Sasitharan Balasubramaniam

List of Publications by Year
in descending order

137 papers	2,959 citations	236612 25 h-index	223531 46 g-index
139 all docs	139 docs citations	139 times ranked	2541 citing authors

#	Article	IF	Citations
1	Opportunistic routing through conjugation in bacteria communication nanonetwork. Nano Communication Networks, 2012, 3, 36-45.	1.6	223
2	Body area nanonetworks with molecular communications in nanomedicine. , 2012, 50, 28-34.		208
3	Towards autonomic management of communications networks. , 2007, 45, 112-121.		166
4	BiRSM: bio-inspired resource self-management for all IP-networks. IEEE Network, 2010, 24, 20-25.	4.9	155
5	Realizing the Internet of Nano Things: Challenges, Solutions, and Applications. Computer, 2013, 46, 62-68.	1.2	147
6	Wireless Communications for Optogenetics-Based Brain Stimulation: Present Technology and Future Challenges. IEEE Communications Magazine, 2018, 56, 218-224.	4.9	138
7	Middleware for Distributed Context-Aware Systems. Lecture Notes in Computer Science, 2005, , 846-863.	1.0	128
8	Human activity recognition in pervasive health-care: Supporting efficient remote collaboration. Journal of Network and Computer Applications, 2008, 31, 628-655.	5.8	112
9	Development of artificial neuronal networks for molecular communication. Nano Communication Networks, 2011, 2, 150-160.	1.6	103
10	Multi-Hop Conjugation Based Bacteria Nanonetworks. IEEE Transactions on Nanobioscience, 2013, 12, 47-59.	2.2	89
11	A review of experimental opportunities for molecular communication. Nano Communication Networks, 2013, 4, 43-52.	1.6	67
12	Moving forward with molecular communication: from theory to human health applications [point of view]. Proceedings of the IEEE, 2019, 107, 858-865.	16.4	63
13	Virtual Groups for Patient WBAN Monitoring in Medical Environments. IEEE Transactions on Biomedical Engineering, 2012, 59, 3238-3246.	2.5	49
14	Molecular Communication Modeling of Antibody-Mediated Drug Delivery Systems. IEEE Transactions on Biomedical Engineering, 2015, 62, 1683-1695.	2.5	45
15	Integrated Terahertz Communication With Reflectors for 5G Small-Cell Networks. IEEE Transactions on Vehicular Technology, 2017, 66, 5647-5657.	3.9	44
16	Security Vulnerabilities and Countermeasures for Target Localization in Bio-NanoThings Communication Networks. IEEE Transactions on Information Forensics and Security, 2016, 11, 665-676.	4.5	40
17	An Information Theoretic Framework to Analyze Molecular Communication Systems Based on Statistical Mechanics. Proceedings of the IEEE, 2019, 107, 1230-1255.	16.4	40
18	Security in Brain-Computer Interfaces. ACM Computing Surveys, 2022, 54, 1-35.	16.1	40

#	ARTICLE	IF	CITATIONS
19	Cooperative wireless sensor environments supporting body area networks. IEEE Transactions on Consumer Electronics, 2012, 58, 284-292.	3.0	38
20	Reliability and Delay Analysis of Multihop Virus-Based Nanonetworks. IEEE Nanotechnology Magazine, 2013, 12, 674-684.	1.1	38
21	Comparative End-to-End Analysis of Ca^{2+}-Signaling-Based Molecular Communication in Biological Tissues. IEEE Transactions on Communications, 2015, 63, 5128-5142.	4.9	36
22	Digital Twin for Metasurface Reflector Management in 6G Terahertz Communications. IEEE Access, 2020, 8, 114580-114596.	2.6	36
23	Powering In-Body Nanosensors With Ultrasounds. IEEE Nanotechnology Magazine, 2016, 15, 151-154.	1.1	32
24	Biological principles for future internet architecture design. , 2011, 49, 44-52.		31
25	Evolutionary multiobjective optimization for green clouds. , 2012, , .		31
26	Context-awareness and the smart grid: Requirements and challenges. Computer Networks, 2015, 79, 263-282.	3.2	30
27	The Impact of Social Behavior on the Attenuation and Delay of Bacterial Nanonetworks. IEEE Transactions on Nanobioscience, 2016, 15, 959-969.	2.2	29
28	Wireless Optogenetic Nanonetworks for Brain Stimulation: Device Model and Charging Protocols. IEEE Transactions on Nanobioscience, 2017, 16, 859-872.	2.2	29
29	Linear Channel Modeling and Error Analysis for Intra/Inter-Cellular Ca^{2+} Molecular Communication. IEEE Transactions on Nanobioscience, 2016, 15, 488-498.	2.2	25
30	Transmission Protocols for Calcium-Signaling-Based Molecular Communications in Deformable Cellular Tissue. IEEE Nanotechnology Magazine, 2014, 13, 779-788.	1.1	24
31	A Service-Oriented Architecture for Body Area NanoNetworks with Neuron-based Molecular Communication. Mobile Networks and Applications, 2014, 19, 707-717.	2.2	20
32	Forward and Reverse coding for chromosome transfer in bacterial nanonetworks. Nano Communication Networks, 2014, 5, 15-24.	1.6	19
33	Wireless optogenetic neural dust for deep brain stimulation. , 2016, , .		18
34	Towards Concurrent Data Transmission: Exploiting Plasmid Diversity by Bacterial Conjugation. IEEE Transactions on Nanobioscience, 2017, 16, 287-298.	2.2	17
35	Synthetic protocols for nano sensor transmitting platforms using enzyme and DNA based computing. Nano Communication Networks, 2010, 1, 50-62.	1.6	16
36	An Evaluation of Parameterized Gradient Based Routing With QoE Monitoring for Multiple IPTV Providers. IEEE Transactions on Broadcasting, 2011, 57, 183-194.	2.5	16

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37	Exploiting bacterial properties for multi-hop nanonetworks. , 2014, 52, 184-191.		16
38	A Molecular Communication Model of Exosome-mediated Brain Drug Delivery. , 2019, , .		16
39	Leveraging Social Network Analysis for Characterizing Cohesion of Human-Managed Animals. IEEE Transactions on Computational Social Systems, 2019, 6, 323-337.	3.2	16
40	Cyberattacks on Miniature Brain Implants to Disrupt Spontaneous Neural Signaling. IEEE Access, 2020, 8, 152204-152222.	2.6	16
41	Modeling of Modulated Exosome Release From Differentiated Induced Neural Stem Cells for Targeted Drug Delivery. IEEE Transactions on Nanobioscience, 2020, 19, 357-367.	2.2	16
42	A Service-based Joint Model Used for Distributed Learning: Application for Smart Agriculture. IEEE Transactions on Emerging Topics in Computing, 2021, , 1-1.	3.2	16
43	Molecular Communications in Viral Infections Research: Modeling, Experimental Data, and Future Directions. IEEE Transactions on Molecular, Biological, and Multi-Scale Communications, 2021, 7, 121-141.	1.4	16
44	Hybrid DNA and Enzyme Based Computing for Address Encoding, Link Switching and Error Correction in Molecular Communication. Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering, 2009, , 28-38.	0.2	16
45	Nanodevice Arrays for Peripheral Nerve Fascicle Activation Using Ultrasound Energy-Harvesting. IEEE Nanotechnology Magazine, 2017, 16, 919-930.	1.1	14
46	Biologically Inspired Self-Governance and Self-Organisation for Autonomic Networks. , 2006, , .		13
47	Dynamic Optimization Solution for Green Service Migration in Data Centres. , 2011, , .		13
48	Using Information Metrics and Molecular Communication to Detect Cellular Tissue Deformation. IEEE Transactions on Nanobioscience, 2014, 13, 278-288.	2.2	13
49	Molecular Communications Pulse-Based Jamming Model for Bacterial Biofilm Suppression. IEEE Transactions on Nanobioscience, 2018, 17, 533-542.	2.2	13
50	Engineering calcium signaling of astrocytes for neural–molecular computing logic gates. Scientific Reports, 2021, 11, 595.	1.6	13
51	GA-based frequency selection strategies for graphene-based nano-communication networks. , 2014, , .		12
52	You are AIRing too Much: Assessing the Privacy of Users in Crowdsourcing Environmental Data. , 2015, , .		12
53	Incorporating Bacterial Properties for Plasmid Delivery in Nano Sensor Networks. IEEE Nanotechnology Magazine, 2015, 14, 751-760.	1.1	12
54	DNA Molecular Storage System: Transferring Digitally Encoded Information through Bacterial Nanonetworks. IEEE Transactions on Emerging Topics in Computing, 2019, , 1-1.	3.2	12

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55	Adaptive Dynamic Routing Supporting Service Management for Future Internet. , 2009, , .		11
56	Policy-constrained bio-inspired processes for autonomic route management. Computer Networks, 2009, 53, 1666-1682.	3.2	11
57	Social behavior in bacterial nanonetworks: challenges and opportunities. IEEE Network, 2015, 29, 26-34.	4.9	11
58	Guest Editorial Special Issue on the Internet of Nano Things. IEEE Internet of Things Journal, 2016, 3, 1-3.	5.5	11
59	Gravity gradient routing for information delivery in fog Wireless Sensor Networks. Ad Hoc Networks, 2016, 46, 61-74.	3.4	11
60	Analysis of Light Propagation on Physiological Properties of Neurons for Nanoscale Optogenetics. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2019, 27, 108-117.	2.7	11
61	Human activity recognition supporting context-appropriate reminders for elderly. , 2009, , .		10
62	Hybrid renewable energy routing for ISP networks. , 2016, , .		10
63	Self-organising object networks using context zones for distributed activity recognition. , 2007, , .		10
64	Biologically inspired future service environment. Computer Networks, 2011, 55, 3423-3440.	3.2	9
65	Quality and Capacity Analysis of Molecular Communications in Bacterial Synthetic Logic Circuits. IEEE Transactions on Nanobioscience, 2019, 18, 628-639.	2.2	9
66	Utilizing Neurons for Digital Logic Circuits: A Molecular Communications Analysis. IEEE Transactions on Nanobioscience, 2020, 19, 224-236.	2.2	9
67	Multiobjective TDMA Optimization for Neuron-based Molecular Communication. , 2012, , .		9
68	A biologically inspired policy based management system for survivability in autonomic networks. , 2007, , .		8
69	Error control for calcium signaling based molecular communication. , 2013, , .		8
70	Computational Models for Trapping Ebola Virus Using Engineered Bacteria. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2018, 15, 2017-2027.	1.9	8
71	Evolving Intelligent Reflector Surface Toward 6G for Public Health: Application in Airborne Virus Detection. IEEE Network, 2021, 35, 306-312.	4.9	8
72	A Framework for In-Network Management in Heterogeneous Future Communication Networks. Lecture Notes in Computer Science, 2008, , 14-25.	1.0	8

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73	A Hybrid Genetic Algorithm/Variable Neighborhood Search Approach to Maximizing Residual Bandwidth of Links for Route Planning. Lecture Notes in Computer Science, 2010, , 49-60.	1.0	8
74	A Bayesian Network and Rule-Base Approach Towards Activity Inference. Vehicular Technology Conference-Fall (VTC-FALL), Proceedings, IEEE, 2007, , .	0.0	7
75	An Optimization based approach to maximizing QoS assurance for IPTV triple play services on the internet backbone. , 2009, , .		7
76	PaCRA: A Path-aware Content Replication Approach to support QoS guaranteed video on demand service in metropolitan IPTV networks. , 2010, , .		7
77	Using Competing Bacterial Communication to Disassemble Biofilms. , 2016, , .		7
78	Microfluidic System Protocols for Integrated On-Chip Communications and Cooling. IEEE Access, 2017, 5, 2417-2429.	2.6	7
79	HySAC: A Hybrid Delivery System with Adaptive Content Management for IPTV Networks. , 2011, , .		6
80	Adaptive transmission protocol for molecular communications in cellular tissues. , 2014, , .		6
81	Parameterised Gradient Based Routing (PGBR) for Future Internet. , 2009, , .		5
82	On delay distribution in IEEE 802.11 wireless networks. , 2011, , .		5
83	Forward and reverse coding for bacteria nanonetworks. , 2013, , .		5
84	Energy-Aware Tracking of Mobile Targets by Bacterial Nanonetworks. IEEE Transactions on Mobile Computing, 2021, 20, 2808-2819.	3.9	5
85	On the use of SHIM6 for Mobility Support in IMS Networks. , 2008, , .		5
86	Vertical Handover Based Adaptation for Multimedia Applications in Pervasive Systems. Lecture Notes in Computer Science, 2002, , 61-72.	1.0	5
87	Application of Genetic Algorithm to Maximise Clean Energy Usage for Data Centres. Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering, 2012, , 565-580.	0.2	5
88	A Graph-Based Molecular Communications Model Analysis of the Human Gut Bacteriome. IEEE Journal of Biomedical and Health Informatics, 2022, 26, 3567-3577.	3.9	5
89	Virus particle propagation and infectivity along the respiratory tract and a case study for SARS-CoV-2. Scientific Reports, 2022, 12, 7666.	1.6	5
90	A Combined Biologically and Socially Inspired Approach to Mitigating Ad Hoc Network Threats. Vehicular Technology Conference-Fall (VTC-FALL), Proceedings, IEEE, 2007, , .	0.0	4

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91	Federating Autonomic Network Management Systems for Flexible Control of End-to-End Communications Services. , 2011, , 101-118.		4
92	Coordinating Allocation of Resources for Multiple Virtual IPTV Providers to Maximize Revenue. IEEE Transactions on Broadcasting, 2011, 57, 826-839.	2.5	4
93	In Vivo Channel Characterization for Dengue Virus Infection. , 2019, , .		4
94	Capacity Analysis of a Peripheral Nerve Using Modulated Compound Action Potential Pulses. IEEE Transactions on Communications, 2019, 67, 154-164.	4.9	4
95	A multi-layered approach towards achieving survivability in autonomic network. , 2007, , .		3
96	PaCRAm: Path Aware Content Replication Approach with Multicast for IPTV Networks. , 2010, , .		3
97	Bio-inspired Service Management Framework: Green Data-Centres Case Study. , 2011, , .		3
98	Performance comparison of message encoding techniques for bacterial nanonetworks. , 2016, , .		3
99	Molecular Communications and Networking [Scanning the Issue]. Proceedings of the IEEE, 2019, 107, 1227-1229.	16.4	3
100	Reconfigurable Filtering of Neuro-Spike Communications Using Synthetically Engineered Logic Circuits. Frontiers in Computational Neuroscience, 2020, 14, 556628.	1.2	3
101	Deep brain drug-delivery control using vagus nerve communications. Computer Networks, 2020, 171, 107137.	3.2	3
102	Applying Blood Glucose Homeostatic Model Towards Self-management of IP QoS Provisioned Networks. Lecture Notes in Computer Science, 2006, , 84-95.	1.0	3
103	Review of Communication Mechanisms for Biological Nano and MEMS Devices. , 2007, , .		3
104	Light propagation analysis in nervous tissue for wireless optogenetic nanonetworks. , 2018, , .		3
105	Hydrogel-based Bio-nanomachine Transmitters for Bacterial Molecular Communications. , 2020, , .		3
106	A fast loss recovery scheme for IP multicast services. , 2007, , .		2
107	Chemotaxis and Quorum Sensing Inspired Device Interaction Supporting Social Networking. IEEE Vehicular Technology Conference, 2007, , .	0.2	2
108	Gradient Based Routing Support for Cooperative Multi-channel MAC in Ad Hoc Wireless Networks. , 2010, , .		2

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109	Artificial backbone neuronal network for nano scale sensors. , 2011, , .		2
110	Special Issue on Role of Inter-Disciplinary Research in Nanoscale Communication. Nano Communication Networks, 2011, 2, 1-3.	1.6	2
111	Wireless communications at the nanoscale [Guest Editorial]. IEEE Wireless Communications, 2012, 19, 10-11.	6.6	2
112	Fs-PGBR. Computer Communication Review, 2012, 42, 301-302.	1.5	2
113	Bio-inspired service management framework: green data-centres case study. International Journal of Grid and Utility Computing, 2013, 4, 278.	0.1	2
114	Genetic similarity of biological samples to counter bio-hacking of DNA-sequencing functionality. Scientific Reports, 2019, 9, 8684.	1.6	2
115	A Voxel Model to Decipher the Role of Molecular Communication in the Growth of Glioblastoma Multiforme. IEEE Transactions on Nanobioscience, 2021, 20, 296-310.	2.2	2
116	A Distributed Hierarchical Structure for Object Networks Supporting Human Activity Recognition. Lecture Notes in Computer Science, 2006, , 128-133.	1.0	2
117	Distributed Pervasive Services using Group Service communication supporting Body Area Networks. , 2008, , .		2
118	A machine learning-based approach to detect threats in bio-cyber DNA storage systems. Computer Communications, 2022, 187, 59-70.	3.1	2
119	Applying compartmentalisation techniques to communication protocols of biological Nano and MEMS devices. , 2007, , .		1
120	Achieving high robustness and performance in performing QoS-aware route planning for IPTV networks. , 2010, , .		1
121	Joint throughput and packet loss probability analysis of IEEE 802.11 networks. , 2010, , .		1
122	Federation Lifecycle Management Incorporating Coordination of Bio-inspired Self-management Processes. Journal of Network and Systems Management, 2013, 21, 650-676.	3.3	1
123	Context-aware microgrid storage using electric cars. , 2013, , .		1
124	Reliability of multi-path virus nanonetworks. , 2013, , .		1
125	Joint delay and energy model for IEEE 802.11 networks. Wireless Networks, 2014, 20, 1121-1132.	2.0	1
126	Brain-Machine Interfaces. , 2018, , 1-5.		1

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127	Utilising EEG signals for modulating neural molecular communications. , 2018, , .		1
128	Modulated Molecular Channel Coding Scheme for Multi-Bacterial Transmitters. , 2021, , .		1
129	Review of communication mechanisms for biological Nano and MEMS devices. , 2007, , .		0
130	Self-sustaining composed service groups for Future Internet. , 2008, , .		0
131	Fs-PGBR. , 2012, , .		0
132	Parameterized green gradient based routing (PG^{2}BR) for an energy efficient Internet. , 2013, , .		0
133	Channel Impulse Analysis of Light Propagation for Point-to-Point Nano Communications Through Cortical Neurons. IEEE Transactions on Communications, 2020, 68, 7111-7122.	4.9	0
134	Predator-Prey Adaptive Control for Exosome-based Molecular Communications Glioblastoma Treatment. , 2021, , .		0
135	Analysis of Block-Aware Peer Adaptations in Substream-Based P2P. Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering, 2012, , 14-27.	0.2	0
136	Brain-Machine Interfaces. , 2020, , 134-138.		0
137	Digestive System Dynamics in Molecular Communication Perspectives. Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering, 2021, , 117-133.	0.2	0