

# Josep Miquel Jornet

## List of Publications by Citations

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150  
papers

6,872  
citations

38  
h-index

80  
g-index

193  
ext. papers

8,745  
ext. citations

5.8  
avg, IF

6.75  
L-index

#	Paper	IF	Citations
150	Terahertz band: Next frontier for wireless communications. <i>Physical Communication</i> , <b>2014</b> , 12, 16-32	2.2	762
149	Channel Modeling and Capacity Analysis for Electromagnetic Wireless Nanonetworks in the Terahertz Band. <i>IEEE Transactions on Wireless Communications</i> , <b>2011</b> , 10, 3211-3221	9.6	528
148	Electromagnetic wireless nanosensor networks. <i>Nano Communication Networks</i> , <b>2010</b> , 1, 3-19	2.9	444
147	The Internet of nano-things. <i>IEEE Wireless Communications</i> , <b>2010</b> , 17, 58-63	13.4	336
146	Graphene-based nano-patch antenna for terahertz radiation. <i>Photonics and Nanostructures - Fundamentals and Applications</i> , <b>2012</b> , 10, 353-358	2.6	250
145	Graphene-based Plasmonic Nano-Antenna for Terahertz Band Communication in Nanonetworks. <i>IEEE Journal on Selected Areas in Communications</i> , <b>2013</b> , 31, 685-694	14.2	243
144	Nanonetworks. <i>Communications of the ACM</i> , <b>2011</b> , 54, 84-89	2.5	197
143	Femtosecond-Long Pulse-Based Modulation for Terahertz Band Communication in Nanonetworks. <i>IEEE Transactions on Communications</i> , <b>2014</b> , 62, 1742-1754	6.9	189
142	Focused beam routing protocol for underwater acoustic networks <b>2008</b> ,		166
141	TeraNets: ultra-broadband communication networks in the terahertz band. <i>IEEE Wireless Communications</i> , <b>2014</b> , 21, 130-135	13.4	148
140	Realizing Ultra-Massive MIMO (1024 $\times$ 1024) communication in the (0.06 $\times$ 0) Terahertz band. <i>Nano Communication Networks</i> , <b>2016</b> , 8, 46-54	2.9	142
139	Joint Energy Harvesting and Communication Analysis for Perpetual Wireless Nanosensor Networks in the Terahertz Band. <i>IEEE Nanotechnology Magazine</i> , <b>2012</b> , 11, 570-580	2.6	142
138	Security and eavesdropping in terahertz wireless links. <i>Nature</i> , <b>2018</b> , 563, 89-93	50.4	134
137	PHLAME: A Physical Layer Aware MAC protocol for Electromagnetic nanonetworks in the Terahertz Band. <i>Nano Communication Networks</i> , <b>2012</b> , 3, 74-81	2.9	121
136	Channel Model and Capacity Analysis of Molecular Communication with Brownian Motion. <i>IEEE Communications Letters</i> , <b>2012</b> , 16, 797-800	3.8	119
135	Enabling Indoor Mobile Millimeter-wave Networks Based on Smart Reflect-arrays <b>2018</b> ,		119
134	. <i>IEEE Transactions on Wireless Communications</i> , <b>2017</b> , 16, 1791-1808	9.6	116

133	Wireless Communications for Optogenetics-Based Brain Stimulation: Present Technology and Future Challenges. <i>IEEE Communications Magazine</i> , <b>2018</b> , 56, 218-224	9.1	115
132	Terahertz Communication for Vehicular Networks. <i>IEEE Transactions on Vehicular Technology</i> , <b>2017</b> , 66, 5617-5625	6.8	113
131	Energy and spectrum-aware MAC protocol for perpetual wireless nanosensor networks in the Terahertz Band. <i>Ad Hoc Networks</i> , <b>2013</b> , 11, 2541-2555	4.8	101
130	Increasing indoor spectrum sharing capacity using smart reflect-array <b>2016</b> ,		100
129	Tunable topological charge vortex microlaser. <i>Science</i> , <b>2020</b> , 368, 760-763	33.3	84
128	A routing framework for energy harvesting wireless nanosensor networks in the Terahertz Band. <i>Wireless Networks</i> , <b>2014</b> , 20, 1169-1183	2.5	78
127	Channel Capacity of Electromagnetic Nanonetworks in the Terahertz Band <b>2010</b> ,		77
126	Capacity and throughput analysis of nanoscale machine communication through transparency windows in the terahertz band. <i>Nano Communication Networks</i> , <b>2014</b> , 5, 72-82	2.9	73
125	A cross-layer communication module for the Internet of Things. <i>Computer Networks</i> , <b>2013</b> , 57, 622-633	5.4	71
124	Sensitive Detection of Exosomal Proteins via a Compact Surface Plasmon Resonance Biosensor for Cancer Diagnosis. <i>ACS Sensors</i> , <b>2018</b> , 3, 1471-1479	9.2	66
123	Information capacity of pulse-based Wireless Nanosensor Networks <b>2011</b> ,		66
122	Graphene-based plasmonic nano-transceiver for terahertz band communication <b>2014</b> ,		63
121	On Joint Frequency and Power Allocation in a Cross-Layer Protocol for Underwater Acoustic Networks. <i>IEEE Journal of Oceanic Engineering</i> , <b>2010</b> , 35, 936-947	3.3	61
120	Nano-Communication for Biomedical Applications: A Review on the State-of-the-Art From Physical Layers to Novel Networking Concepts. <i>IEEE Access</i> , <b>2016</b> , 4, 3920-3935	3.5	59
119	Low-Weight Channel Coding for Interference Mitigation in Electromagnetic Nanonetworks in the Terahertz Band <b>2011</b> ,		56
118	The Internet of Multimedia Nano-Things. <i>Nano Communication Networks</i> , <b>2012</b> , 3, 242-251	2.9	52
117	. <i>IEEE Access</i> , <b>2017</b> , 5, 6389-6398	3.5	49
116	Terahertz Channel Model and Link Budget Analysis for Intrabody Nanoscale Communication. <i>IEEE Transactions on Nanobioscience</i> , <b>2017</b> , 16, 491-503	3.4	48

115	Ultra-Massive MIMO Channel Modeling for Graphene-Enabled Terahertz-Band Communications <b>2018,</b>		47
114	Low-weight error-prevention codes for electromagnetic nanonetworks in the Terahertz Band. <i>Nano Communication Networks</i> , <b>2014</b> , 5, 35-44	2.9	39
113	Toward End-to-End, Full-Stack 6G Terahertz Networks. <i>IEEE Communications Magazine</i> , <b>2020</b> , 58, 48-54	9.1	39
112	Characterization of graphene-based nano-antennas in the terahertz band <b>2012,</b>		37
111	X60: A Programmable Testbed for Wideband 60 GHz WLANs with Phased Arrays. <i>Computer Communications</i> , <b>2019</b> , 133, 77-88	5.1	34
110	Intelligent Environments Based on Ultra-massive MIMO Platforms for Wireless Communication in Millimeter Wave and Terahertz Bands <b>2019,</b>		34
109	Mutual Coupling Reduction for Ultra-Dense Multi-Band Plasmonic Nano-Antenna Arrays Using Graphene-Based Frequency Selective Surface. <i>IEEE Access</i> , <b>2019</b> , 7, 33214-33225	3.5	33
108	Intra-Body Optical Channel Modeling for In Vivo Wireless Nanosensor Networks. <i>IEEE Transactions on Nanobioscience</i> , <b>2016</b> , 15, 41-52	3.4	33
107	TeraSim: An ns-3 extension to simulate Terahertz-band communication networks. <i>Nano Communication Networks</i> , <b>2018</b> , 17, 36-44	2.9	28
106	TAB-MAC: Assisted beamforming MAC protocol for Terahertz communication networks. <i>Nano Communication Networks</i> , <b>2016</b> , 9, 36-42	2.9	28
105	X60 <b>2017,</b>		25
104	Powering In-Body Nanosensors With Ultrasounds. <i>IEEE Nanotechnology Magazine</i> , <b>2016</b> , 15, 151-154	2.6	25
103	Expedited Neighbor Discovery in Directional Terahertz Communication Networks Enhanced by Antenna Side-Lobe Information. <i>IEEE Transactions on Vehicular Technology</i> , <b>2019</b> , 68, 7804-7814	6.8	25
102	A joint energy harvesting and consumption model for self-powered nano-devices in nanonetworks <b>2012,</b>		25
101	A Link-Layer Synchronization and Medium Access Control Protocol for Terahertz-Band Communication Networks. <i>IEEE Transactions on Mobile Computing</i> , <b>2021</b> , 20, 2-18	4.6	25
100	Joint physical and link layer error control analysis for nanonetworks in the Terahertz band. <i>Wireless Networks</i> , <b>2016</b> , 22, 1221-1233	2.5	24
99	A receiver architecture for pulse-based electromagnetic nanonetworks in the Terahertz Band <b>2012,</b>		24
98	A new CubeSat design with reconfigurable multi-band radios for dynamic spectrum satellite communication networks. <i>Ad Hoc Networks</i> , <b>2019</b> , 86, 166-178	4.8	24

97	Exploiting Multipath Terahertz Communications for Physical Layer Security in Beyond 5G Networks <b>2019,</b>		23
96	On the Achievable Throughput of Energy-Harvesting Nanonetworks in the Terahertz Band. <i>IEEE Sensors Journal</i> , <b>2018</b> , 18, 902-912	4	21
95	Wave Propagation and Channel Modeling in Chip-Scale Wireless Communications: A Survey From Millimeter-Wave to Terahertz and Optics. <i>IEEE Access</i> , <b>2020</b> , 8, 278-293	3.5	20
94	Lithographically Defined Plasmonic Graphene Antennas for Terahertz-Band Communication. <i>IEEE Antennas and Wireless Propagation Letters</i> , <b>2016</b> , 15, 1553-1556	3.8	19
93	Superabsorbing Metasurfaces with Hybrid Ag/Au Nanostructures for Surface-Enhanced Raman Spectroscopy Sensing of Drugs and Chemicals. <i>Small Methods</i> , <b>2018</b> , 2, 1800045	12.8	19
92	Stochastic Interference Modeling and Experimental Validation for Pulse-Based Terahertz Communication. <i>IEEE Transactions on Wireless Communications</i> , <b>2019</b> , 18, 4103-4115	9.6	19
91	Design of graphene-based plasmonic nano-antenna arrays in the presence of mutual coupling <b>2017,</b>		18
90	Nanoscale Optical Wireless Channel Model for Intra-Body Communications: Geometrical, Time, and Frequency Domain Analyses. <i>IEEE Transactions on Communications</i> , <b>2018</b> , 66, 1579-1593	6.9	18
89	Photothermal Modeling and Analysis of Intrabody Terahertz Nanoscale Communication. <i>IEEE Transactions on Nanobioscience</i> , <b>2017</b> , 16, 755-763	3.4	18
88	Wireless Optogenetic Nanonetworks for Brain Stimulation: Device Model and Charging Protocols. <i>IEEE Transactions on Nanobioscience</i> , <b>2017</b> , 16, 859-872	3.4	18
87	End-to-End Noise Model for Intra-Body Terahertz Nanoscale Communication. <i>IEEE Transactions on Nanobioscience</i> , <b>2018</b> , 17, 464-473	3.4	18
86	Design and Operation of a Graphene-Based Plasmonic Nano-Antenna Array for Communication in the Terahertz Band. <i>IEEE Journal on Selected Areas in Communications</i> , <b>2020</b> , 38, 2104-2117	14.2	17
85	Graphene-based plasmonic phase modulator for Terahertz-band communication <b>2016,</b>		17
84	Nanonetworks in Biomedical Applications. <i>Current Drug Targets</i> , <b>2019</b> , 20, 800-807	3	17
83	Interference Analysis of EHF/THF Communications Systems with Blocking and Directional Antennas <b>2016,</b>		17
82	Capacity and Outage of Terahertz Communications With User Micro-Mobility and Beam Misalignment. <i>IEEE Transactions on Vehicular Technology</i> , <b>2020</b> , 69, 6822-6827	6.8	16
81	The TeraNova platform: An integrated testbed for ultra-broadband wireless communications at true Terahertz frequencies. <i>Computer Networks</i> , <b>2020</b> , 179, 107370	5.4	16
80	Multi-layer Intrabody Terahertz Wave Propagation Model for Nanobiosensing Applications. <i>Nano Communication Networks</i> , <b>2017</b> , 14, 9-15	2.9	16

79	The effect of small-scale mobility on terahertz band communications <b>2018</b> ,		16
78	Distributed Timely Throughput Optimal Scheduling for the Internet of Nano-Things. <i>IEEE Internet of Things Journal</i> , <b>2016</b> , 3, 1202-1212	10.7	15
77	PHLAME: A physical layer aware MAC protocol for electromagnetic nanonetworks <b>2011</b> ,		15
76	Distributed power control for underwater acoustic networks <b>2008</b> ,		15
75	Ultrafast control of fractional orbital angular momentum of microlaser emissions. <i>Light: Science and Applications</i> , <b>2020</b> , 9, 179	16.7	15
74	. <i>IEEE Transactions on Molecular, Biological, and Multi-Scale Communications</i> , <b>2020</b> , 6, 107-133	2.3	15
73	Terahertz Band Communication: An Old Problem Revisited and Research Directions for the Next Decade (Invited Paper). <i>IEEE Transactions on Communications</i> , <b>2022</b> , 1-1	6.9	15
72	Plasmonic Interferometer Array Biochip as a New Mobile Medical Device for Cancer Detection. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , <b>2019</b> , 25,	3.8	14
71	Hierarchical Bandwidth Modulation for Ultra-Broadband Terahertz Communications <b>2019</b> ,		14
70	A Link-Layer Synchronization and Medium Access Control Protocol for Terahertz-Band Communication Networks <b>2015</b> ,		14
69	Metallic Plasmonic Nano-antenna for Wireless Optical Communication in Intra-body Nanonetworks <b>2015</b> ,		14
68	Wireless optogenetic neural dust for deep brain stimulation <b>2016</b> ,		13
67	Nanodevice Arrays for Peripheral Nerve Fascicle Activation Using Ultrasound Energy-Harvesting. <i>IEEE Nanotechnology Magazine</i> , <b>2017</b> , 16, 919-930	2.6	13
66	Cross-layer analysis of optimal relaying strategies for terahertz-band communication networks <b>2017</b> ,		12
65	Joint Synchronization and Symbol Detection Design for Pulse-Based Communications in the THz Band <b>2015</b> ,		12
64	Optimizing Link Sleeping Reconfigurations in ISP Networks with Off-Peak Time Failure Protection. <i>IEEE Transactions on Network and Service Management</i> , <b>2013</b> , 10, 176-188	4.8	12
63	Plasmonic HEMT Terahertz Transmitter based on the Dyakonov-Shur Instability: Performance Analysis and Impact of Nonideal Boundaries. <i>Physical Review Applied</i> , <b>2018</b> , 10,	4.3	12
62	Experimental Demonstration of Ultra-broadband Wireless Communications at True Terahertz Frequencies <b>2019</b> ,		10

61	Optogenomic Interfaces: Bridging Biological Networks With the Electronic Digital World. <i>Proceedings of the IEEE</i> , <b>2019</b> , 107, 1387-1401	14.3	10
60	Scalability of the Channel Capacity in Graphene-Enabled Wireless Communications to the Nanoscale. <i>IEEE Transactions on Communications</i> , <b>2014</b> , 1-1	6.9	10
59	Fundamentals of Electromagnetic Nanonetworks in the Terahertz Band. <i>Foundations and Trends in Networking</i> , <b>2012</b> , 7, 77-233		10
58	Multi-hop Deflection Routing Algorithm Based on Reinforcement Learning for Energy-Harvesting Nanonetworks. <i>IEEE Transactions on Mobile Computing</i> , <b>2020</b> , 1-1	4.6	9
57	On the Use of Integral Geometry for Interference Modeling and Analysis in Wireless Networks. <i>IEEE Communications Letters</i> , <b>2016</b> , 20, 2530-2533	3.8	9
56	Channel Modeling and Performance Analysis of Airplane-Satellite Terahertz Band Communications. <i>IEEE Transactions on Vehicular Technology</i> , <b>2021</b> , 70, 2047-2061	6.8	9
55	THz Technology for Space Communications <b>2018</b> ,		9
54	Brain Organoids: Expanding Our Understanding of Human Development and Disease. <i>Results and Problems in Cell Differentiation</i> , <b>2018</b> , 66, 183-206	1.4	9
53	On the feeding mechanisms for graphene-based THz plasmonic nano-antennas <b>2015</b> ,		8
52	UWB Short-Range Bifocusing Tomographic Imaging. <i>IEEE Transactions on Instrumentation and Measurement</i> , <b>2008</b> , 57, 2414-2420	5.2	8
51	THz Communications for Mobile Heterogeneous Networks <b>2018</b> , 56, 94-95		8
50	On-Chip Wireless Optical Channel Modeling for Massive Multi-Core Computing Architectures <b>2017</b> ,		7
49	Scattering of terahertz radiation on a graphene-based nano-antenna <b>2011</b> ,		7
48	Guest Editorial Special Issue on the Internet of Nano Things. <i>IEEE Internet of Things Journal</i> , <b>2016</b> , 3, 1-3	10.7	7
47	TeraSim: An ns-3 extension to simulate Terahertz-band communication networks. <i>Software Impacts</i> , <b>2019</b> , 1, 100004	1.8	6
46	Experimental Wireless Testbed for Ultrabroadband Terahertz Networks <b>2020</b> ,		6
45	Global Genome Conformational Programming during Neuronal Development Is Associated with CTCF and Nuclear FGFR1-The Genome Archipelago Model. <i>International Journal of Molecular Sciences</i> , <b>2020</b> , 22,	6.3	6
44	Characterising THz propagation and intrabody thermal absorption in iWNSNs. <i>IET Microwaves, Antennas and Propagation</i> , <b>2018</b> , 12, 525-532	1.6	6

43	A versatile experimental testbed for ultrabroadband communication networks above 100 GHz. <i>Computer Networks</i> , <b>2021</b> , 193, 108092	5-4	6
42	Deep-Learning-Based Resource Allocation for Multi-Band Communications in CubeSat Networks <b>2019</b> ,		5
41	Spectrum Allocation with Adaptive Sub-band Bandwidth for Terahertz Communication Systems. <i>IEEE Transactions on Communications</i> , <b>2022</b> , 1-1	6.9	5
40	Stochastic multipath channel modeling and power delay profile analysis for terahertz-band communication <b>2017</b> ,		5
39	Bio-electromagnetic THz propagation modeling for in-vivo wireless nanosensor networks <b>2017</b> ,		4
38	Increasing the Communication Distance Between Nano-Biosensing Implants and Wearable Devices <b>2018</b> ,		4
37	Cooperative Raman Spectroscopy for Real-Time In Vivo Nano-Biosensing. <i>IEEE Transactions on Nanobioscience</i> , <b>2017</b> , 16, 571-584	3-4	4
36	Nanoscale optical channel modeling for in vivo wireless nanosensor networks: A geometrical approach <b>2017</b> ,		4
35	Directional Terahertz Communication Systems for 6G: Fact Check: A Quantitative Look. <i>IEEE Vehicular Technology Magazine</i> , <b>2021</b> , 16, 68-77	9-9	4
34	Nano-cameras <b>2018</b> ,		4
33	Modeling and performance analysis of a reconfigurable plasmonic nano-antenna array architecture for terahertz communications <b>2018</b> ,		4
32	Hydrodynamic theory of the Dyakonov-Shur instability in graphene transistors. <i>Physical Review B</i> , <b>2021</b> , 104,	3-3	4
31	A Hybrid Intelligent Reflecting Surface with Graphene-based Control Elements for THz Communications <b>2020</b> ,		4
30	Dynamic Beamforming Algorithms for Ultra-directional Terahertz Communication Systems Based on Graphene-based Plasmonic Nano-antenna Arrays <b>2018</b> ,		4
29	Multi-hop Deflection Routing Algorithm Based on Q-Learning for Energy-Harvesting Nanonetworks <b>2018</b> ,		4
28	Poster: X60 <b>2017</b> ,		3
27	Graphene-based frequency selective surface decoupling structure for ultra-dense multi-band plasmonic nano-antenna arrays <b>2018</b> ,		3
26	Routing Protocol Design for Directional and Buffer-limited Terahertz Communication Networks <b>2020</b> ,		3



25	Analysis of Light Propagation on Physiological Properties of Neurons for Nanoscale Optogenetics. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , <b>2019</b> , 27, 108-117	4.8	3
24	An On-Chip Amplitude and Frequency Modulating Graphene-based Plasmonic Terahertz Signal Nano-Generator <b>2021</b> ,		3
23	Design and performance analysis of ultra-massive multi-carrier multiple input multiple output communications in the terahertz band <b>2017</b> ,		2
22	IEEE Access Special Section Editorial: Nano-Antennas, Nano-Transceivers and Nano-Networks/Communications. <i>IEEE Access</i> , <b>2018</b> , 6, 8270-8272	3.5	2
21	Leveraging Antenna Side-Lobe Information for Expedited Neighbor Discovery in Directional Terahertz Communication Networks <b>2018</b> ,		2
20	Real-Time Digital Baseband System for Ultra-Broadband THz Communication <b>2020</b> ,		2
19	Low-weight Channel Codes for Error Prevention in Electromagnetic Nanonetworks in the Terahertz Band <b>2007</b> ,		2
18	Multi-hop Relaying Distribution Strategies for Terahertz-band Communication Networks: A Cross-layer Analysis. <i>IEEE Transactions on Wireless Communications</i> , <b>2021</b> , 1-1	9.6	2
17	<b>2016</b> ,		2
16	ADAPT: An Adaptive Directional Antenna Protocol for medium access control in Terahertz communication networks. <i>Ad Hoc Networks</i> , <b>2021</b> , 119, 102540	4.8	2
15	An optofluidic channel model for in vivo nanosensor networks in human blood <b>2017</b> ,		1
14	Design and Operation of a Smart GrapheneMetal Hybrid Reflectarray at THz Frequencies <b>2020</b> ,		1
13	Joint Synchronization and Symbol Detection Design for Pulse-Based Communications in the THz Band <b>2014</b> ,		1
12	Data signals for Terahertz communications research. <i>Computer Networks</i> , <b>2022</b> , 203, 108628	5.4	1
11	Interconnecting wearable devices with nano-biosensing implants through optical wireless communications <b>2018</b> ,		1
10	Stochastic noise model for intra-body terahertz nanoscale communication <b>2018</b> ,		1
9	Realizing Asymmetric Boundary Conditions for Plasmonic THz Wave Generation in HEMTs <b>2019</b> ,		1
8	Beamforming optical antenna arrays for nano-bio sensing and actuation applications. <i>Nano Communication Networks</i> , <b>2021</b> , 29, 100363	2.9	1

7	Ultrabroadband Spread Spectrum Techniques for Secure Dynamic Spectrum Sharing Above 100 GHz Between Active and Passive Users <b>2021</b> ,		1
6	An energy-efficient source-anonymity protocol in surveillance systems. <i>Personal and Ubiquitous Computing</i> , <b>2016</b> , 20, 771-783	2.1	0
5	Sensors: Superabsorbing Metasurfaces with Hybrid AgAu Nanostructures for Surface-Enhanced Raman Spectroscopy Sensing of Drugs and Chemicals (Small Methods 7/2018). <i>Small Methods</i> , <b>2018</b> , 2, 1800037	12.8	
4	Ultra-Broadband Networking Systems Testbed at Northeastern University. <i>Springer Series in Optical Sciences</i> , <b>2022</b> , 473-476	0.5	
3	Noise and Interference. <i>Springer Series in Optical Sciences</i> , <b>2022</b> , 85-93	0.5	
2	Hybridization of plasmon modes in multishell bimetallic nanoparticles: a numerical study. <i>Journal of Nanophotonics</i> , <b>2020</b> , 14, 1	1.1	
1	Channel Impulse Analysis of Light Propagation for Point-to-Point Nano Communications Through Cortical Neurons. <i>IEEE Transactions on Communications</i> , <b>2020</b> , 68, 7111-7122	6.9	