

# Sergio Barbarossa

## List of Publications by Year in descending order

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Version: 2024-02-01

118  
papers

5,382  
citations

172457

29  
h-index

206112

48  
g-index

119  
all docs

119  
docs citations

119  
times ranked

4076  
citing authors

#	ARTICLE	IF	CITATIONS
1	Lyapunov-Based Optimization of Edge Resources for Energy-Efficient Adaptive Federated Learning. IEEE Transactions on Green Communications and Networking, 2023, 7, 265-280.	5.5	9
2	Discontinuous Computation Offloading for Energy-Efficient Mobile Edge Computing. IEEE Transactions on Green Communications and Networking, 2022, 6, 1242-1257.	5.5	8
3	Robust Signal Processing Over Simplicial Complexes. , 2022, , .		1
4	Goal-Oriented Communication for Edge Learning Based On the Information Bottleneck. , 2022, , .		7
5	Dynamic Resource Optimization for Adaptive Federated Learning Empowered by Reconfigurable Intelligent Surfaces. , 2022, , .		1
6	Wireless Edge Machine Learning: Resource Allocation and Trade-Offs. IEEE Access, 2021, 9, 45377-45398.	4.2	32
7	Dynamic Resource Optimization for Decentralized Estimation in Energy Harvesting IoT Networks. IEEE Internet of Things Journal, 2021, 8, 8530-8542.	8.7	5
8	6G networks: Beyond Shannon towards semantic and goal-oriented communications. Computer Networks, 2021, 190, 107930.	5.1	125
9	Dynamic Resource Optimization for Adaptive Federated Learning at the Wireless Network Edge. , 2021, , .		6
10	Online Learning of Time-Varying Signals and Graphs. , 2021, , .		2
11	Topological Signal Processing over Cell Complexes. , 2021, , .		11
12	Beyond private 5G networks: applications, architectures, operator models and technological enablers. Eurasip Journal on Wireless Communications and Networking, 2021, 2021, 195.	2.4	8
13	6G in the sky: On-demand intelligence at the edge of 3D networks (Invited paper). ETRI Journal, 2020, 42, 643-657.	2.0	23
14	Dynamic Resource Allocation for Wireless Edge Machine Learning with Latency And Accuracy Guarantees. , 2020, , .		6
15	Dynamic Computation Offloading in Multi-Access Edge Computing via Ultra-Reliable and Low-Latency Communications. IEEE Transactions on Signal and Information Processing Over Networks, 2020, 6, 342-356.	2.8	51
16	Graph-based Learning under Perturbations via Total Least-Squares. IEEE Transactions on Signal Processing, 2020, 68, 1-1.	5.3	5
17	Topological Signal Processing Over Simplicial Complexes. IEEE Transactions on Signal Processing, 2020, 68, 2992-3007.	5.3	93
18	Graph Signal Processing in the Presence of Topology Uncertainties. IEEE Transactions on Signal Processing, 2020, 68, 1558-1573.	5.3	21

#	ARTICLE	IF	CITATIONS
19	Distributed Signal Processing and Optimization Based on In-Network Subspace Projections. IEEE Transactions on Signal Processing, 2020, 68, 2061-2076.	5.3	20
20	Topological Signal Processing: Making Sense of Data Building on Multiway Relations. IEEE Signal Processing Magazine, 2020, 37, 174-183.	5.6	15
21	Beyond 5G Private Networks: the 5G CONNI Perspective. , 2020, , .		14
22	6G: The Next Frontier: From Holographic Messaging to Artificial Intelligence Using Subterahertz and Visible Light Communication. IEEE Vehicular Technology Magazine, 2019, 14, 42-50.	3.4	414
23	Dynamic Resource Optimization for Decentralized Signal Estimation in Energy Harvesting Wireless Sensor Networks. , 2019, , .		3
24	Latency-Constrained Dynamic Computation Offloading with Energy Harvesting IoT Devices. , 2019, , .		7
25	Distributed Signal Recovery Based on In-network Subspace Projections. , 2019, , .		10
26	Graph Topology Inference Based on Sparsifying Transform Learning. IEEE Transactions on Signal Processing, 2019, 67, 1712-1727.	5.3	45
27	Dynamic Joint Resource Allocation and User Assignment in Multi-access Edge Computing. , 2019, , .		5
28	Learning and Management for Internet of Things: Accounting for Adaptivity and Scalability. Proceedings of the IEEE, 2019, 107, 778-796.	21.3	66
29	Network Energy Efficient Mobile Edge Computing with Reliability Guarantees. , 2019, , .		6
30	Enabling Prediction via Multi-Layer Graph Inference and Sampling. , 2019, , .		2
31	Distributed Adaptive Learning of Graph Processes via In-Network Subspace Projections. , 2019, , .		2
32	Joint Resource Allocation for Latency-Constrained Dynamic Computation Offloading with MEC. , 2019, , .		2
33	Small Perturbation Analysis of Network Topologies. , 2018, , .		10
34	Optimal Power and Bit Allocation for Graph Signal Interpolation. , 2018, , .		6
35	LEARNING FROM SIGNALS DEFINED OVER SIMPLICIAL COMPLEXES. , 2018, , .		14
36	Robust Graph Signal Processing in the Presence of Uncertainties on Graph Topology. , 2018, , .		7

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37	Adaptive Graph Signal Processing: Algorithms and Optimal Sampling Strategies. IEEE Transactions on Signal Processing, 2018, 66, 3584-3598.	5.3	66
38	The Edge Cloud: A Holistic View of Communication, Computation, and Caching. , 2018, , 419-444.		17
39	Sampling and Recovery of Graph Signals. , 2018, , 261-282.		22
40	Distributed Adaptive Learning of Graph Signals. IEEE Transactions on Signal Processing, 2017, 65, 4193-4208.	5.3	46
41	On the Graph Fourier Transform for Directed Graphs. IEEE Journal on Selected Topics in Signal Processing, 2017, 11, 796-811.	10.8	79
42	Distributed recursive least squares strategies for adaptive reconstruction of graph signals. , 2017, , .		5
43	Optimal sampling strategies for adaptive learning of graph signals. , 2017, , .		3
44	Where, When, and How mmWave is Used in 5G and Beyond. IEICE Transactions on Electronics, 2017, E100.C, 790-808.	0.6	154
45	Overbooking radio and computation resources in mmW-mobile edge computing to reduce vulnerability to channel intermittency. , 2017, , .		17
46	LMS estimation of signals defined over graphs. , 2016, , .		0
47	Distributed adaptive learning of signals defined over graphs. , 2016, , .		0
48	Adaptive Least Mean Squares Estimation of Graph Signals. IEEE Transactions on Signal and Information Processing Over Networks, 2016, 2, 555-568.	2.8	80
49	Signals on Graphs: Uncertainty Principle and Sampling. IEEE Transactions on Signal Processing, 2016, 64, 4845-4860.	5.3	229
50	On the degrees of freedom of signals on graphs. , 2015, , .		8
51	Small Cell Clustering for Efficient Distributed Fog Computing: A Multi-User Case. , 2015, , .		63
52	Network formation games based on conditional independence graphs. , 2015, , .		0
53	The Fog Balancing: Load Distribution for Small Cell Cloud Computing. , 2015, , .		152
54	Joint Optimization of Radio and Computational Resources for Multicell Mobile-Edge Computing. IEEE Transactions on Signal and Information Processing Over Networks, 2015, 1, 89-103.	2.8	714

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55	Distributed least mean squares strategies for sparsity-aware estimation over Gaussian Markov random fields. , 2014, , .		11
56	On the impact of backhaul network on distributed cloud computing. , 2014, , .		28
57	Joint cell selection and radio resource allocation in MIMO small cell networks via successive convex approximation. , 2014, , .		8
58	Multi-parameter decision algorithm for mobile computation offloading. , 2014, , .		12
59	Distributed Detection and Estimation in Wireless Sensor Networks. Academic Press Library in Signal Processing, 2014, , 329-408.	0.8	52
60	Communicating While Computing: Distributed mobile cloud computing over 5G heterogeneous networks. IEEE Signal Processing Magazine, 2014, 31, 45-55.	5.6	384
61	Computation offloading strategies based on energy minimization under computational rate constraints. , 2014, , .		14
62	Distributed Estimation and Control of Algebraic Connectivity Over Random Graphs. IEEE Transactions on Signal Processing, 2014, 62, 5615-5628.	5.3	59
63	Bio-Inspired Decentralized Radio Access Based on Swarming Mechanisms Over Adaptive Networks. IEEE Transactions on Signal Processing, 2013, 61, 3183-3197.	5.3	65
64	Distributed RLS estimation for cooperative sensing in small cell networks. , 2013, , .		6
65	Joint Optimization of Collaborative Sensing and Radio Resource Allocation in Small-Cell Networks. IEEE Transactions on Signal Processing, 2013, 61, 4506-4520.	5.3	24
66	Distributed Spectrum Estimation for Small Cell Networks Based on Sparse Diffusion Adaptation. IEEE Signal Processing Letters, 2013, 20, 1261-1265.	3.6	43
67	Swarming Algorithms for Distributed Radio Resource Allocation: A Further Step in the Direction of an Ever-Deeper Synergism Between Biological Mathematical Modeling and Signal Processing. IEEE Signal Processing Magazine, 2013, 30, 144-154.	5.6	12
68	Introduction to the issue on adaptation and learning over complex networks. IEEE Journal on Selected Topics in Signal Processing, 2013, 7, 161-162.	10.8	3
69	Distributed Sum-Rate Maximization Over Finite Rate Coordination Links Affected by Random Failures. IEEE Transactions on Signal Processing, 2013, 61, 648-660.	5.3	7
70	Joint allocation of computation and communication resources in multiuser mobile cloud computing. , 2013, , .		158
71	Decentralized estimation and control of algebraic connectivity of random ad-hoc networks. , 2013, , .		2
72	Adaptation and learning over complex networks [From the Guest Editors]. IEEE Signal Processing Magazine, 2013, 30, 14-15.	5.6	3

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73	Sparse diffusion LMS for distributed adaptive estimation. , 2012, , .		16
74	Distributed Bayesian pricing for sum-rate maximization in small-cell networks. , 2012, , .		4
75	Decentralized Resource Assignment in Cognitive Networks Based on Swarming Mechanisms Over Random Graphs. IEEE Transactions on Signal Processing, 2012, 60, 3755-3769.	5.3	17
76	Joint optimization of sensing and radio resource allocation in collaborative femtocell networks. , 2012, , .		1
77	Optimal Topology Control and Power Allocation for Minimum Energy Consumption in Consensus Networks. IEEE Transactions on Signal Processing, 2012, 60, 383-399.	5.3	50
78	A Bio-Inspired Swarming Algorithm for Decentralized Access in Cognitive Radio. IEEE Transactions on Signal Processing, 2011, 59, 6160-6174.	5.3	29
79	A bio-inspired fast swarming algorithm for dynamic radio access. , 2011, , .		0
80	Optimal beamforming for range-doppler ambiguity suppression in squinted SAR systems. , 2011, , .		1
81	Distributed stochastic pricing for sum-rate maximization in femtocell networks with random graph and quantized communications. , 2011, , .		4
82	Bio-inspired swarming models for decentralized radio access incorporating random links and quantized communications. , 2011, , .		6
83	Energy preserving matching of sensor network topology to dependency graph of the observed field. , 2011, , .		1
84	Fast Distributed Average Consensus Algorithms Based on Advection-Diffusion Processes. IEEE Transactions on Signal Processing, 2010, 58, 826-842.	5.3	61
85	Consensus for distributed EM-based clustering in WSNs. , 2010, , .		4
86	Distributed resource allocation in cognitive radio systems based on social foraging swarms. , 2010, , .		6
87	Joint optimization of detection thresholds and power allocation for opportunistic access in multicarrier cognitive radio networks. , 2009, , .		21
88	Cooperative sensing for cognitive radio using decentralized projection algorithms. , 2009, , .		9
89	Distributed double threshold spatial detection algorithms in wireless sensor networks. , 2009, , .		2
90	Competitive optimization of cognitive radio MIMO systems via game theory. , 2009, , .		11

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91	Asynchronous Iterative Water-Filling for Gaussian Frequency-Selective Interference Channels. IEEE Transactions on Information Theory, 2008, 54, 2868-2878.	2.4	171
92	Cognitive MIMO radio. IEEE Signal Processing Magazine, 2008, 25, 46-59.	5.6	176
93	Optimal Linear Precoding Strategies for Wideband Noncooperative Systems Based on Game Theory—Part I: Nash Equilibria. IEEE Transactions on Signal Processing, 2008, 56, 1230-1249.	5.3	253
94	Optimal Linear Precoding Strategies for Wideband Non-Cooperative Systems Based on Game Theory—Part II: Algorithms. IEEE Transactions on Signal Processing, 2008, 56, 1250-1267.	5.3	159
95	Trace-Orthogonal Space-Time Coding. IEEE Transactions on Signal Processing, 2008, 56, 2017-2034.	5.3	8
96	Distributed Decision Through Self-Synchronizing Sensor Networks in the Presence of Propagation Delays and Asymmetric Channels. IEEE Transactions on Signal Processing, 2008, 56, 1667-1684.	5.3	83
97	MIMO cognitive radio: A game theoretical approach. , 2008, , .		20
98	Competitive Design of Multiuser MIMO Systems Based on Game Theory: A Unified View. IEEE Journal on Selected Areas in Communications, 2008, 26, 1089-1103.	14.0	212
99	Average consensus algorithms robust against channel noise. , 2008, , .		24
100	Wireless Sensor Networks with Distributed Decision Capabilities Based on Self Synchronization of Relaxation Oscillators. , 2008, , .		0
101	Distributed Consensus Over Wireless Sensor Networks Affected by Multipath Fading. IEEE Transactions on Signal Processing, 2008, 56, 4100-4106.	5.3	23
102	Competitive Design of Multiuser MIMO Interference Systems based on Game Theory: A Unified Framework. , 2008, , .		6
103	Radar sensor networks with distributed detection capabilities. , 2008, , .		21
104	Distributed decision in sensor networks based on local coupling through Pulse Position Modulated signals. , 2008, , .		3
105	Information Lossless Space-Time Coding for Multiple Access Systems. , 2007, , .		2
106	Distributed Decision Through Self-synchronizing Sensor Networks in the Presence of Propagation Delays and Nonreciprocal Channels. , 2007, , .		7
107	Optimal Distributed Decision Over Wireless Sensor Networks Affected by Multipath Fading. , 2007, , .		1
108	Achieving Consensus in Self-Organizing Wireless Sensor Networks: The Impact of Network Topology on Energy Consumption. , 2007, , .		28

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109	Decentralized Maximum-Likelihood Estimation for Sensor Networks Composed of Nonlinearly Coupled Dynamical Systems. IEEE Transactions on Signal Processing, 2007, 55, 3456-3470.	5.3	118
110	Asynchronous Iterative Waterfilling for Gaussian Frequency-Selective Interference Channels: A Unified Framework. , 2007, , .		25
111	Distributed Totally Asynchronous Iterative Waterfilling for Wideband Interference Channel with Time/Frequency Offset. , 2007, , .		11
112	Optimal Decentralized Linear Precoding for Wideband Non-Cooperative Interference Systems based on Game Theory. , 2007, , .		1
113	Bio-Inspired Sensor Network Design. IEEE Signal Processing Magazine, 2007, 24, 26-35.	5.6	111
114	Simultaneous Iterative Water-Filling for Gaussian Frequency-Selective Interference Channels. , 2006, , .		38
115	Optimal Decentralized Estimation Through Self-Synchronizing Networks in the Presence of Propagation Delays. , 2006, , .		9
116	Information Lossless Full-Rate Full-Diversity Trace-Orthogonal Space-Time Codes. , 2006, , .		1
117	Trace-Orthogonal Space-Time Coding for Multiuser Systems. , 0, , .		10
118	Competitive optimization of cognitive radio MIMO systems via game theory. , 0, , 387-442.		9