

Urbashi Mitra

List of Publications by Year in descending order

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188
papers

2,852
citations

279487

23
h-index

243296

44
g-index

190
all docs

190
docs citations

190
times ranked

2320
citing authors

#	ARTICLE	IF	CITATIONS
1	Underwater Data Collection Using Robotic Sensor Networks. IEEE Journal on Selected Areas in Communications, 2012, 30, 899-911.	9.7	158
2	On Energy-Based Acoustic Source Localization for Sensor Networks. IEEE Transactions on Signal Processing, 2008, 56, 365-377.	3.2	137
3	KNOWME: a case study in wireless body area sensor network design. IEEE Communications Magazine, 2012, 50, 116-125.	4.9	132
4	Sparse Channel Estimation with Zero Tap Detection. IEEE Transactions on Wireless Communications, 2007, 6, 1743-1763.	6.1	130
5	Energy-Efficient Transmissions With Individual Packet Delay Constraints. IEEE Transactions on Information Theory, 2008, 54, 2090-2109.	1.5	129
6	Active planning for underwater inspection and the benefit of adaptivity. International Journal of Robotics Research, 2013, 32, 3-18.	5.8	110
7	Parametric Methods for Anomaly Detection in Aggregate Traffic. IEEE/ACM Transactions on Networking, 2011, 19, 512-525.	2.6	108
8	Receivers for Diffusion-Based Molecular Communication: Exploiting Memory and Sampling Rate. IEEE Journal on Selected Areas in Communications, 2014, 32, 2368-2380.	9.7	89
9	Energy-Efficient, Heterogeneous Sensor Selection for Physical Activity Detection in Wireless Body Area Networks. IEEE Transactions on Signal Processing, 2013, 61, 1581-1594.	3.2	70
10	Mutual information based radar waveform design for joint radar and cellular communication systems. , 2016, , .		64
11	Security Against False Data-Injection Attack in Cyber-Physical Systems. IEEE Transactions on Control of Network Systems, 2020, 7, 1015-1027.	2.4	62
12	Cognitive Interference Management in Retransmission-Based Wireless Networks. IEEE Transactions on Information Theory, 2012, 58, 3023-3046.	1.5	60
13	Optimal Resampling of OFDM Signals for Multiscale Multilag Underwater Acoustic Channels. IEEE Journal of Oceanic Engineering, 2011, 36, 126-138.	2.1	50
14	Capacity of Diffusion-Based Molecular Communication Networks Over LTI-Poisson Channels. IEEE Transactions on Molecular, Biological, and Multi-Scale Communications, 2015, 1, 188-201.	1.4	48
15	Distributed Data Fusion for Multirobot Search. IEEE Transactions on Robotics, 2015, 31, 55-66.	7.3	43
16	Uncertainty-driven view planning for underwater inspection. , 2012, , .		42
17	Joint Transmission and State Estimation: A Constrained Channel Coding Approach. IEEE Transactions on Information Theory, 2011, 57, 7084-7095.	1.5	39
18	Remote detection of bottleneck links using spectral and statistical methods. Computer Networks, 2009, 53, 279-298.	3.2	35

#	ARTICLE	IF	CITATIONS
19	Radar waveform design in spectrum sharing environment: Coexistence and cognition. , 2015, , .		34
20	Multi-Scale Multi-Lag Channel Estimation Using Low Rank Approximation for OFDM. IEEE Transactions on Signal Processing, 2015, 63, 4744-4755.	3.2	33
21	Active Classification for POMDPs: A Kalman-Like State Estimator. IEEE Transactions on Signal Processing, 2014, 62, 6209-6224.	3.2	32
22	Energy-efficient scheduling with individual packet delay constraints over a fading channel. Wireless Networks, 2009, 15, 601-618.	2.0	31
23	Cognitive interference management in retransmission-based wireless networks. , 2009, , .		29
24	Distributed coordination and data fusion for underwater search. , 2011, , .		29
25	UWB Sparse/Diffuse Channels, Part I: Channel Models and Bayesian Estimators. IEEE Transactions on Signal Processing, 2012, 60, 5307-5319.	3.2	29
26	Nested Sparse Approximation: Structured Estimation of V2V Channels Using Geometry-Based Stochastic Channel Model. IEEE Transactions on Signal Processing, 2015, 63, 4940-4955.	3.2	29
27	Energy-Efficient Scheduling with Individual Delay Constraints over a Fading Channel. , 2007, , .		25
28	Guest Editorial - Underwater Wireless Communication Networks. IEEE Journal on Selected Areas in Communications, 2008, 26, 1617-1619.	9.7	25
29	A Stochastic Model for Electron Transfer in Bacterial Cables. IEEE Journal on Selected Areas in Communications, 2014, 32, 2402-2416.	9.7	25
30	Autonomous data collection from underwater sensor networks using acoustic communication. , 2011, , .		22
31	How useful is adaptive action?. , 2012, , .		22
32	Sparse channel estimation for cooperative underwater communications: A structured multichannel approach. Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing, 2008, , .	1.8	21
33	Adaptive Transmission Rate With a Fixed Threshold Decoder for Diffusion-Based Molecular Communication. IEEE Transactions on Communications, 2016, 64, 236-248.	4.9	21
34	Communication protocols for underwater data collection using a robotic sensor network. , 2011, , .		20
35	Queuing Models for Abstracting Interactions in Bacterial Communities. IEEE Journal on Selected Areas in Communications, 2016, 34, 584-599.	9.7	19
36	Optimal allocation of heterogeneous smart grid traffic to heterogeneous networks. , 2011, , .		18

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37	Interference Mitigation in Large-Scale Multiuser Molecular Communication. IEEE Transactions on Communications, 2019, 67, 4088-4103.	4.9	18
38	3D Urban UAV Relay Placement: Linear Complexity Algorithm and Analysis. IEEE Transactions on Wireless Communications, 2021, 20, 5243-5257.	6.1	18
39	A POMDP framework for heterogeneous sensor selection in wireless body area networks. , 2012, , .		17
40	On Witsenhausen's counterexample: The asymptotic vector case. , 2012, , .		17
41	Cross-Layer Estimation and Control for Cognitive Radio: Exploiting Sparse Network Dynamics. IEEE Transactions on Cognitive Communications and Networking, 2015, 1, 128-145.	4.9	17
42	Unimodality-Constrained Matrix Factorization for Non-Parametric Source Localization. IEEE Transactions on Signal Processing, 2019, 67, 2371-2386.	3.2	17
43	Iterative Joint Channel Estimation and Multiuser Detection for DS-CDMA in Frequency-Selective Fading Channels. IEEE Transactions on Signal Processing, 2008, 56, 3261-3277.	3.2	16
44	Fast anomaly detection in SmartGrids via sparse approximation theory. , 2012, , .		16
45	Opportunistic Radar Waveform Design in Joint Radar and Cellular Communication Systems. , 2015, , .		16
46	Structure-based learning in wireless networks via sparse approximation. Eurasip Journal on Wireless Communications and Networking, 2012, 2012, .	1.5	15
47	Optimal Bayesian Resampling for OFDM Signaling Over Multi-scale Multi-lag Channels. IEEE Signal Processing Letters, 2013, 20, 1118-1121.	2.1	15
48	Bilinear Channel Estimation for MIMO OFDM: Lower Bounds and Training Sequence Optimization. IEEE Transactions on Signal Processing, 2021, 69, 1317-1331.	3.2	15
49	Autonomous data collection from underwater sensor networks using acoustic communication. , 2011, , .		15
50	Causal state amplification. , 2011, , .		14
51	Reduced dimension policy iteration for wireless network control via multiscale analysis. , 2012, , .		14
52	UWB Sparse/Diffuse Channels, Part II: Estimator Analysis and Practical Channels. IEEE Transactions on Signal Processing, 2012, 60, 5320-5333.	3.2	14
53	On identifiability in bilinear inverse problems. , 2013, , .		14
54	A Spectrum-Shaping Perspective on Cognitive Radio. , 2008, , .		13

#	ARTICLE	IF	CITATIONS
55	Action dependent strictly causal state communication. , 2012, , .		13
56	Bilinear Matrix Factorization Methods for Time-Varying Narrowband Channel Estimation: Exploiting Sparsity and Rank. IEEE Transactions on Signal Processing, 2018, 66, 6062-6075.	3.2	13
57	Observation-Driven Scheduling for Remote Estimation of Two Gaussian Random Variables. IEEE Transactions on Control of Network Systems, 2020, 7, 232-244.	2.4	13
58	Design of False Data Injection Attack on Distributed Process Estimation. IEEE Transactions on Information Forensics and Security, 2022, 17, 670-683.	4.5	13
59	Clustered ML Channel Estimation for Ultra-Wideband Signals. IEEE Transactions on Wireless Communications, 2007, 6, 2412-2416.	6.1	12
60	Active State Tracking With Sensing Costs: Analysis of Two-States and Methods for n -States. IEEE Transactions on Signal Processing, 2017, 65, 2828-2843.	3.2	12
61	A spectrum-shaping perspective on cognitive radio: Uncoded primary transmission case. , 2008, , .		11
62	Analysis of target detection via matrix completion. , 2015, , .		11
63	Attack detection and secure estimation under false data injection attack in cyber-physical systems. , 2018, , .		11
64	A Concentration-Time Hybrid Modulation Scheme for Molecular Communications. IEEE Transactions on Molecular, Biological, and Multi-Scale Communications, 2021, 7, 288-299.	1.4	11
65	Towards high data-rate diffusive molecular communications: A review on performance enhancement strategies. , 2022, 124, 103161.		10
66	Synchronization Error Robust Transceivers for Molecular Communication. IEEE Transactions on Molecular, Biological, and Multi-Scale Communications, 2019, 5, 207-221.	1.4	10
67	Joint semi-blind channel and timing estimation for generalized UWB transmitted reference systems. IEEE Transactions on Wireless Communications, 2007, 6, 180-191.	6.1	9
68	Squared error distortion metrics for motion planning in robotic sensor networks. , 2013, , .		9
69	Capacity of Electron-Based Communication Over Bacterial Cables: The Full-CSI Case. IEEE Transactions on Molecular, Biological, and Multi-Scale Communications, 2015, 1, 62-75.	1.4	9
70	Cross-Layer Design of Distributed Sensing-Estimation With Quality Feedback” Part I: Optimal Schemes. IEEE Transactions on Signal Processing, 2015, 63, 1228-1243.	3.2	9
71	Optimal sensor scheduling strategies in networked estimation. , 2017, , .		9
72	Optimal Scheduling Strategy for Networked Estimation With Energy Harvesting. IEEE Transactions on Control of Network Systems, 2020, 7, 1723-1735.	2.4	9

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73	Improved Atomic Norm Based Time-Varying Multipath Channel Estimation. IEEE Transactions on Communications, 2021, 69, 6225-6235.	4.9	9
74	Packet Scheduling for Multihopped Underwater Acoustic Communication Networks. , 2007, , .		8
75	Detection of low-rate attacks in computer networks. , 2008, , .		8
76	Cooperation and coordination in cognitive networks with packet retransmission. , 2009, , .		8
77	Optimization of ARQ Protocols in Interference Networks with QoS Constraints. , 2011, , .		8
78	Geometry-based stochastic modeling and estimation of vehicle to vehicle channels. , 2014, , .		8
79	A cross-layer framework for joint control and distributed sensing in agile wireless networks. , 2014, , .		8
80	Multi-scale multi-lag channel estimation using low rank structure of received signal. , 2014, , .		8
81	Line Constrained Estimation With Applications to Target Tracking: Exploiting Sparsity and Low-Rank. IEEE Transactions on Signal Processing, 2018, 66, 6488-6502.	3.2	8
82	An efficient algorithm for compression-based compressed sensing. Information and Inference, 2019, 8, 343-375.	0.9	8
83	Active Hypothesis Testing: Beyond Chernoff-Stein. , 2019, , .		8
84	Capacity-distortion trade-off in channels with state. , 2010, , .		7
85	Fusion center feedback for quasi-decentralized estimation in Sensor Networks. , 2013, , .		7
86	Adaptive distributed compressed sensing for dynamic high-dimensional hypothesis testing. , 2014, , .		7
87	Structured estimation of time-varying narrowband wireless communication channels. , 2017, , .		7
88	Secure Estimation in V2X Networks with Injection and Packet Drop Attacks. , 2018, , .		7
89	Support Recovery From Noisy Random Measurements via Weighted ℓ_1 Minimization. IEEE Transactions on Signal Processing, 2018, 66, 4527-4540.	3.2	7
90	On Solving MDPs With Large State Space: Exploitation of Policy Structures and Spectral Properties. IEEE Transactions on Communications, 2019, 67, 4151-4165.	4.9	7

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91	Multi-Scale Spectrum Sensing in Dense Multi-Cell Cognitive Networks. IEEE Transactions on Communications, 2019, 67, 2673-2688.	4.9	7
92	Equalizers for Multi-Scale/Multi-Lag Wireless Channels. , 2010, , .		6
93	Orthogonal wavelet division multiplexing for wideband time-varying channels. , 2011, , .		6
94	Distributed estimation in sensor networks with quality feedback: A general framework. , 2013, , .		6
95	Active target detection with mobile agents. , 2014, , .		6
96	Multi-scale spectrum sensing in small-cell mm-wave cognitive wireless networks. , 2017, , .		6
97	Optimal Sensing and Data Estimation in a Large Sensor Network. , 2017, , .		6
98	Sparsity and Rank Exploitation for Time-Varying Narrowband Leaked OFDM Channel Estimation. , 2018, , .		6
99	On Sampled Reinforcement Learning in Wireless Networks: Exploitation of Policy Structures. IEEE Transactions on Communications, 2020, 68, 2823-2837.	4.9	6
100	Delay-Constrained Energy-Efficient Scheduling over a Multihop Link. , 2007, , .		5
101	On the capacity of the symbol-asynchronous relay channel. , 2009, , .		5
102	Capacity of relay channels with ISI and colored Gaussian noise. , 2009, , .		5
103	Opportunistic Radar Waveform Design in Joint Radar and Cellular Communication Systems. , 2014, , .		5
104	Model and analysis of population density estimation via quorum sensing. , 2016, , .		5
105	Delay-Doppler estimation via structured low-rank matrix recovery. , 2016, , .		5
106	Low-rank, sparse and line constrained estimation: Applications to target tracking and convergence. , 2017, , .		5
107	On exploiting spectral properties for solving MDP with large state space. , 2017, , .		5
108	A matrix completion algorithm to recover modes orthogonal to the minimum energy path in chemical reactions. Journal of Chemical Physics, 2020, 153, 054122.	1.2	5

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109	Testing for Anomalies: Active Strategies and Non-asymptotic Analysis. , 2020, , .		5
110	A matrix completion algorithm for efficient calculation of quantum and variational effects in chemical reactions. Journal of Chemical Physics, 2022, 156, 184119.	1.2	5
111	Packet Dropping Algorithms for Energy Savings. , 2006, , .		4
112	Power Allocation in Linear and Tree WSN Topologies. , 2006, , .		4
113	On the properties of nonlinear POMDPs for active state tracking. , 2013, , .		4
114	Optimization of wireless networks via graph interpolation. , 2013, , .		4
115	Dynamic spectrum sensing-scheduling in agile networks with compressed belief information. , 2014, , .		4
116	A stochastic queuing model of quorum sensing in microbial communities. , 2015, , .		4
117	Underwater acoustic source localization using unimodal-constrained matrix factorization. , 2017, , .		4
118	A Tensor Decomposition Technique for Source Localization from Multimodal Data. , 2018, , .		4
119	Vehicular RF Convergence: Simultaneous Radar, Communications, and PNT for Urban Air Mobility and Automotive Applications. , 2020, , .		4
120	Dynamic Sensor Subset Selection for Centralized Tracking of an IID Process. IEEE Transactions on Signal Processing, 2020, 68, 3209-3224.	3.2	4
121	Data-Driven Sensor Scheduling for Remote Estimation in Wireless Networks. IEEE Transactions on Control of Network Systems, 2021, 8, 725-737.	2.4	4
122	Distributed Remote Estimation Over the Collision Channel With and Without Local Communication. IEEE Transactions on Control of Network Systems, 2022, 9, 282-294.	2.4	4
123	Intertemporal trade-off between population growth rate and carrying capacity during public good production. IScience, 2022, 25, 104117.	1.9	4
124	Shared Sensing and Communications in Sensor Networks : The Multihop Case. , 2006, , .		3
125	A constrained channel coding approach to joint communication and channel estimation. , 2008, , .		3
126	An analysis of cognitive networks for unslotted time and reactive users. , 2010, , .		3

#	ARTICLE	IF	CITATIONS
127	Online learning in wireless networks via directed graph lifting transform. , 2012, , .		3
128	Non-linear smoothers for discrete-time, finite-state Markov chains. , 2013, , .		3
129	Joint control and compressed sensing for dynamic spectrum access in agile wireless networks. , 2014, , .		3
130	Power allocation for Gaussian multiple access channel with noisy cooperative links. , 2014, , .		3
131	Markov chain sparsification with independent sets for approximate value iteration. , 2015, , .		3
132	Time-varying narrowband channel estimation: Exploiting low-rank and sparsity via bilinear representation. , 2016, , .		3
133	Multi-scale spectrum sensing in millimeter wave cognitive networks. , 2017, , .		3
134	Data Clustering Using Matrix Factorization Techniques for Wireless Propagation Map Reconstruction. , 2018, , .		3
135	Variety-Based Background Subtraction for Nonlinear Trajectory Tracking. , 2019, , .		3
136	Optimal deception attack on networked vehicular cyber physical systems. , 2019, , .		3
137	Concentration and Position-Based Hybrid Modulation Scheme for Molecular Communications. , 2020, , .		3
138	Fixed-Horizon Active Hypothesis Testing. IEEE Transactions on Automatic Control, 2022, 67, 1882-1897.	3.6	3
139	Improved Convergence Rate for a Distributed Two-Time-Scale Gradient Method under Random Quantization. , 2021, , .		3
140	Orthogonal Codes for Robust Low-Cost Communication. IEEE Transactions on Information Theory, 2008, 54, 5411-5426.	1.5	2
141	The modified iterative detector/estimator algorithm for sparse channel estimation. , 2010, , .		2
142	An evaluation of the hybrid sparse/diffuse algorithm for underwater acoustic channel estimation. , 2011, , .		2
143	Heterogeneous time-resource allocation in Wireless Body Area Networks for Green, maximum likelihood activity detection. , 2012, , .		2
144	On cascade source coding with a side information “vending machine”. , 2012, , .		2

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145	A unified framework for energy efficient physical activity tracking. , 2013, , .		2
146	Cognitive Networks with Dynamic User Classification for Tactical Communications. , 2013, , .		2
147	Controlled sensing: A myopic fisher information sensor selection algorithm. , 2014, , .		2
148	Active target detection with navigation costs: A randomized benchmark. , 2014, , .		2
149	A model for electron transfer and cell energetics in bacterial cables. , 2014, , .		2
150	Multi-scale multi-lag channel estimation via linearization of training signal spectrum and sparse approximation. , 2015, , .		2
151	Capacity of bacterial cables via Electron-transfer under full-CSI. , 2015, , .		2
152	Controlled Spectrum Sensing and Scheduling under Resource Constraints. , 2015, , .		2
153	Observation driven sensor scheduling. , 2017, , .		2
154	Rotated eigenstructure analysis for source localization without energy-decay models. , 2017, , .		2
155	On the Properties of the Rank-Two Null Space of Nonsparse and Canonical-Sparse Blind Deconvolution. IEEE Transactions on Signal Processing, 2018, 66, 3696-3709.	3.2	2
156	Sequential Experiment Design for Hypothesis Verification. , 2018, , .		2
157	Robust Molecular Communications: DFE-SPRTs and Synchronisation. , 2019, , .		2
158	On Training Sequence Optimization for Leaked MIMO OFDM Channels. , 2019, , .		2
159	An Optimal Symmetric Threshold Strategy for Remote Estimation Over The Collision Channel. , 2020, , .		2
160	Testing Rank of Incomplete Unimodal Matrices. IEEE Signal Processing Letters, 2021, 28, 877-881.	2.1	2
161	Max-Gossip Subgradient Method for Distributed Optimization. , 2021, , .		2
162	Higher Order Derivative-Based Receiver Preprocessing for Molecular Communications. IEEE Transactions on Molecular, Biological, and Multi-Scale Communications, 2022, 8, 178-189.	1.4	2

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163	Toward Efficient Direct Dynamics Studies of Chemical Reactions: A Novel Matrix Completion Algorithm. <i>Journal of Chemical Theory and Computation</i> , 2022, 18, 4327-4341.	2.3	2
164	Timing Acquisition of Wideband PPM Systems over Multipath. , 2006, , .		1
165	Time- or frequency-domain equalization for wideband OFDM channels?. , 2012, , .		1
166	Cooperative spectrum sharing with joint receiver decoding. , 2013, , .		1
167	On source-channel coding over Gaussian sensor networks for path planning. , 2014, , .		1
168	A Weiss-Weinstein lower bound based sensing strategy for active state tracking. , 2014, , .		1
169	Improved active sensing performance in wireless sensor networks via channel state information. , 2016, , .		1
170	Enhancing the Reliability of Large-Scale Multiuser Molecular Communication Systems. , 2018, , .		1
171	Improved Atomic Norm Based Channel Estimation for Time-Varying Narrowband Leaked Channels. , 2021, , .		1
172	On the Optimization of Derivative-Based Receivers for Molecular Communications. , 2021, , .		1
173	Atomic Norm Based Localization and Orientation Estimation for Millimeter-Wave MIMO OFDM Systems. , 2022, , .		1
174	Communication and signal processing in sensor networks. <i>Journal of Communications and Networks</i> , 2005, 7, 397-400.	1.8	0
175	CTH04-4: Capacity Bounds for Training-Based UWB Systems. <i>IEEE Global Telecommunications Conference (GLOBECOM)</i> , 2006, , .	0.0	0
176	Transmitted-Reference UWB: A Digital Approach. <i>Conference Record of the Asilomar Conference on Signals, Systems and Computers</i> , 2007, , .	0.0	0
177	Orthogonal codes for robust low-cost communication. , 2008, , .		0
178	Compress-and-Forward Rates for the Gaussian Relay with ISI and Colored Noise. , 2010, , .		0
179	Applying Csiszár's I-divergence to blind sparse channel estimation. , 2011, , .		0
180	Robustness of xampling-based RF receivers against analog mismatches. , 2012, , .		0

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181	Sparsity aware dynamic distributed compressive spectrum sensing and scheduling. , 2015, , .		0
182	A Modified Frank-wolfe Algorithm for Tensor Factorization with Unimodal Signals. , 2019, , .		0
183	Policy Sampling and Interpolation for Wireless Networks: A Graph Signal Processing Approach. , 2019, , .		0
184	Optimization for data-driven wireless sensor scheduling. , 2019, , .		0
185	Adaptive Graph-Constrained Group Testing. IEEE Transactions on Signal Processing, 2022, 70, 381-396.	3.2	0
186	On Non-Linear Trajectory Tracking via Variety-Based Background Subtraction Models. IEEE Transactions on Signal Processing, 2022, 70, 397-409.	3.2	0
187	Fully-Decentralized Multi-Kernel Online Learning over Networks. , 2021, , .		0
188	A Framework for Private Communication with Secret Block Structure. , 2022, , .		0