# Bri-Mathias S Hodge

List of Publications by Year
in descending order



| 134 | 7,540 | 71102 | 58581 |
|---|---|---|---|
| papers | citations | 41 h-index | 82 g-index |

| 143 | 143 | 143 | 7280 |
|---|---|---|---|
| all docs | docs citations | times ranked | citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Net-zero emissions energy systems. Science, 2018, 360, . | 12.6 | 1,165 |
| 2 | Achieving a 100% Renewable Grid: Operating Electric Power Systems with Extremely High Levels of Variable Renewable Energy. IEEE Power and Energy Magazine, 2017, 15, 61-73. | 1.6 | 846 |
| 3 | The Wind Integration National Dataset (WIND) Toolkit. Applied Energy, 2015, 151, 355-366. | 10.1 | 394 |
| 4 | A data-driven multi-model methodology with deep feature selection for short-term wind forecasting. Applied Energy, 2017, 190, 1245-1257. | 10.1 | 253 |
| 5 | Dynamic Price Vector Formation Model-Based Automatic Demand Response Strategy for PV-Assisted EV Charging Stations. IEEE Transactions on Smart Grid, 2017, 8, 2903-2915. | 9.0 | 208 |
| 6 | The Role of Concentrating Solar Power Toward High Renewable Energy Penetrated Power Systems. IEEE Transactions on Power Systems, 2018, 33, 6630-6641. | 6.5 | 183 |
| 7 | Wind power forecasting error distributions over multiple timescales. , 2011, , . | | 178 |
| 8 | A suite of metrics for assessing the performance of solar power forecasting. Solar Energy, 2015, 111, 157-175. | 6.1 | 168 |
| 9 | Enhancing Power System Operational Flexibility With Flexible Ramping Products: A Review. IEEE Transactions on Industrial Informatics, 2017, 13, 1652-1664. | 11.3 | 167 |
| 10 | An Extended IEEE 118-Bus Test System With High Renewable Penetration. IEEE Transactions on Power Systems, 2018, 33, 281-289. | 6.5 | 146 |
| 11 | The value of day-ahead solar power forecasting improvement. Solar Energy, 2016, 129, 192-203. | 6.1 | 143 |
| 12 | Cost Competitiveness of Electrolytic Hydrogen. Joule, 2019, 3, 2425-2443. | 24.0 | 141 |
| 13 | A Solar Time Based Analog Ensemble Method for Regional Solar Power Forecasting. IEEE Transactions on Sustainable Energy, 2019, 10, 268-279. | 8.8 | 136 |
| 14 | Wind Power Ramp Event Forecasting Using a Stochastic Scenario Generation Method. IEEE Transactions on Sustainable Energy, 2015, 6, 422-433. | 8.8 | 134 |
| 15 | The value of seasonal energy storage technologies for the integration of wind and solar power. Energy and Environmental Science, 2020, 13, 1909-1922. | 30.8 | 126 |
| 16 | The impact of wind power on electricity prices. Renewable Energy, 2016, 94, 474-487. | 8.9 | 121 |
| 17 | The challenges of achieving a 100% renewable electricity system in the United States. Joule, 2021, 5, 1331-1352. | 24.0 | 99 |
| 18 | Integration of Variable Generation, Cost-Causation, and Integration Costs. Electricity Journal, 2011, 24, 51-63. | 2.5 | 90 |

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| 19 | Comparison of numerical weather prediction based deterministic and probabilistic wind resource assessment methods. Applied Energy, 2015, 156, 528-541. | 10.1 | 88 |
| 20 | Quantifying the Economic and Grid Reliability Impacts of Improved Wind Power Forecasting. IEEE Transactions on Sustainable Energy, 2016, 7, 1525-1537. | 8.8 | 82 |
| 21 | Recent Trends in Variable Generation Forecasting and Its Value to the Power System. IEEE Transactions on Sustainable Energy, 2015, 6, 924-933. | 8.8 | 81 |
| 22 | The combined value of wind and solar power forecasting improvements and electricity storage. Applied Energy, 2018, 214, 1-15. | 10.1 | 76 |
| 23 | Economic justification of concentrating solar power in high renewable energy penetrated power systems. Applied Energy, 2018, 222, 649-661. | 10.1 | 76 |
| 24 | Towards Improved Understanding of the Applicability of Uncertainty Forecasts in the Electric Power Industry. Energies, 2017, 10, 1402. | 3.1 | 75 |
| 25 | Introducing Uncertainty Components in Locational Marginal Prices for Pricing Wind Power and Load Uncertainties. IEEE Transactions on Power Systems, 2019, 34, 2013-2024. | 6.5 | 70 |
| 26 | Wind-Friendly Flexible Ramping Product Design in Multi-Timescale Power System Operations. IEEE Transactions on Sustainable Energy, 2017, 8, 1064-1075. | 8.8 | 69 |
| 27 | A Data-Driven Methodology for Probabilistic Wind Power Ramp Forecasting. IEEE Transactions on Smart Grid, 2019, 10, 1326-1338. | 9.0 | 68 |
| 28 | A review of the potential impacts of climate change on bulk power system planning and operations in the United States. Renewable and Sustainable Energy Reviews, 2018, 98, 255-267. | 16.4 | 67 |
| 29 | A Review of Power Distribution Test Feeders in the United States and the Need for Synthetic Representative Networks. Energies, 2017, 10, 1896. | 3.1 | 66 |
| 30 | Integrating solar PV (photovoltaics) in utility system operations: Analytical framework and Arizona case study. Energy, 2015, 85, 1-9. | 8.8 | 64 |
| 31 | Characterizing and analyzing ramping events in wind power, solar power, load, and netload. Renewable Energy, 2017, 111, 227-244. | 8.9 | 61 |
| 32 | Baseline and target values for regional and point PV power forecasts: Toward improved solar forecasting. Solar Energy, 2015, 122, 804-819. | 6.1 | 60 |
| 33 | Process modeling, techno-economic assessment, and life cycle assessment of the electrochemical reduction of CO2: a review. IScience, 2021, 24, 102813. | 4.1 | 59 |
| 34 | The value of improved wind power forecasting: Grid flexibility quantification, ramp capability analysis, and impacts of electricity market operation timescales. Applied Energy, 2016, 184, 696-713. | 10.1 | 56 |
| 35 | Stochastic Multi-Timescale Power System Operations With Variable Wind Generation. IEEE Transactions on Power Systems, 2017, 32, 3325-3337. | 6.5 | 56 |
| 36 | Stability and control of power systems with high penetrations of inverter-based resources: An accessible review of current knowledge and open questions. Solar Energy, 2020, 210, 149-168. | 6.1 | 55 |

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| 37 | A Copula-Based Conditional Probabilistic Forecast Model for Wind Power Ramps. IEEE Transactions on Smart Grid, 2019, 10, 3870-3882. | 9.0 | 53 |
| 38 | The effects of electricity pricing on PHEV competitiveness. Energy Policy, 2011, 39, 1552-1561. | 8.8 | 51 |
| 39 | Review of wind generation within adequacy calculations and capacity markets for different power systems. Renewable and Sustainable Energy Reviews, 2020, 119, 109540. | 16.4 | 47 |
| 40 | Addressing technical challenges in 100% variable inverterâ€based renewable energy power systems. Wiley Interdisciplinary Reviews: Energy and Environment, 2020, 9, e376. | 4.1 | 47 |
| 41 | Including operational aspects in the planning of power systems with large amounts of variable generation: A review of modeling approaches. Wiley Interdisciplinary Reviews: Energy and Environment, 2019, 8, e341. | 4.1 | 46 |
| 42 | Probabilistic Solar Power Forecasting Using Bayesian Model Averaging. IEEE Transactions on Sustainable Energy, 2021, 12, 325-337. | 8.8 | 45 |
| 43 | IGMS: An Integrated ISO-to-Appliance Scale Grid Modeling System. IEEE Transactions on Smart Grid, 2017, 8, 1525-1534. | 9.0 | 44 |
| 44 | A review of power system planning and operational models for flexibility assessment in high solar energy penetration scenarios. Solar Energy, 2020, 210, 169-180. | 6.1 | 44 |
| 45 | A two-step short-term probabilistic wind forecasting methodology based on predictive distribution optimization. Applied Energy, 2019, 238, 1497-1505. | 10.1 | 40 |
| 46 | Decentralized wind uncertainty management: Alternating direction method of multipliers based distributionally-robust chance constrained optimal power flow. Applied Energy, 2019, 239, 938-947. | 10.1 | 40 |
| 47 | Optimal design of solar-driven electrolytic hydrogen production systems within electricity markets. Journal of Power Sources, 2021, 483, 229183. | 7.8 | 39 |
| 48 | Short-Term Load Forecast Error Distributions and Implications for Renewable Integration Studies. , 2013, , . | | 37 |
| 49 | Modelling wind power spatial-temporal correlation in multi-interval optimal power flow: A sparse correlation matrix approach. Applied Energy, 2018, 230, 531-539. | 10.1 | 37 |
| 50 | Mean-Variance Optimization-Based Energy Storage Scheduling Considering Day-Ahead and Real-Time LMP Uncertainties. IEEE Transactions on Power Systems, 2018, 33, 7292-7295. | 6.5 | 37 |
| 51 | Operating reserve policies with high wind power penetration. Computers and Chemical Engineering, 2011, 35, 1876-1885. | 3.8 | 33 |
| 52 | Building Large-Scale U.S. Synthetic Electric Distribution System Models. IEEE Transactions on Smart Grid, 2020, 11, 5301-5313. | 9.0 | 33 |
| 53 | Machine learning based multi-physical-model blending for enhancing renewable energy forecast - improvement via situation dependent error correction. , 2015, , . | | 31 |
| 54 | Integrated Energy Planning with a High Share of Variable Renewable Energy Sources for a Caribbean Island. Energies, 2018, 11, 2193. | 3.1 | 31 |

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| 55 | Benchmark probabilistic solar forecasts: Characteristics and recommendations. Solar Energy, 2020, 206, 52-67. | 6.1 | 31 |
| 56 | A Methodology for Quantifying Reliability Benefits From Improved Solar Power Forecasting in Multi-Timescale Power System Operations. IEEE Transactions on Smart Grid, 2018, 9, 6897-6908. | 9.0 | 29 |
| 57 | Deliverable Flexible Ramping Products Considering Spatiotemporal Correlation of Wind Generation and Demand Uncertainties. IEEE Transactions on Power Systems, 2020, 35, 2561-2574. | 6.5 | 29 |
| 58 | A multi-paradigm modeling framework for energy systems simulation and analysis. Computers and Chemical Engineering, 2011, 35, 1725-1737. | 3.8 | 28 |
| 59 | Characterizing and Modeling Wind Power Forecast Errors from Operational Systems for Use in Wind Integration Planning Studies. Wind Engineering, 2012, 36, 509-524. | 1.9 | 28 |
| 60 | Hybrid Communication Architectures for Distributed Smart Grid Applications. Energies, 2018, 11, 871. | 3.1 | 27 |
| 61 | OpenSolar: Promoting the openness and accessibility of diverse public solar datasets. Solar Energy, 2019, 188, 1369-1379. | 6.1 | 27 |
| 62 | Open-Source PSCAD Grid-Following and Grid-Forming Inverters and A Benchmark for Zero-Inertia Power System Simulations. , 2021, , . | | 26 |
| 63 | Assessment of Simulated Wind Data Requirements for Wind Integration Studies. IEEE Transactions on Sustainable Energy, 2012, 3, 620-626. | 8.8 | 22 |
| 64 | The effects of electric vehicles on residential households in the city of Indianapolis. Energy Policy, 2012, 49, 442-455. | 8.8 | 21 |
| 65 | Probability Density Function Characterization for Aggregated Large-Scale Wind Power Based on Weibull Mixtures. Energies, 2016, 9, 91. | 3.1 | 21 |
| 66 | Consequences of neglecting the interannual variability of the solar resource: A case study of photovoltaic power among the Hawaiian Islands. Solar Energy, 2018, 167, 61-75. | 6.1 | 21 |
| 67 | A review of behind-the-meter solar forecasting. Renewable and Sustainable Energy Reviews, 2022, 160, 112224. | 16.4 | 21 |
| 68 | A hybrid measure-correlate-predict method for long-term wind condition assessment. Energy Conversion and Management, 2014, 87, 697-710. | 9.2 | 20 |
| 69 | Ramp Forecasting Performance From Improved Short-Term Wind Power Forecasting. , 2014, , . | | 20 |
| 70 | The policy and institutional challenges of grid integration of renewable energy in the western United States. Utilities Policy, 2015, 33, 34-41. | 4.0 | 20 |
| 71 | Operational Analysis and Methods for Wind Integration Studies. IEEE Transactions on Sustainable Energy, 2012, 3, 612-619. | 8.8 | 19 |
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| 73 | Joint Probability Distribution and Correlation Analysis of Wind and Solar Power Forecast Errors in the Western Interconnection. Journal of Energy Engineering - ASCE, 2015, 141, . | 1.9 | 18 |
| 74 | Characterizing forecastability of wind sites in the United States. Renewable Energy, 2019, 133, 1352-1365. | 8.9 | 18 |
| 75 | Voltage Estimation in Low-Voltage Distribution Grids With Distributed Energy Resources. IEEE Transactions on Sustainable Energy, 2021, 12, 1640-1650. | 8.8 | 17 |
| 76 | Investigating the Correlation Between Wind and Solar Power Forecast Errors in the Western Interconnection. , 2013, , . | | 16 |
| 77 | Adjustable and distributionally robust chance-constrained economic dispatch considering wind power uncertainty. Journal of Modern Power Systems and Clean Energy, 2019, 7, 658-664. | 5.4 | 15 |
| 78 | Coupled transmission and distribution simulations to assess distributed generation response to power system faults. Electric Power Systems Research, 2020, 189, 106746. | 3.6 | 15 |
| 79 | Multi-Paradigm Modeling of the Effects of PHEV Adoption on Electric Utility Usage Levels and Emissions. Industrial & Engineering Chemistry Research, 2011, 50, 5191-5203. | 3.7 | 14 |
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| 82 | Wind and solar resource data sets. Wiley Interdisciplinary Reviews: Energy and Environment, 2018, 7, e276. | 4.1 | 13 |
| 83 | Phase-selection algorithms to minimize cost and imbalance in U.S. synthetic distribution systems. International Journal of Electrical Power and Energy Systems, 2020, 120, 106042. | 5.5 | 13 |
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| 86 | Toward a subhourly net zero energy district design through integrated building and distribution system modeling. Journal of Renewable and Sustainable Energy, 2019, 11, . | 2.0 | 11 |
| 87 | Analysis of Hybrid Smart Grid Communication Network Designs for Distributed Energy Resources Coordination. , 2019, , . | | 11 |
| 88 | Integrated distribution system and urban district planning with high renewable penetrations. Wiley Interdisciplinary Reviews: Energy and Environment, 2019, 8, e339. | 4.1 | 11 |
| 89 | Multiscale Multiobjective Systems Analysis (MiMoSA): an advanced metabolic modeling framework for complex systems. Scientific Reports, 2019, 9, 16948. | 3.3 | 11 |
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| 91 | A retrospective analysis of the market price response to distributed photovoltaic generation in California. Energy Policy, 2018, 121, 394-403. | 8.8 | 10 |
| 92 | Framework for optimization of long-term, multi-period investment planning of integrated urban energy systems. Applied Energy, 2021, 292, 116880. | 10.1 | 10 |
| 93 | Solar Power Ramp Events Detection Using an Optimized Swinging Door Algorithm. , 2015, , . | | 9 |
| 94 | Analyzing the impacts of increased wind power on generation Revenue Sufficiency. , 2016, , . | | 9 |
| 95 | Simulating wind power forecast error distributions for spatially aggregated wind power plants. Wind Energy, 2020, 23, 45-62. | 4.2 | 9 |
| 96 | Coordinated operation of electricity and natural gas systems from day-ahead to real-time markets. Journal of Cleaner Production, 2021, 281, 124759. | 9.3 | 9 |
| 97 | Probabilistic wind power ramp forecasting based on a scenario generation method. , 2017, , . | | 8 |
| 98 | Hierarchical Control of Utility-Scale Solar PV Plants for Mitigation of Generation Variability and Ancillary Service Provision. IEEE Transactions on Sustainable Energy, 2022, 13, 1383-1395. | 8.8 | 8 |
| 99 | The effects of vehicleâ€toâ€grid systems on wind power integration. Wind Energy, 2012, 15, 903-914. | 4.2 | 7 |
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| 102 | Assessing Long-Term Wind Conditions by Combining Different Measure-Correlate-Predict Algorithms. , 2013, , . | | 6 |
| 103 | Hybrid component and configuration model for combined-cycle units in unit commitment problem. Journal of Modern Power Systems and Clean Energy, 2018, 6, 1332-1337. | 5.4 | 6 |
| 104 | Optimal placement of data concentrators for expansion of the smart grid communications network. IET Smart Grid, 2019, 2, 537-548. | 2.2 | 6 |
| 105 | A Multi-Stage Stochastic Risk Assessment With Markovian Representation of Renewable Power. IEEE Transactions on Sustainable Energy, 2022, 13, 414-426. | 8.8 | 6 |
| 106 | An assessment of the impact of stochastic day-ahead SCUC on economic and reliability metrics at multiple timescales. , 2015, , . | | 5 |
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| 109 | Potential of Wind Power to Provide Flexible Ramping Products and Operating Reserve. , 2018, , . | | 5 |
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| 111 | Probabilistic Short-term Wind Forecasting Based on Pinball Loss Optimization. , 2018, , . | | 5 |
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| 113 | Impacts of short-term solar power forecasts in system operations. , 2016, , . | | 4 |
| 114 | A distributed middleware architecture for attack-resilient communications in smart grids. , 2017, , . | | 4 |
| 115 | Linear Approximation Line Pack Model for Integrated Electricity and Natural Gas Systems OPF. , 2019, , . | | 4 |
| 116 | Investigation of stochastic unit commitment to enable advanced flexibility measures for high shares of solar PV. Applied Energy, 2022, 321, 119337. | 10.1 | 4 |
| 117 | An Attack-Resilient Middleware Architecture for Grid Integration of Distributed Energy Resources. , 2016, , . | | 3 |
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| 119 | Quantifying the economic and grid reliability impacts of improved wind power forecasting. , 2017, , . | | 3 |
| 120 | Annually and monthly resolved solar irradiance and atmospheric temperature data across the Hawaiian archipelago from 1998 to 2015 with interannual summary statistics. Data in Brief, 2018, 19, 896-920. | 1.0 | 3 |
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| 122 | A Data-driven Method for Adaptive Reserve Requirement Estimation via Probabilistic Net Load Forecasting. , 2020, , . | | 3 |
| 123 | Baseline and target values for PV forecasts: Toward improved solar power forecasting. , 2015, , . | | 2 |
| 124 | Automatic regionalization algorithm for distributed state estimation in power systems. , 2016, , . | | 2 |
| 125 | A Multi-Paradigm Energy Model for Liquid Natural Gas Analysis. , 2009, , 1-9. | | 2 |
| 126 | A nonstationary and nonâ€Gaussian moving average model for solar irradiance. Environmetrics, 0, , . | 1.4 | 2 |

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| 127 | Investigating the impact of wind turbines on distribution system stability. , 2016, , . | | 1 |
| 128 | Simulation-based Parameter Optimization Framework for Large-Scale Hybrid Smart Grid Communications Systems Design. , 2018, , . | | 1 |
| 129 | The Role of Concentrating Solar Power Toward High Renewable Energy Penetrated Power Systems. , 2019, , . | | 1 |
| 130 | Forecastability as a Design Criterion in Wind Resource Assessment. Computer Aided Chemical Engineering, 2014, 34, 663-668. | 0.5 | 1 |
| 131 | Distributed PV generation estimation using multiâ€rate and eventâ€driven Kalman kriging filter. IET Smart Grid, 2020, 3, 538-546. | 2.2 | 1 |
| 132 | Analyzing Effects of Turbulence on Power Generation Using Wind Plant Monitoring Data. , 2014, , . | | 0 |
| 133 | Quantifying the Opportunity Limits of Automatic Residential Electric Load Shaping. Energies, 2019, 12, 3204. | 3.1 | 0 |
| 134 | Assessing the Accuracy of Balanced Power System Models in the Presence of Voltage Unbalance. , 2021, , . | | 0 |