Gerhard P Hancke

List of Publications by Year
in descending order

133 papers	11,072 citations	87888 38 h-index	58581 82 g-index
134 all docs	134 docs citations	134 times ranked	10641 citing authors

#	ARTICLE	IF	CITATIONS
1	Smart Grid Technologies: Communication Technologies and Standards. IEEE Transactions on Industrial Informatics, 2011, 7, 529-539.	11.3	2,067
2	Industrial Wireless Sensor Networks: Challenges, Design Principles, and Technical Approaches. IEEE Transactions on Industrial Electronics, 2009, 56, 4258-4265.	7.9	1,282
3	Opportunities and Challenges of Wireless Sensor Networks in Smart Grid. IEEE Transactions on Industrial Electronics, 2010, 57, 3557-3564.	7.9	1,069
4	A Survey on Smart Grid Potential Applications and Communication Requirements. IEEE Transactions on Industrial Informatics, 2013, 9, 28-42.	11.3	920
5	A Survey on 5G Networks for the Internet of Things: Communication Technologies and Challenges. IEEE Access, 2018, 6, 3619-3647.	4.2	920
6	The Role of Advanced Sensing in Smart Cities. Sensors, 2013, 13, 393-425.	3.8	447
7	A Survey on Software-Defined Wireless Sensor Networks: Challenges and Design Requirements. IEEE Access, 2017, 5, 1872-1899.	4.2	360
8	A Survey on Urban Traffic Management System Using Wireless Sensor Networks. Sensors, 2016, 16, 157.	3.8	256
9	Analysis of Energy-Efficient Connected Target Coverage Algorithms for Industrial Wireless Sensor Networks. IEEE Transactions on Industrial Informatics, 2017, 13, 135-143.	11.3	185
10	Smart Grid and Smart Homes: Key Players and Pilot Projects. IEEE Industrial Electronics Magazine, 2012, 6, 18-34.	2.6	161
11	Software Defined Networking for Improved Wireless Sensor Network Management: A Survey. Sensors, 2017, 17, 1031.	3.8	159
12	Using Cognitive Radio for Interference-Resistant Industrial Wireless Sensor Networks: An Overview. IEEE Transactions on Industrial Informatics, 2015, 11, 1466-1481.	11.3	127
13	Environmental Monitoring Systems: A Review. IEEE Sensors Journal, 2013, 13, 1329-1339.	4.7	126
14	IoT in the Wake of COVID-19: A Survey on Contributions, Challenges and Evolution. IEEE Access, 2020, 8, 186821-186839.	4.2	126
15	Experimental Link Quality Characterization of Wireless Sensor Networks for Underground Monitoring. IEEE Transactions on Industrial Informatics, 2015, 11, 1099-1110.	11.3	111
16	IR-UWB-Based Non-Line-of-Sight Identification in Harsh Environments: Principles and Challenges. IEEE Transactions on Industrial Informatics, 2016, 12, 1188-1195.	11.3	111
17	A Distributed Topology Control Technique for Low Interference and Energy Efficiency in Wireless Sensor Networks. IEEE Transactions on Industrial Informatics, 2012, 8, 11-19.	11.3	110
18	A Survey on Adaptive Data Rate Optimization in LoRaWAN: Recent Solutions and Major Challenges. Sensors, 2020, 20, 5044.	3.8	101

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19	A Survey of Anomaly Detection in Industrial Wireless Sensor Networks with Critical Water System Infrastructure as a Case Study. Sensors, 2018, 18, 2491.	3.8	100
20	Comparison of two routing metrics in OLSR on a grid based mesh network. Ad Hoc Networks, 2009, 7, 374-387.	5.5	99
21	Denial of Service Defence for Resource Availability in Wireless Sensor Networks. IEEE Access, 2018, 6, 6975-7004.	4.2	94
22	A Statistical Approach to Detect Jamming Attacks in Wireless Sensor Networks. Sensors, 2018, 18, 1691.	3.8	94
23	Energy Efficient Environment Monitoring System Based on the IEEE 802.15.4 Standard for Low Cost Requirements. IEEE Sensors Journal, 2014, 14, 2557-2566.	4.7	91
24	Traffic Management for Emergency Vehicle Priority Based on Visual Sensing. Sensors, 2016, 16, 1892.	3.8	89
25	An Energy-Balanced Heuristic for Mobile Sink Scheduling in Hybrid WSNs. IEEE Transactions on Industrial Informatics, 2016, 12, 28-40.	11.3	89
26	An Energy-Efficient Smart Comfort Sensing System Based on the IEEE 1451 Standard for Green Buildings. IEEE Sensors Journal, 2014, 14, 4245-4252.	4.7	86
27	The Generic Design of a High-Traffic Advanced Metering Infrastructure Using ZigBee. IEEE Transactions on Industrial Informatics, 2014, 10, 836-844.	11.3	75
28	Dynamic Connectivity in Wireless Underground Sensor Networks. IEEE Transactions on Wireless Communications, 2011, 10, 4334-4344.	9.2	73
29	Open Hardware: A Role to Play in Wireless Sensor Networks?. Sensors, 2015, 15, 6818-6844.	3.8	73
30	Experimental study of UWB-based high precision localization for industrial applications. , 2014, , .		65
31	Security and Privacy for the Industrial Internet of Things: An Overview of Approaches to Safeguarding Endpoints. IEEE Signal Processing Magazine, 2018, 35, 76-87.	5.6	53
32	A Survey on LPWAN Technologies in WBAN for Remote Health-Care Monitoring. Sensors, 2019, 19, 5268.	3.8	51
33	Wireless Capacitive-Based ECG Sensing for Feature Extraction and Mobile Health Monitoring. IEEE Sensors Journal, 2018, 18, 6023-6032.	4.7	50
34	A New Model for Autonomous, Networked Control Systems. IEEE Transactions on Industrial Informatics, 2007, 3, 21-32.	11.3	49
35	Localised information fusion techniques for location discovery in wireless sensor networks. International Journal of Sensor Networks, 2018, 26, 12.	0.4	47
36	Attack detection in water distribution systems using machine learning. Human-centric Computing and Information Sciences, 2019, 9, .	6.1	47

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37	Eye detection for a real-time vehicle driver fatigue monitoring system. , 2011, , .		45
38	A Survey on the Viability of Confirmed Traffic in a LoRaWAN. IEEE Access, 2020, 8, 9296-9311.	4.2	45
39	Practical eavesdropping and skimming attacks on high-frequency RFID tokens. Journal of Computer Security, 2011, 19, 259-288.	0.8	43
40	Ranging Error Mitigation for Through-the-Wall Non-Line-of-Sight Conditions. IEEE Transactions on Industrial Informatics, 2020, 16, 6903-6911.	11.3	42
41	A smart helmet for air quality and hazardous event detection for the mining industry. , 2016, , .		39
42	A survey of cognitive radio handoff schemes, challenges and issues for industrial wireless sensor networks (CR-IWSN). Journal of Network and Computer Applications, 2017, 97, 140-156.	9.1	32
43	Sleep Scheduling for Unbalanced Energy Harvesting in Industrial Wireless Sensor Networks. IEEE Communications Magazine, 2019, 57, 108-115.	6.1	32
44	A wind energy harvester for low power wireless sensor networks. , 2012, , .		31
45	The optimal frequency estimation of a noisy sinusoidal signal. IEEE Transactions on Instrumentation and Measurement, 1990, 39, 843-846.	4.7	30
46	Ultrawideband as an Industrial Wireless Solution. IEEE Pervasive Computing, 2006, 5, 78-85.	1.3	29
47	A survey of wireless sensor network applications from a power utility's distribution perspective. , 2011, , .		28
48	Towards a distributed control system for software defined Wireless Sensor Networks. , 2017, , .		28
49	Building Upon NB-IoT Networks: A Roadmap Towards 5G New Radio Networks. IEEE Access, 2020, 8, 188641-188672.	4.2	28
50	Artificial Intelligence Techniques for Cognitive Sensing in Future IoT: State-of-the-Art, Potentials, and Challenges. Journal of Sensor and Actuator Networks, 2020, 9, 21.	3.9	28
51	A modal analysis technique for the on-line particle size measurement of pneumatically conveyed pulverized coal. IEEE Transactions on Instrumentation and Measurement, 1998, 47, 114-122.	4.7	27
52	Energy harvesting for Wireless Sensors from electromagnetic fields around overhead power lines. , 2012, , .		26
53	Driver fatigue detection : A survey. , 2009, , .		25
54	The microprocessor measurement of low values of rotational speed and acceleration. IEEE Transactions on Instrumentation and Measurement, 1990, 39, 1014-1017.	4.7	24

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55	Capacity and Outage Analysis of MIMO and Cooperative Communication Systems in Underground Tunnels. IEEE Transactions on Wireless Communications, 2011, 10, 3793-3803.	9.2	23
56	A survey of Wireless Sensor Network testbeds. , 2011, , .		23
57	A wireless smart parking system. , 2015, , .		23
58	Towards achieving efficient MAC protocols for WBAN-enabled IoT technology: a review. Eurasip Journal on Wireless Communications and Networking, 2021, 2021, .	2.4	22
59	Evaluating and optimising accelerometer-based gesture recognition techniques for mobile devices. , 2009, , .		21
60	Cognitive Radio in Low Power Wide Area Network for IoT Applications: Recent Approaches, Benefits and Challenges. IEEE Transactions on Industrial Informatics, 2020, 16, 7489-7498.	11.3	21
61	Guest Editorial Special Section on Industrial Wireless Sensor Networks. IEEE Transactions on Industrial Informatics, 2014, 10, 762-765.	11.3	19
62	A fiber-optic density sensor for monitoring the state-of-charge of a lead acid battery. IEEE Transactions on Instrumentation and Measurement, 1990, 39, 247-250.	4.7	18
63	Distributed Control of Multi-Functional Grid-Tied Inverters for Power Quality Improvement. IEEE Transactions on Circuits and Systems I: Regular Papers, 2021, 68, 918-928.	5.4	18
64	A Web-Based Office Climate Control System Using Wireless Sensors. IEEE Sensors Journal, 2016, 16, 6104-6113.	4.7	17
65	An Effective Spectrum Handoff Based on Reinforcement Learning for Target Channel Selection in the Industrial Internet of Things. Sensors, 2019, 19, 1395.	3.8	17
66	Guest Editorial Special Section on Information Technologies in Smart Grids. IEEE Transactions on Industrial Informatics, 2013, 9, 1380-1383.	11.3	15
67	Wireless Positioning in Underground Mines: Challenges and Recent Advances. IEEE Industrial Electronics Magazine, 2021, 15, 39-48.	2.6	14
68	Intelligent computing for the management of changes in industrial engineering modeling processes. , 0, , .		12
69	Industrial wireless sensor networks: A selection of challenging applications. , 2012, , .		12
70	Positioning infrastructure for industrial automation systems based on UWB wireless communication. , 2014, , .		12
71	Two-Step Wind Power Prediction Approach With Improved Complementary Ensemble Empirical Mode Decomposition and Reinforcement Learning. IEEE Systems Journal, 2022, 16, 2545-2555.	4.6	11
72	SDNMMâ€"A Generic SDN-Based Modular Management System for Wireless Sensor Networks. IEEE Systems Journal, 2020, 14, 2347-2357.	4.6	10

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73	Resilient Optimal Defensive Strategy of TSK Fuzzy-Model-Based Microgridsâ€™ System via a Novel Reinforcement Learning Approach. IEEE Transactions on Neural Networks and Learning Systems, 2023, 34, 1921-1931.	11.3	10
74	Smart Microgrid Energy Market: Evaluating Distributed Ledger Technologies for Remote and Constrained Microgrid Deployments. Electronics (Switzerland), 2021, 10, 714.	3.1	10
75	Design of a water management system. , 2015, , .		9
76	Two-Stage Optimal Operation Strategy of Isolated Microgrid With TSK Fuzzy Identification of Supply Security. IEEE Transactions on Industrial Informatics, 2020, 16, 3731-3743.	11.3	9
77	Secure Internet Access to Gateway Using Secure Socket Layer. IEEE Transactions on Instrumentation and Measurement, 2006, 55, 793-800.	4.7	8
78	An XML Model for Use Across Heterogeneous Clientâ€"Server Applications. IEEE Transactions on Instrumentation and Measurement, 2008, 57, 2128-2135.	4.7	8
79	Towards non-line-of-sight ranging error mitigation in industrial wireless sensor networks. , 2016, , .		8
80	Exploring Control-Message Quenching in SDN-based Management of 6LoWPANs. , 2019, , .		8
81	Resilient Optimal Defensive Strategy of Micro-Grids System via Distributed Deep Reinforcement Learning Approach Against FDI Attack. IEEE Transactions on Neural Networks and Learning Systems, 2024, 35, 598-608.	11.3	8
82	SurveilNet: A Lightweight Anomaly Detection System for Cooperative IoT Surveillance Networks. IEEE Sensors Journal, 2021, 21, 25293-25306.	4.7	7
83	Static and Dynamic Event-Triggered Mechanisms for Distributed Secondary Control of Inverters in Low-Voltage Islanded Microgrids. IEEE Transactions on Cybernetics, 2022, 52, 6925-6938.	9.5	7
84	Continuous measurement of moisture in nonconducting materials. IEEE Transactions on Instrumentation and Measurement, 1992, 41, 1023-1026.	4.7	6
85	Design of a controller for a universal input/output port. , 2012, , .		6
86	Design of a wireless heliostat system. , 2015, , .		6
87	Interference Avoidance Resource Allocation for D2D-Enabled 5G Narrowband Internet of Things. IEEE Internet of Things Journal, 2022, 9, 22752-22764.	8.7	6
88	A Secure Web Service for Electricity Prepayment Vending in South Africa: A Case Study and Industry Specification. , 2007, , .		5
89	Modelling a Wireless Sensor Network as a Small World Network. , 2009, , .		5
90	Design of a low cost video monitor store and forward device. , 2012, , .		5

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91	Design of a smart sprinkler system. , 2015, , .		5
92	Guest Editorial Fog Computing for Industrial Applications. IEEE Transactions on Industrial Informatics, 2018, 14, 4481-4486.	11.3	5
93	Software-Defined Power Grids: A Survey on Opportunities and Taxonomy for Microgrids. IEEE Access, 2021, 9, 98973-98991.	4.2	5
94	The measurement of the relative density of homogeneous fluids by means of an optical technique. IEEE Transactions on Instrumentation and Measurement, 1992, 41, 1053-1056.	4.7	4
95	Wireless sensor network for building evacuation. , 2012, , .		4
96	On link quality aware routing for industrial wireless sensor networks. , 2013, , .		4
97	Development of a robust active infraredâ€based eye tracker. IET Computer Vision, 2014, 8, 523-534.	2.0	4
98	Autonomous pedestrian detection. , 2015, , .		4
99	Design of a smart geyser controller unit. , 2015, , .		4
100	Two-Layered Hierarchical Optimization Strategy With Distributed Potential Game for Interconnected Hybrid Energy Systems. IEEE Transactions on Cybernetics, 2023, 53, 5436-5447.	9.5	4
101	A Three-Stage Optimal Operation Strategy of Interconnected Microgrids With Rule-Based Deep Deterministic Policy Gradient Algorithm. IEEE Transactions on Neural Networks and Learning Systems, 2024, 35, 1773-1784.	11.3	4
102	Secure Internet access to gateway using secure socket layer. , 0, , .		3
103	Comparing wireless sensor network routing protocols. , 2007, , .		3
104	Actor Coordination in Wireless Sensor-Actor Networks. , 2009, , .		3
105	An investigation of Bluetooth mergence with Ultra Wideband. Ad Hoc Networks, 2011, 9, 852-863.	5.5	3
106	The feasibility of using resonant inductive power transfer to recharge wireless sensor network nodes. , 2014, , .		3
107	Simplified performance estimation of ISM-band, OFDM-based WSNs according to the sensitivity/SINAD parameters. Journal of Applied Research and Technology, 2017, 15, 1-13.	0.9	3
108	Enabling Efficient Model-Free Control of Large-Scale Canals by Exploiting Domain Knowledge. IEEE Transactions on Industrial Electronics, 2021, 68, 8730-8742.	7.9	3

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109	Content Orientation in Integrated Product Modeling. , 2007, , .		2
110	IEEE Access Special Section Editorial: Industrial Sensor Networks With Advanced Data Management: Design And Security. IEEE Access, 2015, 3, 2700-2703.	4.2	2
111	Guest Editorial Healthcare Systems and Technologies. IEEE Transactions on Industrial Informatics, 2016, 12, 2266-2268.	11.3	2
112	SafePath: Exploiting Ubiquitous Smartphones to Avoid Vehicleâ€"Pedestrian Collision. IEEE Internet of Things Journal, 2022, 9, 6763-6777.	8.7	2
113	Design of an Access Control Module for an Instrumentation Gateway. IEEE Transactions on Instrumentation and Measurement, 2006, 55, 140-149.	4.7	1
114	Welcome Message from the Conference Chairs. , 2007, , .		1
115	Feasibility of using stochastic adaptive congestion control in computer networks. , 2007, , .		1
116	A Cross-Layer Approach Towards Efficiency Optimization of Wireless Sensor and Actor Networks. , 2008, , .		1
117	An Investigation of Bluetooth Mergence with Ultra Wideband. , 2008, , .		1
118	Perimeter Echo Algorithm for network localization. , 2009, , .		1
119	On the way towards model for background of decisions on engineering objects in PLM. , 2009, , .		1
120	New content behind the concept intelligent engineering. , 2010, , .		1
121	Wireless sensor networks for smart grid: research challenges and potential applications. , 0, , 265-278.		1
122	Self-contained track and trace using GPRS. , 2015, , .		1
123	Sensor network for DC distribution for energy-efficient data centers and future buildings. , 2016, , .		1
124	Design of an access control module for an instrumentation gateway. , 0, , .		0
125	An XML model for use across heterogeneous client-server applications. , 0, , .		0
126	Credibility of Routing Information in Wireless Sensor Networks. Industrial Informatics, 2009 INDIN 2009 7th IEEE International Conference on, 2007, , .	0.0	0

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127	A contribution to solution for the problem of human controlled object model definition. , 2009, , .		0
128	A hub-odometer sensor network for road user charges. , 2014, , .		0
129	Wireless sensor networks for safety protocols in the industry. , 2015, , .		0
130	A smart grid electricity hub. , 2015, , .		0
131	A service-oriented architecture for wireless video sensor networks: Opportunities and challenges. , 2015, , .		0
132	A smartphone-based mobile incident response system for indoor and outdoor scenarios. , 2016, , .		0
133	Energy Efficient Message Routing in a Small World Wireless Sensor Network. Lecture Notes in Electrical Engineering, 2010, , 183-192.	0.4	0