

Weiqiang Sun

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SUMMARY STATEMENT

Dr. Weiqiang Sun is currently a full professor in the department of electronic engineering in Shanghai Jiao Tong University (SJTU). Dr. Sun is actively involved in the research of high speed networks, network control and management, and network applications. He has about 60 publications in peer reviewed journals and conferences. He was actively involved in the standardization of Generalized Multi-Protocol Label Switching (GMPLS) performance measurement in IETF, and is the co-editor of RFC 6777 and RFC 5814. He has served as an invited speaker on many international conferences and is member of Technical Program Committee of COIN, GreenTouch, PGC and organizer of the Sino-Korea Workshop on IPTV and NGN (2007-2010). Dr. Sun is one of the TPC co-chairs of IEEE HPSR 2017.

Dr. Weiqiang is a senior member of IEEE and life member of OSA.

EMPLOYMENT HISTORY

Dec. 2013 – Dec. 2014

Visiting scholar (MIT LGO && AA), MIT

Dec. 2014 – Current

Professor, Department of Electronic Engineering, SJTU

Dec. 2008 – Dec. 2014

Associate Professor, Department of Electronic Engineering, SJTU

Sep. 2008 – Dec. 2008

Visiting scholar (MIT LGO), MIT

Jun. 2004 – Dec. 2008

Assistant Professor, Department of Electronic Engineering, SJTU

EDUCATION HISTORY

- University of Science and Technology of China (USTC), Hefei, China

Ph.D, Communications and Information Systems (With honors)

Date of graduate: Jun. 2004

- University of Science and Technology of China (USTC), Hefei, China

B. Sci., Electronic Engineering (With honors), in the Special Class for the Gifted Young (SCGY)

Date of graduate: Jun. 1999

AWARDS AND FELLOWSHIPS

- Fok Ying Tung Education Foundation, 2012

- Rising-Star Scholar, Shanghai Science and Technology Committee, Jun. 2009

- Chenxing Young Scholar, SJTU, Jun. 2008

- Graduate of excellence, USTC, Jul. 2004

- Samsung Scholarship, USTC, Jul. 2003

- Microsoft Fellowship, Microsoft Research Asia (MSRA) , Sep. 2003

"Awarded because of your academic achievements..."

- Yin-Gang Peng Scholarship, Chinese Academy of Science (CAS), Jul. 2001
- Award of Excellence for the undergraduate students, USTC, 1994~1999 (annually)

ONGOING GRANT SUPPORT

- "Big data movement in multi-domain and multi-layer networks", National Natural Science Foundation of China (NSFC) **Key Project**, PI, 2015-2019
- "End to End Bandwidth Provisioning in Flexible Grid Optical Networks", National Natural Science Foundation of China (NSFC), PI, 2013-2016

PAST PROJECTS

- "Control Plane Performance of Optical Transport Networks", Fok Ying Tung Education Foundation, PI, 2012-2014
- "Design and Implementation of an Energy Efficient Hybrid Optical Switching System", National High-tech program (863), PI, 2012-2014
- "GMPLS performance measurement and modeling," Shanghai Science and Technology Committee (STCSM), PI, 2009-2011
- "KOREN-CERNET based IPTV Testbed between Korea and China," National Natural Science Foundation of China (NSFC) and Korea Science and Engineering Foundation (KOSEF), PI, 2007-2010
- "QoE in IPTV systems," National Natural Science Foundation of China (NSFC), PI, 2007-2010
- "Digital TV distribution in overlay networks," National High-tech program (863), PI, 2005-2006
- "Testing and evaluation of the next generation dynamic optical networks," National High-tech program (863), Co-PI, 2006-2009

IETF CONTRIBUTIONS

- **W. Sun** and G. Zhang, Label Switched Path (LSP) Data Path Delay Metric in Generalized MPLS/MPLS-TE Networks, RFC 6777, Nov. 2012
- **W. Sun** and G. Zhang, Label Switched Path (LSP) Dynamic Provisioning Performance Metrics in Generalized MPLS Networks, RFC 5814, Mar. 2010

INVITED BOOK CHAPTERS

- Weiqiang Sun, Wei Guo, Yaohui Jin, Lilin Yi and Weisheng Hu, GMPLS for future applications – performance characterization and measurements, in "Intelligent Systems for Optical Networks Design: Advancing Techniques" by Yousef S. Kavian and Z. Ghassemlooy, IGI Publishing, Nov. 2013

SELECTED JOURNAL PUBLICATIONS AND CONTRIBUTIONS

- Zhangxiao Feng, Weiqiang Sun and Weisheng Hu, BLOC: A Generic Resource Allocation Framework for Hybrid Packet/Circuit Switched Networks, vol.8, no.8, IEEE/OSA Journal of Optical Communications and Networking, Aug, 2016
- Xiao Lin, Weiqiang Sun, Malathi Veeraraghavan, and Weisheng Hu, "Time-Shifted Multilayer Graph: A Routing Framework for Bulk Data Transfer in Optical Circuit-Switched Networks with Assistive Storage," IEEE/OSA Journal of Optical Communications and Networking, vol.8, no.3, pp.1-14, 2016
- Zitian Zhang, Weisheng Hu, Tong Ye, Weiqiang Sun and Kuo Zhang, "Routing and spectrum allocation in multi-ring based data center networks," Optics Communications, vol.360, no.0, pp.25-34, 2016

- Zitian Zhang, Weisheng Hu, Weiqiang Sun, Li Zhao and Kuo Zhang, "Elastic optical ring with flexible spectrum ROADMs: An optical switching architecture for future data center networks," *Optical Switching and Networking*, vol.19, no.1, pp.1-9, 2016
- Li Zhao, Weiqiang Sun, Weisheng Hu, Chunlin Bai, "Wavelength contention resolution in WSS based ROADMs," *Optical Switching and Networking*, vol.15, no.0, pp.67-74, 2015
- Zhangxiao Feng, Weiqiang Sun, Fengqin Li and Weisheng Hu, " Efficient Elastic Bulky Traffic Transfer with a New Pricing Scheme Based on Number of Flows ", *Computer Communications (ComCom)*, Jul. 2015
- Jun Li, **Weiqiang Sun**, Hongyang Yang and Weisheng Hu, "Adaptive Registration in TWDM-PON with ONU Migrations", *IEEE/OSA Journal of Optical Communications and Networking*, vol.6, no.11, pp.943-951, 2014 (IEEE/OSA JOCN Top Downloads of Nov. 2014)
- Hongyang Yang, **Weiqiang Sun**, Jun Li and Weisheng Hu, "Energy Efficient TWDM Multi-PON System with Wavelength Relocation", *IEEE/OSA Journal of Optical Communications and Networking*, vol.6, no.6, pp.1-7, 2014 (IEEE/OSA JOCN Top Downloads of June 2014 until Oct. 2014)
- Xiao Lin, **Weiqiang Sun** and Weisheng Hu, "Design and Performance of a Cyclic Fault-Tolerant Semiconductor Optical Amplifier (SOA) Switch Matrix", *IEEE/OSA Journal of Optical Communications and Networking*, vol.6, no.10, pp.858-868, 2014
- Li Zhao, **Weiqiang Sun**, Weisheng Hu and Chenglin Bai, "Wavelength contention resolution in WSS based ROADMs", accepted by *Optical Switching and Networking*, 2014
- Li Zhao, **Weiqiang Sun**, Weisheng Hu, "A colorless, directionless and contention-less ROADM that utilizes interconnected WSSs", *Applied Mathematics & Information Sciences*, Oct. 2014
- **W. Sun**, Pingqing Li, Chao Li and Weisheng Hu, Seamlessly Transformable Hybrid Packet and Circuit Switching for Efficient Optical Networks, *Chinese Optics Letters*, vol. 11, no.4, 2013
- Hongyang Yang, **Weiqiang Sun**, Weisheng Hu, and Jun Li, "ONU migration in dynamic Time and Wavelength Division Multiplexed Passive Optical Network (TWDM-PON)," *Optics Express*, vol.21, no.18, pp.21491-21499, 2013 (OSA OE Top Downloads of Sept. 2013)
- Z. Zhang, **W. Sun**, Hao He, and Weisheng Hu, Frame Assembly and Scheduling on Edge Routers in Fixed-Size Frame-Switching Networks, *IEEE/OSA Journal of Optical Communication Networks*, vol.5, no.1, 2013
- **Weiqiang Sun**, Zijie Xing, Kai Kang, Yaohui Jin, Wei Guo, Weisheng Hu, Guoying Zhang and Rajiv Pappneja, "Performances of Label Switched Path dynamic provisioning in GMPLS networks," *IEEE Communications Magazine*, Feb. 2012
- W. Guo and **W. Sun**, Yaohui Jin and Weisheng Hu, "Demonstration of Joint Resource Scheduling in Optical Network Integrated Computing Environment", *IEEE Communications Magazine*, vol. 48, no. 5, pp.76-83, 2010
- **Weiqiang Sun**, Guowu Xie, Yaohui Jin, Wei Guo, Weisheng Hu, Xinhua Lin, Min-You Wu, Wentao Li, Rong Jiang and Xueqin Wei, A cross-layer optical circuit provisioning framework for data intensive IP end hosts, *IEEE Communications Magazine (ComMag)*, Vol.46, No.2, pp.S30-37, Feb. 2008

- **Weiqiang Sun**, Kan Lin and Yang Guan, "Performance analysis of a finite duration multi-channel delivery method in IPTV", IEEE Transactions on Broadcasting, vol. 54, no. 3, pp.419-429, 2008
- Yi Zhu, Yaohui Jin and **Weiqiang Sun**, Wei Guo and Weisheng Hu, Multicast flow aggregation in IP over optical networks, IEEE Journal on Selected Areas in Communications (J-SAC), vol. 25, no. 5, pp.1011-1021, 2007

RECENT INVITED TALKS ON INTERNATIONAL CONFERENCES

- W. Sun et al., EMN Conference on Optoelectronics, Phuket, Thailand, April 2016
- W. Sun et al., ICTON 2016, Trento, Italy, July 2016
- W. Sun et al., ICTON 2015, Budapest, Hungary
- W. Sun et al., IEEE CCW, Nov. 2014, Philadelphia, USA (Panelist)
- W. Sun et al., IEEE Photonics in Switching, Jul. 2014, San Diego, USA
- W. Sun et al., International Conference on Transparent Optical Networks (ICTON), Jul. 2014, Graz, Austria
- W. Sun et al., IEEE/OSA ACP 2013, Dec. 2013, Beijing China
- W. Sun et al., COIN 2013, Nov. 2013, Beijing, China
- W. Sun et al., International Conference on Transparent Optical Networks (ICTON), June 23 -27, 2013, Cartagena, Spain
- W. Sun et al., International Conference on Transparent Optical Networks (ICTON), July 2 -5, 2012, Coventry, the United Kingdom
- W. Sun et al., International Conference on Photonics, Oct. 1-3, 2012, Penang, Malaysia
- W. Sun et al., International Workshop on OPS and OCDMA, Nov. 11-13, 2012, Hong Kong, China
- W. Sun et al., Photonics in Switching (PS) 2012, France, Sept. 2012