

Xiangyun (Sean) Zhou

Research School of Engineering
The Australian National University (ANU)
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Qualifications

- 2010 **Doctor of Philosophy in Engineering**, ANU
Thesis focused on wireless transmission resource allocation with channel uncertainty.
- 2007 **Bachelor of Engineering with 1st Class Honours and University Medal**, ANU
Major studies in Electronics and Telecommunications

Work Experience

- 01/2015 - present **Senior Lecturer** (Fellow), ANU
- 06/2011 – 12/2014 **Lecturer** (Research Fellow), ANU
- 06/2010 – 06/2011 **Postdoctoral Fellow**, University of Oslo, Norway

Highlights of Academic Career

- **Research Publication (as of Dec 2016): over 100 journal and conference papers**
- **Chief Investigator of 4 ARC Discovery Project grants**
- **Editor of IEEE Transactions on Wireless Communications and IEEE Communications Letters**
- **Guest Editor of IEEE Communications Magazine and EURASIP Journal on Wireless Communications and Networking**
- **Co-Chair of 2014, 2015 and 2016 IEEE ICC Workshop on Wireless Physical Layer Security**
- **Symposium/Track Chair of IEEE ICC'16 and VTC-Spring'17**
- **IEEE ComSoc Asia-Pacific Outstanding Paper Award in 2016**
- **Best Paper Award at IEEE ICC'11**
- **Finalist of Heinrich Hertz Award for Best Communications Letters in 2013**
- **Finalist of Best Paper Award at IEEE Globecom'14**
- **Finalist of Student Best Paper Award at IEEE ICASSP'14**

Research Interests

A broad interest in **Communication Theory** and **Wireless Networks**, including:

- Physical layer security
- Wireless network security
- Stochastic geometry
- Machine-to-machine communications
- Small cells and heterogeneous networks
- Millimeter wave communication
- Energy harvesting and wireless powered communication

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Research Grants

- 2017 – 2019 S. Durrani, **X. Zhou**, D. Ngo, and H. Yanikomeroglu, “Enabling Ultra-Reliable and Sustainable Machine-to-Machine Communications”, **ARC Discovery Project**, DP170100939, \$352,000
- 2015 – 2017 **X. Zhou**, T. Abhayapala, N. Yang, and A. L. Swindlehurst, “Safeguarding Future Wireless Communications with Physical Layer Security”, **ARC Discovery Project**, DP150103905, \$340,300
- 2014 – 2016 S. Durrani, **X. Zhou**, H. Mehrpouyan, and S. D. Blostein, “Realizable Synchronization Techniques: Unlocking the Potential of Future Wireless Networks”, **ARC Discovery Project**, DP140101133, \$365,000
- 2013 C. Yu, **X. Zhou**, and A. N. Bishop, “UWB-Based Wireless Sensor Networks for Localisation”, ANU Major Equipment Grant, 13MEC05, \$40,000
- 2011 – 2013 R. A. Kennedy, T. Lamahewa, **X. Zhou**, and G. Giannakis, “Optimum Cross-Layer Design in Wireless Communication Systems with Channel Uncertainty”, **ARC Discovery Project**, DP110102548, \$255,000

Teaching

- 2016 - present Digital Communications, ANU (ENGN3226, ENGN6626)
- 2012 - 2016 Wireless Communications, ANU (ENGN4536, ENGN6536)

Research Supervision

Received Nominations for the Dean’s Award for Excellence in Supervision in 2014 and 2015

Current Postdoc

Dr. Shihao Yan, ANU, 08/2015 – present, under ARC Discovery Project Grant - DP150103905

Current Students

- Ph.D. **Sheeraz Alvi**, ANU, 07/2016 – present, Topic: Machine-to-machine communications
- Khurram Shahzad**, ANU, 05/2016 – present, Topic: Wireless communication security
- Wanchun Liu**, ANU, 07/2014 – present, Topic: Energy harvesting wireless communications
- Yirui Cong**, ANU, 12/2013 – present, Topic: Communication and control in wireless mobile networks
- Zohair Abu Shaban**, ANU, 06/2014 – present, Topic: Localization in cellular networks (principal supervisor: Prof. Thushara Abhayapala)
- Yifei Huang**, ANU, 03/2014 – present, Topic: Heterogeneous cellular networks (principal supervisor: Dr. Salman Durrani)
- B.Eng. **Xiaolun Jia**, ANU, Topic: wireless communication security

Former Postdoc

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Dr. Ali Nasir, ANU, 09/2012 – 08/2015, under ARC Discovery Project Grants - DP110102548 and DP140101133

Former Students

Ph.D.

Biao He, ANU, 08/2012 – 02/2016, Topic: Physical layer security in wireless communications, Now work at Hong Kong University of Science and Technology as a postdoctoral researcher.

Jing Guo, ANU, 09/2012 – 04/2016, Topic: Stochastic geometry for wireless networks (principal supervisor: Dr. Salman Durrani), Now work at ANU as a postdoctoral researcher.

Xi Zhang, visiting student from HKUST, 09/2010 – 07/2014, Topic: Physical layer wireless security (principal supervisor: Prof. Matt McKay), Now work at Huawei in Chengdu, China.

He Wang, ANU, 11/2009 – 07/2013, Topic: Heterogeneous cellular networks. (principal supervisor: Dr. Mark Reed), Now work at Samsung Research Centre in Beijing, China.

M.Eng.

Xiangjie Meng, ANU, 2015, Topic: Physical layer security.

Marwan Farhat, ANU, 2011, Topic: Cooperative communication with untrustworthy relays.

Chao-Wei Huang, NTHU, 2011, Topic: Two-way training design for discriminatory channel estimation in wireless MIMO systems. (principal supervisor: Prof. Peter Hong)

B.Eng.

Ben Schultz, ANU, 2016, Topic: wireless cellular networks

Emily Khor, ANU, 2016, Topic: wireless cellular networks

Mengjie Zhao, ANU, 2015, Topic: Spatial modelling of cellular networks.

Si Bao, ANU, 2015, Topic: heterogeneous cellular networks

Ahnaf Ahmed, ANU, 2015, Topic: Wireless information and power transfer

Xuran Li, ANU, 2015. Topic: Physical layer security

Yang Liu, ANU, 2014, Topic: Heterogeneous cellular networks

Tiange Shi, ANU, 2014, Topic: Physical layer security

Bin Zhu, ANU, 2014, Topic: Wireless information and power transfer

Tian Liang, ANU, 2014, Topic: Physical layer security

Congchi Zhang, ANU, 2013, Topic: Heterogeneous cellular networks.

Mengqi Xu, ANU, 2013, Topic: Physical layer security.

Min Qiu, ANU, 2012, Topic: Game theory in wireless communications.

Chen Ye, ANU, 2012, Topic: Game theory in wireless communications.

University Visits

- Southwest Jiaotong University, China, Host: Prof. Xianfu Lei, Sep. 2016 (1 week)
- University of California, Irvine, USA, Host: Prof. A. Lee Swindlehurst, Dec. 2015 (1 week)

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- Aalborg University, Denmark, Host: Prof. Petar Popovski, May – Jun. 2013 (2 weeks)
- University of California, Irvine, USA, Host: Prof. A. Lee Swindlehurst, Jun. 2012 (1 week)
- University of South Australia, Australia, Host: Dr. Ingmar Land, May 2012 (1 week)
- Southwest Jiaotong University, China, Host: Profs. Pingzhi Fan & Li Hao, Apr. 2011 (2 weeks)
- National Tsing Hua University, Taiwan, Host: Prof. Peter Hong, Jan. 2011 (1 month)
- Hong Kong University of Science and Technology, Host: Prof. Matt McKay, Nov. - Dec. 2010 (1 month)
- Shanghai Jiaotong University, China, Host: Prof. Meixia Tao, Dec. 2009 (1 week)
- University of Texas at Austin, Host: Profs. Jeff Andrews & Robert Heath Jr., Oct. - Nov. 2009 (2 months)
- Hong Kong University of Science and Technology, Host: Prof. Matt McKay, Nov. 2008 (1 week)

Professional Activities

Journal Editor

- Editor (2014 -): IEEE Transactions on Wireless Communications
- Editor (2013 -): IEEE Communications Letters
- Associate Editor (2012 - 2015): Security and Communication Networks Journal (Wiley)
- Editor (2012 – 2014): Ad Hoc & Sensor Wireless Networks Journal
- Guest Editor: 2015 Special Issue on Wireless Physical Layer Security, IEEE Communications Magazine
- Guest Editor: 2014 Special Issue on Energy Harvesting Wireless Communications, EURASIP Journal on Wireless Communications and Networking

Conference & Workshop Organization

- Track Co-Chair: IEEE VTC 2017-Spring Track on Wireless Access Technology and Heterogeneous Networks
- Symposium Co-Chair: IEEE ICC 2016 Symposium on Privacy and Security in Communications
- Workshop Co-Organizer: IEEE Globecom 2016 Workshop on Wireless Energy Harvesting Communication Networks
- Workshop Co-Organizer: IEEE Globecom 2016 Workshop on Trusted Communication with Physical Layer Security
- Workshop Co-Organizer: IEEE ICC 2016 Workshop on Wireless Physical Layer Security
- Workshop Co-Organizer: IEEE Globecom 2015 Workshop on Trusted Communication with Physical Layer Security
- Workshop Co-Organizer: IEEE ICC 2015 Workshop on Wireless Physical Layer Security
- Workshop Co-Organizer: IEEE ICC 2014 Workshop on Wireless Physical Layer Security
- Session Co-Organizer: Special Session on “5G Technologies for D2D, M2M and V2V communications ”, 2016 IEEE International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)
- Session Co-Organizer: Special Session on “Physical Layer Security”, 2015 International Conference on Wireless Communications and Signal Processing (WCSP)
- Session Organizer: Special Session on “Stochastic Geometry and Random Networks”, 2013 Asilomar Conference on Signals, Systems, and Computers

TPC Services

- TPC Member: IEEE Global Communications Conference (Globecom), 2016

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- TPC member: Green Networks Workshop 2016
- TPC Member: IEEE International Conference on Communications (ICC), 2016
- TPC Member: IEEE Vehicular Technology Conference (VTC-Spring), 2016
- TPC Member: IEEE International Conference on Ubiquitous Wireless Broadband: Workshop on Energy-Harvesting Wirelessly-Powered Communications and Wireless Power Transfer, 2015
- TPC Member: IEEE Conference on Communications and Network Security: Workshop on Physical-Layer Methods for Wireless Security, 2015
- TPC Member: IEEE International Conference on Communications in China (ICCC), 2015
- TPC Member: IEEE ICC Workshop on Green Communications and Networks with Energy Harvesting, Smart Grids, and Renewable Energies, 2015
- TPC Member: IEEE International Conference on Communications (ICC), 2015
- TPC Member: IEEE Wireless Communications and Networking Conference (WCNC), 2015
- TPC Member: International Conference on Telecommunications (ICT), 2015
- TPC Member: European Conference on Networks and Communications, 2015
- TPC Member: IEEE Globecom Workshop on Trusted Commun. with Physical Layer Security, 2014
- TPC Member: IEEE International Conference on Communications in China (ICCC), 2014
- TPC Member: International Conference on Commun. and Networking in China (Chinacom), 2014
- TPC Member: IEEE Vehicular Technology Conference (VTC-Fall), 2014
- TPC Member: IEEE International Conference on Communications (ICC), 2014
- TPC Member: IEEE SECON Workshop on Energy Harvesting Communications, 2014
- TPC Member: Australian Communication Theory Workshop (AusCTW), 2014
- TPC Member: IEEE International Conference on Communications (ICC), 2013
- TPC Member: IEEE Vehicular Technology Conference (VTC-Spring), 2013
- TPC Member: IEEE International Conference on Communications (ICC), 2012
- TPC Member: IEEE Wireless Communications and Networking Conference (WCNC), 2012
- TPC Member: IEEE Vehicular Technology Conference (VTC-Fall), 2012
- TPC Member: IEEE International Conference on Communications in China (ICCC), 2012
- TPC Member: International Conference on Communications, Mobility, and Computing (CMC), 2012
- TPC Member: IEEE Vehicular Technology Conference (VTC-Fall), 2011
- TPC Member: IEEE Int. Conf. on Computer Communications and Networks (ICCCN), 2011
- Session Chair: IEEE Globecom 2015, Wirelessly Powered Communication I
- Session Chair: ICC 2015: Physical-Layer Security
- Session Chair: IEEE Globecom 2014, Physical and Lower Layer Security
- Session Chair: ICC 2012: WC-22 Relay Technologies II
- Session Chair: ICC 2011: CTS-16 Cooperative Communications

Other Services

- Chair (2015 –): IEEE Technical Committee on Green Communications & Computing, Special Interest Group on Energy Harvesting Communication Networks
- Local Chapter Chair (2013 - 2014): IEEE Communications Society & Signal Processing Society, ACT Section
- Reviewer, IEEE JSAC, TCOM, TWireless, TSP, TIFS, TVT, CL, WCL, etc. (Exemplary Reviewer for

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IEEE Communications Letters 2012 and 2013, Exemplary Reviewer for IEEE Wireless Communications Letters 2015)

- Reviewer, major IEEE conferences, e.g., ICC, Globecom, ISIT, WCNC, ICASSP, VTC, etc.

Publications

Book:

1. **X. Zhou**, L. Song, and Y. Zhang (Editors), "Physical Layer Security in Wireless Communications", CRC Press, Nov. 2013.

Journal Papers:

1. Y. Cong and **X. Zhou**, "Event-Trigger Based Robust-Optimal Control for Energy Harvesting Transmitter" to appear in IEEE Trans. Wireless Commun.
2. Y. Cong, **X. Zhou**, and R. A. Kennedy, "Finite-Horizon Throughput Region for Wireless Multi-User Interference Channels", to appear in IEEE Trans. Wireless Commun.
3. S. Yan, **X. Zhou**, N. Yang, B. He, and T. D. Abhayapala, "Artificial-Noise-Aided Secure Transmission in Wiretap Channels with Transmitter-Side Correlation", to appear in IEEE Trans. Wireless Commun.
4. J. Guo, S. Durrani, **X. Zhou**, and H. Yanikomeroglu, "Device-to-Device Communication Underlying a Finite Cellular Network Region", to appear in IEEE Trans. Wireless Commun.
5. J. Hu, N. Yang, **X. Zhou**, W. Yang, and Y. Cai, "A Versatile Secure Transmission Strategy in the Presence of Outdated CSI", to appear in IEEE Trans. Veh. Tech.
6. B. He, N. Yang, S. Yan, and **X. Zhou**, "Regularized Channel Inversion for Simultaneous Confidential Broadcasting and Power Transfer: A Large System Analysis", IEEE J. Sel. Topics Signal Process., vol. 10., no. 8, pp. 1404-1416, Dec. 2016.
7. Z. Abu-Shaban, **X. Zhou**, and T. D. Abhayapala, "A Novel TOA-based Mobile Localization Technique under Mixed LOS/NLOS Conditions for Cellular Networks", IEEE Trans. Veh. Tech., vol. 65, no. 11, pp. 8841-8853, Nov. 2016.
8. B. He, **X. Zhou**, and A. L. Swindlehurst, "On Secrecy Metrics for Physical Layer Security over Quasi-Static Fading Channels", IEEE Trans. Wireless Commun., vol. 15, no. 10, pp. 6913-6924, Oct. 2016.
9. Y. Huang, A. A. Nasir, S. Durrani, and **X. Zhou**, "Mode Selection, Resource Allocation and Power Control for D2D-Enabled Two-Tier Cellular Network", IEEE Trans. Commun., vol. 64, no. 8, pp. 3534-3547, Aug. 2016.
10. A. A. Nasir, D. T. Ngo, **X. Zhou**, R. A. Kennedy, and S. Durrani, "Joint Resource Optimization for Multicell Networks with Wireless Energy Harvesting Relays", IEEE Trans. Veh. Tech., vol. 64, no. 8, pp. 6168-6183, Aug. 2016.
11. J. Hu, W. Yang, N. Yang, **X. Zhou**, and Y. Cai, "On-Off-Based Secure Transmission Design with Outdated Channel State Information", IEEE Trans. Veh. Tech., vol. 65, no. 8, pp. 6075-6088, Aug. 2016.
12. W. Liu, **X. Zhou**, S. Durrani, H. Mehrpouyan, and S. D. Blostein, "Energy Harvesting Wireless Sensor Networks: Delay Analysis Considering Energy Costs of Sensing and Transmission", IEEE Trans. Wireless Commun., vol. 15, no. 7, pp. 4635-4650, Jul. 2016.
13. J. Yao, S. Feng, **X. Zhou**, and Y. Liu, "Secure Routing in Multihop Wireless Ad-Hoc Networks with Decoding-and-Forward Relaying", IEEE Trans. Commun., vol. 64, no. 2, pp. 753-764, Feb. 2016.
14. X. Xu, B. He, W. Yang, **X. Zhou**, and Y. Cai, "Secure Transmission Design for Cognitive Radio Networks with Poisson Distributed Eavesdroppers," IEEE Trans. Info. Foren. Sec., vol. 11, no. 2, pp. 373-387, Feb. 2016.

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15. W. Liu, **X. Zhou**, S. Durrani, and P. Popovski, "Secure Communication with a Wireless-Powered Friendly Jammer", *IEEE Trans. Wireless Commun.*, vol. 15, no. 1, pp. 401-415, Jan. 2016.
16. B. He, **X. Zhou**, and T. D. Abhayapala, "Achieving Secrecy without Knowing the Number of Eavesdropper Antennas", *IEEE Trans. Wireless Commun.*, vol. 14, no. 12, pp. 7030-7043, Dec. 2015.
17. B. He, N. Yang, **X. Zhou**, and J. Yuan, "Base Station Cooperation for Confidential Broadcasting in Multi-Cell Networks", *IEEE Trans. Wireless Commun.*, vol. 14, no. 10, pp. 5287-5299, Oct. 2015.
18. **X. Zhou**, "Training-Based SWIPT: Optimal Power Splitting at the Receiver", *IEEE Trans. Veh. Tech.*, vol. 64, no. 9, pp. 4377-4382, Sep. 2015.
19. Y. Cong, **X. Zhou**, and R. A. Kennedy, "Interference Prediction in Mobile Ad Hoc Networks with a General Mobility Model", *IEEE Trans. Wireless Commun.*, vol. 14, no. 8, pp. 4277-4290, Aug. 2015.
20. J. Guo, S. Durrani, **X. Zhou**, and H. Yanikomeroglu, "Outage Probability of Ad Hoc Networks with Wireless Information and Power Transfer", *IEEE Wireless Commun. Lett.*, vol. 4, no. 4, pp. 409-412, Aug. 2015.
21. K. Huang and **X. Zhou**, "Cutting Last Wires for Mobile Communication by Microwave Power Transfer", *IEEE Commun. Mag.*, vol. 53, no. 6, pp. 86 – 93, Jun. 2015.
22. Y. Huang, S. Durrani, and **X. Zhou**, "Interference Suppression using Generalized Inverse Precoder for Downlink Heterogeneous Networks", *IEEE Wireless Commun. Lett.*, vol. 4, no. 3, pp. 325-328, Jun. 2015.
23. A. A. Nasir, **X. Zhou**, S. Durrani, and R. A. Kennedy, "Wireless-Powered Relays in Cooperative Communications: Time-Switching Relaying Protocols and Throughput Analysis", *IEEE Trans. Commun.*, vol. 63, no. 5, pp. 1607-1622, May 2015.
24. X. Zhang, M. R. McKay, **X. Zhou**, and R. W. Heath Jr., "Artificial-Noise-Aided Secure Multi-Antenna Transmission with Limited Feedback", *IEEE Trans. Wireless Commun.*, vol. 14, no. 5, pp. 2742-2754, May 2015.
25. J. Guo, S. Durrani, and **X. Zhou**, "Performance Analysis of Arbitrarily-Shaped Underlay Cognitive Networks: Effect of Secondary User Activity Protocols", *IEEE Trans. Commun.*, vol. 63, no. 2, pp. 376-389, Feb. 2015.
26. J. Yang, S. Xie, **X. Zhou**, R. Yu, and Y. Zhang, "A Semiblind Two-Way Training Method for Discriminatory Channel Estimation in MIMO Systems", *IEEE Trans. Commun.*, vol. 62, no. 7, pp. 2400-2410, Jul. 2014.
27. W. Saad, **X. Zhou**, Z. Han, and H. V. Poor, "On the Physical Layer Security of Backscatter Wireless Systems", *IEEE Trans. Wireless Commun.*, vol. 13, no. 6, pp. 3442-3451, Jun. 2014.
28. H. Wang, **X. Zhou**, and M. C. Reed, "Coverage and Throughput Analysis with a Non-Uniform Small Cell Deployment", *IEEE Trans. Wireless Commun.*, vol. 13, no. 4, pp. 2047-2059, Apr. 2014.
29. C. Cai, Y. Cai, **X. Zhou**, W. Yang, and W. Yang, "When Does Relay Transmission Give a More Secure Connection in Wireless Ad Hoc Networks?", *IEEE Trans. Inf. Foren. Sec.*, vol. 9, no. 4, pp. 624-632, Apr. 2014.
30. J. Guo, S. Durrani, and **X. Zhou**, "Outage Probability in Arbitrarily-Shaped Finite Wireless Networks", *IEEE Trans. Commun.*, vol. 62, no. 2, pp. 699-712, Feb. 2014.
31. B. He and **X. Zhou**, "Secure On-Off Transmission Design with Channel Estimation Errors", *IEEE Trans. Inf. Foren. Sec.*, vol. 8, no. 12, pp. 1923-1936, Dec. 2013.
32. X. Zhang, **X. Zhou**, and M. R. McKay, "Enhancing Secrecy with Multi-Antenna Transmission in Wireless Ad Hoc Networks", *IEEE Trans. Inf. Foren. Sec.*, vol. 8, no. 11, pp. 1802-1814, Nov. 2013.

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33. B. He, **X. Zhou**, and T. D. Abhayapala "Wireless Physical Layer Security with Imperfect Channel State Information: A Survey", *ZTE Commun.*, vol. 11, no. 3, pp. 11-19, Sept. 2013. (invited paper)
34. M.-H. Chen, S.-C. Lin, Y.-W. P. Hong, and **X. Zhou**, "On Cooperative and Malicious Behaviors in Multi-Relay Fading Channels", *IEEE Trans. Inf. Foren. Sec.*, vol. 8, no. 7, pp. 1126-1139, Jul. 2013.
35. A. A. Nasir, **X. Zhou**, S. Durrani, R. A. Kennedy, "Relaying Protocols for Wireless Energy Harvesting and Information Processing", *IEEE Trans. Wireless Commun.*, vol. 12, no. 7, pp. 3622-3636, Jul. 2013. (*2016 IEEE ComSoc Asia-Pacific outstanding paper award*)
36. H. Pezeshki, **X. Zhou**, B. Maham, "Jamming Energy Allocation in Training-Based Multiple Access Systems", *IEEE Commun. Lett.*, vol. 17, no. 6, pp. 1140-1143, Jun. 2013.
37. H. Wang, **X. Zhou**, and M. C. Reed, "Physical Layer Security in Cellular Networks: A Stochastic Geometry Approach", *IEEE Trans. Wireless Commun.*, vol. 12, no. 6, pp. 2776-2787, Jun. 2013.
38. X. Zhang, **X. Zhou**, and M. R. McKay, "On the Design of Artificial-Noise-Aided Secure Multi-Antenna Transmission in Slow Fading Channels", *IEEE Trans. Veh. Tech.*, vol. 62, no. 5, pp. 2170-2181, Jun. 2013.
39. C.-W. Huang, T.-H. Chang, **X. Zhou**, and Y.-W. P. Hong, "Two-Way Training for Discriminatory Channel Estimation in Wireless MIMO Systems", *IEEE Trans. Signal Processing*, vol. 61, no. 10, pp. 2724-2738, May 2013.
40. W. Saad, **X. Zhou**, B. Maham, T. Başar, and H. V. Poor, "Tree Formation with Physical Layer Security Considerations in Wireless Multi-Hop Networks", *IEEE Trans. Wireless Commun.*, vol. 11, no. 11, pp. 3980-3991, Nov. 2012.
41. **X. Zhou**, B. Maham, and A. Hjørungnes, "Pilot Contamination for Active Eavesdropping", *IEEE Trans. Wireless Commun.*, vol. 11, no. 3, pp. 903-907, Mar. 2012.
42. B. Maham, P. Popovski, **X. Zhou**, and A. Hjørungnes, "Cognitive Multiple Access Network with Outage Margin in the Primary System", *IEEE Trans. Wireless Commun.*, vol. 10, no. 10, pp. 3343-3353, Oct. 2011.
43. **X. Zhou**, R. K. Ganti, J. G. Andrews, and A. Hjørungnes, "On the Throughput Cost of Physical Layer Security in Decentralized Wireless Networks", *IEEE Trans. Wireless Commun.*, vol. 10, no. 8, pp. 2764-2775, Aug. 2011.
44. **X. Zhou**, D. Niyato, and A. Hjørungnes, "Optimizing Training-Based Transmission Against Smart Jamming", *IEEE Trans. Veh. Technol.*, vol. 60, no. 6, pp. 2644-2655, Jul. 2011.
45. T. A. Lamaweha, P. Sadeghi, and **X. Zhou**, "On Lower Bounding the Information Capacity of Amplify and Forward Wireless Relay Channels with Channel Estimation Errors", *IEEE Trans. Wireless Commun.*, vol. 10, no. 7, pp. 2075-2079, Jul. 2011.
46. **X. Zhou**, M. R. McKay, B. Maham, and A. Hjørungnes, "Rethinking the Secrecy Outage Formulation: A Secure Transmission Design Perspective", *IEEE Commun. Lett.*, vol. 15, no. 3, pp. 302-304, Mar. 2011. (*Finalist of 2013 IEEE ComSoc Heinrich Hertz Award for Best Communications Letter*)
47. **X. Zhou**, R. K. Ganti, and J. G. Andrews, "Secure Wireless Network Connectivity with Multi-Antenna Transmission", *IEEE Trans. Wireless Commun.*, vol. 10, no. 2, pp. 425-430, Feb. 2011. (*Top Accessed Articles in Feb. & Mar. 2011*)
48. **X. Zhou** and M. R. McKay, "Secure Transmission with Artificial Noise over Fading Channels: Achievable Rate and Optimal Power Allocation", *IEEE Trans. Veh. Technol.*, vol. 59, no. 8, pp. 3831-3842, Oct. 2010.
49. **X. Zhou**, T. Lamahewa, P. Sadeghi, and S. Durrani, "Two-way Training: Optimal Power Allocation for

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Pilot and Data Transmission", *IEEE Trans. Wireless Commun.*, vol. 9, no. 2, pp. 564-569, Feb. 2010.

50. **X. Zhou**, S. Durrani, and H. Jones, "Connectivity Analysis of Wireless Ad Hoc Networks with Beamforming", *IEEE Trans. Veh. Technol.*, vol. 58, no. 9, pp. 5247-5257, Nov. 2009.
51. **X. Zhou**, P. Sadeghi, T. Lamahewa, and S. Durrani, "Design Guidelines for Training-based MIMO Systems with Feedback", *IEEE Trans. Signal Processing*, vol. 57, no. 10, pp. 4014-4026, Oct. 2009.
52. **X. Zhou**, P. Sadeghi, T. Lamahewa, and S. Durrani, "Optimizing Antenna Configuration for MIMO Systems with Imperfect Channel Estimation", *IEEE Trans. Wireless. Commun.*, vol. 8, no. 3, pp. 1177-1181, Mar. 2009.

Conference Papers:

1. S. Yan, **X. Zhou**, N. Yang, B. He, and T. D. Abhayapala, "Correlation-Based Power Allocation for Secure Transmission with Artificial Noise", *Proc. IEEE Globecom*, Washington, DC, Dec. 2016.
2. Y. Cong and **X. Zhou**, "Offline Delay-Optimal Transmission for Energy Harvesting Nodes", *Proc. IEEE Globecom*, Washington, DC, Dec. 2016.
3. Y. Cong, **X. Zhou**, and R. A. Kennedy, "Rate-Achieving Policy in Finite-Horizon Capacity Region for Multi-User Interference Channels", *Proc. IEEE Globecom*, Washington, DC, Dec. 2016.
4. Z. Abu-Shaban, H. Wymeersch, **X. Zhou**, G. Seco-Granados, and T. D. Abhayapala, "Random-Phase Beamforming for Initial Access in Millimeter-Wave Cellular Networks", *Proc. IEEE Globecom*, Washington, DC, Dec. 2016.
5. H. Zebardast, **X. Zhou**, and B. Maham, "MIMO Y Channel with Imperfect CSI" Impact of Training and Feedback Overhead", *Proc. IEEE COMNETSAT*, Surabaya, Indonesia, Dec. 2016.
6. Y. Huang, L. Bell, S. Durrani, **X. Zhou**, and N. Yang, "Effects of Load Dependent Dynamic Biasing and Association Order for Cell Range Expansion", *Proc. ICSPCS*, Gold Coast, Australia, Dec. 2016.
7. J. Hu, Y. Cai, N. Yang, **X. Zhou**, and W. Yang, "Secure Beamforming Transmission with Limited Training and Feedback", *Proc. IEEE ICC*, Chengdu, China, Jul. 2016.
8. Y. Cai, X. Xu, B. He, W. Yang, and **X. Zhou**, "Protecting Cognitive Radio Networks Against Poisson Distributed Eavesdroppers", *Proc. IEEE ICC*, Kuala Lumpur, Malaysia, May 2016.
9. W. Liu, **X. Zhou**, S. Durrani, and P. Popovski, "SWIPT with Practical Modulation and RF Energy Harvesting Sensitivity", *Proc. IEEE ICC*, Kuala Lumpur, Malaysia, May 2016.
10. M. M. Azari, S. Pollin, F. Rosas, B. Maham, and **X. Zhou**, "A Fair Opportunistic Relaying Algorithm Using an Adaptive Selection Region in Cooperative Networks", *Proc. European Wireless Conference*, Oulu, Finland, May 2016.
11. Y. Huang, A. A. Nasir, S. Durrani, and **X. Zhou**, "Graphical Generalization of Power Control in Multiuser Interference Channels", *Proc. AusCTW*, Melbourne, Australia, Jan. 2016.
12. W. Liu, **X. Zhou**, S. Durrani, H. Mehrpouyan, and S. D. Blostein, "Performance of Wireless-Powered Sensor Transmission Considering Energy Cost of Sensing", *Proc. IEEE Globecom*, San Diego, CA, Dec. 2015.
13. Y. Huang, S. Durrani, and **X. Zhou**, "Interference Nulling for Offloaded Heterogeneous Users Using Macro Generalized Inverse Precoder", *Proc. International Symposium on Communications and Information Technologies (ISCIT)*, Nara, Japan, Oct. 2015.
14. W. Liu, **X. Zhou**, and S. Durrani, "Wireless-Powered Friendly Jammer for Physical Layer Security", *Proc. WCSP*, Nanjing, China, Oct. 2015. (*invited paper*)
15. A. A. Nasir, **X. Zhou**, S. Durrani, and R. A. Kennedy, "Block-Wise Time-Switching Energy Harvesting Protocol for Wireless-Powered AF Relays", *Proc. IEEE ICC*, London, UK, Jun. 2015.

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16. A. A. Nasir, D. T. Ngo, **X. Zhou**, R. A. Kennedy, and S. Durrani, "Sum Throughput Maximization for Heterogeneous Multicell Networks with RF-Powered Relays", *Proc. IEEE ICC*, London, UK, Jun. 2015.
17. M. Darabi, B. Maham, W. Saad, and **X. Zhou**, "Buffer-Aided Relay Selection and Secondary Power Minimization for Two-Way Cognitive Radio Networks", *Proc. IEEE ICC*, London, UK, Jun. 2015.
18. B. He, N. Yang, **X. Zhou**, and J. Yuan, "Confidential Broadcasting via Coordinated Beamforming in Two-Cell Networks", *Proc. IEEE ICC*, London, UK, Jun. 2015.
19. C. Wang, S. Durrani, J. Guo, and **X. Zhou**, "Call Completion Probability in Heterogeneous Networks with Energy Harvesting Base Stations", *Proc. International Conference on Telecommunications (ICT)*, Sydney, Australia, Apr. 2015.
20. J. Guo, S. Durrani, and **X. Zhou**, "Characterization of Aggregate Interference in Arbitrarily-shaped Underlay Cognitive Networks", *Proc. IEEE Globecom*, Austin, TX, Dec. 2014. (*best paper award finalist*)
21. B. He and **X. Zhou**, "New Physical Layer Security Measures for Wireless Transmissions over Fading Channels", *Proc. IEEE Globecom*, Austin, TX, Dec. 2014.
22. B. He and **X. Zhou**, "On the Placement of RF Energy Harvesting Node in Wireless Networks with Secrecy Considerations", *Proc. IEEE Globecom Workshop on Trusted Communications with Physical Layer Security*, Austin, TX, Dec. 2014.
23. H. Chen, **X. Zhou**, Y. Li, P. Wang, and B. Vucetic, "Wireless-Powered Cooperative Communications via a Hybrid Relay", *Proc. IEEE ITW*, Hobart, Australia, Nov. 2014.
24. H. Wang, M. C. Reed, **X. Zhou**, and W. Bai, "Performance Analysis of Asynchronous ABSF Configuration in Large-Scale Femtocell Networks", *Proc. Int. Symp. Wireless Personal Multimedia Commun. (PWMC)*, Sydney, Australia, Sep. 2014. (*invited paper*)
25. J. Yang, R. Yu, **X. Zhou**, and Y. Zhang, "An Improved Two-Way Training for Discriminatory Channel Estimation via Semiblind Approach", *Proc. IEEE ICC*, Sydney, Australia, Jun. 2014.
26. A. A. Nasir, **X. Zhou**, S. Durrani, and R. A. Kennedy, "Throughput and Ergodic Capacity of Wireless Energy Harvesting Based DF Relaying Network", *Proc. IEEE ICC*, Sydney, Australia, Jun. 2014.
27. X. Zhang, **X. Zhou**, M. R. McKay, and R. W. Heath Jr., "Artificial-Noise-Aided Secure Multi-Antenna Transmission in Slow Fading Channels with Limited Feedback", *Proc. IEEE ICASSP*, Florence, Italy, May 2014. (*best student paper award finalist*)
28. M. Darabi, B. Maham, **X. Zhou**, and W. Saad, "Buffer-Aided Relay Selection with Interference Cancellation and Secondary Power Minimization for Cognitive Radio Networks", *Proc. IEEE DySPAN*, Mclean, VA, Apr. 2014.
29. **X. Zhou**, M. Qiu, S.-C. Lin, and Y.-W. P. Hong, "On the Jamming Power Allocation and Signal Design in DF Relay Networks", *Proc. IEEE Asilomar Conf. on Signals, Syst., and Computers (ACSSC)*, Pacific Grove, CA, Nov. 2013.
30. X. Zhang, **X. Zhou**, and M. R. McKay, "Enhancing Secrecy with Sectorized Transmission in Decentralized Wireless Networks", *Proc. IEEE Int. Workshop on Signal Processing Advances in Wireless Commun. (SPAWC)*, Darmstadt, Germany, Jun. 2013.
31. H. Wang, **X. Zhou**, and M. C. Reed, "Analytical Evaluation of Coverage-Oriented Femtocell Network Deployment", *Proc. IEEE Int. Conf. Commun. (ICC)*, Budapest, Hungary, Jun. 2013.
32. H. Wang, **X. Zhou**, and M. C. Reed, "On the Physical Layer Security in Large Scale Cellular Networks", *Proc. IEEE Wireless Commun. And Net. Conf. (WCNC)*, Shanghai, China, Apr. 2013.
33. B. He and **X. Zhou**, "Impact of Channel Estimation Error on Secure Transmission Design", *Proc.*

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Australian Commun. Theory Workshop (AusCTW), Adelaide, Australia, Jan. 2013.

34. M. Mohammadi, H. A. Suraweera, and **X. Zhou**, "Outage Probability of Wireless Ad Hoc Networks with Cooperative Relaying", *Proc. IEEE Global Commun. Conf. (Globecom)*, Anaheim, CA, Dec. 2012.
35. B. Maham, P. Popovski, and **X. Zhou**, "Opportunistic Interference Cancellation and User Selection in Cognitive Multiple Access Network", *Proc. IEEE Workshop on Signal Processing Advances for Wireless Commun. (SPAWC)*, Izmir, Turkey, Jun. 2012.
36. **X. Zhou**, M. Tao, and R. A. Kennedy, "Cooperative Jamming for Secrecy in Decentralized Wireless Networks", *Proc. IEEE Int. Conf. Commun. (ICC)*, Ottawa, Canada, Jun. 2012.
37. **X. Zhou**, T. Lamahewa, P. Sadeghi, and A. Hjørungnes, "Relaying Energy Allocation in Training-Based Amplify and Forward Relay Communications", *Proc. Australian Commun. Theory Workshop (AusCTW)*, Wellington, New Zealand, Jan. 2012.
38. X. Zhang, **X. Zhou**, and M. R. McKay, "Benefits of Multiple Transmit Antennas in Secure Communication: A Secrecy Outage Viewpoint", *Proc. IEEE Asilomar Conf. on Signals, Syst., and Computers (ACSSC)*, Pacific Grove, CA, Nov. 2011. (*invited paper*)
39. C.-W. Huang, T.-H. Chang, **X. Zhou**, and Y.-W. P. Hong, "Two-Way Discriminatory Channel Estimation for Non-Reciprocal Wireless MIMO Channels", *Proc. IEEE Asilomar Conf. on Signals, Syst., and Computers (ACSSC)*, Pacific Grove, CA, Nov. 2011. (*invited paper*)
40. **X. Zhou**, R. K. Ganti, J. G. Andrews, and A. Hjørungnes, "Secrecy Transmission Capacity of Decentralized Wireless Networks", *Proc. Allerton Conf. Commun. Control and Computing*, Urbana, IL, Sept. 2011.
41. **X. Zhou**, D. Niyato, and A. Hjørungnes, "How Much Training is Needed Against Smart Jamming?", *Proc. IEEE Int. Conf. Commun. (ICC)*, Kyoto, Japan, Jun. 2011. (**won a Best Paper Award among 1092 accepted papers**)
42. C.-W. Huang, **X. Zhou**, T.-H. Chang, and Y.-W. P. Hong, "Two-Way Training Design for Discriminatory Channel Estimation in Wireless MIMO Systems", *Proc. IEEE Int. Conf. Commun. (ICC)*, Kyoto, Japan, Jun. 2011.
43. D. Niyato, **X. Zhou**, A. Hjørungnes, P. Wang, and Y. Li "Hierarchical Coalition Formation Game of Relay Transmission in IEEE 802.16m", *Proc. Int. Conf. Game Theory for Networks (GameNets)*, Shanghai, China, Apr. 2011. (*invited paper*)
44. **X. Zhou**, P. Sadeghi, T. Lamahewa, and A. Hjørungnes, "Optimal Flashy Transmission in Training-Based MISO TDD Systems", *Proc. Australian Commun. Theory Workshop (AusCTW)*, Melbourne, Australia, Jan. 2011.
45. S. Durrani, **X. Zhou** and A. Chandra, "Effect of Vehicle Mobility on Connectivity of Vehicular Ad hoc Networks", *Proc. IEEE Veh. Tech. Conf. (VTC-Fall)*, Ottawa, Canada, Sept. 2010, pp. 1-5.
46. **X. Zhou**, P. Sadeghi and T. Lamahewa, "Optimizing Training-based MIMO Systems: How Much Time is Needed for Actual Transmission?", *Proc. IEEE Veh. Tech. Conf. (VTC-Spring)*, Taipei, Taiwan, May 2010, pp. 1-5.
47. **X. Zhou**, T. Lamahewa, P. Sadeghi and S. Durrani, "Optimizing Training-based Transmission for Correlated MIMO Systems with Hybrid Feedback", *Proc. IEEE Global Commun. Conf. (Globecom)*, Honolulu, HI, Nov. 2009, pp. 1-6.
48. **X. Zhou**, T. Lamahewa and P. Sadeghi, "Kalman Filter-based Channel Estimation for Amplify and Forward Relay Communications", *Proc. IEEE Asilomar Conf. on Signals, Syst., and Computers (ACSSC)*, Pacific Grove, CA, Nov. 2009, pp. 1498-1502.

XIANGYUN ZHOU

49. **X. Zhou**, M. R. McKay, "Physical Layer Security with Artificial Noise: Secrecy Capacity and Optimal Power Allocation", *Proc. Int. Conf. on Signal Processing and Commun. Syst. (ICSPCS)*, Omaha, NE, Sept. 2009, pp. 1-5.
50. **X. Zhou**, S. Durrani and H. M. Jones, "Connectivity of Ad hoc Networks: Is Fading Good or Bad?", *Proc. Int. Conf. on Signal Processing and Commun. Syst. (ICSPCS)*, Gold Coast, Australia. Dec. 2008, pp.1-5.
51. **X. Zhou**, T. Lamahewa, P. Sadeghi and S. Durrani, "Capacity of MIMO Systems: Impact of Spatial Correlation with Channel Estimation Errors", *Proc. IEEE Int. Conf. on Commun. Syst. (ICCS)*, Guangzhou, China, Nov. 2008, pp. 817-822.
52. **X. Zhou**, T. Lamahewa, P. Sadeghi and S. Durrani, "Designing PSAM Schemes: How Optimal are SISO Pilot Parameters for Spatially Correlated SIMO?", *Proc. IEEE Int. Symp. on Personal, Indoor and Mobile Radio Commun. (PIMRC)*, Cannes, France, Sept. 2008, pp. 1-6.
53. S. Durrani, **X. Zhou** and H. Jones, "Connectivity of Wireless Ad Hoc Networks with Random Beamforming: An Analytical Approach", *Proc. IEEE Int. Symp. on Personal, Indoor and Mobile Radio Commun. (PIMRC)*, Cannes, France, Sept. 2008, pp. 1-5.
54. **X. Zhou**, S. Durrani and H. Jones, "Analytical Study of Connectivity in Wireless Ad Hoc Networks with Random Beamforming", *Proc. Int. Conf. on Signal Processing and Commun. Syst. (ICSPCS)*, Gold Coast, Australia. Dec. 2007, pp. 321-325.
55. **X. Zhou**, Z. Shi and M. C. Reed, "Iterative Channel Estimation for IDMA systems in Time-varying Channels", *Proc. IEEE Global Commun. Conf. (Globecom)*, Washington, DC, Nov. 2007, pp. 4020-4024.
56. **X. Zhou**, H. Jones, S. Durrani and A. Scott, "Effect of Beamforming on the Connectivity of Ad Hoc Networks", *Proc. Australian Commun. Theory Workshop (AusCTW)*, Adelaide, Australia Feb. 2007, pp. 13-18.