

Jinsong Wu



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Research Interests:

Big data and data science
Artificial intelligence
Green information and communications technologies
Internet of things
Edge/fog/cloud computing
Communications and networking

Education

01/2002-9/2006 Doctor of Philosophy, Electrical and Computer Engineering
Queen's University at Kingston, Canada

Experience

School of Artificial Intelligence, Guilin University of Electronic Technology, Guilin, China
Professor November 2019 - Present

Department of Electrical Engineering, University of Chile, Santiago, Chile
Associate Professor March 2015 - Present

Bell Laboratories, Alcatel-Lucent
Technology & Innovation Scouting
Research Scientist Nov. 2010 - Feb. 2015

◆ Build research vision and strategy, Conduct more wider and broader research and innovation projects and identify new research and innovation ideas with the proper value proposition that are inline with the company strategies

Alcatel-Lucent
Project Leader on Smart Grids Research 2011 – 2012

◆ Build product line vision and strategy on smart grids and relevant applications of Internet of things, discuss relevant scenarios, industrial standardizations, customer requirements, and outline the potential solutions.

University of Waterloo, Waterloo, ON, Canada
Wireless Communication Systems Research Group
Research Fellow 2009 –2010

◆ Cooperative communications, space-time processing, optical communications over free space, quantum cryptography,

Villanova University, Villanova, PA, USA

Advanced Center for Communications

Research Fellow

2008 – 2009

◆ Antenna Array Beamforming and Space-Time Processing Algorithms for Wideband Telemetry Digital Communications

Sprint-Nextel, Herndon, Virginia, USA

Emerging Tech. Research & Corp Support,

Senior Research Engineer (contract)

2007 –2008

Queen’s University, Kingston, Canada

Dept of Electrical and Computer Engineering

Research Fellow/ Research Assistant/ Teaching Assistant

2002 - 2006

Nortel Networks, Calgary, Canada

CDMA BTS Algorithm Development

CDMA BTS Systems Engineer

2000 –2001

Dalhousie University, Canada

Department of Electrical and Computer Engineering

Research Assistant/ Teaching Assistant

1998 – 2000

Profession

- Proficient in English listening, speaking, reading and writing, and fluent in oral English
- Easygoing and excellent communication skills
- Expertise areas: big data, machine learning, green information and communications technologies, sustainability, Internet of Things/cyber-physical systems, edge/fog/cloud computing, mobile computing and networking, software defined networking, intelligent transportation systems, energy management and energy harvesting technologies, renewable energy, embedded systems, smart grid, and so on.

Selected Publications

1. Book Publications

- Jinsong Wu, Sundeep Rangan, Honggang Zhang, “*Green communications: theoretical fundamentals, algorithms, and applications,*” **CRC Press, USA**, Sept. 2012 - **IEEE Communications Society Best Readings in Green Communications, 2013**
Hardcover: 840 pages
Publisher: CRC Press; 1 edition (September 20, 2012)

2. Selected accepted or published Journal Publications

- Xinyu Lu, Jie Li, Chentao Wu, Jinsong Wu, Mahmoud Daneshmand, "Measuring Similarity between Any Pair of Passengers Using Smart Card Usage Data", **IEEE Internet of Things Journal**, early access, June 2021, DOI: 10.1109/JIOT.2021.3089624
- Feng Zeng, Qiao Chen, Lin Meng, Jinsong Wu, “Volunteer Assisted Collaborative Offloading and Resource Allocation in Vehicular Edge Computing”, **IEEE Transactions on Intelligent Transportation Systems**, vol. 22, no. 6, pp. 3247-3257, June 2021, published on March 2020, DOI: 10.1109/TITS.2020.2980422

- Wenxin Lei, Hong Wen*, Jinsong Wu*, and Wenjing Hou, “MADDPG-Based Security Situational Awareness for Smart Grid with Intelligent Edge”, *Applied Science*, vol, 11, no. 7, 3101, pp. 1-18, 2021. <https://doi.org/10.3390/app11073101>
- Jiehong Wu, Chengxin Song, Jian Ma; Jinsong Wu, Guangjie Han, "Reinforcement Learning and Particle Swarm Optimization Supporting Real-time Rescue Assignments for Multiple Autonomous Underwater Vehicles", *IEEE Transactions on Intelligent Transportation Systems*, March 2021, DOI: 10.1109/TITS.2021.3062500
- Jie Feng, Lei Liu, Qingqi Pei, Fen Hou, Tingting Yang, Jinsong Wu, “Service Characteristics-Oriented Joint Optimization of Radio and Computing Resource Allocation in Mobile Edge Computing”, *IEEE Internet of Things Journal*, vol. 8, no. 11, pp. 9407 – 9421, June 2021, published in February 2021, DOI: 10.1109/JIOT.2021.3058363
- Sun Mao, Shunfan He, and Jinsong Wu, "Joint UAV Position Optimization and Resource Scheduling in Space-Air-Ground Integrated Networks with Mixed Cloud-Edge Computing", *IEEE Systems Journal*, early access, December 2020, DOI: 10.1109/JSYST.2020.3041706
- Feiyi Xie, Hong Wen, Jinsong Wu, Songling Chen, Wenjin Hou, and Yixin Jiang, “Convolution based Feature Extraction for Edge Computing Access Authentication”, *IEEE Transactions on Network Science and Engineering*, vol. 7, no. 4, pp. 2336 - 2346, Oct.-Dec. 2020. DOI: 10.1109/TNSE.2019.2957323
- Sun Mao, Jinsong Wu, Lei Liu, Dapeng Lan, Amir Taherkordi, "Energy-Efficient Cooperative Communication and Computation for Wireless Powered Mobile-Edge Computing", *IEEE Systems Journal*, Early Access, October 2020, DOI: 10.1109/JSYST.2020.3020474
- Gaofeng Hua, Li Zhu, Jinsong Wu, Chunzi Shen, Linyan Zhou, Qingqing Lin, "Blockchain-based federated learning for intelligent control in heavy haul railway", *IEEE Access*, vol. 8, no. 1, pp. 176830-176839, September 2020, DOI: 10.1109/ACCESS.2020.3021253, Print ISSN: 2169-3536
- Feng Zeng, Yaojia Chen, Lan Yao, Jinsong Wu, “A novel reputation incentive mechanism and game theory analysis for service caching in software-defined vehicle edge computing”, *Peer-to-Peer Networking and Applications* (Peer-to-Peer Netw. Appl.), September 2020,. <https://doi.org/10.1007/s12083-020-00985-4>
- Bo Ma, Jinsong Wu, Shuang Song, William Liu, "Assuring privacy-preservation in mining medical text materials for COVID-19 cases - A natural language processing perspective", *Open Journal of Internet of Things (OJIOT)*, vol. 6, no. 1, pp 6-13, 2020,
- Feiyi Xie, Hong Wen, Jinsong Wu, Wenjing Hou, Huanhuan Song, Tengyue Zhang, Runfa Liao, “Data augmentation for radio frequency fingerprinting via pseudo-random integration”, *IEEE Transactions on Emerging Topics in Computational Intelligence*, vol. 4, no. 3, pp. 253-264, June 2020, Electronic ISSN: 2471-285X, DOI: 10.1109/TETCI.2019.2907740
- Kian Hamedani, Lingjia Liu, Shiyuan Hu, Jonathan Ashdown, Jinsong Wu, and Yang (Cindy) Yi, “Detecting Dynamic Attacks in Smart Grids using Reservoir Computing: A Spiking Delayed Feedback Reservoir-Based Approach”, *IEEE Transactions on Emerging Topics in Computational Intelligence*, vol. 4, no. 3, pp. 253-264, June 2020, Electronic ISSN: 2471-285X, DOI: 10.1109/TETCI.2019.2902845.

- Wei Wei, Jinsong Wu, Chunsheng Zhu, “Special Issue on Situation Awareness in Intelligent Human-Computer Interaction for Time Critical Decision Making”, *IEEE Intelligent Systems*, vol. 35, no. 1, 2020
- Jie Li, Jinsong Wu, Bin Hu, Chonggang Wang, Mahmoud Daneshmand, Reza Malekian, “Introduction to the Special Section on Big Data and Artificial Intelligence for Network Technologies”, *IEEE Transactions on Network Science and Engineering*, vol. 7, no. 1, 2020
- Guangyu Li, Xuanpeng Li, Qiang Sun, Lila Boukhatem, and Jinsong Wu, An Effective MEC Sustained Charging Data Transmission Algorithm in VANET-Based Smart Grids", *IEEE Access*, vol. 8, no. 1, pp. 101946-101962, May 2020, DOI: 10.1109/ACCESS.2020.2998018
- Weiheng Jiang, Yu Zhang, Jinsong Wu, Wenjiang Feng, and Yi Jin, "Intelligent Reflecting Surface Assisted Secure Wireless Communications with Multiple-Transmit and Multiple-Receive Antennas", *IEEE Access*, vol. 8, no. 1, pp. 86659-86673, May 2020, DOI: 10.1109/ACCESS.2020.2992613, Electronic ISSN: 2169-3536
- Cui-Qin Dai, Junfeng Luo, Shu Fu, Jinsong Wu, and Qianbin Chen, "Dynamic User Association for Resilient Backhauling in Satellite-Terrestrial Integrated Networks", *IEEE Systems Journal*, May 2020, DOI: 10.1109/JSYST.2020.2980314
- Runhua Wang, Feng Zeng, Lan Yao, and Jinsong Wu, “Game-Theoretic Algorithm Designs and Analysis for Interactions among Contributors in Mobile Crowdsourcing with Word of Mouth”, *IEEE Internet of Things Journal*, Early Access, 23 April 2020, DOI: 10.1109/JIOT.2020.2989745
- Zhongyi Zhai, Ke Xiang, Lingzhong Zhao, Bo Cheng, Junyan Qian, and Jinsong Wu, "IoT-RECSM-Resource-Constrained Smart Service Migration Framework for IoT Edge Computing Environment", *Sensors*, vol. 20, no. 8, 2294, April 2020, <https://doi.org/10.3390/s20082294>
- Hao Song, Jianan Bai, Yang Yi, Jinsong Wu, Lingjia Liu, “Artificial Intelligence Enabled Internet of Things: Network Architecture and Spectrum Access”, *IEEE Computational Intelligence Magazine*, vol. 15, no. 1 , pp. 44 - 51, Feb. 2020. DOI: 10.1109/MCI.2019.2954643
- Maojian Chen, Xiong Luo, Yueqin Zhu, Yan Li, Wenbing Zhao, Jinsong Wu, “An Apriori-Based Learning Scheme Towards Intelligent Mining of Association Rules for Geological Big Data”, *Intelligent Automation and Soft Computing*, vol. 26, no. 5, pp. 973-987, January 2020
- Guandong Wei, Kai Yang, Xiaozheng Gao, Ye Yu, Jinsong Wu, Jianping An, "Energy-Efficient Channel Estimation", *IEEE Access*, vol. 8, no. 1, pp. 9702-9714, January 2020, DOI: 10.1109/ACCESS.2020.2964393
- Guangyu Li, Qiang Sun, Lila Boukhatem, Jinsong Wu, and Jian Yang, "Intelligent Vehicle-to-Vehicle Charging Navigation for Mobile Electric Vehicles via VANET-based Communication", *IEEE Access*, vol. 7, no. 1, pp. 170888-170906, December 2019, DOI: 10.1109/ACCESS.2019.2955927
- Josip Lorincz, Antonio Capone, and Jinsong Wu, "Greener, Energy-Efficient and Sustainable Networks: State-Of-The-Art and New Trends", *Sensors*, vol. 19, no. 22, November 2019, DOI: <https://doi.org/10.3390/s19224864>

- Huawei Huang, Song Guo, Jinsong Wu, and Jie Li, “Service Chaining for Hybrid Network Function”, *IEEE Transactions on Cloud Computing*, vol. 7, no. 4, pp. 1082 – 1094, Oct.-Dec. 2019, published in 2017, DOI: 10.1109/TCC.2017.2721401
- Chuan Heng Foh, Satish Narayana Srirama, Jinsong Wu, Burak Kantarci, Periklis Chatzimisios, Elhadj Benkhelifa, “Guest Editors’ Introduction: Special Section on Mobile Cloud Computing”, *IEEE Transactions on Cloud Computing*, vol. 7, no. 2, 2019
- Yuan Zhang, Joel J. P. C. Rodrigues, Winston K. G. Seah, Jinsong Wu, Yunchuan Sun, Roozbeh Jafari, “Guest Editorial Special Issue on Wearable Sensor-Based Big Data Analysis for Smart Health”, *IEEE Internet of Things Journal*, vol. 6, no. 2, 2019
- Songlin Chen, Hong Wen, Jinsong Wu, Aidong Xu, Yixin Jiang, Huanhuan Song, and Yi Chen, “Radio Frequency Fingerprint - Based Intelligent Mobile Edge Computing for Internet of Things Authentication”, *Sensors*, vol. 19, no. 16, August 2019, DOI: 10.3390/s19163610
- Run-Fa Liao, Hong Wen, Jinsong Wu, Fei Pan, Aidong Xu, Huanhuan Song, Feiyi Xie, Yixin Jiang, and Minggui Cao, “Security Enhancement for Mobile Edge Computing through Physical Layer Authentication”, *IEEE Access*, vol. 7, pp. 116390-116401, August 2019, DOI: 10.1109/ACCESS.2019.2934122
- Nan Xue, Xiong Luo, Jinsong Wu, Weiping Wang, and Long Wang, "On the Improvement of Positioning Accuracy in WiFi-Based Wireless Network Using Correntropy-Based Kernel Learning Algorithms", *Transactions on Emerging Telecommunications Technologies*, vol. 30, no. 8, August 2019, DOI: <https://doi.org/10.1002/ett.3614>
- Xiaoping Fan, Zhijie Chen, Fei Cai, Jinsong Wu, Shengzong Liu, Zhining Liao, Zhifang Liao, "Local Core Members Aided Community Structure Detection," *ACM/Springer Mobile Networks and Applications*, vol. 24, no. 4, pp. 1373-1381, August 2019, DOI:10.1007/s11036-018-0994-2
- Rachad Atat, Lingjia Liu, Jinsong Wu, Yang Yi, “Green Massive Traffic Offloading for Cyber-Physical Systems over Heterogeneous Cellular Networks”, *ACM/Springer Mobile Networks and Applications*, vol. 24, no. 4, pp. 1364-1372, August 2019, DOI: <https://doi.org/10.1007/s11036-018-0995-1>
- Zhifang Liao, Benhong Zhao, Haozhi Jin, Dayu He, Yan Zhang, Jinsong Wu, Shengzong Liu, “A Prediction Model of the Project Life-span in Open Source Software Ecosystem”, *ACM/Springer Mobile Networks & Applications*, vol. 24, no. 4, pp. 1382-1391, August 2019, DOI: <https://doi.org/10.1007/s11036-018-0993-3>
- Songlin Chen, Hong Wen, Jinsong Wu, Wenxin Lei, Wenjing Hou, Wenjie Liu, Aidong Xu, Yixin Jiang, “Internet of Things based Smart Grids Supported by Intelligent Edge Computing”, *IEEE Access*, vol. 7, pp. 74089-74102, June 2019, DOI: 10.1109/ACCESS.2019.2920488
- Run-Fa Liao, Hong Wen, Jinsong Wu, Fei Pan, Aidong Xu, Yixin Jiang, Feiyi Xie, Minggui Cao, “Deep-learning-based Physical Layer Authentication for Industrial Wireless Sensor Networks”, *Sensors*, vol. 19, no. 11, 2440, May 2019, DOI: <https://doi.org/10.3390/s19112440>
- Juan Garcia-Rois, Beatriz Lorenzo, Francisco Javier González Castañó, Felipe Gil Castiñeira, Jinsong Wu, “Slice Allocation and Pricing Framework for Virtualized Millimeter Wave Cellular Networks”, *IEEE Access*, vol. 7, pp. 86349 - 86366, May 2019, DOI: 10.1109/ACCESS.2019.2923125

- Yi Chen, Hong Wen, Jinsong Wu, Huanhuan Song, Aidong Xu, Yixin Jiang, Tengyue Zhang, Zhen Wang, "Clustering Based Physical-Layer Authentication in Edge Computing Systems with Asymmetric Resources", *Sensors*, vol. 19, no. 8, 1926, April 2019
- Lin Cai, Yong Qi, Wei Wei, Jinsong Wu, Jingwei Li, "mrMoulder: A recommendation-based adaptive parameter tuning approach for big data processing platform", *Future Generation Computer Systems*, volume 93, pp. 570-582, April 2019, DOI: <https://doi.org/10.1016/j.future.2018.05.080>
- Guodong Li, Jinsong Wu, Taolin Tang, Zhixin Chen, Jun Chen, Huang Liu, "Underwater Acoustic Time Delay Estimation Based on Envelope Difference of Correlation Functions", *Sensors*, vol 19, no. 5, 1259, pp. 1-11, March 2019, DOI: <https://doi.org/10.3390/s19051259>
- Guanping Lu, Jinsong Wu, Robert C. Qiu, Wenxian Yu, "Analysis on the Empirical Spectral Distribution of Large Sample Covariance Matrix and Applications for Large Antenna Array Processing", *IEEE Access*, vol. 7, pp. 30135-30141, February 2019, DOI: 10.1109/ACCESS.2019.2902039
- Zhifang Liao, Le Gao, Tian Zhou, Xiaoping Fan, Yan Zhang, Jinsong Wu, "An Oil Painters Recognition Mobile Method Based on Cluster Multiple Kernel Learning Algorithm", *IEEE Access*, vol. 7, pp. 26842-26854, February 2019, DOI: 10.1109/ACCESS.2019.2899389
- Xiaozheng Gao, Kai Yang, Nan Yang, Jinsong Wu, "Energy-efficient resource block assignment and power control for underlay device-to-device communications in multi-cell networks", *Computer Networks*, volume 149, pp. 240-251, February 2019, DOI: <https://doi.org/10.1016/j.comnet.2018.12.007>
- Feng Zeng, Runhua Wang, and Jinsong Wu, "How Mobile Contributors will Interact with Each Other in Mobile Crowdsourcing with Word of Mouth Mode," *IEEE Access*, vol. 7, pp. 14523-14536, January 2019, DOI: 10.1109/ACCESS.2019.2893184.
- Xinyu Wang, Min Jia, Qing Guo, Ivan Wang-Hei Ho, and Jinsong Wu, "Joint Power, Original and Detected Hole Bandwidth Allocation for Multi-Homing Heterogeneous Wireless Networks Based on Cognitive Radio", *IEEE Transactions on Vehicular Technology*, January 2019, DOI: 10.1109/TVT.2019.2892184.
- Rachad Atat, Lingjia Liu, Jinsong Wu, Guangyu Li, Chunxuan Ye, and Yang Yi, "Big Data Meet Cyber-Physical Systems: A Panoramic Survey", *IEEE Access*, vol. 6, pp. 73603-73636, November 2018, 10.1109/ACCESS.2018.2878681
- Xiong Luo, Jiankun Sun, Long Wang, Weiping Wang, Wenbing Zhao, Jinsong Wu, Jenq-Haur Wang, Zijun Zhang, "Short-term Wind Speed Forecasting via Stacked Extreme Learning Machine With Generalized Correntropy," *IEEE Transactions on Industrial Informatics*, vol. 14, no. 11, pp. 4963 – 4971, Nov. 2018, 10.1109/TII.2018.2854549
- Yihao Zhang, Jianping An, Kai Yang, Xiaozheng Gao, and Jinsong Wu, "Energy-Efficient User Scheduling and Power Control for Multi-cell OFDMA Networks Based on Channel Distribution Information", *IEEE Transactions on Signal Processing*, vol. 66 ,no. 22 , pp. 5848 – 5861, Nov. 2018, DOI: 10.1109/TSP.2018.2871998
- Kun Wang, Jun Yu, Yan Yu, Yirou Qian, Deze Zeng, Song Guo, Yong Xiang, and Jinsong Wu, "A Survey on Energy Internet: Architecture, Approach and Emerging Technologies", *IEEE Systems Journal*, vol. 12 , no. 3, pp. 2403 - 2416, Sept. 2018 – published in Jan. 2017, DOI:

10.1109/JSYST.2016.2639820 - 2019 IEEE Systems Journal Best Paper Award - Web of Science
ESI highly cited paper, March 4, 2019

- Songlin Chen, Hong Wen, Jinsong Wu, Jie Chen, Wenjie Liu, Lin Hu and Yi Chen, "Physical-layer Channel Authentication for 5G via Machine Learning Algorithm ", *Wireless Communications and Mobile Computing*, Volume 2018, Article ID 6039878, 10 pages, <https://doi.org/10.1155/2018/6039878>, September 2018
- Shu Fu, Jinsong Wu, Hong Wen, Bin Wu, "Software Defined Wireline-Wireless Cross-Networks: Framework, Challenges and Prospects", *IEEE Communications Magazine*, vol. 56, no. 8, pp. 145 - 151, August 2018
- Run-Fa Liao, Hong Wen, Jinsong Wu, Huanhuan Song, Fei Pan and Lian Dong, "The Rayleigh Fading Channel Prediction via Deep Learning", *Wireless Communications and Mobile Computing*, volume 2018, Article ID 6497340, 11 pages, July 2018
- Yanli Xu, Shengming Jiang, Jinsong Wu, "Towards Energy Efficient Device-to-Device Content Dissemination in Cellular Networks," *IEEE Access*, vol. 6, pp. 25816 - 25828, May 2018, DOI: 10.1109/ACCESS.2018.2832442
- Jinsong Wu, John Thompson, Honggang Zhang, RangaRao Venkatesha Prasad, Song Guo, "Green Communications and Computing Networks", *IEEE Communications Magazine*, vol. 56, no. 5, 2018
- Jinsong Wu, Song Guo, Huawei Huang, William Liu, Yong Xiang, "Information and Communications Technologies for Sustainable Development Goals: State-of-the-Art, Needs and Perspectives", *IEEE Communications Surveys & Tutorials*, vol. 20, no. 3, pp. 2389-2406, March 2018, DOI: 10.1109/COMST.2018.2812301
- Kian Hamedani, Lingjia Liu, Jinsong Wu, Yang Yi, "Reservoir Computing Meets Smart Grids: Attack Detection using Delayed Feedback Networks", *IEEE Transactions on Industrial Informatics*, vol. 14, no. 2, pp.734-743, Feb. 2018 - **Web of Science ESI highly cited paper, December 25, 2019**
- Guodong Li, Jinsong Wu, Zhixin Chen, Xiong Luo, Taolin Tang, Zhiqiang Xu "Performance Analysis and Evaluation for Active Antenna Arrays Under Three-Dimensional Wireless Channel Model," *IEEE Access*, vol. 6, pp. 19131 – 19139, January 2018, DOI: 10.1109/ACCESS.2018.2791429
- Jianping An, Kai Yang, Jinsong Wu, Neng Ye, Song Guo, and Zhifang Liao, "Achieving Sustainable Ultra-Dense Heterogeneous Networks for 5G", *IEEE Communications Magazine*, vol. 55, no. 12, pp. 84-90, December 2017
- Luca Chiaraviglio, Nicola Blefari-Melazzi, William Liu, Jairo A. Gutierrez, Jaap van de Beek, Robert Birke, Lydia Chen, Filip Idzikowski, Daniel Kilper, Paolo Monti, Jinsong Wu, "Bringing 5G in Rural and Low-Income Areas: Is it Feasible?", *IEEE Communications Standards Magazine*, vol. 1, no. 3, pp. 50-57, October 2017
- Shu Fu, Hong Wen, Jinsong Wu, Bin Wu, "Energy-Efficient Precoded Coordinated Multi-Point Transmission with Pricing Power Game Mechanism", *IEEE Systems Journal*, vol. 11, no. 2, pp. 578 - 587, June 2017, DOI: 10.1109/JSYST.2015.2464218,

- Kai Yang, Steven Martin, Dominique Quadri, Jinsong Wu, Gang Feng, “Energy-Efficient Downlink Resource Allocation in Heterogeneous OFDMA Networks”, *IEEE Transactions on Vehicular Technology*, vol. 66, no. 6, pp. 5086 - 5098, June 2017
- Jinsong Wu, John Thompson, Honggang Zhang, Ranga Rao Venkatesha Prasad, Song Guo, “Green communications and computing networks [Series Editorial]”, *IEEE Communications Magazine*, vol. 55, no. 5, May 2017
- Guangyu Li, Lila Boukhatem, Jinsong Wu, “Adaptive Quality-of-Service-based Routing for Vehicular Ad hoc Networks with Ant Colony Optimization”, *IEEE Transactions on Vehicular Technology*, vol. 66, no. 4, pp. 3249-3264, April 2017
- Meng Zheng, Lin Chen, Wei Liang, Haibin Yu, and Jinsong Wu, "Energy-efficiency Maximization for Cooperative Spectrum Sensing in Cognitive Sensor Networks", *IEEE Transactions on Green Communications and Networking*, vol. 1, no. 1, pp. 29-39, March 2017
- Rachad Atat, Lingjia Liu, Hao Chen, Jinsong Wu, Hongxiang Li, Yang Yi, “Enabling Cyber-Physical Communication in 5G Cellular Networks: Challenges, Spatial Spectrum Sensing, and Cyber-Security”, *IET Cyber-Physical Systems: Theory & Applications*, vol. 2, no. 1, pp. 49 – 54, April 2017, DOI: 10.1049/iet-cps.2017.0010
- Chuan Heng Foh, Burak Kantarci, Periklis Chatzimisios, Jinsong Wu, Deyun Gao, “Special Section Editorial: Advances in Vehicular Clouds”, *IEEE Access*, vol. 4, pp. 10315-10317, February 2017, DOI: 10.1109/ACCESS.2017.2652283
- Jie Li, Jinsong Wu, Periklis Chatzimisios, Majed Haddad, Kun Yang, “Special Section Editorial: Special Section on Big Data for Green Communications and Computing”, *IEEE Access*, vol. 4, pp. 9542 - 9544, Jan. 2017, DOI: 10.1109/ACCESS.2016.2592806
- Kun Wang, Yihui Wang, Yanfei Sun, Song Guo, Jinsong Wu, “Green Industrial Internet of Things Architecture: An Energy-Efficient Perspective”, *IEEE Communications Magazine*, vol. 54, no. 12, pp. 48-54, Dec. 2016, DOI: 10.1109/MCOM.2016.1600399CM - **2018 IEEE TCGCC Best Magazine Paper Award, 2018 - Web of Science ESI highly cited paper, March 4, 2019**
- Kai Yang, Steven Martin, Jinsong Wu, Rongfei Fan, Chengwen Xing, "Energy-Efficient Power Control for Device-to-Device Communications”, *IEEE Journal on Selected Areas in Communications*, vol. 34., no. 12, pp. 3208 - 3220, Dec. 2016
- Jinsong Wu, John Thompson, Honggang Zhang, Ranga Rao Venkatesha Prasad, Song Guo, “Green communications and computing networks [Series Editorial]”, *IEEE Communications Magazine*, vol. 54, no. 11, Nov. 2016
- Huawei Huang, Song Guo, Jinsong Wu, and Jie Li, “Green DataPath for TCAM-based Software-Defined Networks”, *IEEE Communications Magazine*, vol. 54, no. 11, pp. 194-201, Nov. 2016
- Jinsong Wu, Song Guo, Jie Li, and Deze Zeng, “Big Data Meet Green Challenges: Big Data toward Green Applications”, *IEEE Systems Journal*, vol. 10, no. 3, pp. 888-900, Sept. 2016 - **2017 IEEE Systems Journal Best Paper Award - Web of Science ESI highly cited paper, August 13, 2019**
- Jinsong Wu, Song Guo, Jie Li, and Deze Zeng, “Big Data Meet Green Challenges: Greening Big Data”, *IEEE Systems Journal*, vol. 10, no. 3, pp. 873-887, Sept. 2016 - **one of top 4 nominations of 2017 IEEE Systems Journal Best Paper Award - Web of Science ESI highly cited paper, December 25, 2019**

- Fengxia Han, Shengjie Zhao, Lu Zhang, Jinsong Wu, “ Survey of Strategies for Switching Off Base Stations in Heterogeneous Networks for Greener 5G Systems”, *IEEE Access*, vol. 4, pp. 4959 - 4973, August 2016, DOI: 10.1109/ACCESS.2016.2598813 - - [Web of Science ESI highly cited paper, March 4, 2019](#)
- Kai Yang, Nan Yang, Chengwen Xing, Jinsong Wu, and Jianping An, “Space-Time Network Coding With Antenna Selection”, *IEEE Transactions on Vehicular Technology*, vol. 65, no. 7, pp. 5264 – 5274, July 2016
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- Jinsong Wu, John Thompson, Honggang Zhang, Ranga Rao Venkatesha Prasad, Song Guo, “Green communications and computing networks [Series Editorial]”, *IEEE Communications Magazine*, vol. 54, no. 5, May 2016
- Jinsong Wu, John Thompson, Honggang Zhang, Daniel C. Kilper, “Green communications and computing networks [Series Editorial]”, *IEEE Communications Magazine*, vol. 53, no. 11, Nov. 2015
- Muhammad Zeeshan Shakir, Muhammad Ali Imran, Xianbin Wang, Jinsong Wu, Amitabha Ghosh, Henrik Lundqvist, Lingjia Liu ; “Smart backhauling and fronthauling for 5G networks: from precoding to network architecture [Guest editorial]”, *IEEE Wireless Communications*, vol. 22, no. 5, Oct. 2015
- Shusheng Wen, Weiqiang Xu, Qingjiang Shi, Jinsong Wu, Yaming Wang, “Distributed Event-Triggered Flow Control for Utility Fairness in Energy Harvesting Enabled Wireless Sensor Networks”, *International Journal of Sensor Networks*, in press, 2015
- Qingjiang Shi, Weiqiang Xu, Jinsong Wu, Enbin Song, Yaming Wang, "Secure Beamforming For MIMO Broadcasting With Wireless Information And Power Transfer", *IEEE Transactions on Wireless Communications*, vol. 14 , no. 5, pp. 2841-2853, May 2015 - [Web of Science ESI highly cited paper, March 4, 2019](#)
- Kai Yang, Nan Yang, Chengwen Xing, Jinsong Wu, and Zhongshan Zhang, “Space-Time Network Coding with Transmit Antenna Selection and Maximal-Ratio Combining”, *IEEE Transactions on Wireless Communications*, vol. 14, no. 4, pp. 2106 – 2117, April 2015
- Xianfu Chen, Jinsong Wu, Yueming Cai, Honggang Zhang, Tao Chen, " Energy-Efficiency Oriented Traffic Offloading in Wireless Networks: A Brief Survey and a Learning Approach for Heterogeneous Cellular Networks ", *IEEE Journal on Selected Areas in Communications*, vol. 33, no. 4, pp. 627- 640, Apr. 2015 - [Web of Science ESI highly cited paper, March 24, 2019](#)
- Genming Ding, Zhenhui Tan, Jinsong Wu, Jinshan Zeng, and Lingwen Zhang, “Indoor Fingerprinting Localization and Tracking System Using Particle Swarm Optimization and Kalman Filter”, *IEICE Transactions on Communications*, vol. E98-B, no. 3, pp.502-514, Mar. 2015
- Hong Wen, Jie Tang, Jinsong Wu, Huanhuan Song, Tingyong Wu, Bin Wu, Pin-Han Ho, Shi-chao Lv and Limin Sun, “A Cross-layer Secure Communication Model Based on Discrete Fractional Fourier Transform (DFRFT)”, *IEEE Transactions on Emerging Topics in Computing*, vol. 3 , no. 1, pp. 119-126, Mar. 2015

- Pablo Serrano, Xavier Costa-Pérez, Jinsong Wu, Ken Christensen, Special Issue: Green Communications, *Elsevier Computer Networks*, vol. 78, pp. 1–3, Feb. 2015
- Qingqing Wu, Wen Chen, Meixia Tao, Jun Li, Hongying Tang, and Jinsong Wu, “Resource Allocation for Joint Transmitter and Receiver Energy Efficiency Maximization in Downlink OFDMA Systems,” *IEEE Transactions on Communications*, vol. 63, no. 2, pp. 416 – 430, Feb. 2015
- Jinsong Wu, John Thompson, Honggang Zhang, Daniel C. Kilper, “Green communications and computing networks”, *IEEE Communications Magazine*, vol. 52, no. 11, Nov. 2014
- Chang Ge, Zhili Sun, Ning Wang, Ke Xu, Jinsong Wu, "Energy management in cross-domain content delivery networks: a theoretical perspective", *IEEE Transactions on Network and Service Management*, vol. 11, no. 3, pp. 264 – 277, Sept. 2014
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- Ruben Hidalgo-León, Javier Urquizo, Jaqueline Litardo, Yanira Muñoz-Jadán, Pritpal Singh, Jinsong Wu, “Simulation of battery discharge emulator using power electronics device with cascaded P-I control”, in Proc. ***IEEE International Conference on Industrial Technology (ICIT)***, Feb. 2020

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- Jinsong Wu, Hamid S. Rad, Steven D. Blostein and Saeed Gazor, *Matrix form lapped space time block coding in frequency selective channels*, in Proc. **22nd Biennial Symposium on Communications**, Kingston, Canada, June 2004
- Jinsong Wu, Jacek Ilow, *Integrated packet loss and error control schemes in wireless multimedia data links*, in Proc. **IEEE Global Communications Conference (Globecom) 2001**, San Antonio, TX, USA, Nov 2001
- Jinsong Wu, Jacek Ilow, *A Wireless Multimedia LAN Testbed*, in Proc. **IEEE CCECE 2000**, Halifax, Canada, May 2000

Projects

- Primary Investigator, CONICYT FONDECYT Regular 1181809, Chile, “Big data for sustainable smart cities with the aids of computational intelligence”, 2018 - 2023, USD \$155475.00
- Primary Investigator, CONICYT FONDEF ID16110466, Chile, “Cloud-based Automated Telemetric Cyber-physical Platform for Monitoring, Control, and Protection of Maritime Resources using Data Analysis and Processing for Event Prediction”, 2017 - 2022, USD \$227272.00
- Primary Investigator, Proyecto Iniciacion, Chile, “Green wireless communications”, 2015 - 2018, USD \$25120.00
- Co-investigator, China National Key Technology Projects, China, “3-D MIMO wireless communications”, 2013 – 2014, US\$1.147 million dollars
- Co-investigator, China National Key Technology Projects, China, “Direct device-to-device for cellular wireless communications”, 2012 - 2013, US\$1.967 million dollars

Awards and Honors

- ◆ IEEE Green Communications and Computing Technical Committee Distinguished Technical Achievement Recognition Award, for his outstanding technical leadership and achievement in green wireless communications and networking, 2020
- ◆ IEEE Green Communications and Computing Technical Committee Excellent Services Award for Excellent Technical Leadership and Services in the Green Communications and Computing Community,

2017

- ◆ Selected in High-End Foreign Experts Introduction Plan, Ministry of Science and Technology of the People's Republic of China, 2020
- ◆ Selected in the 3rd class High-Level Talent of Guilin, 2020
- ◆ 2017 IEEE Systems Journal Best Paper Award, October 2017 (selected from 254 published papers in 2016) – Jinsong Wu, Song Guo, Jie Li, and Deze Zeng, “Big Data Meet Green Challenges: Big Data toward Green Applications”, *IEEE Systems Journal*, vol. 10, no. 3, Sept. 2016
- ◆ 2021 IEEE Systems Journal Best Paper Award, April 2021 (selected from 536 published papers in 2020) – Sun Mao, Jinsong Wu, Lei Liu, Dapeng Lan, Amir Taherkordi, “Energy-Efficient Cooperative Communication and Computation for Wireless Powered Mobile-Edge Computing”, *IEEE Systems Journal*, Early Access, October 2020, DOI: 10.1109/JSYST.2020.3020474
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- ◆ 2017 IEEE Big Data Technical Committee Best Conference Paper Award, Dec. 2017 - Zhifang Liao, Haozhi Jin, Yifan Li, Benhong Zhao, Jinsong Wu, Shengzong Liu, “DevRank: Mining Influential Developers in Github”, in *Proc. IEEE Global Communications Conference*, Dec. 2017
- ◆ Best Paper Award, IEEE International Conference on Computer Communications International Workshop on Big Data Sciences, Technologies, and Applications, Apr. 2016 - Haizhou Du, Shengjie Zhao, Daqiang Zhang, Jinsong Wu, “Novel Clustering-Based Approach for Local Outlier Detection”, in *Proc. IEEE International Conference on Computer Communications International Workshop on Big Data Sciences, Technologies, and Applications*, Apr. 2016
- ◆ IEEE Communications Society Best Readings in Green Communications, March 2013 - Jinsong Wu, S. Rangan, H. Zhang (Eds.), "Green Communications: Theoretical Fundamentals, Algorithms and Applications," CRC Press, September 20, 2012 (840 book pages)
- ◆ IEEE Communications Society Best Readings in Green Communications, March 2013 - Jinsong Wu, “Green wireless communications: from concept to reality,” *IEEE Wireless Communications*, vol. 19, no. 4,, August 2012
- ◆ IEEE Communications Society Best Readings in Green Communications, March 2013 - H. Chao, Y. Chen, J. Wu, "Power saving for machine to machine communications in cellular networks", in *Proc. IEEE Globecom Workshops*, Dec. 2011
- ◆ Web of Science ESI highly cited paper, December 25, 2019 - Jinsong Wu, Song Guo, Jie Li, and Deze Zeng, “Big Data Meet Green Challenges: Greening Big Data”, *IEEE Systems Journal*, vol. 10, no. 3, Sept. 2016
- ◆ Web of Science ESI highly cited paper, December 25, 2019 – Kian Hamedani, Lingjia Liu, Jinsong Wu, Yang Yi, “Reservoir Computing Meets Smart Grids: Attack Detection using Delayed Feedback Networks”, *IEEE Transactions on Industrial Informatics*, vol. 14, no. 2, pp.734-743, Feb. 2018
- ◆ Web of Science ESI highly cited paper, September 15, 2019 - Jinsong Wu, Song Guo, Huawei Huang, William Liu, Yong Xiang, “Information and Communications Technologies for Sustainable Development

Goals: State-of-the-Art, Needs and Perspectives”, *IEEE Communications Surveys & Tutorials*, vol. 20, no. 3, pp. 2389-2406, March 2018

- ◆ Web of Science ESI highly cited paper, August 13, 2019 - Jinsong Wu, Song Guo, Jie Li, and Deze Zeng, “Big Data Meet Green Challenges: Big Data toward Green Applications”, *IEEE Systems Journal*, vol. 10, no. 3, Sept. 2016
- ◆ Web of Science ESI highly cited paper, March 24, 2019 - Xianfu Chen, Jinsong Wu, Yueming Cai, Honggang Zhang, Tao Chen, " Energy-Efficiency Oriented Traffic Offloading in Wireless Networks: A Brief Survey and a Learning Approach for Heterogeneous Cellular Networks ", *IEEE Journal on Selected Areas in Communications*, vol. 33, no. 4, pp. 627- 640, Apr. 2015
- ◆ Web of Science ESI highly cited paper, September 15, 2019 - Jianping An, Kai Yang, Jinsong Wu, Neng Ye, Song Guo, and Zhifang Liao, “Achieving Sustainable Ultra-Dense Heterogeneous Networks for 5G”, *IEEE Communications Magazine*, vol. 55, no. 12, pp. 84-90, December 2017
- ◆ Web of Science ESI highly cited paper, October 5, 2020 - Xiong Luo, Jiankun Sun, Long Wang, Weiping Wang, Wenbing Zhao, Jinsong Wu, Jenq-Haur Wang, Zijun Zhang, “Short-term Wind Speed Forecasting via Stacked Extreme Learning Machine With Generalized Correntropy,” *IEEE Transactions on Industrial Informatics*, vol. 14, no. 11, pp. 4963 – 4971, Nov. 2018
- ◆ Web of Science ESI highly cited paper, March 4, 2019 - Kun Wang, Jun Yu, Yan Yu, Yirou Qian, Deze Zeng, Song Guo, Yong Xiang, and Jinsong Wu, “A Survey on Energy Internet: Architecture, Approach and Emerging Technologies”, *IEEE Systems Journal*, vol. 12 , no. 3, pp. 2403 - 2416, Sept. 2018 – published in Jan. 2017
- ◆ Web of Science ESI highly cited paper, March 4, 2019 - Kun Wang, Yihui Wang, Yanfei Sun, Song Guo, Jinsong Wu, “Green Industrial Internet of Things Architecture: An Energy-Efficient Perspective”, *IEEE Communications Magazine*, vol. 54, no. 12, pp. 48-54, Dec. 2016
- ◆ Web of Science ESI highly cited paper, March 4, 2019 - Fengxia Han, Shengjie Zhao, Lu Zhang, Jinsong Wu, “ Survey of Strategies for Switching Off Base Stations in Heterogeneous Networks for Greener 5G Systems”, *IEEE Access*, vol. 4, pp. 4959 - 4973, August 2016, DOI: 10.1109/ACCESS.2016.2598813
- ◆ Web of Science ESI highly cited paper, March 4, 2019 – Qingjiang Shi, Weiqliang Xu, Jinsong Wu, Enbin Song, Yaming Wang, "Secure Beamforming For MIMO Broadcasting With Wireless Information And Power Transfer", *IEEE Transactions on Wireless Communications*, vol. 14 , no. 5, pp. 2841-2853, May 2015
- ◆ IEEE Outstanding Leadership Award, IEEE International Conference on Big Data Intelligence and Computing (DataCom), IEEE Computer Society, August 2016
- ◆ IEEE Outstanding Leadership Award, IEEE International Conference on Green Computing and Communications (Greencom), IEEE Computer Society, 2013
- ◆ Ontario Centres of Excellence Conference Travel Award, Canada, 2006
- ◆ IEEE Information Theory Society Travel Award, International Symposium on Inform. Theory 2006
- ◆ IEEE Communications Society Student Travel Award, International Conference on Communications 2004
- ◆ Canadian Cable Telecommunications Research Fellowship (sole winner), Canada, 2005
- ◆ Telecom Application Research Alliance (TARA) Scholarship (sole winner), Canada 2000

Research links

- Google Scholar: <https://scholar.google.com/citations?user=04AIOGoAAAAJ&hl=en>
- Researchgate: https://www.researchgate.net/profile/Jinsong_Wu6
- Web of Science Researcherid: <http://www.researcherid.com/rid/D-7817-2014>
- Scopus: <https://www.scopus.com/authid/detail.uri?authorId=36731675700>

Technical Leadership

- **IEEE Green Communications and Computing Technical Committee Distinguished Technical Achievement Recognition Award for his Outstanding Technical Leadership and Achievement in Green Wireless Communications and Networking, 2020**
- **IEEE Green Communications and Computing Technical Committee Excellent Services Award for Excellent Technical Leadership and Services in the Green Communications and Computing Community, 2017**
- **Selected in High-End Foreign Experts Introduction Plan, State Administration of Foreign Experts Affairs, Ministry of Science and Technology of the People's Republic of China, 2020**
- **Officially nominated candidate, Vice-President Conferences (Member of Board of Governors) in 2021 IEEE Communications Society Elections**
- **Officially nominated candidate, Member-At-Large (Member of Board of Governors) in 2018 IEEE Communications Society Elections** – rank the 4-th in the final election votes out of total 7 officially nominated candidates in Americas Regions (North and Latin America Regions) in 2018
- **Officially nominated candidate, Member-At-Large (Member of Board of Governors) in 2017 IEEE Communications Society Elections** – rank the 3-rd in the final election votes out of total 7 officially nominated candidates in Americas Regions (North and Latin America Regions) in 2017
- **2017 IEEE Systems Journal Best Paper Award, 2017** - selected from 254 published papers in 2016, 2017
- **2019 IEEE Systems Journal Best Paper Award, 2019** - selected from 679 published papers in 2018, 2019
- **2021 IEEE Systems Journal Best Paper Award, 2021** - selected from 536 published papers in 2020
- **2018 IEEE TCGCC Best Magazine Paper Award, 2018**
- **2017 IEEE Big Data Technical Committee Best Conference Paper Award, 2017**
- **2017 IEEE Global Communications Conference (Globecom) Best Paper Award for Green Communications Systems and Network Symposium, 2017**
- **Vice-Chair, Technical Activities, IEEE Environmental Engineering Initiative**, a pan-IEEE effort under IEEE Technical Activities Board (TAB) across 25 IEEE Societies, Councils, and other organization units, **Feb. 2017 – present**
<https://environmental.ieee.org/about/committee-members>
- **The Founder and Founding Chair, IEEE Technical Committee on Green Communications and Computing (TCGCC) as well as IEEE Technical SubCommittee on Green Communications and Computing (TSCGCC), IEEE Communications Society**, which was established in 2011 as an official Technical Subcommittee (TSCGCC) dedicated to sustainable and green ICT and successfully elevated as an official Technical Committee (TCGCC) in Dec. 2013 with current over 800 official international members (<https://tcgcc.committees.comsoc.org/history/>, <https://sites.google.com/site/gcccomsoc/>).
- **The Co-Founder and Founding Vice-Chair, IEEE Technical Committee on Big Data (TCBD) as well as IEEE Technical SubCommittee on Big Data (TSCBD), IEEE Communications Society**, which was

approved and established in Jan. 2015, and elevated in Dec. 2016
(<https://bdpan.committees.comsoc.org/officers/>)

- **Steering Committee Member and IEEE Communications Society Representative in IEEE Environmental Engineering Initiative, 2016 – present**
- **IEEE Green Communications and Computing Technical Committee Distinguished Technical Achievement Recognition Award, 2020**
- **2016 IEEE International Conference on Computer Communications (Infocom) Best Paper Award for International Workshop on Big Data Sciences, Technologies, and Applications, 2016**
- **The very first proposer, IEEE Green Journals/Transactions, 2012**
- **Proposer (2012), Founder (2014) and Series Editor (2014-2018), IEEE Series on Green Communications and Computing Networks, (IEEE Communications Magazine), 2014 - 2017**
- **Proposer (2012), Area Editor (2016 - present), IEEE Transactions on Green Communications and Networking, 2016 - present**
- **Proposer (2012), Series Editor, Series on Green Communications and Networking, IEEE J. Select. Areas Communications, 2014 - 2016**
- **Founder and Founding Chair, Big Data Track in flagship conferences of IEEE Communications Society, starting in IEEE Globecom 2016**
- **Leading Program Chair, 2016 IEEE International Conference on Big Data Intelligence and Computing, 2016**
- **Proposer and Co-Chair of the Technical Panels on Big Data for Information and Communications Technologies in IEEE GLOBECOM 2015**
<http://globecom2015.ieee-globecom.org/program/industry-program/panels#IF17>
- **Proposer and leading organizer, The First IEEE International Workshop on Green Standardizations and Industry Issues for ICT and Relevant Technologies (GSICT), in conjunction with IEEE Global Communications Conference (GLOBECOM 2015), which is the first dedicated conference effort on green standardizations within the whole IEEE and ACM**
- **Co-Chair, Green Communication Networks Track, IEEE Vehicular Technology Conference Fall 2014 and Fall 2017**
- **Founder (2011), IEEE Green Communications and Computing LinkedIn Group, with over 1430 international members on September 28, 2018, which was founded in 2011, and is currently the largest group on green topics within both IEEE and ACM**
- **Leading Guest Editor, Feature Topics on Context-Aware Networking and Communications, IEEE Communications Magazine (published in June 2014 and August 2014)**
- **Leading Guest Editor, Special Issue on Green Communications, Computing, and Systems, IEEE Systems Journal, called in 2014, published in 2016**

- **Three publications selected in IEEE Communications Society Best Readings in Green Communications, 2013**
- **Proposer, IEEE Research Project on Vision for Green ICT Standardizations, approved by IEEE Communications Society Standardization Programs Development Board in 2013**
- **Leading General Chair, 2013 IEEE International Conference on Green Computing and Communications**
(<http://www.china-iot.net/GreenCom2013.htm>)
- **Leading General Chair, IEEE GLOBECOM 2013 Workshop on Cloud Computing Systems, Networks, and Applications**
- **Technical Program Committee Co-Chair, 2013 IEEE Online Conference on Green Communications**
(<http://www.ieee-greencom.org/2013/committees.html>)
- **Symposium Co-Chair and the Track Vice-Chair on Green Communication Systems and Networks, the Selected Areas in Communications Symposium, IEEE GLOBECOM 2012**
(http://www.ieee-globecom.org/green_track_gc12_v19.pdf)
- **Technical Program Committee Co-Chair, 2012 IEEE Online Conference on Green Communications**
(<http://www.ieee-greencom.org/2012/committees.html>)
- **Proposers and Moderators/Chairs of the Technical Panels on Green Communications and Computing in the IEEE INFOCOM 2012, IEEE ICC 2012, and IEEE GLOBECOM 2012**
 - **Green Panel Speakers in INFOCOM 2012** (<http://www.ieee-infocom.org/2012/panels.html>)
 - **Green Panel Speakers in ICC 2012**(http://www.ieee-icc.org/2012/program/indforums/wed_1615.html):
 - **Green Panel Speakers in GLOBECOM 2012**(<http://www.ieee-globecom.org/2012/indforum1.html>):

IEEE Membership

- **IEEE Senior Member**

Professional Activities

- **Activities on Journal Publications**
 - **Regular Editorial Board Members of Journals:**
 - ◆ **Leading Series Editor, Series on Data Driven Intelligence, Sustainability, and Systems, ITU (International Telecommunication Union) and TUP (Tsinghua University Press) Intelligent and Converged Networks, 2020 - present**
 - ◆ **Area Editor, IEEE Transactions on Green Communications and Networking, 2016 - 2020**
 - ◆ **Editor, IEEE Series on Green Communication and Computing Networks (IEEE Communications Magazine), 2014 - 2018**
 - ◆ **Editor, IEEE Journal on Selected Areas in Communications (JSAC) Series on Green Communications and Networking 2015 - 2016**
 - ◆
 - ◆ **Associate Editor, IEEE Systems Journal, 2013 - present**
 - ◆ **Editor, KSII Transactions on Internet and Information Systems 2013 - present**
 - ◆ **Editor, Infocommunications Journal , 2013-2014**
 - ◆ **Editor, International Journal of Big Data Intelligence 2013 - present**
 - ◆ **Area Editor, Journal of Industrial Networks and Intelligent Systems,2013 - present**

- Guest Editorial Board Members of Journals:
 - ◆ Guest Editor, Special Section on Distributed Computing Infrastructure for Cyber-Physical Systems, IEEE Access, called in 2019
 - ◆ Guest Editor, Special Section on Intelligent and Cognitive Techniques for Internet of Things, IEEE Access, called in 2018
 - ◆ Guest Editor, Special Issue on Big Data and Artificial Intelligence for Network Technologies, IEEE Transactions on Network Science and Engineering, called in 2017
 - ◆ Guest Editor, Special Issue on Wearable Sensor Based Big Data Analysis for Smart Health, IEEE Internet of Things Journal, called in 2017
 - ◆ Guest Editor, Special Issue on Achieving Sustainable 5G, Wireless Communications and Mobile Computing, called in 2017
 - ◆ Guest Editor, Special Issue on Smart Backhauling and Fronthauling for 5G Networks, IEEE Wireless Communications , called in 2015, published in 2016
 - ◆ Guest Editor, Special Issue on Mobile Clouds in IEEE Transactions on Cloud Computing , called in 2015, published in 2016
 - ◆ Guest Editor, Elsevier Computer Networks Special Issue on Green Communications called, 2013, published in Feb. 2015
 - ◆ Leading Guest Editor, Feature Topics on Context-Aware Networking and Communications, IEEE Communications Magazine, published in June 2014 and August 2014
 - ◆ Leading Guest Editor, Special Issue on Green Communications, Computing, and Systems, IEEE Systems Journal, called in 2014, published in 2015, to be printed in 2016
 - ◆ Associate Editor, Special Section on Big Data for Green Communications and Computing, IEEE Access, called in 2014, published in 2015
 - ◆ Guest Editor, Special Issue on Green Networking and Computing, International Journal of Business Data Communications and Networking (IJBDCN) , 2012

- Activities on Conferences Publications
 - Organizing Committee Members of Conferences:
 - ◆ General Co-Chair, 2020 IEEE International Environmental Engineering Conference, 2020
 - ◆ General Co-Chair, IEEE ICC 2019 International Workshop on Data Driven Intelligence for Networks and Systems (DDINS)
 - ◆ Steering Committee Member, IEEE INFOCOM 2019 International Workshop on Intelligent Cloud Computing and Networking
 - ◆ General Chair, International Conference on Advances in Computing, Communications and Informatics (ICACCI), 2018
 - ◆ Program Co-Chair, 2018 IEEE International Environmental Engineering Conference, 2018
 - ◆ Symposium Co-Chair, Symposium on Green Communication Systems And Networks, IEEE ICC 2018
 - ◆ Track Co-Chair, Green Communication Networks Track, IEEE Vehicular Technology Conference Fall 2017, 2017
 - ◆ Steering Committee Member, IEEE ICC 2017 International Workshop on Application of green techniques to emerging communication and computing paradigms (GCC)
 - ◆ Steering Committee Chair, International Conference on Advances in Computing, Communications and Informatics (ICACCI), 2017
 - ◆ Leading General Chair, International Conference on Advances in Computing, Communications and Informatics (ICACCI), 2016
 - ◆ Steering Committee Member, IEEE Globecom 2016 International Workshop on Cloud Computing Systems, Networks, and Applications
 - ◆ Founder and Founding Chair, Big Data Track with general coverage in flagship conferences of IEEE Communications Society, starting in IEEE Globecom 2016
 - ◆ Leading Program Chair, 2016 IEEE International Conference on Big Data Intelligence and Computing, 2016

- ◆ Steering Committee Member, 2016 IEEE Vehicular Technology Conference Spring International Workshop on Connecting All Things for Enabling Smart Cities (CONTEST)
 - ◆ Steering Committee Member, IEEE GLOBECOM 2015 International Workshop on Cloud Computing Systems, Networks, and Applications , 2015
 - ◆ Technical Program Co-Chair, IEEE GLOBECOM 2015 the first IEEE International Workshop on Green Standardizations and Industry Issues for ICT and Relevant Technologies (GSICT), 2015
 - ◆ Steering Committee Member, IEEE ICC 2015 IEEE Workshop on Next Generation Backhaul/Front haul Networks (BackNets'2015), called in 2014, published in 2015
 - ◆ Steering Committee Member, IEEE ICC 2015 International Workshop on Next Generation Green ICT, called in 2014, published in 2015
 - ◆ Steering Committee Member, IEEE ICC 2015 International Workshop on Cloud Computing Systems, Networks, and Applications
 - ◆ Steering Committee Member, IEEE GLOBECOM 2014 International Workshop on Cloud Computing Systems, Networks, and Applications
 - ◆ Steering Committee Member, IEEE INFOCOM 2014 International Workshop on Green Cognitive Communications and Computing Networks (GCCCN)
 - ◆ Publicity Chair, IEEE ICC 2014 Workshop on Energy Efficiency in Wireless Networks & Wireless Networks for Energy Efficiency (E2Nets), 2014
 - ◆ Track Co-Chair, Green Communication Networks Track, IEEE Vehicular Technology Conference Fall 2014, 2014
 - ◆ Leading General Chair, IEEE International Conference on Green Computing and Communications, 2013
 - ◆ Leading Symposium Co-Chair , Symposium on Green Communications and Computing, International Conference on Communications and Networking in China(Chinacom) , 2013
 - ◆ Technical Program Committee Co-Chair, IEEE Online Conference on Green Communications, 2013
 - ◆ Publicity Chair, IEEE ICC 2013 Workshop on Energy Efficiency in Wireless Networks & Wireless Networks for Energy Efficiency (E2Nets), called in 2012, published in 2013
 - ◆ Leading General Chair, IEEE GLOBECOM 2013 Workshop on Cloud Computing Systems, Networks, and Applications , 2013
 - ◆ Symposium Co-Chair and the Track Vice-Chair, Green Communication Systems and Networks, the Selected Areas in Communications Symposium, IEEE GLOBECOM 2012 , 2012
 - ◆ Technical Program Committee Co-Chair, IEEE Online Conference on Green Communications, 2012
 - ◆ Proposer, Chair, and Speaker, IEEE GLOBECOM 2012 Technical Panels on Green Communications and Computing, 2012
 - ◆ Technical Program Committee Vice Co-Chair, Asia-Pacific Conference on Communications (APCC), Korea, 2012
 - ◆ Proposer, Chair, and Speaker, IEEE ICC 2012 Technical Panels on Green Communications and Computing, 2012
 - ◆ Proposer, Chair, and Speaker, IEEE INFOCOM 2012 Technical Panels on Green Communications and Computing, 2012
- Technical Program Committee Members of Conferences (62 times):
- IEEE INFOCOM
 - IEEE ICC,
 - IEEE Globecom
 - IEEE WCNC
 - IEEE PIMRC
 - IEEE VTC Spring/Fall
 - IEEE CCNC,
 - IEEE ISCIT
 - IEEE CloudCom,
 - IEEE CloudNet
 - ITU Kaleidoscope

- FutureTech
- WAC

- Session Chairs of Conferences:
 - IEEE Globecom,
 - IEEE ISCTI,
 - IEEE Online GreenComm

- Leaderships of IEEE Technical Activities:
 - ◆ Vice-Chair, Technical Activities, IEEE Environmental Engineering Initiative, Feb. 2017 – Present
 - ◆ Steering Committee Member and IEEE Communications Society Representative, IEEE Environmental Engineering Initiative, 2016 – Present
 - ◆ Founder and Founding Chair, IEEE Technical SubCommittee on Green Communications and Computing (TSCGCC), IEEE Communications Society, 2011 – 2013
 - ◆ Founder and Founding Chair, IEEE Technical Committee on Green Communications and Computing (TCGCC), IEEE Communications Society, 2013 - March 2017
 - ◆ Co-Founder and Founding Vice-Chair, IEEE Technical SubCommittee on Big Data (TSCBD), IEEE Communications Society, 2015 – 2016
 - ◆ Co-Founder and Founding Vice-Chair, IEEE Technical Committee on Big Data (TCBD), IEEE Communications Society, 2016 – present

- Other IEEE Technical Activities:
 - ◆ IEEE Senior Member Evaluation Review Panel, 2019
 - ◆ Selection Committee Member, IEEE Communications Society Student Competition, 2013 – 2014
 - ◆ Standard Liaison, IEEE Technical SubCommittee on Green Communications and Computing (TSCGCC), for Standards Development Board, IEEE Communications Society, 2011 – 2013
 - ◆ Standard Liaison, IEEE Technical Committee on Green Communications and Computing (TCGCC), for Standards Development Board, IEEE Communications Society, 2013 – 2017
 - ◆ Members, many technical committees and technical subcommittees, IEEE Communications Society and IEEE Computer Society, 2011 – present
 - ◆ Technical Activity Council Committee Member, IEEE Communications Society, 2011 – present
 - ◆ Roaster Member, Power System Communications Committee, IEEE Power & Energy Society, 2013 – 2014
 - ◆ Founder and current organizer, IEEE Green Communications and Computing LinkedIn Group, 2011 - present

Contributions in industrially relevant R&D activities

- 8 technical reports in Internet applications, geography information systems, wireless communications, security, **Bell Labs, Alcatel-Lucent**, Shanghai, China, 2010-2014
- Tom Danshin, Jinsong Wu, *Metro Cell RF Power Management Algorithms Requirements for NBSS 10.0*, **Nortel Networks**, Calgary, Canada, **2001 (over 110 pages)**
- Alireza Seyedi, Jinsong Wu, Dagnachew, Birru, *60GHZ Multiband Single-Carrier Block Transmission Transceiver Algorithms*, **Philips Research North America**, USA, 2007
- Jinsong Wu, *Physical Layer Abstraction Algorithms of Mobile Wimax using OPNET*, **Sprint-Nextel**, USA, 2008