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POSITION

Professor, School of Information Science and Technology,
University of Science and Technology of China

RESEARCH INTERESTS

Optical networks, Programmable networks, Network automation, Datacenter networks,
Network function virtualization.

EDUCATION

University of California, Davis 09/2003−07/2007
Ph.D. in Electrical and Computer Engineering

University of California, Davis 08/2001−09/2003
M.S. in Electrical and Computer Engineering

University of Science and Technology of China 09/1996−07/2001
B. S. in Electrical Engineering

WORK EXPERIENCE

Professor 06/2014−present
Director of the Intelligent Networking systems & Future InterNet InfrasTructurE (INFINITE) Lab
School of Information Science and Technology
University of Science and Technology of China
Hefei, Anhui, China

Associate Professor 01/2011−06/2014
School of Information Science and Technology
University of Science and Technology of China
Hefei, Anhui, China

Senior Software Engineer 07/2007−01/2011
Cisco Systems
San Jose, California, USA

JOURNAL EDITORS

- Lead Series Editor, Optical Communications and Networks Series, IEEE Communications Magazine, 2025−.
- Area Editor, Optical Communications and Networking, IEEE Open Journal of the Communications Society, 2022−.
- Series Editor, Optical Communications and Networks Series, IEEE Communications Magazine, 2018−2021.
- Series Editor, Optical Communications Series, IEEE Communications Magazine, 2017−2018.
- Guest Editor, "Latest Advances in Optical Networks for 5G Communications and Beyond", IEEE Journal on Selected Areas in Communications, 2020.
- Guest Editor, "Ambient Assisted Living Communications", IEEE Communications Magazine, 2014.
- Lead Guest Editor, "Optical Networks in Cloud Computing", IEEE Network, 2013.
- Editorial Board Member of:
  - IEEE Transactions on Network and Service Management, 2017−.
  - Optics Express, 2019−.
  - IEEE Transactions on Communications, 2023−.
  - IEEE Internet of Things Journal 2024−
  - IEEE Systems Journal, 2020−2023.
  - IEEE Open Journal of the Communications Society, 2019−.
  - IEEE Communications Magazine, 2015−2021.
  - Optical Switching and Networking (Elsevier), 2010−.
  - Telecommunication Systems Journal (Springer), 2011−2019.
  - Photonic Network Communications Journal (Springer), 2015−2019.
  - European Transactions on Emerging Telecommunications Technologies (Wiley), 2012−2018.
  - KSII Transactions on Internet and Information Systems, 2015−2018.

CONFERENCE ACTIVITIES

- Keynote Speaker of:
  - 15th International Conference on Advanced Infocomm Technology (ICAIT), Oct. 2023.
  - International Conference on Networking and Network Applications (NaNA), Aug. 2023.
  - 8th International Conference on Signal and Image Processing (ICSIP), Jul. 2023.
  - 11th International Conference on Networks, Communication and Computing (ICNCC), Dec. 2022.
  - IEEE Conference on Network Function Virtualization and Software Defined Networks (NFV-SDN), Nov. 2021.
  - IEEE Latin-American Conference on Communications (LATINCOM), Nov. 2020.
  - International Symposium on Broadband Multimedia Systems and Broadcasting (BMSB), Oct. 2020.
  - IEEE 5G Summit, Jul. 2017.
- General Chair of:
  - 15th International Conference on Advanced Infocomm Technology (ICAIT) 2023.
- Publicity Co-Chair of:
  - IEEE Global Communications Conference (GLOBECOM) 2022.
  - IEEE International Conference on Network Softwarization (NetSoft) 2021.

- IEEE GLOBECOM 2015.
- Technical Co-Chair of:
  - IEEE NetSoft 2023.
  - 24th International Conference on Optical Network Design and Modeling (ONDM) 2020.
  - Workshop on Cloud Computing Systems, Networks and Applications (CCSNA) in GLOBE-COM 2015.
- Symposium Chair/Co-Chair of:
  - Optical Networks and Systems Symposium at IEEE GLOBECOM 2025.
  - Optical and Grid Networking Symposium at International Conference on Computing, Networking & Communications (ICNC) 2023-2024.
  - Future Optical Networks & Communications Symposium at IEEE Future Networks World Forum (FNWF) 2022-2024.
  - Next-Generation Networking and Internet Symposium at IEEE International Conference on Communications (ICC) 2023.
  - Next-Generation Networking and Internet Symposium at GLOBECOM 2021.
  - Track 3 (Networks Architectures, Management and Applications) at Asia Communications and Photonics Conference (ACP) 2020.
  - Optical Networks and Systems Symposium at IEEE ICC 2020.
  - International Conference on Wireless Communications and Signal Processing (WCSP) 2019.
  - Track 3 (Networks Architectures, Management and Applications) at Asia Communications and Photonics Conference (ACP) 2018.
  - ICNC 2016, ICNC 2015, ICNC 2014, and ICNC 2013.
  - WCSP 2014.
  - International Symposium on Communication Systems, Networks and Digital Signal Processing (CSNDSP) 2012.
- TPC Member of:
  - N3 Subcommittee in the Optical Fiber Communication Conference (OFC), 2022−.
  - OSA Signal Processing in Photonic Communications (SPPCom), 2011−2015.
  - IEEE Photonics Conference (IPC), 2013−2020.
  - INFOCOM, ICC, GLOBECOM, ICNC, and many others.

PROFESSIONAL ACTIVITIES
- Series Editor, Book Series of Optical Networks, Springer, 2024−.
- Member-at-Large (Voting Member), GLOBECOM/ICC Technical Content (GITC) Committee, 2022−2023.
- Chair, Steering Committee of IEEE International Conference on High Performance Switching and Routing (HPSR), 2022−2024.
- Member, Steering Committee of IEEE HPSR, 2018−2021.
- Chair, IEEE Communications Society (ComSoc) Technical Committee on Optical Networking (ONTC), 2022−2023.
- Vice Chair, IEEE ComSoc ONTC, 2020−2021.
- Secretary, IEEE ComSoc ONTC, 2018−2019.
- Member, Awards Committee of GLOBECOM 2023.
- Member, Best Paper Selection Committee of GLOBECOM 2015.

- Chair, Special Interest Group on Green Multimedia Communications, IEEE ComSoc Technical Committee on Multimedia Communications (MMTC), 2014−.
- Vice-Chair, Special Interest Group on Multimedia Content Distribution: Infrastructure and Algorithms (MCDIA), IEEE ComSoc Technical Committee on Multimedia Communications (MMTC), 2012−2014.

PROFESSIONAL Memberships

- Fellow of IEEE.
    - Member, IEEE Communication Society.
    - Member, IEEE Photonics Society.
- Senior Member of Optica (Formerly OSA).

HONORS AND AWARDS

- Malathi Veeraraghavan Service Award, the Optical Networking Technical Committee (ONTC) of IEEE ComSoc, 2024.
- Distinguished Technical Achievement Award, the Communications Switching & Routing Technical Committee (CSR-TC) of IEEE ComSoc, 2023.
- IEEE Fellow (Class of 2023), for Contributions to Elastic Optical Networking and Network Virtualization.
- IEEE ComSoc Distinguished Lecturer, 2018−2021.
- Best Paper Awards from
    - GLOBECOM 2024.
    - 22nd Conference on Optical Network Design and Modeling (ONDM), 2018.
    - IEEE International Conference on Communications (ICC) 2015.
    - ICNC 2014.
    - GLOBECOM 2013.
    - ICC 2013.
- Team Achievement Award for Outstanding Contributions, Cisco Systems, 2008.

PUBLICATIONS

1. Book Chapters

B1. **Zuqing Zhu**, "Energy-Efficient Optical Transport Networks with Mixed Regenerator Placement," Chapter 6 in Intelligent Systems for Optical Networks Design: Advancing Techniques, IGI Global, DOI: 10.4018/978-1-4666-3652-1, 2013.

2. Editorials

E22. Daniel Kilper, Lena Wosinska, and **Zuqing Zhu**, "Introduction to the JOCN Special Issue on Intelligent Networks at the Edge," *Journal of Optical Communications and Networking*, vol. 16, no. 10, pp. INE1-INE1, Oct. 2024 (Guest Editorial).

E21. Daniel Kilper, Lena Wosinska, and **Zuqing Zhu**, "Introduction to the Future Optical Networks and Communications Symposium Special Issue," *Journal of Optical Communications and Networking*, vol. 15, no. 9, pp. FON1-FON2, Sept. 2023 (Guest Editorial).

E20. Mohamed-Slim Alouini and **Zuqing Zhu**, "Optical Communications and Networks," *IEEE Communications Magazine*, vol. 59, no. 10, pp. 56-56, Oct. 2021 (Series Editorial).

E19. Massimo Tornatore, Elaine Wong, **Zuqing Zhu**, Ramon Casellas, Balagangadhar G. Bathula, and Lena Wosinska, "Guest Editorial Latest Advances in Optical Networks for 5G Communications and Beyond,"

IEEE Journal on Selected Areas in Communications, vol. 39, no. 9, pp. 2667-2671, Sept. 2021 (Guest Editorial).

E18. Mohamed-Slim Alouini and **Zuqing Zhu**, "Optical Communications and Networks," *IEEE Communications Magazine*, vol. 59, no. 6, pp. 110-110, Jun. 2021 (Series Editorial).

E17. Ramon Casellas, Raul Munoz, Marija Furdek, Salvatore Spadaro, and **Zuqing Zhu**, "Introduction to the ONDM2020 Special Issue," *Journal of Optical Communications and Networking*, vol. 13, no. 6, ONDM1-ONDM2, Jun. 2021 (Guest Editorial).

E16. Mohamed-Slim Alouini, Xiang Liu, and **Zuqing Zhu**, "Optical Communications and Networks," *IEEE Communications Magazine*, vol. 59, no. 1, pp. 118-118, Jan. 2021 (Series Editorial).

E15. Mohamed-Slim Alouini, Xiang Liu, and **Zuqing Zhu**, "Optical Communications and Networks," *IEEE Communications Magazine*, vol. 58, no. 9, pp. 46-46, Sept. 2020 (Series Editorial).

E14. **Zuqing Zhu**, Mohamed-Slim Alouini, and Xiang Liu, "Optical Communications and Networks," *IEEE Communications Magazine*, vol. 58, no. 5, pp. 18-18, May 2020 (Series Editorial).

E13. Mohamed-Slim Alouini, Xiang Liu, and **Zuqing Zhu**, "Optical Communications and Networks," *IEEE Communications Magazine*, vol. 58, no. 2, pp. 12-12, Feb. 2020 (Series Editorial).

E12. **Zuqing Zhu**, Xiang Liu, and Mohamed-Slim Alouini, "Advances in Optical Communications and Networking Technologies," *IEEE Communications Magazine*, vol. 57, no. 10, pp. 12-12, Oct. 2019 (Series Editorial).

E11. Xiang Liu and **Zuqing Zhu**, "Advances in Optical Communications and Networking Technologies," *IEEE Communications Magazine*, vol. 57, no. 4, pp. 130-130, Apr. 2019 (Series Editorial).

E10. **Zuqing Zhu** and Xiang Liu, "Advances in Optical Communications Technologies," *IEEE Communications Magazine*, vol. 56, no. 8, pp. 112-112, Aug. 2018 (Series Editorial).

E9. Xiang Liu and **Zuqing Zhu**, "Advances in Optical Communications Technologies," *IEEE Communications Magazine*, vol. 56, no. 2, pp. 176-176, Feb. 2018 (Series Editorial).

E8. Xiang Liu and **Zuqing Zhu**, "Advances in Optical Communications Technologies," *IEEE Communications Magazine*, vol. 55, no. 8, pp. 155-155, Aug. 2017 (Series Editorial).

E7. Xiang Liu and **Zuqing Zhu**, "Advances in Optical Communications Technologies," *IEEE Communications Magazine*, vol. 55, no. 2, pp. 142-142, Feb. 2017 (Series Editorial).

E6. Xinlin Huang, Xiaomin Ma, Fei Hu, and **Zuqing Zhu**, "Editorial for Chinacom2015 Special Issue," *Mobile Networks & Applications*, vol. 21, no. 6, pp. 905-907, Dec. 2016 (Guest Editorial).

E5. Joel J. P. C. Rodrigues, Sudip Misra, Haohong Wang, and **Zuqing Zhu**, "Ambient Assisted Living Communications," *IEEE Communications Magazine*, vol. 53, no. 1, pp. 24-25, Jan. 2015 (Guest Editorial).

E4. Sana Ullah, Joel J. P. C. Rodrigues, Farrukh Aslam, Christos Verikoukis, and **Zuqing Zhu**, "Protocols and Architectures for Next-Generation Wireless Sensor Networks," *International Journal of Distributed Sensor Networks*, vol. 2014, pp. 1-3, Dec. 2014 (Guest Editorial).

E3. Piotr Zwierzykowski, Steven Gao, Wai Pang Ng, and **Zuqing Zhu**, "Photonic and RF Communications Systems," *IET Circuits, Devices & Systems*, vol. 8, no. 5, pp. 331-333, Sept. 2014 (Guest Editorial).

E2. Jason Jue, Vincenzo Eramo, Victor Lopez, and **Zuqing Zhu**, "Software-Defined Elastic Optical Networks," *Photonic Network Communications*, vol. 28, no. 1, pp. 1-3, Aug. 2014 (Guest Editorial).

E1. **Zuqing Zhu**, S. J. B. Yoo, Zhaohui Li, and Nicolas Fontaine, "Optical Networks in Cloud Computing," *IEEE Network*, vol. 27, no. 6, pp. 4-5, Nov./Dec. 2013 (Guest Editorial).

3. Referred Journal Papers

J170. Jing Zhu, Dan Wang, Jiao Xing, Shuxin Qin, Gaofeng Tao, Pingping Chen, and **Zuqing Zhu**, "Bilevel Optimization for Provisioning Heterogeneous Traffic in Deterministic Networks," *IEEE Transactions on Network and Service Management*, in Press, 2025.

J169. Xixuan Zhou, Ruoyu Xu, Xiaojian Tian, Yueyue Zhang, Yu Liang, Xiaoliang Chen, and **Zuqing Zhu**, "Distributed Routing and Data Scheduling in IPNs with GNN-based Multi-Agent DRL," *IEEE Internet of Things Journal*, in Press, 2025 (Corresponding Author).

J168. Xuexia Xie, Binjun Tang, Xiaoliang Chen, and **Zuqing Zhu**, "P4INC-AOI: All-Optical Interconnect Empowered by In-Network Computing for DML Workloads," *IEEE/ACM Transactions on Networking*, in Press, 2025 (Corresponding Author).

J167. Meihan Wu, Xiaoliang Chen, Francesco Musumeci, Ruoxing Li, Yuxiao Zhang, Qian Lv, and **Zuqing Zhu**, "On the Cross-Layer Restoration to Address Packet Layer Failures in P2MP-TRX-based WSONs," *Journal of Optical Communications and Networking*, in Press, 2024 (Corresponding Author).

J166. Xiaojian Tian, Xiaoliang Chen, Xixuan Zhou, Nirwan Ansari, and **Zuqing Zhu**, "On the Rate Control and Information Exchange for Optimizing Data Transfers in IPNs," *IEEE Internet of Things Journal*, in Press, 2024 (Corresponding Author).

J165. Qian Lv, Yuxiao Zhang, Shuoning Zhang, Ruoxing Li, Ke Meng, Bowen Zhang, Fuguang Huang, Xiaoliang Chen, and **Zuqing Zhu**, "On the TPE Design to Efficiently Accelerate Hitless Reconfiguration of OCS-based DCNs," *IEEE Journal on Selected Areas in Communications*, in Press, 2024 (Corresponding Author).

J164. Oscar J. Ciceri, Carlos A. Astudillo, Gustavo B. Figueiredo, **Zuqing Zhu**, and Nelson L. S. da Fonseca, "Resource Allocation in Passive Optical Networks for Low-Latency Mobile Fronthauling Services," *IEEE Network*, vol. 39, no. 1, pp. 278-288, Jan. 2025.

J163. Xiaoliang Chen, Zhenlin Ouyang, Hanyu Gao, Gunzhi Lin, and **Zuqing Zhu**, "Meta-Learning-Aided QoT Estimator Provisioning for Dynamic VNT Configuration in Optical Networks," *Journal of Optical Communications and Networking*, vol. 17, no. 1, pp. A103-A111, Jan. 2025 (Corresponding Author).

J162. Zichen Xu, Ziye Lu and **Zuqing Zhu**, "Information-Sensitive In-band Network Telemetry in P4-based Programmable Data Plane," *IEEE/ACM Transactions on Networking*, vol. 32, no. 6, pp. 5081-5096, Dec. 2024 (Corresponding Author).

J161. Tingyu Li, Zhihuang Ma, and **Zuqing Zhu**, "st-SFC: Optimizing Dynamic Deployment of Stateful SFCs on P4-based PDP Switches," *IEEE Transactions on Network and Service Management*, vol. 21, no. 6, pp. 6658-6669, Dec. 2024 (Corresponding Author).

J160. Xiaochuan Yu, Qian Lv, Ruoxing Li, Meihan Wu, Yuxiao Zhang, and **Zuqing Zhu**, "Network Expansion of Regional DCIs: Optical Circuit Switching versus Electrical Packet Switching," *Journal of Lightwave Technology*, vol. 42, no. 20, pp. 7044-7055, Oct. 2024 (Corresponding Author).

J159. Xuefeng Yan, Nelson L. S. da Fonseca, and **Zuqing Zhu**, "Self-Adaptive SRv6-INT-Driven System Adjustment in Runtime for Reliable Service Function Chaining," *IEEE Transactions on Network and Service Management*, vol. 21, no. 5, pp. 4962-4973, Oct. 2024 (Corresponding Author).

J158. Zhihuang Ma, Tingyu Li, Zichen Xu, Nelson L. S. da Fonseca, and **Zuqing Zhu**, "SFCache: Hybrid NF Synthesization in Runtime with Rule-Caching in Programmable Switches," *IEEE Transactions on Network and Service Management*, vol. 21, no. 4, pp. 4613-4624, Aug. 2024 (Corresponding Author).

J157. Hao Yang and **Zuqing Zhu**, "Traffic-aware Configuration of All-Optical Data Center Networks based on Hyper-FleX-LION," *IEEE/ACM Transactions on Networking*, vol. 32, no. 3, pp. 2675-2688, Jun. 2024 (Corresponding Author).

J156. Xiaoliang Chen, Hanyu Gao, Xin Xiong, Xuefeng Yan, **Zuqing Zhu**, and Zhaohui Li, "Field Trial of Autonomous Lightpath Provisioning over an SDM Network using 7-Core Fibers," *Journal of Lightwave Technology*, vol. 42, no. 3, pp. 1151-1158, Feb. 2024.

J155. Qian Lv, Ruoxing Li, and **Zuqing Zhu**, "On the Survivable Multilayer Planning of Filterless Optical Networks with P2MP Transceivers," *Journal of Lightwave Technology*, vol. 42, no. 6, pp. 1786-1797, Mar. 2024 (Corresponding Author).

J154. Ruoxing Li, Qian Lv, and **Zuqing Zhu**, "On the Network Planning of Wavelength Switched Optical Networks with P2MP Transceivers," *Journal of Lightwave Technology*, vol. 42, no. 1, pp. 24-36, Jan. 2024 (Corresponding Author).

J153. Xiaojian Tian and **Zuqing Zhu**, "On the Fine-Grained Distributed Routing and Data Scheduling for Interplanetary Data Transfers," *IEEE Transactions on Network and Service Management*, vol. 21, no. 1, pp. 451-462, Feb. 2024 (Corresponding Author).

J152. Yuxiao Zhang, Qian Lv, Ruoxing Li, Xiaojian Tian, and **Zuqing Zhu**, "Planning of Survivable Wavelength-Switched Optical Networks based on P2MP Transceivers," *IEEE Transactions on Network and Service Management*, vol. 20, no. 3, pp. 2331-2342, Sept. 2023 (Corresponding Author).

J151. Bofan Chen, Feng Chen, Shaofei Tang, Qitao Zheng, and **Zuqing Zhu**, "On Orchestration of Segment Routing and In-band Network Telemetry," *IEEE Transactions on Network and Service Management*, vol. 20, no. 4, pp. 4047-4060, Dec. 2023 (Corresponding Author).

J150. Qian Lv and **Zuqing Zhu**, "On the Multilayer Planning of Filterless Optical Networks with OTN Encryption," *IEEE/ACM Transactions on Networking*, vol. 31, no. 6, pp. 2529-2544, Dec. 2023 (Corresponding Author).

J149. Sijia Li, Baojia Li, and **Zuqing Zhu**, "On the Game-Theoretic Analysis of Dynamic VNF Service Chaining in Edge-Cloud EONs," *Journal of Lightwave Technology*, vol. 41, no. 10, pp. 2940-2952, May 2023 (Corresponding Author).

J148. Qian Zhang, Nirwan Ansari, and **Zuqing Zhu**, "Adaptive SmartNIC Offloading for Unleashing the Performance of Protocol-Oblivious Forwarding," *IEEE Internet of Things Journal*, vol. 10, no. 8, pp. 7303-7314, Apr. 2023 (Corresponding Author).

J147. Tingyu Li and **Zuqing Zhu**, "QoS-aware Management Reconfiguration of vNF Service Trees with Heterogeneous NFV Platforms," *IEEE Transactions on Network and Service Management*, vol. 20, no. 2, pp. 2013-2024, Jun. 2023 (Corresponding Author).

J146. Shaofei Tang, Sicheng Zhao, Xiaoqin Pan, and **Zuqing Zhu**, "How to Use In-band Network Telemetry Wisely: Network-wise Orchestration of Sel-INT," *IEEE/ACM Transactions on Networking*, vol. 31, no. 1, pp. 421-435, Feb. 2023 (Corresponding Author).

J145. Oscar J. Ciceri, Carlos A. Astudillo, **Zuqing Zhu**, and Nelson L. S. da Fonseca, "Federated Learning over Next-Generation Ethernet Passive Optical Networks," *IEEE Network*, vol. 37, no. 1, pp. 70-76, Jan./Feb. 2023.

J144. Hao Yang and **Zuqing Zhu**, "Acceleration of Coflows with All-Optical Interconnects in Hyper-FleX-LION," *Journal of Optical Communications and Networking*, vol. 14, no. 10, pp. 805-814, Oct. 2022 (Corresponding Author).

J143. Meihan Wu, Nelson L. S. da Fonseca, and **Zuqing Zhu**, "Dynamic Cross-Layer Restoration to Resolve Packet Layer Outages in FlexE-over-EONs," *IEEE Transactions on Network and Service Management*, vol. 19, no. 3, pp. 2600-2611, Sept. 2022 (Corresponding Author).

J142. Xiaoqin Pan, Hao Yang, Zichen Xu, and **Zuqing Zhu**, "Adversarial Analysis of ML-based Anomaly Detection in Multi-layer Network Automation," *Journal of Lightwave Technology*, vol. 40, no. 15, pp. 4934-4944, Aug. 2022 (Corresponding Author).

J141. Zichen Xu, Shaofei Tang, and **Zuqing Zhu**, "Entropy-driven Adaptive INT and Its Applications in Network Automation of IP-over-EONs," *Journal of Selected Topics in Quantum Electronics*, vol. 28, no. 4, pp. 3700313, Jul./Aug. 2022 (Corresponding Author) **(Invited)**.

J140. Hao Yang, Xiaoqin Pan, Sicheng Zhao, Binjie Ge, Hang Yu, and **Zuqing Zhu**, "On the Bilevel Op-

timization for Remapping Virtual Networks in an HOE-DCN," *IEEE Transactions on Network and Service Management*, vol. 19, no. 2, pp. 1274-1286, Jun. 2022 (Corresponding Author).

J139. Zichen Xu and **Zuqing Zhu**, "On Establishing and Task Scheduling of Data-Oriented vNF-SCs in an Optical DCI," *Journal of Optical Communications and Networking*, vol. 14, no. 3, pp. 89-99, Mar. 2022 (Corresponding Author).

J138. Baojia Li and **Zuqing Zhu**, "GNN-based Hierarchical Deep Reinforcement Learning for NFV-Oriented Online Resource Orchestration in Elastic Optical DCIs," *Journal of Lightwave Technology*, vol. 40, no. 4, pp. 935-946, Feb. 2022 (Corresponding Author).

J137. Silvana Trindade, Ricardo da S. Torres, **Zuqing Zhu**, and Nelson L. S. da Fonseca, "Cognitive Control-Loop for Elastic Optical Networks with Space-Division Multiplexing," *Sensors*, vol. 21, no. 23, pp. 7821, 2021.

J136. Yuhan Xue and **Zuqing Zhu**, "On the Upgrade of Service Function Chains with Heterogeneous NFV Platforms," *IEEE Transactions on Network and Service Management*, vol. 18, no. 4, pp. 4311-4323, Dec. 2021 (Corresponding Author).

J135. Baojia Li, Ruyun Zhang, Xiaojian Tian, and **Zuqing Zhu**, "Multi-Agent and Cooperative Deep Reinforcement Learning for Scalable Network Automation in Multi-Domain SD-EONs," *IEEE Transactions on Network and Service Management*, vol. 18, no. 4, pp. 4801-4813, Dec. 2021 (Corresponding Author).

J134. Xiaojian Tian, Baojia Li, Rentao Gu, and **Zuqing Zhu**, "Reconfiguring Multicast Sessions in Elastic Optical Networks Adaptively with Graph-Aware Deep Reinforcement Learning," *Journal of Optical Communications and Networking*, vol. 13, no. 11, pp. 253-265, Nov. 2021 (Corresponding Author).

J133. Xiaoqin Pan, Sicheng Zhao, Hao Yang, Shaofei Tang, and **Zuqing Zhu**, "Scheduling Virtual Network Reconfigurations in Parallel in Hybrid Optical/Electrical Datacenter Networks," *Journal of Lightwave Technology*, vol. 39, no. 17, pp. 5371-5382, Sept. 2021 (Corresponding Author).

J132. Yuanhao Liu, Fen Zhou, Cao Chen, **Zuqing Zhu**, Tao Shang, and Juan-Manuel Torres-Moreno, "Disaster Protection in Inter-DataCenter Networks Leveraging Cooperative Storage," *IEEE Transactions on Network and Service Management*, vol. 18, no. 3, pp. 2598-2611, Sept. 2021.

J131. Feng Chen, Man Song, Fen Zhou, and **Zuqing Zhu**, "Security-aware Planning of Packet-over-Optical Networks in Consideration of OTN Encryption," *IEEE Transactions on Network and Service Management*, vol. 18, no. 3, pp. 3209-3220, Sept. 2021 (Corresponding Author).

J130. Qitao Zheng, Shaofei Tang, Bofan Chen, and **Zuqing Zhu**, "Highly-Efficient and Adaptive Network Monitoring: When INT Meets Segment Routing," *IEEE Transactions on Network and Service Management*, vol. 18, no. 3, pp. 2587-2597, Sept. 2021 (Corresponding Author).

J129. Hui Liang, Nelson L. S. da Fonseca, and **Zuqing Zhu**, "On the Cross-Layer Network Planning for Flexible Ethernet over Elastic Optical Networks," *IEEE Transactions on Network and Service Management*, vol. 18, no. 3, pp. 3691-3705, Sept. 2021 (Corresponding Author).

J128. Qian Lv, Fen Zhou, and **Zuqing Zhu**, "On the Bilevel Optimization to Design Control Plane for SDONs in Consideration of Planned Physical-Layer Attacks," *IEEE Transactions on Network and Service Management*, vol. 18, no. 3, pp. 3221-3230, Sept. 2021 (Corresponding Author).

J127. Lu Dong, Nelson L. S. da Fonseca, and **Zuqing Zhu**, "Application-driven Provisioning of Service Function Chains over Heterogeneous NFV Platforms," *IEEE Transactions on Network and Service Management*, vol. 18, no. 3, pp. 3037-3048, Sept. 2021 (Corresponding Author).

J126. Deyun Li, Hongqiang Fang, Xu Zhang, Jin Qi, and **Zuqing Zhu**, "DeepMDR: A Deep-Learning-assisted Control Plane System for Scalable, Protocol-independent, and Multi-domain Network Automation," *IEEE Communications Magazine*, vol. 59, no. 3, pp. 62-68, Mar. 2021 (Corresponding Author).

J125. Yuhan Xue and **Zuqing Zhu**, "Hybrid Flow Table Installation: Leveraging External Memory to Enhance Programmable Data Plane Switches for In-Network Computing," *IEEE Transactions on Network*

and Service Management, vol. 18, no. 1, pp. 429-440, Mar. 2021 (Corresponding Author).

J124. Siqi Liu, Jiawei Kong, Xiaoqin Pan, Deyun Li, and **Zuqing Zhu**, "Highly-Efficient and Automatic Spectrum Inspection based on AutoEncoder and Semi-Supervised Learning for Anomaly Detection in EONs," *Journal of Lightwave Technology*, vol. 39, no. 5, pp. 1243-1254, Mar. 2021 (Corresponding Author).

J123. Xu Zhang, Baojia Li, Jianquan Peng, Xiaoqin Pan, and **Zuqing Zhu**, "You Calculate and I Provision: A DRL-assisted Service Framework to Realize Distributed and Tenant-driven Virtual Network Slicing," *Journal of Lightwave Technology*, vol. 39, no. 1, pp. 4-16, Jan. 2021 (Corresponding Author).

J122. Sicheng Zhao and **Zuqing Zhu**, "On Virtual Network Reconfiguration in Hybrid Optical/Electrical Datacenter Networks," *Journal of Lightwave Technology*, vol. 38, no. 23, pp. 6424-6436, Dec. 2020 (Corresponding Author).

J121. Sicheng Zhao, Xing Wu, and **Zuqing Zhu**, "On Parallel and Hitless vSDN Reconfiguration," *IEEE/ACM Transactions on Networking*, vol. 28, no. 6, pp. 2657-2670, Dec. 2020 (Corresponding Author).

J120. Xiaoqin Pan, Shaofei Tang, Siqi Liu, Jiawei Kong, Xu Zhang, Daoyun Hu, Jin Qi, and **Zuqing Zhu**, "Privacy-Preserving Multilayer In-Band Network Telemetry and Data Analytics: For Safety, Please do not Report Plaintext Data," *Journal of Lightwave Technology*, vol. 38, no. 21, pp. 5855-5866, Nov. 2020 (Corresponding Author).

J119. Min Wang, Hancheng Lu, Siqi Liu, and **Zuqing Zhu**, "How to Mislead AI-assisted Network Automation in SD-IPoEONs: A Comparison Study of DRL- and GAN-based Approaches," *Journal of Lightwave Technology*, vol. 38, no. 20, pp. 5574-5585, Oct. 2020 (Corresponding Author).

J118. Zhuojia Gu, Hancheng Lu, and **Zuqing Zhu**, "On Throughput Optimization and Bound Analysis in Cache-Enabled Fiber-Wireless Networks," *IEEE Transactions on Vehicular Technology*, vol. 69, no. 8, pp. 9068-9082, Aug. 2020.

J117. Shaofei Tang, Deyun Li, Bin Niu, Jianquan Peng, and **Zuqing Zhu**, "Sel-INT: A Runtime-Programmable Selective In-Band Network Telemetry System," *IEEE Transactions on Network and Service Management*, vol. 17, no. 2, pp. 708-721, Jun. 2020 (Corresponding Author).

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4. Invited Conference Talks

IC36. Weichi Wu, Ag Pang, Youyou Ai, Qiqi Zhu, **Zuqing Zhu**, "Accelerating DML Training in Optical Rackless DC with P4-based In-Network Computing," in Proceedings of the 25th International Conference on Transparent Optical Networks (ICTON), pp. 1-4, Jun. 2025 **(Invited)**(Corresponding Author).

IC35. Xuexia Xie, Binjun Tang, Xiaoliang Chen and **Zuqing Zhu**, "Accelerating DML Training in OCS-Based DCNs," in Proceedings of the 29th International Conference on Optical Network Design and Modelling (ONDM), pp. 1-4, May 2025 **(Invited)**(Corresponding Author).

IC34. Xiaojian Tian, Xiaoliang Chen, Xixuan Zhou, and **Zuqing Zhu**, "On the Scaling of Reliable Interplanetary Networks with Deep Reinforcement Learning," in Proceedings of the 21th International Conference on the Design of Reliable Communication Networks (DRCN), pp. 1-8, May 2025 **(Invited)**(Corresponding Author).

IC33. Zhenlin Ouyang, Xiaokang Chen, Zhengyong Liu, Xiaoliang Chen, and **Zuqing Zhu**, "Overview of ML-aided QoT Estimation in Optical Networks: A Perspective of Model Generalization," in Proceedings of the 24th International Conference on Communication Technology (ICCT), pp. 1-7, Oct. 2024 **(Invited)**(Corresponding Author).

IC32. Qian Lv, Zhihuang Ma, and **Zuqing Zhu**, "Experimental Demonstration of Hitless OCS-based DCN Reconfiguration to Steer Multi-Class Traffic," in Proceedings of the 22nd International Conference on Optical Communications and Networks (ICOCN), pp. 1-3, Jul. 2024 **(Invited)**(Corresponding Author).

IC31. Ruoxing Li, Sijia Li, and **Zuqing Zhu**, "Service Provisioning in Wavelength-Switched Optical Networks based on P2MP Transceivers," in Proceedings of Asia Communications and Photonics Conference (ACP), pp. 1-5, Nov. 2023 **(Invited)**(Corresponding Author).

IC30. Ruoxing Li, Qian Lv, and **Zuqing Zhu**, "Architecting Wavelength-Switched Optical Networks with Coherent P2MP Transceivers," in Proceedings of the 21st International Conference on Optical Communications and Networks (ICOCN), pp. 1-3, Aug. 2023 **(Invited)**(Corresponding Author).

IC29. **Zuqing Zhu**, Liang Zhang, and Bijan Jabbari, "On the Deployment and Operation of Correlated Data-Intensive vNF-SCs in Inter-DC EONs," in Proceedings of the 32nd Wireless and Optical Communication Conference (WOCC), pp. 1-5, May 2023 **(Invited)**.

IC28. Hao Yang and **Zuqing Zhu**, "Application-aware Configuration of All-optical Interconnects in Hyper-FleX-LION," in Proceedings of the 7th Optoelectronics Global Conference (OGC), pp. 1-4, Sept. 2022 **(Invited)**(Corresponding Author).

IC27. Tingyu Li and **Zuqing Zhu**, "Leveraging Heterogeneous NFV Platforms for QoS-aware Reconfigura-

tion of vNF Service Trees," in Proceedings of the 20th International Conference on Optical Communications and Networks (ICOCN), pp. 1-3, Aug. 2022 **(Invited)**(Corresponding Author).

IC26. Xiaojian Tian, Baojia Li, and **Zuqing Zhu**, "DRL-assisted Light-tree Reconfiguration for Dynamic Multicast in Elastic Optical Networks," in Proceedings of Photonics in Switching and Computing (PSC), pp. 1-2, Sept. 2021 **(Invited)**(Corresponding Author).

IC25. Qian Lv and **Zuqing Zhu**, "Planning Security-aware Filterless Optical Networks," in Proceedings of Asia Communications and Photonics Conference (ACP), pp. 1-3, Oct. 2021 **(Invited)**(Corresponding Author).

IC24. Xiaojian Tian, Baojia Li, and **Zuqing Zhu**, "Reconfiguring Multicast Sessions in EONs Adaptively with Deep Reinforcement Learning," in Proceedings of the 19th International Conference on Optical Communications and Networks (ICOCN), pp. 1-3, Aug. 2021 **(Invited)**(Corresponding Author).

IC23. Shaofei Tang, Hui Liang, Min Wang, Tingyu Li, and **Zuqing Zhu**, "Closed-loop Network Automation with Generic Programmable Data Plane (G-PDP)," in Proceedings of the 30th International Conference on Computer Communications and Networks (ICCCN), pp. 1-9, Jul. 2021 **(Invited)**(Corresponding Author).

IC22. Xiaoqin Pan, Shaofei Tang, and **Zuqing Zhu**, "Multilayer Network Monitoring and Data Analytics over Encrypted Telemetry Data," in Proceedings of the 20th IEEE International Conference on Communication Technology (ICCT), pp. 1-5, Oct. 2020 **(Invited)**(Corresponding Author).

IC21. Xiaoqin Pan, Shaofei Tang, and **Zuqing Zhu**, "Privacy-Preserving Multilayer In-Band Network Telemetry and Data Analytics," in Proceedings of IEEE/CIC International Conference on Communications in China (ICCC), pp. 1-6, Aug. 2020 **(Invited)**(Corresponding Author).

IC20. Xu Zhang, Wei Lu, Baojia Li, and **Zuqing Zhu**, "DRL-based Network Orchestration to Realize Cooperative, Distributed and Tenant-driven Virtual Network Slicing," in Proceedings of Asia Communications and Photonics Conference (ACP), pp. 1-3, Nov. 2019 **(Invited)**(Corresponding Author).

IC19. **Zuqing Zhu**, Bin Niu, Jiawei Kong, Shaofei Tang, Yingcong Li, Hongqiang Fang, and Wei Lu, "Leveraging Multilayer Telemetry to Realize AI-assisted Service Provisioning in IP over Elastic Optical Networks," in Proceedings of Opto-Electronics and Communications Conference (OECC), pp. 1-3, Jul. 2019 **(Invited)**.

IC18. Jiawei Kong, Bin Niu, Shaofei Tang, Yingcong Li, Hongqiang Fang, Wei Lu, and **Zuqing Zhu**, "Network Nervous System: When Multilayer Telemetry Meets AI-assisted Service Provisioning," in Proceedings of the 18th International Conference on Optical Communications and Networks (ICOCN), pp. 1-3, Aug. 2019 **(Invited)**(Corresponding Author).

IC17. **Zuqing Zhu**, Wei Lu, Lipei Liang, and Bingxin Kong, "Predictive Analytics in Hybrid Optical/Electrical DC Networks," in Proceedings of Optical Fiber Communication Conference (OFC), paper Th1H.5, Mar. 2019 **(Invited)**.

IC16. **Zuqing Zhu**, Siqi Liu, Baojia Li, and Wei Lu, "AI-Assisted Knowledge-Defined Multilayer Optical Networks," in Proceedings of IEEE Summer Topicals Meeting Series (SUM), pp. 1-2, Jul. 2018 **(Invited)**.

IC15. Xiaoliang Chen, **Zuqing Zhu**, Alberto Castro, Roberto Proietti, and S. J. B. Yoo, "Multi-Broker based Software-Defined Optical Networks," in Proceedings of IEEE Photonics Conference (IPC), pp. 1-2, Oct. 2017 **(Invited)**.

IC14. Siqi Liu, Wei Lu, and **Zuqing Zhu**, "Multi-Layer Restoration to Address IP Router Outages in IP-over-EONs," in Proceedings of Asia Communications and Photonics Conference (ACP), pp. 1-3, Nov. 2017 **(Invited)**(Corresponding Author).

IC13. Wei Lu, Lipei Liang, and **Zuqing Zhu**, "On vNF-SC Deployment and Task Scheduling for Bulk-Data Transfers in Inter-DC EONs," in Proceedings of the IEEE/CIC International Conference on Communications in China (ICCC), pp. 1-4, Oct. 2017 **(Invited)**(Corresponding Author).

IC12. Wei Lu, Xin Jin, and **Zuqing Zhu**, "Game Theoretical Flexible Service Provisioning in IP over

Elastic Optical Networks," in Proceedings of the 16th International Conference on Optical Communications and Networks (ICOCN), pp. 1-3, Aug. 2017 **(Invited)**(Corresponding Author).

IC11. Wei Lu, Menglu Zeng, Wenjian Fang, and **Zuqing Zhu**, "Network Function Virtualization in Optical Inter-Datacenter Elastic Optical Networks," in Proceedings of Opto-Electronics and Communications Conference (OECC), pp. 1-2, Jul./Aug. 2017 **(Invited)**(Corresponding Author).

IC10. Wei Lu and **Zuqing Zhu**, "IR/AR/MR Service Provisioning in Elastic Optical Networks," in Proceedings of 15th International Conference on Optical Communications and Networks (ICOCN), pp. 1-3, Sept. 2016 **(Invited)**(Corresponding Author).

IC9. Cen Chen, Xiaoliang Chen, Bin Zhao, and **Zuqing Zhu**, "Service Provisioning in Multi-Domain SD-EONs," in Proceedings of 14th International Conference on Optical Communications and Networks (ICOCN), pp. 1-3, Jul. 2015 **(Invited)**(Corresponding Author).

IC8. Cen Chen, Xiaoliang Chen, Shoujiang Ma, and **Zuqing Zhu**, "OpenFlow-Controlled Online Spectrum Defragmentation in Software-Defined Elastic Optical Networks," in Proceedings of 13th International Conference on Optical Communications and Networks (ICOCN), pp. 1-4, Dec. 2014 **(Invited)**(Corresponding Author).

IC7. **Zuqing Zhu**, Wei Lu, and Liang Zhang, "Strategies for Improving the Throughput of Dynamic Service Provisioning in Elastic Optical Networks," in Proceedings of Asia Communications and Photonics Conference (ACP), paper AS4D.1, Nov. 2012 **(Invited)**.

IC6. Suoheng Li, **Zuqing Zhu**, Houqiang Li, and Weiping Li, "Efficient and Scalable Cloud-Assisted SVC Video Streaming Through Mesh Networks," in Proceedings of International Conference on Computing, Networking and Communications (ICNC), pp. 944-948, Jan. 2012 **(Invited)**(Corresponding Author).

IC5. **Zuqing Zhu**, "Mixed Regenerator Placement and Routing and Wavelength Assignment for Energy-Efficient Optical Transport Networks," in Proceedings of International Conference on Optical Communications and Networks (ICOCN), pp. 1-2, Dec. 2011 **(Invited)**.

IC4. **Zuqing Zhu**, Weida Zhong, and Chuanqi Wan, "Joint Optimization of Mixed Regenerator Placement and Wavelength Assignment for Green Translucent Optical Networks," in Proceedings of Asia Communications and Photonics Conference (ACP), vol. 8310, 83100G, Nov. 2011 **(Invited)**.

IC3. **Zuqing Zhu**, Wenbo Ma, and Qiao Liang, "Improve Energy-Efficiency of Hybrid Fiber-Coaxial Networks with Traffic-Aware Design," in Proceedings of Asia Communications and Photonics Conference (ACP), vol. 8310, 83100W, Nov. 2011 **(Invited)**.

IC2. **Zuqing Zhu**, "Optical Regenerator Placement Strategy to Achieve Green Design of Translucent Optical Networks," in Proceedings of IEEE Wireless and Optical Communications Conference (WOCC), paper O4-1, Apr. 2011 **(Invited)**.

IC1. S. J. Ben Yoo, Zhong Pan, Haijun Yang, and **Zuqing Zhu**, "All-Optical Signal Processing in Photonic Label Switching Routers," in Proceedings of OSA Information Optical Amplifiers and their Applications Conference, Symposium on All-Optical Signal Processing, Aug. 2005 **(Invited)**.

5. Referred Conference Papers

C155. Xiaochuan Yu, Yichen Wang, Jingyu Zhou, Kang Cao, Xiao Zhang, Fengping Zhao, **Zuqing Zhu**, Fei Yang, "High-precision Radio Frequency Transmission using 4-core Fibers," in Proceedings of the 30th OptoElectronics and Communications Conference / International Conference on Photonics in Switching and Computing (OECC/PSC), pp. 1-4, Jul. 2025.

C154. Zichen Xu, Xiaoliang Chen, and **Zuqing Zhu**, "INT-assisted Adaptive Packet Scheduling in PDP Switches for End-to-end Latency Control," in Proceedings of IEEE International Conference on Computer Communications (INFOCOM), pp. 1-10, May 2025 (Corresponding Author).

C153. Tingyu Li, Zhen Wei, Xiaoliang Chen, and **Zuqing Zhu**, "MrgRecmp4: Efficient Stateful SFC Recompilation in PDP Switches with Flexible Table Merging," in Proceedings of IEEE International Conference

on Computer Communications (INFOCOM), pp. 1-10, May 2025 (Corresponding Author).

C152. Xiaoliang Chen, Wenbang Zheng, Shuoning Zhang, Xiaoyan Dong, Ke Meng, and **Zuqing Zhu**, "DRL-TPE: Learning to Optimize TPE of Optical Interconnects to Accelerate Hitless Reconfiguration of OCS-based DCNs," in Proceedings of Optical Fiber Communication Conference (OFC), paper M4H, Mar. 2025 (Corresponding Author).

C151. Meihan Wu, Xiaoliang Chen, Francesco Musumeci, Ruoxing Li, Yuxiao Zhang, Qian Lv, and **Zuqing Zhu**, "On the Synergy between Flexible Ethernet and Point-to-multipoint Optical Networks," in Proceedings of Optical Fiber Communication Conference (OFC), paper Th3D, Mar. 2025 (Corresponding Author).

C150. Weichi Wu, Xiaoliang Chen, Zhihuang Ma, Xuexia Xie, Ke Meng, Weiguang Wang, and **Zuqing Zhu**, "Accelerating Collective Communications with Mutual Benefits of Optical Rackless DC and In-Network Computing," in Proceedings of Optical Fiber Communication Conference (OFC), paper M4H, Mar. 2025 (Corresponding Author).

C149. Xiaoyan Dong, Hao Yang, Yuxiao Zhang, Xuexia Xie, and **Zuqing Zhu**, "On Scheduling DML Jobs in All-Optical DCNs with In-Network Computing," in Proceedings of IEEE Global Communications Conference (GLOBECOM), pp. 1-6, Dec. 2024 (Best Paper Award) (Corresponding Author).

C148. Zhen Wei, Tingyu Li, Zichen Xu, and **Zuqing Zhu**, "Optimizing Stateful Service Function Chaining on PDP Switches with Table Merging," in Proceedings of IEEE Global Communications Conference (GLOBECOM), pp. 1-6, Dec. 2024 (Corresponding Author).

C147. Yuxiao Zhang, Meihan Wu, Ruoxing Li, Qian Lv, and **Zuqing Zhu**, "On Adaptive Traffic Restoration in P2MP-TRX-based WSONs," in Proceedings of the 16th Pacific Rim Conference on Lasers and Electro-Optics (CLEO-PR), pp. 1-2, Aug. 2024 (Corresponding Author).

C146. Meihan Wu, Yuxiao Zhang, Ruoxing Li, Qian Lv, Sijia Li, and **Zuqing Zhu**, "Cross-Layer Restoration to Resolve Packet Layer Outages in P2MP-TRX-based WSONs," in Proceedings of OptoElectronics and Communications Conference (OECC), pp. 1-3, Jul. 2024 (Corresponding Author).

C145. Ziye Lu, Zichen Xu, Zhihuang Ma, and **Zuqing Zhu**, "SmtRPTG: Highly-Efficient Monitoring Scheme to Capture Network Status Changes Accurately," in Proceedings of IEEE International Conference on Communications (ICC), pp. 1-6, Jun. 2024 (Corresponding Author).

C144. Oscar J. Ciceri, Carlos A. Astudillo, **Zuqing Zhu**, and Nelson L. S. da Fonseca, "Bandwidth Allocation for Multiple Functional Splitting Options over TWDM-EPON Networks with Multi-ONU Customers," in Proceedings of IEEE International Conference on Communications (ICC), pp. 1-6, Jun. 2024.

C143. Huaqing Tu, Ziqiang Hua, Qi Xu, Tao Zou, Huifeng Zhang, Hongli Xu, and **Zuqing Zhu**, "OptRec: An Efficient DRL-based SFC Reconfiguration Optimization Framework in Programmable Networks," in Proceedings of IEEE International Conference on Communications (ICC), pp. 1-6, Jun. 2024.

C142. Ruoxing Li, Sijia Li, Meihan Wu, Yuxiao Zhang, Qian Lv, and **Zuqing Zhu**, "Dynamic Asymmetric SC Allocation and Reconfiguration in Drop-and-Continue Optical Networks based on P2MP-TRXs," in Proceedings of Optical Fiber Communication Conference (OFC), paper W3C.1, Mar. 2024 (Corresponding Author).

C141. Xixuan Zhou, Xiaojian Tian, and **Zuqing Zhu**, "Multi-Agent DRL for Distributed Routing and Data Scheduling in Interplanetary Networks," in Proceedings of IEEE Global Communications Conference (GLOBECOM), pp. 1-6, Dec. 2023 (Corresponding Author).

C140. Xiaojian Tian and **Zuqing Zhu**, "On the Topology Scaling of Interplanetary Networks," in Proceedings of International Conference on Networking and Network Applications (NaNA), pp. 1-7, Aug. 2023 (Corresponding Author).

C139. Xuefeng Yan, Zichen Xu, Bofan Chen, and **Zuqing Zhu**, "SRv6-INT: Runtime Monitoring for Green Service Function Chaining in B5G-MEC," in Proceedings of IEEE International Conference on Communications (ICC), pp. 1-6, May 2023 (Corresponding Author).

C138. Xuexia Xie, Hao Yang, and **Zuqing Zhu**, "P4INC-AOI: When In-Network Computing Meets All-Optical Interconnect for Adaptive and Low-Latency Optical DCN," in Proceedings of Optical Fiber Communication Conference (OFC), paper Th1D.4, Mar. 2023 (Corresponding Author).

C137. Zichen Xu and **Zuqing Zhu**, "How Accurate is Selective INT for Traffic Trace Reconstruction and How to Adjust it Adaptively?" in Proceedings of IEEE Global Communications Conference (GLOBECOM), pp. 1-6, Dec. 2022 (Corresponding Author).

C136. Xiaoqin Pan and **Zuqing Zhu**, "Self-Taught Black-Box Adversarial Attack to Multilayer Network Automation," in Proceedings of IEEE Global Communications Conference (GLOBECOM), pp. 1-6, Dec. 2022 (Corresponding Author).

C135. Xiaojian Tian and **Zuqing Zhu**, "On the Distributed Routing and Data Scheduling in Interplanetary Networks," in Proceedings of IEEE International Conference on Communications (ICC), pp. 1-6, Jun. 2022 (Corresponding Author).

C134. Zhihuang Ma, Shaofei Tang, Wenpeng Tao, Yuhan Xue, and **Zuqing Zhu**, "CodedINT: Leveraging Network Coding to Improve the Visibility of In-band Network Telemetry (INT)," in Proceedings of IEEE International Conference on Communications (ICC), pp. 1-6, Jun. 2022 (Corresponding Author).

C133. Sijia Li, Baojia Li, and **Zuqing Zhu**, "To Cooperate or Not to Cooperate: Service Function Chaining in Multi-Domain Edge-Cloud Elastic Optical Networks," in Proceedings of Optical Fiber Communication Conference (OFC), paper W2A.20, Mar. 2022 (Corresponding Author).

C132. Hao Yang, **Zuqing Zhu**, Roberto Proietti, and S. J. Ben Yoo, "Which can Accelerate Distributed Machine Learning Faster: Hybrid Optical/Electrical or Optical Reconfigurable DCN?" in Proceedings of Optical Fiber Communication Conference (OFC), paper Th1G.5, Mar. 2022 (Corresponding Author).

C131. Zeyuan Yang, Rentao Gu, **Zuqing Zhu**, and Yuefeng Ji, "Edge-cloud Collaborative Heterogeneous Task Scheduling in Multilayer Elastic Optical Networks," in Proceedings of IEEE Global Communications Conference (GLOBECOM), pp. 1-6, Dec. 2021.

C130. Yuhan Xue and **Zuqing Zhu**, "Leveraging Heterogeneous NFV Platforms to Upgrade Service Function Chains in DCNs," in Proceedings of IEEE International Conference on Network Softwarization (Net-Soft), pp. 1-5, Jun. 2021 (Corresponding Author).

C129. Shaofei Tang, Jianquan Peng, Siqi Liu, Jiawei Kong, and **Zuqing Zhu**, "Self-Adaptive Network Monitoring in IP-over-EONs: When Multilayer Telemetry is Flexible and Driven by Data Analytics," in Proceedings of Optical Fiber Communication Conference (OFC), pp. 1-3, Jun. 2021 (Corresponding Author).

C128. Jianquan Peng, Qinhezi Li, Shaofei Tang, Hongqiang Fang, and **Zuqing Zhu**, "Offloading NFV Orchestration to ToR Switches: How to Leverage PDP to Realize Agile Service Function Chaining in HOE-DCNs," in Proceedings of IEEE International Conference on Communications (ICC), pp. 1-6, Jun. 2021 (Corresponding Author).

C127. Sicheng Zhao, Xiaoqin Pan, and **Zuqing Zhu**, "On the Parallel Reconfiguration of Virtual Networks in Hybrid Optical/Electrical Datacenter Networks," in Proceedings of IEEE Global Communications Conference (GLOBECOM), pp. 1-6, Dec. 2020 (Corresponding Author).

C126. Yuanhao Liu, Fen Zhou, Cao Chen, **Zuqing Zhu**, Tao Shang, and Juan-Manuel Torres-Moreno, "Disaster Protection in Inter-DataCenter Networks Leveraging Cooperative Storage," in Proceedings of IEEE Global Communications Conference (GLOBECOM), pp. 1-6, Dec. 2020.

C125. Sicheng Zhao and **Zuqing Zhu**, "Network Service Reconfiguration in Hybrid Optical/Electrical Datacenter Networks," in Proceedings of 24th International Conference on Optical Network Design and Modeling (ONDM), pp. 1-6, May 2020 (Corresponding Author).

C124. Qian Lv, Jing Zhu, Fen Zhou, and **Zuqing Zhu**, "Network Planning with Bilevel Optimization to Address Attacks to Physical Infrastructure of SDN," in Proceedings of IEEE International Conference on Communications (ICC), pp. 1-6, Jun. 2020 (Corresponding Author).

C123. Man Song, Jing Zhu, Fen Zhou, and **Zuqing Zhu**, "On Security-aware Multilayer Planning for IP-over-Optical Networks with OTN Encryption," in Proceedings of IEEE International Conference on Communications (ICC), pp. 1-6, Jun. 2020 (Corresponding Author).

C122. Baojia Li and **Zuqing Zhu**, "DeepCoop: Leveraging Cooperative DRL Agents to Achieve Scalable Network Automation for Multi-Domain SD-EONs," in Proceedings of Optical Fiber Communication Conference (OFC), paper Th2A.29, Mar. 2020 (Corresponding Author).

C121. Min Wang, Siqi Liu, and **Zuqing Zhu**, "Can You Trust AI-assisted Network Automation? A DRL-based Approach to Mislead the Automation in SD-IPoEONs," in Proceedings of Optical Fiber Communication Conference (OFC), paper Th1F.6, Mar. 2020 (Corresponding Author).

C120. Xiaoliang Chen, Roberto Proietti, Che-Yu Liu, **Zuqing Zhu**, and S. J. Ben Yoo, "Exploiting Multi-Task Learning to Achieve Effective Transfer Deep Reinforcement Learning in Elastic Optical Networks," in Proceedings of Optical Fiber Communication Conference (OFC), paper M1B.3, Mar. 2020.

C119. Lu Dong, Kai Han, Lipei Liang, Bin Niu, Sicheng Zhao, and **Zuqing Zhu**, "On Application-aware and On-demand Service Composition in Heterogenous NFV Environments," in Proceedings of IEEE Global Communications Conference (GLOBECOM), pp. 1-6, Dec. 2019 (Corresponding Author).

C118. Jing Zhu, Marija Furdek, Carlos Natalino, Lena Wosinska, and **Zuqing Zhu**, "How to Survive Targeted Fiber Cuts: A Game Theoretic Approach for Resilient SDON Control Plane Design," in Proceedings of International Conference on Optical Network Design and Modeling (ONDM), pp. 1-6, May 2019 (Corresponding Author).

C117. Haitao Wu, Fen Zhou, **Zuqing Zhu**, and Yaojun Chen, "Spectrum Management in Elastic Optical Networks: Perspectives of Topology, Traffic and Routing," in Proceedings of IFIP Networking Conference (NETWORKING), pp. 1-9, May 2019.

C116. Wei Lu, Jiawei Kong, Lipei Liang, Siqi Liu, and **Zuqing Zhu**, "How Much can Flexible Ethernet and Elastic Optical Networking Benefit Mutually?" in Proceedings of IEEE International Conference on Communications (ICC), pp. 1-6, May 2019 (Corresponding Author).

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