

# Katherine R Davis

## List of Publications by Year in descending order

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69  
papers

856  
citations

687363

13  
h-index

642732

23  
g-index

69  
all docs

69  
docs citations

69  
times ranked

496  
citing authors

#	ARTICLE	IF	CITATIONS
1	An Ecological Robustness Oriented Optimal Power Flow for Power Systemsâ€™ Survivability. IEEE Transactions on Power Systems, 2023, 38, 447-462.	6.5	4
2	Generalized Contingency Analysis Based on Graph Theory and Line Outage Distribution Factor. IEEE Systems Journal, 2022, 16, 626-636.	4.6	16
3	Joint Detection and Localization of Stealth False Data Injection Attacks in Smart Grids Using Graph Neural Networks. IEEE Transactions on Smart Grid, 2022, 13, 807-819.	9.0	39
4	Graph Neural Networks Based Detection of Stealth False Data Injection Attacks in Smart Grids. IEEE Systems Journal, 2022, 16, 2946-2957.	4.6	37
5	Inter-Domain Fusion for Enhanced Intrusion Detection in Power Systems: An Evidence Theoretic and Meta-Heuristic Approach. Sensors, 2022, 22, 2100.	3.8	4
6	Generating Connected, Simple, and Realistic Cyber Graphs for Smart Grids. , 2022, , .		1
7	Generation of Firewall Configurations for a Large Scale Synthetic Power System. , 2022, , .		1
8	Dataâ€driven spatioâ€temporal analysis of wildfire risk to power systems operation. IET Generation, Transmission and Distribution, 2022, 16, 2531-2546.	2.5	9
9	Cyberattack Detection in Large-Scale Smart Grids using Chebyshev Graph Convolutional Networks. , 2022, , .		3
10	Cyberattack Defense With Cyber-Physical Alert and Control Logic in Industrial Controllers. IEEE Transactions on Industry Applications, 2022, 58, 5921-5934.	4.9	5
11	Structural Learning Techniques for Bayesian Attack Graphs in Cyber Physical Power Systems. , 2021, , .		8
12	Real-time Power System Simulation with Hardware Devices through DNP3 in Cyber-Physical Testbed. , 2021, , .		9
13	Toward Efficient Wide-Area Identification of Multiple Element Contingencies in Power Systems. , 2021, , .		9
14	Ecological Uniqueness for Understanding Line Importance in Power Grids. , 2021, , .		0
15	Statistics for Building Synthetic Power System Cyber Models. , 2021, , .		3
16	Strategy for distributed controller defence: Leveraging controller roles and control support groups to maintain or regain control in cyberâ€adversarial power systems. IET Cyber-Physical Systems: Theory and Applications, 2021, 6, 80-92.	3.3	1
17	Next-Generation Relay Voting Scheme Design Leveraging Consensus Algorithms. , 2021, , .		3
18	Considerations in the Automatic Development of Electric Grid Restoration Plans. , 2021, , .		3

#	ARTICLE	IF	CITATIONS
19	Mixed-Integer Optimization for Bio-Inspired Robust Power Network Design. , 2021, , .		4
20	Cyber-Physical component ranking for risk sensitivity analysis using betweenness centrality. IET Cyber-Physical Systems: Theory and Applications, 2021, 6, 139-150.	3.3	12
21	Evaluation of Performance Metrics for Electric Grid Operational Scenarios. , 2021, , .		3
22	Managing the middle attacks and defence in a power system cyber-Physical testbed. IET Cyber-Physical Systems: Theory and Applications, 2021, 6, 164-177.	3.3	46
23	Design and evaluation of a cyber-Physical testbed for improving attack resilience of power systems. IET Cyber-Physical Systems: Theory and Applications, 2021, 6, 208-227.	3.3	17
24	GIC-Inclusive State Estimator for Power System Awareness During Geomagnetic Disturbance Events. IEEE Transactions on Power Systems, 2021, 36, 2966-2974.	6.5	5
25	Quantitative analysis of power systems resilience: Standardization, categorizations, and challenges. Renewable and Sustainable Energy Reviews, 2021, 149, 111252.	16.4	48
26	Multi-Source Multi-Domain Data Fusion for Cyberattack Detection in Power Systems. IEEE Access, 2021, 9, 119118-119138.	4.2	32
27	A Multigraph Modeling Approach to Enable Ecological Network Analysis of Cyber Physical Power Networks. , 2021, , .		4
28	Adaptive, Cyber-Physical Special Protection Schemes to Defend the Electric Grid Against Predictable and Unpredictable Disturbances. , 2021, , .		3
29	Mitigating TCP Congestion: A Coordinated Cyber and Physical Approach. , 2021, , .		3
30	Automating the Process to Quantify Cyber-Physical Risk with Contingency Analysis and User Input. , 2021, , .		0
31	A3D: Attention-based auto-encoder anomaly detector for false data injection attacks. Electric Power Systems Research, 2020, 189, 106795.	3.6	24
32	Data Processing and Model Selection for Machine Learning-based Network Intrusion Detection. , 2020, , .		14
33	A GIC Estimator for Electric Grid Monitoring During Geomagnetic Disturbances. IEEE Transactions on Power Systems, 2020, 35, 4847-4855.	6.5	8
34	W4IPS: A Web-based Interactive Power System Simulation Environment For Power System Security Analysis. , 2020, , .		9
35	Easy SimAuto (ESA): A Python Package that Simplifies Interacting with PowerWorld Simulator. Journal of Open Source Software, 2020, 5, 2289.	4.6	14
36	Enabling Online, Dynamic Remedial Action Schemes by Reducing the Corrective Control Search Space. , 2020, , .		0

#	ARTICLE	IF	CITATIONS
37	Educational Applications of Large Synthetic Power Grids. IEEE Transactions on Power Systems, 2019, 34, 765-772.	6.5	24
38	MATGMD: A Tool for Enabling GMD Studies in MATLAB. , 2019, , .		3
39	An ecosystem perspective for the design of sustainable power systems. Procedia CIRP, 2019, 80, 269-274.	1.9	8
40	Bio-inspired design for robust power grid networks. Applied Energy, 2019, 251, 113349.	10.1	35
41	Bio-Inspired Design for Robust Power Networks. , 2019, , .		10
42	A Unified Power System Model to Analyze the Benefits of Electric Vehicles in Power Grid. , 2019, , .		0
43	Learning-Based Defense of False Data Injection Attacks in Power System State Estimation. , 2019, , .		3
44	PAVED: Perturbation Analysis for Verification of Energy Data. , 2019, , .		1
45	A Cyber Topology Model for the Texas 2000 Synthetic Electric Power Grid. , 2019, , .		14
46	System-Wide Case Study Assessment of Transformer Heating Due to Geomagnetic Disturbances. , 2019, , .		5
47	Fast Generation Redispatch Techniques for Automated Remedial Action Schemes. , 2019, , .		7
48	A Framework for Cyber-Physical Model Creation and Evaluation. , 2019, , .		7
49	SCORE: A Security-Oriented Cyber-Physical Optimal Response Engine. , 2019, , .		2
50	Extracting substation cyber-physical architecture through intelligent electronic devices' data. , 2018, , .		4
51	Crystal (ball). , 2018, , .		6
52	Power System Equipment Cyber-Physical Risk Assessment Based on Architecture and Critical Clearing Time. , 2018, , .		5
53	Deep Neural Network Based Non-Intrusive Load Status Recognition. , 2018, , .		4
54	Mitigation of Distributed Controller Failure. , 2018, , .		0

#	ARTICLE	IF	CITATIONS
55	The Potential for a GIC-inclusive State Estimator. , 2018, , .		4
56	Configuration of WAMS and Pilot Bus Selection for Secondary Voltage Control in the Egyptian Grid. , 2018, , .		3
57	Energy Theft Detection Via Artificial Neural Networks. , 2018, , .		13
58	Toward a Sensor Trustworthiness Measure for Grid-Connected IoT-Enabled Smart Cities. , 2018, , .		3
59	A Framework of Smart and Secure Power Electronics Driven HVAC Thermal Inertia in Distributed Power Systems. , 2018, , .		4
60	Improving power system neural network construction using modal analysis. , 2017, , .		1
61	Analytic corrective control selection for online remedial action scheme design in a cyber adversarial environment. IET Cyber-Physical Systems: Theory and Applications, 2017, 2, 188-197.	3.3	10
62	Cyber-air-gapped detection of controller attacks through physical interdependencies. , 2017, , .		1
63	Distributed controller role and interaction discovery. , 2017, , .		5
64	Augmented DC power flow method with real-time measurements. , 2016, , .		2
65	Generator control action classification based on localized voltage measurements. , 2016, , .		1
66	A Cyber-Physical Modeling and Assessment Framework for Power Grid Infrastructures. IEEE Transactions on Smart Grid, 2015, 6, 2464-2475.	9.0	111
67	SOCCA: A Security-Oriented Cyber-Physical Contingency Analysis in Power Infrastructures. IEEE Transactions on Smart Grid, 2014, 5, 3-13.	9.0	90
68	Estimation of Transmission Line Parameters from Historical Data. , 2013, , .		10
69	Power flow cyber attacks and perturbation-based defense. , 2012, , .		59