

# Biswanath Mukherjee

## List of Publications by Year in descending order

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164  
papers

5,369  
citations

125106

35  
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107981

68  
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166  
all docs

166  
docs citations

166  
times ranked

3579  
citing authors

#	ARTICLE	IF	CITATIONS
1	Infrastructure-efficient Virtual-Machine Placement and Workload Assignment in Cooperative Edge-Cloud Computing Over Backhaul Networks. IEEE Transactions on Cloud Computing, 2023, 11, 653-665.	3.1	8
2	Application-Aware Service Degradation in Elastic Optical Networks. IEEE Transactions on Network and Service Management, 2022, 19, 949-961.	3.2	7
3	Design, Analysis, and a Terabit Implementation of a Source-Router-Based SDN Data Plane. IEEE Systems Journal, 2021, 15, 56-67.	2.9	9
4	Energy-Efficient vBBU Migration and Wavelength Reassignment in Cloud-Fog RAN. IEEE Transactions on Green Communications and Networking, 2021, 5, 18-28.	3.5	5
5	Light-Trail Design for 5G Backhaul: Architecture, SDN Impact and Coordinated Multipoint. Journal of Lightwave Technology, 2021, 39, 5383-5396.	2.7	2
6	Virtualized controller placement for multi-domain optical transport networks using machine learning. Photonic Network Communications, 2020, 40, 126-136.	1.4	8
7	Cost-Efficient VNF Placement and Scheduling in Public Cloud Networks. IEEE Transactions on Communications, 2020, 68, 4946-4959.	4.9	46
8	Emergency OPM Recreation and Telemetry for Disaster Recovery in Optical Networks. Journal of Lightwave Technology, 2020, 38, 2656-2668.	2.7	9
9	Joint Progressive Network and Datacenter Recovery After Large-Scale Disasters. IEEE Transactions on Network and Service Management, 2020, 17, 1501-1514.	3.2	16
10	Virtualized Controller Placement for Multi-domain Optical Transport Networks. Lecture Notes in Computer Science, 2020, , 39-50.	1.0	1
11	Auto-Scaling Network Service Chains Using Machine Learning and Negotiation Game. IEEE Transactions on Network and Service Management, 2020, 17, 1322-1336.	3.2	15
12	Provisioning Short-Term Traffic Fluctuations in Elastic Optical Networks. IEEE/ACM Transactions on Networking, 2019, 27, 1460-1473.	2.6	13
13	Low-Latency and Energy-Efficient BBU Placement and VPON Formation in Virtualized Cloud-Fog RAN. Journal of Optical Communications and Networking, 2019, 11, B37.	3.3	25
14	Impairment Aware Routing, Bit Loading, and Spectrum Allocation in Elastic Optical Networks. Journal of Lightwave Technology, 2019, 37, 3009-3020.	2.7	40
15	Energy-Efficient Baseband Processing via vBBU Migration in Virtualized Cloud-Fog RAN. , 2019, , .		2
16	Slice-Aware Service Restoration with Recovery Trucks for Optical Metro-Access Networks. , 2019, , .		3
17	Distributed sub-light-tree based multicast provisioning with shared protection in elastic optical datacenter networks. Optical Switching and Networking, 2019, 31, 39-51.	1.2	7
18	Data evacuation from data centers in disaster-affected regions through software-defined satellite networks. Computer Networks, 2019, 148, 88-100.	3.2	9

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19	Bandwidth Provisioning for Virtual Machine Migration in Cloud: Strategy and Application. IEEE Transactions on Cloud Computing, 2018, 6, 967-976.	3.1	25
20	A Scalable Approach for Service Chain Mapping With Multiple SC Instances in a Wide-Area Network. IEEE Journal on Selected Areas in Communications, 2018, 36, 529-541.	9.7	49
21	On service-chaining strategies using Virtual Network Functions in operator networks. Computer Networks, 2018, 133, 1-16.	3.2	41
22	Dynamic Workload Migration Over Backbone Network to Minimize Data Center Electricity Cost. IEEE Transactions on Green Communications and Networking, 2018, 2, 570-579.	3.5	29
23	Running the Network Harder: Connection Provisioning Under Resource Crunch. IEEE Transactions on Network and Service Management, 2018, 15, 1615-1629.	3.2	5
24	RASCAR: Recovery-Aware Switch-Controller Assignment and Routing in SDN. IEEE Transactions on Network and Service Management, 2018, 15, 1222-1234.	3.2	21
25	Dynamic Controller Deployment for Mixed-Grid Optical Networks. , 2018, , .		2
26	Content Fragmentation: A Redundancy Scheme to Save Energy in Cloud Networks. IEEE Transactions on Green Communications and Networking, 2018, 2, 1186-1196.	3.5	4
27	A survey on high-precision time synchronization techniques for optical datacenter networks and a zero-overhead microsecond-accuracy solution. Photonic Network Communications, 2018, 36, 56-67.	1.4	10
28	QoE Enhancement Schemes for Video in Converged OFDMA Wireless Networks and EPONs. Journal of Optical Communications and Networking, 2018, 10, 229.	3.3	8
29	Auto-Scaling VNFs Using Machine Learning to Improve QoS and Reduce Cost. , 2018, , .		53
30	The network user and its growing influence. Computer Communications, 2018, 131, 43-45.	3.1	4
31	Robust hierarchical control plane for Transport Software-Defined Networks. Optical Switching and Networking, 2018, 30, 10-22.	1.2	10
32	ABNO-driven content distribution in the telecom cloud. Optical Switching and Networking, 2017, 26, 25-38.	1.2	2
33	Green Data Center Placement in Optical Cloud Networks. IEEE Transactions on Green Communications and Networking, 2017, 1, 347-357.	3.5	37
34	Dynamic workload migration over optical backbone network to minimize data center electricity cost. , 2017, , .		4
35	Post-disaster data evacuation from isolated data centers through LEO satellite networks. , 2017, , .		0
36	Optimal Placement of Virtualized BBU Processing in Hybrid Cloud-Fog RAN over TWDM-PON. , 2017, , .		14

#	ARTICLE	IF	CITATIONS
37	Priority-aware scheduling for packet-switched optical networks in datacenter. , 2017, , .		4
38	Green and Low-Risk Content Placement in optical content delivery networks. , 2016, , .		2
39	Load balancing and latency reduction in multi-user CoMP over TWDM-VPONs. , 2016, , .		9
40	Resilient cloud network mapping with virtualized BBU placement for cloud-RAN. , 2016, , .		13
41	Progressive datacenter recovery over optical core networks after a large-scale disaster. , 2016, , .		3
42	Energy-Efficient Virtual Base Station Formation in Optical-Access-Enabled Cloud-RAN. IEEE Journal on Selected Areas in Communications, 2016, 34, 1130-1139.	9.7	85
43	A Survey on Resiliency Techniques in Cloud Computing Infrastructures and Applications. IEEE Communications Surveys and Tutorials, 2016, 18, 2244-2281.	24.8	110
44	Demand-Aware Network Function Placement. Journal of Lightwave Technology, 2016, 34, 2590-2600.	2.7	73
45	Cost-efficient live VM migration based on varying electricity cost in optical cloud networks. Photonic Network Communications, 2015, 30, 376-386.	1.4	12
46	Optimal Network Function Virtualization Realizing End-to-End Requests. , 2015, , .		20
47	Application-aware software-defined EPON access network. Photonic Network Communications, 2015, 30, 324-336.	1.4	6
48	Cloud-Network Disaster Recovery against Cascading Failures. , 2015, , .		1
49	Disaster-resilient control plane design and mapping in software-defined networks. , 2015, , .		24
50	Rapid Data Evacuation for Large-Scale Disasters in Optical Cloud Networks [Invited]. Journal of Optical Communications and Networking, 2015, 7, B163.	3.3	33
51	Efficient relocation of virtual spare resources over optical backbone networks. , 2015, , .		0
52	Traveling Repairman Problem for Optical Network Recovery to Restore Virtual Networks After a Disaster [Invited]. Journal of Optical Communications and Networking, 2015, 7, B81.	3.3	32
53	Disaster-Aware Datacenter Placement and Dynamic Content Management in Cloud Networks. Journal of Optical Communications and Networking, 2015, 7, 681.	3.3	65
54	On Hybrid IR and AR Service Provisioning in Elastic Optical Networks. Journal of Lightwave Technology, 2015, 33, 4659-4670.	2.7	38

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55	IPTV over EPON: Synthetic traffic generation and performance evaluation. Optical Switching and Networking, 2015, 18, 180-190.	1.2	11
56	Cost-efficient live VM migration based on varying electricity cost in optical cloud networks. , 2014, , .		4
57	Disaster-aware service provisioning with manycasting in cloud networks. Photonic Network Communications, 2014, 28, 123-134.	1.4	21
58	On downstream transmissions in EPON Protocol over Coax (EPoC): An analysis of Coax framing approaches and other relevant considerations. Photonic Network Communications, 2014, 28, 178-189.	1.4	2
59	Heterogeneous Bandwidth Provisioning for Virtual Machine Migration over SDN-Enabled Optical Networks. , 2014, , .		17
60	Network adaptability from disaster disruptions and cascading failures. IEEE Communications Magazine, 2014, 52, 230-238.	4.9	128
61	Energy Saving via Dynamic Wavelength Sharing in TWDM-PON. IEEE Journal on Selected Areas in Communications, 2014, 32, 1566-1574.	9.7	25
62	Disaster-survivable cloud-network mapping. Photonic Network Communications, 2014, 27, 141-153.	1.4	23
63	Minimizing the Risk From Disaster Failures in Optical Backbone Networks. Journal of Lightwave Technology, 2014, 32, 3175-3183.	2.7	118
64	Software-defined optical networks (SDONs): a survey. Photonic Network Communications, 2014, 28, 4-18.	1.4	55
65	Cloud-Network Disaster Recovery against Cascading Failures. , 2014, , .		0
66	Optimal Network Function Virtualization Realizing End-to-End Requests. , 2014, , .		1
67	On downstream coax framing in EPON protocol over coax (EPoC). , 2013, , .		1
68	A Survey on OFDM-Based Elastic Core Optical Networking. IEEE Communications Surveys and Tutorials, 2013, 15, 65-87.	24.8	304
69	Survivable Traffic Grooming in Elastic Optical Networksâ€™ Shared Protection. Journal of Lightwave Technology, 2013, 31, 903-909.	2.7	130
70	Disaster survivability in optical communication networks. Computer Communications, 2013, 36, 630-644.	3.1	138
71	Dynamic Traffic Grooming in Elastic Optical Networks. IEEE Journal on Selected Areas in Communications, 2013, 31, 4-12.	9.7	99
72	Greening the cloud using renewable-energy-aware service migration. IEEE Network, 2013, 27, 36-43.	4.9	62

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73	EPON protocol over coax (EPoC): overview and design issues from a MAC layer perspective?. , 2013, 51, 144-153.		6
74	Adaptive time- and location-aware routing in telecom mesh networks. IET Networks, 2013, 2, 19-29.	1.1	1
75	Performance of 10G-EPON in streaming IPTV. , 2012, , .		4
76	Isolation and resource efficiency of virtual optical networks. , 2012, , .		5
77	Inverse multiplexing gain considering physical layer impairments in mixed line rate networks. , 2012, , .		7
78	Robust upgrade in optical networks under traffic uncertainty. , 2012, , .		10
79	Design of Disaster-Resilient Optical Datacenter Networks. Journal of Lightwave Technology, 2012, 30, 2563-2573.	2.7	157
80	Mixed-line-rate optical network design with wavebanding. Optical Switching and Networking, 2012, 9, 286-296.	1.2	5
81	A survey on routing algorithms for wireless Ad-Hoc and mesh networks. Computer Networks, 2012, 56, 940-965.	3.2	223
82	Guest Editorial on the Optical Fiber Communication Conference and Exposition (OFC) and the National Fiber Optic Engineers Conference (NFOEC). Journal of Lightwave Technology, 2012, 30, 381-383.	2.7	0
83	The Evolution of Optical Networking [Scanning the Issue]. Proceedings of the IEEE, 2012, 100, 1017-1022.	16.4	8
84	Multilayer Protection with Availability Guarantees in Optical WDM Networks. Journal of Network and Systems Management, 2012, 20, 34-55.	3.3	15
85	Minimizing the Disaster Risk in Optical Telecom Networks. , 2012, , .		26
86	Synthetic traffic generation for streaming video to model IPTV. , 2011, , .		10
87	Survivable Multipath Provisioning With Differential Delay Constraint in Telecom Mesh Networks. IEEE/ACM Transactions on Networking, 2011, 19, 657-669.	2.6	48
88	BER-aware wavelength allocation schemes for long-reach PON employing AWG-based remote node. , 2011, , .		0
89	Self-Healing Optical Access Networks (SHOAN) Operated by Optical Switching Technologies. IEEE Transactions on Network and Service Management, 2011, 8, 234-244.	3.2	7
90	Analysis of inter-domain collaborative routing: provider competition for clients. Journal of Communications and Networks, 2011, 13, 499-510.	1.8	3

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91	Green Provisioning for Optical WDM Networks. IEEE Journal of Selected Topics in Quantum Electronics, 2011, 17, 437-445.	1.9	68
92	Enhancing the Performance of Video Streaming in Wireless Mesh Networks. Wireless Personal Communications, 2011, 56, 535-557.	1.8	10
93	Channel, capacity, and flow assignment in wireless mesh networks. Computer Networks, 2011, 55, 2241-2258.	3.2	27
94	A disaster-resilient multi-content optical datacenter network architecture. , 2011, , .		11
95	Energy Efficiency in Telecom Optical Networks. IEEE Communications Surveys and Tutorials, 2010, 12, 441-458.	24.8	300
96	Interference-aware routing for multi-hop Wireless Mesh Networks. Computer Communications, 2010, 33, 1961-1971.	3.1	13
97	Energy-Efficient Long-Reach Passive Optical Network: A Network Planning Approach Based on User Behaviors. IEEE Systems Journal, 2010, 4, 449-457.	2.9	34
98	Risk-Aware Routing for Optical Transport Networks. , 2010, , .		10
99	Optimizing HTTP-based Adaptive Video Streaming for wireless access networks. , 2010, , .		18
100	Optical Network Design With Mixed Line Rates and Multiple Modulation Formats. Journal of Lightwave Technology, 2010, 28, 466-475.	2.7	230
101	Building a Green Wireless-Optical Broadband Access Network (WOBAN). Journal of Lightwave Technology, 2010, 28, 2219-2229.	2.7	190
102	Analysis of Patching Scheme from a Practical Perspective. , 2009, , .		0
103	Hybrid wireless-optical broadband access network(woban) : prototype development and research challenges. IEEE Network, 2009, 23, 41-48.	4.9	60
104	Dynamic Scheduling of Survivable Connections with Delay Tolerance in WDM Networks. , 2009, , .		17
105	On Provisioning in All-Optical Networks: An Impairment-Aware Approach. IEEE/ACM Transactions on Networking, 2009, 17, 1989-2001.	2.6	16
106	Guest Editorial on Converged Optical Network Infrastructures in Support of Future Internet and Grid Services Special Issue. Journal of Lightwave Technology, 2009, 27, 1749-1753.	2.7	0
107	A hop-constraint timing assembly algorithm for facilitating iBUS in IP-over-WDM networks. IEEE Communications Letters, 2009, 13, 703-705.	2.5	2
108	A novel approach to provision differentiated services in survivable IP-over-WDM networks. Optical Switching and Networking, 2008, 5, 170-176.	1.2	6

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109	A novel delay-aware routing algorithm (DARA) for a hybrid wireless-optical broadband access network (WOBAN). IEEE Network, 2008, 22, 20-28.	4.9	70
110	SLA-Aware Provisioning for Revenue Maximization in Telecom Mesh Networks. , 2008, , .		5
111	Optimal Capacity Allocation in Wireless Mesh Networks. , 2008, , .		13
112	CORIN/DORIN: A WDM-enabled platform for aero-engine control systems. , 2008, , .		1
113	A Comprehensive Study on Backup-Bandwidth Reprovisioning After Network-State Updates in Survivable Telecom Mesh Networks. IEEE/ACM Transactions on Networking, 2008, 16, 1366-1377.	2.6	27
114	Efficient VoD Streaming for Broadband Access Networks. , 2008, , .		5
115	Algorithms for Integrated Routing and Scheduling for Aggregating Data from Distributed Resources on a Lambda Grid. IEEE Transactions on Parallel and Distributed Systems, 2008, 19, 24-34.	4.0	28
116	Holding-Time-Aware Dynamic Traffic Grooming. IEEE Journal on Selected Areas in Communications, 2008, 26, 28-35.	9.7	38
117	On Provisioning in Dual-Node Interconnected SONET/SDH Rings. IEEE Journal on Selected Areas in Communications, 2008, 26, 36-46.	9.7	3
118	Multi-Layer Resilient Design for Layer-1 VPNs. , 2008, , .		9
119	Event-Triggered Reprovisioning with Resource Preemption in WDM Mesh Networks: A Traffic Engineering Approach. , 2008, , .		4
120	Wavelet-Based Traffic Analysis for Identifying Video Streams over Broadband Networks. , 2008, , .		11
121	Accumulated-Downtime-Aware Restoration Approach for Dynamic SLA-Differentiated Services in Survivable Mesh Networks. , 2008, , .		0
122	Dynamic SLA Redefinition for Shared-Path-Protected Connections with Known Duration. , 2008, , .		11
123	A Two-Ring Access Network Operated by Crossbar-Enabled OLTs: Cost-Effective Robust Protection in Broadband Access Networks. , 2008, , .		1
124	Hybrid wireless-optical broadband access network (WOBAN): network planning and setup. IEEE Journal on Selected Areas in Communications, 2008, 26, 12-21.	9.7	66
125	Impairment-aware Waveband Switching in Optical Networks. , 2007, , .		6
126	Dynamic traffic grooming of subwavelength connections with known duration. , 2007, , .		9



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127	A Protocol for Efficient Tunable Laser Utilization to Support Incremental Upgrade in a WDM-PON. , 2007, , .		4
128	Holding-time-aware and availability-guaranteed connection provisioning in optical WDM mesh networks. , 2007, , .		13
129	A Better Approach to Reliable Multi-Path Provisioning. , 2007, , .		2
130	Time-Zone-Aware Traffic Grooming in IP-over-WDM Networks. , 2007, , .		2
131	RADAR: Risk-and-Delay Aware Routing Algorithm in a Hybrid Wireless-Optical Broadband Access Network (WOBAN). , 2007, , .		38
132	Reliable Multipath Provisioning for High-Capacity Backbone Mesh Networks. IEEE/ACM Transactions on Networking, 2007, 15, 803-812.	2.6	43
133	Impacts of Multiple Backups and Multi-Link Sharing among Primary and Backups for Dynamic Service Provisioning in Survivable Mesh Networks. , 2007, , .		1
134	Hybrid Wireless-Optical Broadband-Access Network (WOBAN): A Review of Relevant Challenges. Journal of Lightwave Technology, 2007, 25, 3329-3340.	2.7	267
135	A new node architecture employing waveband-selective switching for optical burst-switched networks. IEEE Communications Letters, 2007, 11, 756-758.	2.5	4
136	Availability-Aware Provisioning Strategies for Differentiated Protection Services in Wavelength-Convertible WDM Mesh Networks. IEEE/ACM Transactions on Networking, 2007, 15, 1177-1190.	2.6	90
137	Architecture, Control, and Management of Optical Switching Networks. , 2007, , .		14
138	Exploiting connection-holding time for an efficient dynamic traffic grooming. , 2007, , .		4
139	Call admission and handoff control in multi-tier cellular networks: algorithms and analysis. Wireless Personal Communications, 2007, 43, 857-878.	1.8	6
140	Mathematical formulation of provisioning of connections with advance reservation in metro WDM ring networks using reconfigurable ROADMs (ROADMs) with tuning constraint. Photonic Network Communications, 2007, 14, 273-285.	1.4	1
141	Control Plane for Advance Bandwidth Scheduling in Ultra High-Speed Networks. , 2006, , .		46
142	OPN03-4: Efficient Shared-Segment Protection Exploiting the Knowledge of Connection Holding Time. IEEE Global Telecommunications Conference (GLOBECOM), 2006, , .	0.0	3
143	Resource Planning and Bandwidth Allocation for Upgrading Ethernet Passive Optical Networks. , 2006, , .		0
144	Routing and wavelength assignment in optical WDM networks with maximum quantity of edge disjoint paths. Photonic Network Communications, 2006, 12, 145-152.	1.4	8

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145	Data Security in MANETs using Multipath Routing and Directional Transmission. , 2006, , .		21
146	Towards Global Optimization of Multiple ONU Placement in Hybrid Optical-Wireless Broadband Access Networks. , 2006, , .		20
147	OPN04-6: Concentric Two-Ring Network for the African Continent: A Proposal. IEEE Global Telecommunications Conference (GLOBECOM), 2006, , .	0.0	2
148	OPN07-6: New Approches for Dynamic Routing with Availability Guarantee for Differentiated Services in Survivable Mesh Networks: The Roles of Primary-Backup Link Sharing and Multiple Backup Paths. IEEE Global Telecommunications Conference (GLOBECOM), 2006, , .	0.0	9
149	Concentric Two-Ring Network (CTRN): RWA Algorithms and Protection Schemes. , 2006, , .		1
150	Shared-Wavelength WDM-PON Access Network --- Bursty Traffic Accommodation and User-defined SLA Support. , 2006, , .		0
151	Ethernet-over-SONET(EoS) over WDM in Optical Wide-Area Networks (WANs): Benefits and Challenges. Photonic Network Communications, 2005, 10, 107-118.	1.4	12
152	MADF: Mobile-assisted data forwarding for wireless data networks. Journal of Communications and Networks, 2004, 6, 216-225.	1.8	19
153	Title is missing!. Photonic Network Communications, 2003, 6, 105-117.	1.4	0
154	A Call-Admission Control (CAC) Algorithm for Providing Guaranteed QoS in Cellular Networks. International Journal of Wireless Information Networks, 2003, 10, 73-85.	1.8	22
155	Title is missing!. Photonic Network Communications, 2002, 4, 89-107.	1.4	285
156	Improved Approches for Cost-Effective Traffic Grooming in WDM Ring Networks: Uniform-Traffic Case*. Photonic Network Communications, 2001, 3, 245-254.	1.4	20
157	Ethernet PON (ePON): Design and Analysis of an Optical Access Network. Photonic Network Communications, 2001, 3, 307-319.	1.4	264
158	Title is missing!. Photonic Network Communications, 1999, 1, 35-48.	1.4	4
159	Sparse Wavelength Conversion in Wavelength-Routed WDM Optical Networks*. Photonic Network Communications, 1999, 1, 183-205.	1.4	49
160	The Advantages of Partitioning Multicast Transmissions in a Single-Hop Optical WDM Network*. Photonic Network Communications, 1999, 1, 111-124.	1.4	3
161	MultiS-Net: A high-capacity, packet-switched, multichannel, single-hop architecture and protocol for a local lightwave network. Journal of High Speed Networks, 1996, 5, 221-241.	0.6	2
162	Algorithms for Optimized Node Arrangements in ShuffleNet Based Multihop Lightwave Networks. Journal of High Speed Networks, 1995, 4, 361-383.	0.6	3

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163	The photonic ring: Algorithms for optimized node arrangements. Fiber and Integrated Optics, 1993, 12, 133-171.	1.7	14
164	Reliable multi-path provisioning for high-capacity optical backbone mesh networks. , 0, , .		7