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| **Subject** | Information and Communication Engineering | **Research Interest** | Resource allocation and security designs of future cellular networks, wireless channel modeling, statistical signal processing |
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| **Educational Background** | 2010.09-2013.08 Department of Electrical and Computer Engineering, University of Victoria, Canada,  Ph.D. in Electrical Engineering  2008.09-2010.06 Department of Electrical and Computer Engineering, The University of British Columbia, Canada,  M.A.Sc. in Electrical Engineering  2000.09-2004.06 School of Electronic Information Engineering, Tianjin University, Tianjin, China,  B.E. in Communication Engineering | | | |
| **Working Experiences** | 2015.11-present Associate Professor, School of Information Engineering, Zhengzhou University, China  2016.08-present Adjunct Assistant Professor, Department of Electrical and Computer Engineering, McMaster University, Canada  2014.11-2015.11 Lecturer, School of Information Engineering, Zhengzhou University, China  2013.09-2015.06 Post-doctoral research fellow, Department of Electrical and Computer Engineering, the University of British Columbia, Canada  2013.05-2013.03 Mitacs research intern, the IBM-UVic joint research project on parallel architecture for scientific computing, Canada  2004.08-2008.07 Mobile communication system engineer, China Information Technology Design and Consulting Institute, China | | | |
| **Research Projects** | 2018-2021 Principle Investigator, On Secure Massive MIMO Transmission Technologies for 5G Under Practical Non-ideal System Constraints, National Science Foundation of China, (Grant No. 61771431), 660,000 CNY  2015-2017 Principle Investigator, Cross-layer design of secret key agreement for cooperative wireless communication, National Science Foundation of China, (Grant No. 61401401), 240,000 CNY  2017-2019 Principle Investigator, Spectral and energy efficient secure transmission of massive MIMO for 5G cellular technology, Zhengzhou University Excellent Young Faculty Fund, Zhengzhou University, China, 300,000 CNY  2015-2017 Principle Investigator, Secret key agreement and secrecy enhancement for 5G D2D communications, Open Research Fund of the State Key Laboratory for Mobile Communications, Southeast University, China (Grant No. 2015D04), 100,000 CNY | | | |
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| **Selected Publications** | **J16.** J. Zhu, W. Xu, and **N. Wang**, “Secure massive MIMO systems with limited RF chains,” *IEEE Trans. Veh. Technol.*, vol. 66, no. 6, pp. 5455-5460, Jun. 2017.  **J15.** J. Zhu, D. W.-K. Ng, **N. Wang**, R. Schober, and V. K. Bhargava, “Analysis and design of secure massive MIMO systems in the presence of hardware impairments,” *IEEE Wireless Commun.*, vol. 16, no. 3, pp. 2001-2016, Mar. 2017.  **J14.** H. Guo, C. He, **N. Wang**, and M. Bolic, “PSR: A novel high efficiency and easy-to-implement parallel algorithm for anticollision in RFID systems,” *IEEE Trans. Ind. Inform.*, vol. 12, no. 3, pp.1135-1145, Jun. 2016.  **J13. N. Wang**, E. Hossain, and V. K. Bhargava, “Joint downlink cell association and bandwidth allocation for wireless backhauling in two-tier HetNets with large-scale antenna arrays,” *IEEE Trans. Wireless Commun.*, vol. 15, no. 5, pp. 3251–3268, May 2016.  **J12. N. Wang**, E. Hossain, and V. K. Bhargava, “Backhauling 5G small cells: A radio resource management perspective,” *IEEE Wireless Commun.*, vol. 22, no. 5, pp. 41–49, Oct. 2015.  **J11. N. Wang**, C. He, T. A. Gulliver, and V. K. Bhargava, “Generalized queue-aware resource management and scheduling for wireless communications,” *IEEE Access*, vol. 3, pp. 1298–1312, Aug. 2015.  **J10. N. Wang** and T. A. Gulliver, “Distributed queue-aware relay node selection for cooperative wireless networks via Vickrey auction game,” *IEEE Wireless Commun. Lett.*, vol. 4, no. 3, pp. 257–260, Jun. 2015.  **J9. N. Wang** and T. A. Gulliver, “Queue-aware transmission scheduling for cooperative wireless communications,” *IEEE Trans. Commun.*, vol. 63, no. 4, pp. 1149–1161, Apr. 2015.  **J8. N. Wang**, X. Song, J. Cheng, and V. C. M. Leung, “Enhancing security of free-space optical communications with secret sharing and key agreement,” *IEEE/OSA J. Opt. Commun. Netw.*, vol. 6, no. 12, pp. 1072–1081, Dec. 2014.  **J7. N. Wang**, N. Zhang, and T. A. Gulliver, “Cooperative secret key agreement for wireless networking: Key rates and practical protocol design,” *IEEE Trans. Inf. Forensics Security*, vol. 9, no. 2, pp. 272–284, Feb. 2014.  **J6. N. Wang**, X. Song, and J. Cheng, “Generalized method of moments estimation of the Nakagami-*m* fading parameter,” *IEEE Trans. Wireless Commun.*, vol. 11, no. 9, pp. 3316-3325, Sep. 2012.  **J5. N. Wang** and T. A. Gulliver, “Cross layer AMC scheduling for a wireless cooperative communication system over Nakagami-*m* fading channels,” *IEEE Trans. Wireless Commun.*, vol. 11, no. 6, pp. 2330-2341, Jun. 2012.  **J4. N. Wang**, J. Cheng, and C. Tellambura, “On statistics of logarithmic ratio of arithmetic mean to geometric mean for Nakagami-*m* fading power", *IEICE Trans. Commun.*, vol. E95-B, no.2, pp.647-650, Feb. 2012.  **J3. N. Wang** and J. Cheng, “Moment-based estimation for the shape parameters of the Gamma-Gamma atmospheric turbulence model,” *Opt. Express*, vol. 18, issue 12, pp. 12824-12831, Jun. 2010.  **J2.** Y. Zhang, **N. Wang** and W. Gao, “Comparison of data service rate of CDMA 2000 1x RTT and EDGE systems,” *Design Techniques of Posts and Telecomm.*, 2009(04), pp. 56-63.  **J1. N. Wang** and L. Si, “A brief analysis on inter-system handover schemes between WCDMA and GSM networks,” *Mobile Commun.*, 2008(08), pp. 48-53. | | | |