Xavier Vilajosana

List of Publications by Year
in descending order

119 papers	4,306 citations	257450 24 h-index	197818 49 g-index
127 all docs	127 docs citations	127 times ranked	3650 citing authors

#	Article	IF	Citations
1	Understanding the Limits of LoRaWAN. , 2017, 55, 34-40.		943
2	Standardized Protocol Stack for the Internet of (Important) Things. IEEE Communications Surveys and Tutorials, 2013, 15, 1389-1406.	39.4	581
3	OpenWSN: a standardsâ€based lowâ€power wireless development environment. Transactions on Emerging Telecommunications Technologies, 2012, 23, 480-493.	3.9	228
4	6TiSCH: deterministic IP-enabled industrial internet (of things). , 2014, 52, 36-41.		210
5	Bootstrapping smart cities through a self-sustainable model based on big data flows. , 2013, 51, 128-134.		179
6	Improving Reliability and Scalability of LoRaWANs Through Lightweight Scheduling. IEEE Internet of Things Journal, 2018, 5, 1830-1842.	8.7	169
7	A Realistic Energy Consumption Model for TSCH Networks. IEEE Sensors Journal, 2014, 14, 482-489.	4.7	130
8	IETF 6TiSCH: A Tutorial. IEEE Communications Surveys and Tutorials, 2020, 22, 595-615.	39.4	114
9	Exploring the Performance Boundaries of NB-IoT. IEEE Internet of Things Journal, 2019, 6, 5702-5712.	8.7	101
10	Adaptive Synchronization in IEEE802.15.4e Networks. IEEE Transactions on Industrial Informatics, 2014, 10, 795-802.	11.3	89
11	Industrial Wireless IP-Based Cyber â€“Physical Systems. Proceedings of the IEEE, 2016, 104, 1025-1038.	21.3	70
12	Distributed PID-Based Scheduling for 6TiSCH Networks. IEEE Communications Letters, 2016, 20, 1006-1009.	4.1	64
13	OpenMote: Open-Source Prototyping Platform for the Industrial IoT. Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering, 2015, , 211-222.	0.3	61
14	Simulating 6TiSCH networks. Transactions on Emerging Telecommunications Technologies, 2019, 30, e3494.	3.9	57
15	Label switching over IEEE802.15.4e networks. Transactions on Emerging Telecommunications Technologies, 2013, 24, 458-475.	3.9	53
16	Addressing Mobility in RPL With Position Assisted Metrics. IEEE Sensors Journal, 2016, 16, 2151-2161.	4.7	44
17	LLSF: Low Latency Scheduling Function for 6TiSCH Networks. , 2016, , .		43
18	IETF 6TSCH: Combining IPv6 Connectivity with Industrial Performance. , 2013, , .		41

#	Article	IF	Citations
19	6TiSCH Wireless Industrial Networks: Determinism Meets IPv6. Smart Sensors, Measurement and Instrumentation, 2014, , 111-141.	0.6	39
20	6TiSCH: Industrial Performance for IPv6 Internet-of-Things Networks. Proceedings of the IEEE, 2019, 107, 1153-1165.	21.3	38
21	Simple Distributed Scheduling With Collision Detection in TSCH Networks. IEEE Sensors Journal, 2016, 16, 5848-5849.	4.7	34
22	Enabling SDN in VANETs: What is the Impact on Security?. Sensors, 2016, 16, 2077.	3.8	33
23	Teaching Communication Technologies and Standards for the Industrial IoT? Use 6TiSCH!. , 2017, 55, 132-137.		32
24	A Channel Measurement Campaign for mmWave Communication in Industrial Settings. IEEE Transactions on Wireless Communications, 2021, 20, 299-315.	9.2	31
25	REMOTE, a Wireless Sensor Network Based System to Monitor Rowing Performance. Sensors, 2009, 9, 7069-7082.	3.8	29
26	On the suitability of the 433â€‰MHz band for M2M lowâ€power wireless communications: propagation aspects. Transactions on Emerging Telecommunications Technologies, 2014, 25, 1154-1168.	3.9	28
27	SR-1: A simulation-based algorithm for the Capacitated Vehicle Routing Problem. , 2008, , .		27
28	Standardized Low-Power Wireless Communication Technologies for Distributed Sensing Applications. Sensors, 2014, 14, 2663-2682.	3.8	27
29	When Scavengers Meet Industrial Wireless. IEEE Transactions on Industrial Electronics, 2015, 62, 2994-3003.	7.9	27
30	Evaluation of IEEE802.15.4g for Environmental Observations. Sensors, 2018, 18, 3468.	3.8	27
31	LPDQ: A self-scheduled TDMA MAC protocol for one-hop dynamic low-power wireless networks. Pervasive and Mobile Computing, 2015, 20, 84-99.	3.3	26
32	IoTBench: Towards a Benchmark for Low-Power Wireless Networking. , 2018, , .		26
33	VirtuWind: virtual and programmable industrial network prototype deployed in operational wind park. Transactions on Emerging Telecommunications Technologies, 2016, 27, 1281-1288.	3.9	25
34	I3Mote: An Open Development Platform for the Intelligent Industrial Internet. Sensors, 2017, 17, 986.	3.8	25
35	A Square Peg in a Round Hole: The Complex Path for Wireless in the Manufacturing Industry. IEEE Communications Magazine, 2019, 57, 109-115.	6.1	24
36	Broadcasting strategies in 6TiSCH networks. Internet Technology Letters, 2018, 1, e15.	1.9	23

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37	5G Cross-Border Operation for Connected and Automated Mobility: Challenges and Solutions. Future Internet, 2020, 12, 5.	3.8	23
38	LR-FHSS: Overview and Performance Analysis. IEEE Communications Magazine, 2021, 59, 30-36.	6.1	23
39	Constructive Interference in 802.15.4: A Tutorial. IEEE Communications Surveys and Tutorials, 2019, 21, 217-237.	39.4	20
40	Using SmartMesh IP in Smart Agriculture and Smart Building applications. Computer Communications, 2018, 121, 83-90.	5.1	19
41	OpenTestBed: Poor Man's IoT Testbed. , 2019, , .		19
42	Overview of IEEE802.15.4g OFDM and its applicability to smart building applications. , 2018, , .		17
43	Determinism through Path Diversity: Why Packet Replication Makes Sense. , 2016, , .		13
44	Early Scavenger Dimensioning in Wireless Industrial Monitoring Applications. IEEE Internet of Things Journal, 2016, 3, 170-178.	8.7	13
45	Ubiquitous moisture sensing in automaker industry based on standard UHF RFID tags. , 2019, , .		13
46	Lessons learned from large-scale dense IEEE802.15.4 connectivity traces. , 2015, , .		12
47	Experimental Interference Robustness Evaluation of IEEE 802.15.4-2015 OQPSK-DSSS and SUN-OFDM Physical Layers for Industrial Communications. Electronics (Switzerland), 2019, 8, 1045.	3.1	12
48	LaCOLLA: Middleware for Self-Sufficient Online Collaboration. IEEE Internet Computing, 2007, 11, 56-64.	3.3	11
49	OpenWSN & OpenMote: Demo'ing a Complete Ecosystem for the Industrial Internet of Things. , 2016, , .		11
50	An analysis of packet fragmentation impact in LPWAN. , 2018, , .		11
51	Energy modeling and adaptive sampling algorithms for energyâ€harvesting powered nodes with sampling rate limitations. Transactions on Emerging Telecommunications Technologies, 2020, 31, e3754.	3.9	11
52	Characterising foliage influence on LoRaWAN pathloss in a tropical vegetative environment. IET Wireless Sensor Systems, 2020, 10, 198-207.	1.7	11
53	SWAP Project: Beyond the State of the Art on Harvested Energy-Powered Wireless Sensors Platform Design. , 2011, , .		9
54	Novel Routing Approach for the TSCH Mode of IEEE 802.15.14e in Wireless Sensor Networks with Mobile Nodes. , 2014, , .		9

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55	Lean Sensing: Exploiting Contextual Information for Most Energy-Efficient Sensing. IEEE Transactions on Industrial Informatics, 2015, 11, 1156-1165.	11.3	9
56	Dynamic Channel Calibration on a Crystal-Free Mote-on-a-Chip. IEEE Access, 2019, 7, 120884-120900.	4.2	9
57	6TiSCH on SCÎ¼M: Running a Synchronized Protocol Stack without Crystals. Sensors, 2020, 20, 1912.	3.8	9
58	Constrained Localization: A Survey. IEEE Access, 2022, 10, 49297-49321.	4.2	9
59	ZERO: Probabilistic Routing for Deploy and Forget Wireless Sensor Networks. Sensors, 2010, 10, 8920-8937.	3.8	8
60	PlanetLab@UOC: A real lab over the Internet to experiment with distributed systems. Computer Applications in Engineering Education, 2013, 21, 265-275.	3.4	8
61	Generic empiric propagation model for low power wireless networks operating at the 868 MHz band in smart cities. IET Microwaves, Antennas and Propagation, 2014, 8, 1143-1153.	1.4	8
62	Reliability through modulation diversity: can combining multiple IEEE 802.15.4-2015 SUN modulations improve PDR?. , 2020, , .		8
63	A Benchmark for Low-power Wireless Networking. , 2016, , .		8
64	YSF: A 6TiSCH Scheduling Function Minimizing Latency of Data Gathering in IIoT. IEEE Internet of Things Journal, 2022, 9, 8607-8615.	8.7	8
65	Design of a Motion Detector to Monitor Rowing Performance Based on Wireless Sensor Networks. , 2009, , .		7
66	Design of a Configurable Auction Server for Resource Allocation in Grid. , 2009, , .		7
67	Flexible Resource Discovery for Decentralized P2P and Volunteer Computing Systems. , 2010, , .		7
68	Wireless sensors as a tool to explore avalanche internal dynamics: Experiments at the WeissflÃ¼hjoch Snow Chute. Cold Regions Science and Technology, 2011, 65, 242-250.	3.5	7
69	Accurate Clock Discipline For Long-Term Synchronization Intervals. IEEE Sensors Journal, 2017, 17, 2249-2258.	4.7	7
70	CCR: Cost-aware cell relocation in 6TiSCH networks. Transactions on Emerging Telecommunications Technologies, 2018, 29, e3211.	3.9	7
71	Experimental Clock Calibration on a Crystal-Free Mote-on-a-Chip. , 2019, , .		7
72	Decentralized resource discovery mechanisms for distributed computing in peer-to-peer environments. ACM Computing Surveys, 2013, 45, 1-40.	23.0	6

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73	Balancing Power Consumption in IoT Devices by Using Variable Packet Size. , 2014, , .		6
74	(Not so) intuitive results from a smart agriculture low-power wireless mesh deployment. , 2016, , .		6
75	5GCroCo Barcelona Trial Site for Cross-border Anticipated Cooperative Collision Avoidance. , 2020, , .		6
76	Towards Dependable IoT via Interface Selection: Predicting Packet Delivery at the End Node in LoRaWAN Networks. Sensors, 2021, 21, 2707.	3.8	6
77	WiLD: Wireless Passive Moisture Sensing Under Moving Conditions for Smart Manufacturing. IEEE Sensors Journal, 2021, 21, 19541-19549.	4.7	6
78	Toward Low-Cost RF-Based Bulk Fabric Classification for the Textile Industry. IEEE Sensors Journal, 2022, 22, 16586-16594.	4.7	6
79	Improving Link Reliability of IEEE 802.15.4g SUN with Adaptive Modulation Diversity. , 2020, , .		5
80	Standards-Compliant Multi-Protocol On-Board Unit for the Evaluation of Connected and Automated Mobility Services in Multi-Vendor Environments. Sensors, 2021, 21, 2090.	3.8	5
81	Semantics for Connectivity Management in IoT Sensing. Lecture Notes in Computer Science, 2021, , 297-311.	1.3	5
82	Towards an Open Grid Marketplace Framework for Resources Trade. , 2007, , 1322-1330.		5
83	A Dataset to Evaluate IEEE 802.15.4g SUN for Dependable Low-Power Wireless Communications in Industrial Scenarios. Data, 2020, 5, 64.	2.3	4
84	QuickCal: Assisted Calibration for Crystal-Free Micromotes. IEEE Internet of Things Journal, 2021, 8, 1846-1858.	8.7	4
85	Exploiting the Solar Energy Surplus for Edge Computing. IEEE Transactions on Sustainable Computing, 2022, 7, 135-143.	3.1	4
86	F-Interop Platform and Tools: Validating IoT Implementations Faster. Lecture Notes in Computer Science, 2018, , 332-343.	1.3	4
87	Experimental Energy Consumption of Frame Slotted ALOHA and Distributed Queuing for Data Collection Scenarios. Sensors, 2014, 14, 13416-13436.	3.8	3
88	Lessons Learned from the 6TiSCH Plugtests. Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering, 2016, , 415-426.	0.3	3
89	Aggressive Fragmentation Strategy for Enhanced Network Performance in Dense LPWANs. , 2018, , .		3
90	Towards Reliable IEEE 802.15.4g SUN with Re-transmission Shaping and Adaptive Modulation Selection. Journal of Signal Processing Systems, 2021, 93, 1027-1044.	2.1	3

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91	Int5Gent: An integrated end-to-end system platform for verticals and data plane solutions beyond 5G. , 2021, , .		3
92	Towards Decentralized Resource Allocation for Collaborative Peer to Peer Learning. , 2008, , .		2
93	The Grid4All ontology for the retrieval of traded resources in a market-oriented grid. International Journal of Web and Grid Services, 2008, 4, 418.	0.5	2
94	On the use of the 433 MHz band to improve the energy efficiency of M2M communications. , 2013, , .		2
95	Demonstrating Low-Power Distributed Queuing for active RFID communications at 433 MHz. , 2014, , .		2
96	Rover. , 2016, , .		2
97	On the Suitability of 6TiSCH for wireless seismic data streaming. Internet Technology Letters, 2018, 1, e20.	1.9	2
98	Industrial IoT with Crystal-Free Mote-on-Chip. , 2020, , .		2
99	DyMRA: A Decentralized Resource Allocation Framework for Collaborative Learning Environments. Studies in Computational Intelligence, 2009, , 147-169.	0.9	2
100	Industrial Internet of Things: Specificities and challenges. Internet Technology Letters, 2020, 3, e172.	1.9	2
101	On the Sustainability of Virtual Platforms: A Behavioral Intervention. IEEE Access, 2022, 10, 29194-29206.	4.2	2
102	The Grid4All Ontology for the Retrieval of Traded Resources in a Market-Oriented Grid. , 2008, , .		1
103	Optimal Rate Allocation in Cluster-Tree WSNs. Sensors, 2011, 11, 3611-3639.	3.8	1
104	Arp@: Remote experiences with real embedded systems. Computer Applications in Engineering Education, 2014, 22, 639-648.	3.4	1
105	Supporting the IoT Business Value Through the Platformization of Pilots. IEEE Pervasive Computing, 2018, 17, 29-39.	1.3	1
106	Why Channel Hopping Makes Sense, even with IEEE802.15.4 OFDM at 2.4 GHz. , 2018, , .		1
107	Grid4All: Open Market Places for Democratic Grids. Lecture Notes in Computer Science, 2008, , 197-207.	1.3	1
108	A Multi-lane Double Auction for Economic-Based Service Management in the Cloud. Studies in Computational Intelligence, 2010, , 117-148.	0.9	1

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109	Authenticated Preambles for Denial of Service Mitigation in LPWANs. Lecture Notes in Computer Science, 2018, , 199-210.	1.3	1
110	DyMRA: Dynamic Market Deployment for Decentralized Resource Allocation. , 2007, , 53-63.		1
111	Towards Measurement Range Extension of UHF RFID Temperature Sensors for Industrial Applications. , 2022, , .		1
112	Information and Regulation in Decentralized Marketplaces for P2P-Grids. , 2008, , .		0
113	Bidding Support for Computational Resources. , 2008, , .		0
114	Simulation and Modelling of a Multi-lane Double Auction Mechanism to Allocate Computational Resources in the Grid. , 2009, , .		0
115	A bidding specification for Grid resources. International Journal of Grid and Utility Computing, 2009, 1, 194.	0.2	0
116	jxSensor: A Sensor Network Integration Layer for JXTA. , 2012, , .		0
117	Developing a Low-Cost Thermal Camera for Industrial Predictive Maintenance Applications. Lecture Notes on Data Engineering and Communications Technologies, 2019, , 182-193.	0.7	0
118	Model-Aware Collision Resolution for High-Order Orthogonal Modulations. IEEE Wireless Communications Letters, 2020, 9, 957-961.	5.0	0
119	Improving Link Reliability of IEEE 802.15.4g SUN with Re-Transmission Shaping. , 2020, , .		0