

# Juzi Zhao

Assistant Professor  
Electrical Engineering Department, San Jose State University  
Phone: 408-924-3193, Email: [juzi.zhao@sjsu.edu](mailto:juzi.zhao@sjsu.edu)

## EDUCATION AND ACADEMIC QUALIFICATIONS

Ph.D. in Electrical Engineering, The George Washington University Sept. 2009-May. 2014  
(Best Ph.D. Dissertation Award 2015; GPA: 3.97/4.0)

M.S. in Electrical Engineering, The George Washington University Aug. 2007-Aug. 2009  
(GPA: 4.0/4.0)

B.Eng. in Electrical Engineering, Harbin Institute of Technology, China Sept. 2003-July2007  
(GPA: 3.62/4.0)

## PROFESSIONAL EXPERIENCE

**Assistant Professor** Aug. 2017 – Present  
Department of Electrical Engineering, San Jose State University, San Jose, CA

**Post Doc Research Associate** Oct. 2015 – Aug. 2017  
Department of Electrical and Computer Engineering, University of Massachusetts, Lowell, MA

**Post-doc Researcher** Aug. 2014 – Aug. 2015  
Department of Signals and Systems, Chalmers University of Technology, Gothenburg, Sweden

## RESEARCH AND EDUCATION GRANTS

“NeTS: Small: Collaborative Research: Design and Provisioning for Inter-Datacenter Multigranular Flexible Optical Networks,” National Science Foundation, **Awarded**, Oct. 2018 - Sept. 2021, \$196,217.00, PI

“Education Enhancement in Emerging Technologies: IoT and Cybersecurity” COE Education Endowment, **Awarded**, Aug. 2018-Aug. 2020. \$184,760 (total project budget), co-PI

REU Supplement Request, National Science Foundation, **Submitted**, Jan. 2020-Dec. 2021, \$8000, PI

## HONORS AND AWARDS

- IEEE International Conference on Communications (ICC)-ONS Symposium Best Paper Runner Up (2017)
- Best Electrical and Computer Engineering Ph.D. Dissertation Award, The George Washington University (2015)
- International Conference on Communications (ICC) student travel grant (2013)
- Graduate Engineering Honors Fellowship in Electrical Engineering, The George Washington University (2010)
- Ray Pickholtz Endowment Fellowship, The George Washington University (2010)

## RECENT RESEARCH PUBLICATIONS

### Journal

1. J. Zhao, and V. M. Vokkarane, “Static multi-sourced data retrieval in elastic optical networks,” in preparation for submitting to

**IEEE/OSA Journal of Optical Communications and Networking (JOCN)**

2. **[Invited]**P. Afsharlar, J. Plante, A. Deylamsalehi, J. Zhao, and V. M. Vokkarane, "Routing and spectrum assignment with delayed allocation in elastic optical networks," **IEEE/OSA Journal of Optical Communications and Networking (JOCN)**, Volume 9, pp. B101-B111, 2017, DOI: 10.1364/JOCN.9.00B101
3. J. Zhao, Y. Xiang, H. Huang, T. Lan and S. Subramaniam, "Elastic reliability optimization through peer-to-peer checkpointing in cloud computing," **IEEE Transactions on Parallel and Distributed Systems**, Volume 28, pp. 491 - 502, 2017, DOI: 10.1109/TPDS.2016.2571281
4. M. N. Dharmaweera, J. Zhao, L. Yan, M. Karlsson, and E. Agrell, "Traffic-grooming- and multipath-routing-enabled impairment-aware elastic optical networks," **IEEE/OSA Journal of Optical Communications and Networking (JOCN)**, Volume 8, Issue 2, pp. 58-70, Feb. 2016, DOI: 10.1364/JOCN.8.000058
5. J. Zhao, H. Wymeersch, and E. Agrell, "Nonlinear impairment-aware static resource allocation in elastic optical networks," **IEEE/OSA Journal of Lightwave Technology (JLT)**, Volume 33, Issue 22, pp. 4554-4564, Aug. 2015, DOI: 10.1109/JLT.2015.2474130
6. J. Zhao, S. Subramaniam, and M. Brandt-Pearce, "Efficient and accurate analytical performance models for translucent optical networks," **IEEE/OSA Journal of Optical Communications and Networks (JOCN)**, Volume 6, Issue 12, pp. 1128-1142, Dec. 2014, DOI: 10.1109/JOCN.2014.6985904
7. J. Zhao, S. Subramaniam, and M. Brandt-Pearce, "Intra- and Inter-domain QoT-aware routing, and wavelength assignment (RWA) for translucent optical networks," **IEEE/OSA Journal of Optical Communications and Networks (JOCN)**, Volume 6, Issue 6, pp. 536-548, June 2014, DOI: 10.1364/JOCN.6.000536
8. **[Invited]**J. Zhao, S. Subramaniam, and M. Brandt-Pearce, "QoT-aware grooming, routing, and wavelength assignment (GRWA) for mixed-line-rate translucent optical networks," **China Communications (Selected Papers from ICC'12)**, Volume 10, Issue 1, pp. 17 - 30, Feb. 2013, DOI: 10.1109/CC.2013.6457527

**Peer-reviewed Conference**

9. S. Rao, D. Joshi and J. Zhao, "Machine Learning based Detection of Gray-Hole Attack in Mobile Ad-Hoc Networks", in Proc. Conference on Wireless, Intelligent and Distributed Environment for COMmunication (**WIDECOM**), Toronto, Canada, 2020 (accepted)
10. J. Zhao and S. Subramaniam, "Embedding Virtual Networks in Flexible Optical Networks with Sliceable Transponders", in Proc. Conference on Optical Network Design and Modeling (**ONDM**), Athens, Greece, 2019
11. A. Joseph, J. Plante, J. Zhao and V. M. Vokkarane, "Co-Scheduling Scientific Workflows in Elastic Optical Networks", in Proc. 39<sup>th</sup>IEEE **Sarnoff** Symposium 2018, Newark, New Jersey, 2018
12. J. Zhao, A. Joseph, and V. M. Vokkarane, "Sequential and parallel scheduling of dynamic bandwidth-intensive scientific workflows in elastic optical networks," in Proc. IEEE International Conference on Communications (**ICC**), 2017
13. **[Invited]**J. Zhao and V. M. Vokkarane, "Multi-Sourced Data Retrieval in Groomed Elastic Optical Networks," in Proc. Internal Conference on Optical Network Design and Modeling (**ONDM**) 2017
14. J. Zhao and V. M. Vokkarane, "Reverse anycast data retrieval in elastic optical networks," in Proc. International Conference on Computing, Networking, and Communications (**ICNC**), Silicon Valley, CA, Jan. 2017, DOI: 10.1109/ICCNC.2017.7876162
15. J. Zhao and V. M. Vokkarane, "Dynamic erasure-coded data retrieval in elastic optical data center networks," in Proc. 37<sup>th</sup>IEEE **Sarnoff** Symposium 2016, Newark, New Jersey, Sept. 2016, DOI: 10.1109/SARNOF.2016.7846769

16. P. Afsharlar, J. Plante, A. Deylamsalehi, J. Zhao, and V. M. Vokkarane, "Delayed spectrum allocation for advance reservation in elastic optical networks," in Proc. 20<sup>th</sup>Optical Networks Design and Modelling (**ONDM**) Conference, Cartagena, Spain, May 2016, DOI: 10.1109/ONDM.2016.7494080
17. M. Dharmaweer, L. Yan, J. Zhao, M. Karlsson, and E. Agrell, "Regenerator site selection in impairment-aware elastic optical networks," in Proc. Optical Fiber Communications Conference and Exhibition (**OFC**), Anaheim, CA, March 2016, DOI: 10.1364/OFC.2016.Tu3F.1
18. J. Zhao and S. Subramaniam, "QoT- and SLA-aware survivable resource allocation in translucent optical networks," in Proc. IEEE Global Communications Conference (**GLOBECOM**), San Diego, CA, Dec. 2015, DOI: 10.1109/GLOCOM.2015.7416967
19. J. Zhao, L. Yan, H. Wymeersch, and E. Agrell, "Code rate optimization in elastic optical networks," in Proc. European Conference on Optical Communication (**ECOC**), Valencia, Spain, Sep. 2015, DOI: 10.1109/ECOC.2015.7342000
20. L. Yan, J. Zhao, E. Agrell, and H. Wymeersch, "Power optimization in nonlinear flexible-grid optical networks," in Proc. European Conference on Optical Communication (**ECOC**), Valencia, Spain, Sep. 2015, DOI: 10.1109/ECOC.2015.7341806
21. J. Zhao, H. Wymeersch and E. Agrell, "Nonlinear impairment aware resource allocation in elastic optical networks," in Proc. Optical Fiber Communications Conference and Exhibition (**OFC**), Los Angeles, CA, March 2015, DOI: 10.1109/JLT.2015.2474130
22. J. Wu, J. Zhao, and S. Subramaniam, "Co-scheduling computational and networking resources in elastic optical networks," in Proc. IEEE International Conference on Communications (**ICC**), Sydney, Australia, June 2014, DOI: 10.1109/ICC.2014.6883831
23. J. Zhao, S. Subramaniam, and M. Brandt-Pearce, "Virtual topology mapping in elastic optical networks," in Proc. IEEE International Conference on Communications (**ICC**), Budapest, Hungary, June 2013, DOI: 10.1109/ICC.2013.6655167
24. **[Invited]**J. Zhao, S. Subramaniam, and M. Brandt-Pearce, "Inter-Domain QoT-aware RWA for translucent optical networks," in Proc. International Conference on Computing, Networking, and Communications (**ICNC**), San Diego, CA, Jan. 2013, DOI: 10.1109/ICNC.2013.6504246
25. J. Zhao, S. Subramaniam, and M. Brandt-Pearce, "QoT-aware grooming, routing, and wavelength assignment (GRWA) for Mixed-Line-Rate translucent optical networks," in Proc. IEEE Intl. Conf. on Communications in China (**ICCC**), Beijing, China, Aug. 2012, DOI: 10.1109/ICCCChina.2012.6356891
26. J. Zhao, S. Subramaniam, and M. Brandt-Pearce, "Cross-layer RWA in translucent optical networks," in Proc. IEEE International Conference on Communications (**ICC**), Ottawa, Canada, June 2012, DOI: 10.1109/ICC.2012.6364066
27. N. Limrungsi, J. Zhao, Y. Xiang, T. Lan, H. Huang, and S. Subramaniam, "Providing reliability as an elastic service in cloud computing," in Proc. IEEE International Conference on Communications (**ICC**), Ottawa, Canada, June 2012, DOI: 10.1109/ICC.2012.6364649

## PROFESSIONAL ACTIVITIES

### Member

- Institute of Electrical and Electronics Engineers (IEEE) Young professionals: 2014 – Present
- IEEE Membership: 2012 - Present
- IEEE Communications Society Membership: 2012 - Present
- IEEE Nanotechnology Council: 2014 - Present
- IEEE Sensors Council: 2014- Present
- IEEE Photonics Society Membership: 2016 – Present
- Optical Society (OSA) Member: 2014 - Present

**Publicity Chair/Co-Chair**

- IEEE Sarnoff Symposium 2019, Newark, New Jersey, USA
- IEEE International Conference on Advanced Networks and Telecommunication Systems (ANTS), Radisson Blu, Indore, India, 2018
- IEEE Sarnoff Symposium 2017, Newark, New Jersey, USA
- Internal Conference on Optical Network Design and Modeling (ONDM) 2017, Budapest, Hungary
- IEEE International Conference on Advanced Networks and Telecommunication Systems (ANTS) 2016, Bangalore, India

**Session Chair**

- Green Networking Session at IEEE Sarnoff Symposium 2016, Newark, New Jersey, Sept. 27<sup>th</sup>, 2016

**Technical Program Committee (TPC) Member**

1. IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS), Goa, India, Dec. 2019
2. IEEE International Conference on Communications (ICC) 2020ONS Symposium, Dublin, Ireland, June 2020
3. IEEE Global Communications Conference (GLOBECOM)2019- Optical Networks and Systems Symposium, Puako, HI, USA, Dec. 2019
4. IEEE International Conference on Communications (ICC) 2019ONS Symposium, Shanghai, China, June 2019
5. IEEE Sarnoff Symposium 2019, Newark, New Jersey, Sept. 2019
6. IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS), Radisson Blu, Indore, India, Dec. 2018
7. International Conference on Computing, Networking and Communications. (ICNC), Maui, Hawaii, USA. March 2018
8. IEEE Global Communications Conference (GLOBECOM)- Optical Networks and Systems Symposium, Abu Dhabi, UAEa, Dec. 2018
9. The 14<sup>th</sup> International Wireless Communications and Mobile Computing Conference (IWCMC), Limassol, Cyprus, June 2018
10. IEEE Sarnoff Symposium 2017, Newark, New Jersey, Sept. 2017
11. IEEE International Conference on Communications (ICC) 2017-SAC-11 SDN&NFV, Paris, Italy, June 2017
12. European Conference on Networks and Communications (EuCNC)-Optical Communications - Networks Track, Oulu, Finland, June 2017
13. The 13<sup>th</sup> International Wireless Communications and Mobile Computing Conference (IWCMC), Valencia, Spain, June 2017
14. IEEE International Conference on Advanced Networks and Telecommunication Systems (ANTS), Bhubaneswar, Odisha, India, Dec. 2017
15. IEEE Global Communications Conference (GLOBECOM)- Optical Networks and Systems Symposium, Singapore, Dec. 2017
16. IEEE Global Communications Conference (GLOBECOM) - Optical Networks and Systems Symposium, Washington DC, Dec. 2016
17. IEEE International Conference on Advanced Networks and Telecommunication Systems (ANTS) 2016, Bangalore, India, Nov. 2016
18. European Conference on Networks and Communications (EuCNC) 2016-Optical Communications - Networks Track, Athens Greece, June 2016

19. IEEE Sarnoff Symposium, Newark, New Jersey, Sept. 2016
20. Shadow TPC member for International Conference on emerging Networking Experiments and Technologies (CoNext), Heidelberg, Germany, Dec. 2015

**Journal Reviewer**

- IEEE Transactions on Networking
- IEEE Transactions on Communications
- IEEE Transactions on Network and Service Management
- Optics Letters
- IEEE Transactions on Cloud Computing
- IEEE Transactions on Emerging Topics in Computing
- IEEE Communications Magazine
- Sensors
- PLOS ONE
- IEEE Access
- Computer Networks Journal
- Optical Switching and Networking
- IEEE/OSA Journal of Optical Communications and Networks
- IEEE Journal of Lightwave Technology
- Elsevier Computer Networks
- Photonic Network Communications
- Telecommunication Systems