | 5.7 | 17 |
| 140 | Modeling Spatiotemporal Heterogeneity of Customer Preferences in Engineering Design **2018**, | | 7 |
| 139 | A Spectral Density Function Approach for Design of Organic Photovoltaic Cells **2018**, | | 5 |
| 138 | A Deep Adversarial Learning Methodology for Designing Microstructural Material Systems **2018**, | | 17 |
| 137 | A Transfer Learning Approach for Microstructure Reconstruction and Structure-property Predictions. *Scientific Reports*, **2018**, 8, 13461 | 4.9 | 54 |
| 136 | Microstructural Materials Design Via Deep Adversarial Learning Methodology. *Journal of Mechanical Design, Transactions of the ASME*, **2018**, 140, | 3 | 80 |
| 135 | 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 |

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|---|---|---|---|
| 134 | A Network-Based Approach to Modeling and Predicting Product Coconsideration Relations. *Complexity*, **2018**, 2018, 1-14 | 1.6 | 12 |
| 133 | Materials by Design for Stiff and Tough Hairy Nanoparticle Assemblies. *ACS Nano*, **2018**, 12, 7946-7958 | 16.7 | 28 |
| 132 | Stochastic reconstruction and microstructure modeling of SMC chopped fiber composites. *Composite Structures*, **2018**, 200, 153-164 | 5.3 | 15 |
| 131 | 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 |
| 130 | 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 |
| 129 | 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 |
| 128 | Design of Non-Deterministic Quasi-random Nanophotonic Structures Using Fourier Space Representations. *Scientific Reports*, **2017**, 7, 3752 | 4.9 | 18 |
| 127 | Predicting the breakdown strength and lifetime of nanocomposites using a multi-scale modeling approach. *Journal of Applied Physics*, **2017**, 122, 065101 | 2.5 | 12 |
| 126 | Characterization of the Optical Properties of Turbid Media by Supervised Learning of Scattering Patterns. *Scientific Reports*, **2017**, 7, 15259 | 4.9 | 12 |
| 125 | Enhanced Gaussian Process Metamodeling and Collaborative Optimization for Vehicle Suspension Design Optimization **2017**, | | 6 |
| 124 | Two-Stage Modeling of Customer Choice Preferences in Engineering Design Using Bipartite Network Analysis **2017**, | | 7 |
| 123 | Confidence-based adaptive extreme response surface for time-variant reliability analysis under random excitation. *Structural Safety*, **2017**, 64, 76-86 | 4.9 | 67 |
| 122 | Stability-ensured topology optimization of boom structures with volume and stress considerations. *Structural and Multidisciplinary Optimization*, **2017**, 55, 493-512 | 3.6 | 4 |
| 121 | Multimodel Fusion Based Sequential Optimization. *AIAA Journal*, **2017**, 55, 241-254 | 2.1 | 24 |
| 120 | A modified particle swarm optimisation algorithm and its application in vehicle lightweight design. *International Journal of Vehicle Design*, **2017**, 73, 116 | 2.4 | 3 |
| 119 | Analyzing Customer Preference to Product Optional Features in Supporting Product Configuration. *SAE International Journal of Materials and Manufacturing*, **2017**, 10, 320-332 | 1 | 8 |
| 118 | Multi-response Approach to Improving Identifiability in Model Calibration **2017**, 69-127 | | 1 |
| 117 | A preposterior analysis to predict identifiability in the experimental calibration of computer models. *IIE Transactions*, **2016**, 48, 75-88 | | 24 |

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| 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 | 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 |
| 114 | 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 |
| 113 | Design for structural flexibility using connected morphable components based topology optimization. *Science China Technological Sciences*, **2016**, 59, 839-851 | 3.5 | 27 |
| 112 | Stochastic microstructure characterization and reconstruction via supervised learning. *Acta Materialia*, **2016**, 103, 89-102 | 8.4 | 115 |
| 111 | Nonhierarchical multi-model fusion using spatial random processes. *International Journal for Numerical Methods in Engineering*, **2016**, 106, 503-526 | 2.4 | 18 |
| 110 | An integrated computational materials engineering method for woven carbon fiber composites preforming process **2016**, | | 3 |
| 109 | Reduction of Epistemic Model Uncertainty in Simulation-Based Multidisciplinary Design. *Journal of Mechanical Design, Transactions of the ASME*, **2016**, 138, | 3 | 13 |
| 108 | Perspective: NanoMine: A material genome approach for polymer nanocomposites analysis and design. *APL Materials*, **2016**, 4, 053204 | 5.7 | 31 |
| 107 | Forecasting Technological Impacts on Customers□Co-Consideration Behaviors: A Data-Driven Network Analysis Approach **2016**, | | 5 |
| 106 | Modeling customer preferences using multidimensional network analysis in engineering design. *Design Science*, **2016**, 2, | 2.8 | 16 |
| 105 | Time-variant reliability assessment through equivalent stochastic process transformation. *Reliability Engineering and System Safety*, **2016**, 152, 166-175 | 6.3 | 72 |
| 104 | Multidisciplinary Statistical Sensitivity Analysis Considering Both Aleatory and Epistemic Uncertainties. *AIAA Journal*, **2016**, 54, 1326-1338 | 2.1 | 20 |
| 103 | Improved particle swarm optimization algorithm using design of experiment and data mining techniques. *Structural and Multidisciplinary Optimization*, **2015**, 52, 813-826 | 3.6 | 18 |
| 102 | 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 |
| 101 | A numerical study of the overall stability of flexible giant crane booms. *Journal of Constructional Steel Research*, **2015**, 105, 12-27 | 3.8 | 10 |
| 100 | Multi-response Approach to Improving Identifiability in Model Calibration **2015**, 1-59 | | |
| 99 | A Multidimensional Network Approach for Modeling Customer-Product Relations in Engineering Design **2015**, | | 3 |

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| 98 | Microstructure reconstruction and structural equation modeling for computational design of nanodielectrics. *Integrating Materials and Manufacturing Innovation*, **2015**, 4, 209-234 | 2.9 | 18 |
| 97 | SURROGATE PREPOSTERIOR ANALYSES FOR PREDICTING AND ENHANCING IDENTIFIABILITY IN MODEL CALIBRATION **2015**, 5, 341-359 | | 7 |
| 96 | 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 |
| 95 | 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 |
| 94 | A Machine Learning-Based Design Representation Method for Designing Heterogeneous Microstructures. *Journal of Mechanical Design, Transactions of the ASME*, **2015**, 137, | 3 | 70 |
| 93 | Topology optimization and fabrication of low frequency vibration energy harvesting microdevices. *Smart Materials and Structures*, **2015**, 24, 025005 | 3.4 | 14 |
| 92 | The archetype-genome exemplar in molecular dynamics and continuum mechanics. *Computational Mechanics*, **2014**, 53, 687-737 | 4 | 15 |
| 91 | 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 |
| 90 | Topology optimization for light-trapping structure in solar cells. *Structural and Multidisciplinary Optimization*, **2014**, 50, 367-382 | 3.6 | 8 |
| 89 | New validation metrics for models with multiple correlated responses. *Reliability Engineering and System Safety*, **2014**, 127, 1-11 | 6.3 | 41 |
| 88 | A System Uncertainty Propagation Approach With Model Uncertainty Quantification in Multidisciplinary Design **2014**, | | 9 |
| 87 | A Descriptor-Based Design Methodology for Developing Heterogeneous Microstructural Materials System. *Journal of Mechanical Design, Transactions of the ASME*, **2014**, 136, 051007 | 3 | 80 |
| 86 | Descriptor-based methodology for statistical characterization and 3D reconstruction of microstructural materials. *Computational Materials Science*, **2014**, 85, 206-216 | 3.2 | 101 |
| 85 | Quantifying uncertainties in the microvascular transport of nanoparticles. *Biomechanics and Modeling in Mechanobiology*, **2014**, 13, 515-26 | 3.8 | 21 |
| 84 | A Machine Learning-Based Design Representation Method for Designing Heterogeneous Microstructures **2014**, | | 3 |
| 83 | Commentary: The Materials Project: A materials genome approach to accelerating materials innovation. *APL Materials*, **2013**, 1, 011002 | 5.7 | 4073 |
| 82 | Efficient 3D porous microstructure reconstruction via Gaussian random field and hybrid optimization. *Journal of Microscopy*, **2013**, 252, 135-48 | 1.9 | 47 |
| 81 | Concurrent treatment of parametric uncertainty and metamodeling uncertainty in robust design. *Structural and Multidisciplinary Optimization*, **2013**, 47, 63-76 | 3.6 | 48 |

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| 80 | 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 |
| 79 | Computational microstructure characterization and reconstruction for stochastic multiscale material design. *CAD Computer Aided Design*, **2013**, 45, 65-76 | 2.9 | 92 |
| 78 | Descriptor-Based Methodology for Designing Heterogeneous Microstructural Materials System **2013**, | | 3 |
| 77 | 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 |
| 76 | 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 |
| 75 | Decision-Based Design **2013**, | | 31 |
| 74 | Highly efficient light-trapping structure design inspired by natural evolution. *Scientific Reports*, **2013**, 3, 1025 | 4.9 | 71 |
| 73 | A Decision-Based Design Approach to Product Family Design **2013**, 287-317 | | 1 |
| 72 | Reliability-Based Design Optimization with Model Bias and Data Uncertainty. *SAE International Journal of Materials and Manufacturing*, **2013**, 6, 502-516 | 1 | 54 |
| 71 | Data Analysis Techniques to Support Demand Model Estimation **2013**, 163-202 | | |
| 70 | A Choice Modeling Approach for Usage Context-Based Design **2013**, 255-285 | | 3 |
| 69 | Fundamentals of Analytical Techniques for Modeling Consumer Preferences and Choices **2013**, 35-77 | | 3 |
| 68 | 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 |
| 67 | Utilizing real and statistically reconstructed microstructures for the viscoelastic modeling of polymer nanocomposites. *Composites Science and Technology*, **2012**, 72, 1725-1732 | 8.6 | 32 |
| 66 | A Hybrid Approach to 3D Porous Microstructure Reconstruction via Gaussian Random Field **2012**, | | 6 |
| 65 | Quantification of Model Uncertainty: Calibration, Model Discrepancy, and Identifiability. *Journal of Mechanical Design, Transactions of the ASME*, **2012**, 134, | 3 | 163 |
| 64 | Choice Modeling for Usage Context-Based Design. *Journal of Mechanical Design, Transactions of the ASME*, **2012**, 134, | 3 | 35 |
| 63 | Improving Identifiability in Model Calibration Using Multiple Responses. *Journal of Mechanical Design, Transactions of the ASME*, **2012**, 134, | 3 | 64 |

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| 62 | Incorporating Social Impact on New Product Adoption in Choice Modeling: A Case Study in Green Vehicles **2012**, | | 1 |
| 61 | Weighted stochastic response surface method considering sample weights. *Structural and Multidisciplinary Optimization*, **2011**, 43, 837-849 | 3.6 | 33 |
| 60 | 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 |
| 59 | Understanding and modelling heterogeneity of human preferences for engineering design. *Journal of Engineering Design*, **2011**, 22, 583-601 | 1.8 | 19 |
| 58 | Computational uncertainty analysis in multiresolution materials via stochastic constitutive theory. *Computer Methods in Applied Mechanics and Engineering*, **2011**, 200, 309-325 | 5.7 | 53 |
| 57 | Examination of customer satisfaction surveys in choice modelling to support engineering design. *Journal of Engineering Design*, **2011**, 22, 669-687 | 1.8 | 10 |
| 56 | Microstructure Reconstruction for Stochastic Multiscale Material Design **2011**, | | 3 |
| 55 | Toward a Better Understanding of Model Validation Metrics. *Journal of Mechanical Design, Transactions of the ASME*, **2011**, 133, | 3 | 101 |
| 54 | A New Weighted Stochastic Response Surface Method for Uncertainty Propagation **2010**, | | 2 |
| 53 | Enhanced probabilistic analytical target cascading with application to multi-scale design. *Engineering Optimization*, **2010**, 42, 581-592 | 2 | 22 |
| 52 | 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 |
| 51 | A Hierarchical Statistical Sensitivity Analysis Method for Multilevel Systems With Shared Variables. *Journal of Mechanical Design, Transactions of the ASME*, **2010**, 132, | 3 | 16 |
| 50 | A Multiscale Design Methodology for Hierarchical Systems With Random Field Uncertainty. *Journal of Mechanical Design, Transactions of the ASME*, **2010**, 132, | 3 | 21 |
| 49 | Updating Predictive Models: Calibration, Bias Correction and Identifiability **2010**, | | 4 |
| 48 | Towards A Better Understanding of Model Validation Metrics **2010**, | | 4 |
| 47 | A new sparse grid based method for uncertainty propagation. *Structural and Multidisciplinary Optimization*, **2010**, 41, 335-349 | 3.6 | 89 |
| 46 | Level set based robust shape and topology optimization under random field uncertainties. *Structural and Multidisciplinary Optimization*, **2010**, 41, 507-524 | 3.6 | 181 |
| 45 | 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 |

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| 44 | A new sparse grid based method for uncertainty propagation **2010**, 41, 335 | | 1 |
| 43 | Level Set Based Robust Shape and Topology Optimization Under Random Field Uncertainties **2009**, | | 3 |
| 42 | Multiresponse and Multistage Metamodeling Approach for Design Optimization. *AIAA Journal*, **2009**, 47, 206-218 | 2.1 | 18 |
| 41 | Efficient Random Field Uncertainty Propagation in Design Using Multiscale Analysis. *Journal of Mechanical Design, Transactions of the ASME*, **2009**, 131, | 3 | 52 |
| 40 | Optimizing Latin hypercube design for sequential sampling of computer experiments. *Engineering Optimization*, **2009**, 41, 793-810 | 2 | 49 |
| 39 | . *IEEE Transactions on Engineering Management*, **2009**, 56, 271-284 | 2.6 | 26 |
| 38 | Complexity science of multiscale materials via stochastic computations. *International Journal for Numerical Methods in Engineering*, **2009**, 80, 932-978 | 2.4 | 35 |
| 37 | A comparative study of uncertainty propagation methods for black-box-type problems. *Structural and Multidisciplinary Optimization*, **2009**, 37, 239-253 | 3.6 | 196 |
| 36 | Robust design with arbitrary distributions using Gauss-type quadrature formula. *Structural and Multidisciplinary Optimization*, **2009**, 39, 227-243 | 3.6 | 60 |
| 35 | 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 |
| 34 | A market-driven approach to product family design. *International Journal of Production Research*, **2009**, 47, 71-104 | 7.8 | 122 |
| 33 | Bayesian Validation of Computer Models. *Technometrics*, **2009**, 51, 439-451 | 1.4 | 88 |
| 32 | A hierarchical choice modelling approach for incorporating customer preferences in vehicle package design. *International Journal of Product Development*, **2009**, 8, 228 | 0.7 | 27 |
| 31 | 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 |
| 30 | A New Sparse Grid Based Method for Uncertainty Propagation **2009**, | | 1 |
| 29 | Determination of ranged sets of design specifications by incorporating design-space heterogeneity. *Engineering Optimization*, **2008**, 40, 1011-1029 | 2 | 9 |
| 28 | A Multiscale Design Approach With Random Field Representation of Material Uncertainty **2008**, | | 3 |
| 27 | A Design-Driven Validation Approach Using Bayesian Prediction Models. *Journal of Mechanical Design, Transactions of the ASME*, **2008**, 130, | 3 | 69 |

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| 26 | A Hierarchical Statistical Sensitivity Analysis Method for Complex Engineering Systems Design. *Journal of Mechanical Design, Transactions of the ASME*, **2008**, 130, | 3 | 17 |
| 25 | 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 |
| 24 | Statistical volume element method for predicting microstructure–constitutive property relations. *Computer Methods in Applied Mechanics and Engineering*, **2008**, 197, 3516-3529 | 5.7 | 93 |
| 23 | 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 |
| 22 | A New Variable Fidelity Optimization Framework Based on Model Fusion and Objective-Oriented Sequential Sampling **2007**, 699 | | 3 |
| 21 | Relative Entropy Based Method for Probabilistic Sensitivity Analysis in Engineering Design. *Journal of Mechanical Design, Transactions of the ASME*, **2006**, 128, 326 | 3 | 148 |
| 20 | 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 |
| 19 | Target Exploration for Disconnected Feasible Regions in Enterprise-Driven Multilevel Product Design. *AIAA Journal*, **2006**, 44, 67-77 | 2.1 | 22 |
| 18 | Lagrangian Coordination for Enhancing the Convergence of Analytical Target Cascading. *AIAA Journal*, **2006**, 44, 2197-2207 | 2.1 | 56 |
| 17 | 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 |
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