Title: Towards Wireless Health

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Abstract

Wireless body area networks (WBANs) provide an opportunity to address issues in rapidly increasing wireless health applications. However, improving the performance of WBANs is challenging in a mobile social environment due to mobility, inter-channel interference, and security concerns. In this talk, I will introduce (a) security approaches to support reliable and secured data transmissions over WBANs; (b) new algorithms and theoretical models used to mitigate inter-WBANs communication interference in the mobile sensing environment; (c) potential applications of WBANs such as infant monitoring and epidemic predictions. I will also briefly introduce my four research projects funded by National Science Foundations (NSF) and my future research plan.

Short Bio

Dr. Honggang Wang received his Ph.D. in Computer Engineering at University of Nebraska-Lincoln in 2009. He is assistant professor at UMass Dartmouth and is an affiliated faculty member of Advanced Telecommunications Engineering Laboratory at University of Nebraska-Lincoln, and the faculty member of Biomedical Engineering and Biotechnology Ph.D. program (BMEBT) at UMass Dartmouth. His research interests include Wireless Health, Body Area Networks (BAN) and Biomedical Sensors, Cyber Security, Mobile Multimedia, Wireless Networks, Cyber-physical System, and BIG DATA in mHealth. He has published more than 100 papers in his research areas, including more than 35 publications in prestigious IEEE journals and papers in prestigious conferences such as INFOCOM and ICDCS. He serves as the Lead Guest Editor of IEEE Journal of Biomedical and Health Informatics (J-BHI) special issue on "Emerging Wireless Body Area Networks (WBANs) for Ubiquitous Healthcare" in 2013, the lead guest editor of IEEE Transactions on Multimedia special issue on "Cloud-based Video Processing and Content Sharing", an Associate Editor of IEEE transactions on Big Data, IEEE IoT (Interne of Things) Journal, an Associate Technical Editor of IEEE Communication Magazine, an Associate Editor of IEEE Access Journal, a Guest Editor of IEEE IoT Journal special issue on "IoT for Smart and Connected Health", a Guest Editor of IEEE Communication Magazine SI on "Emerging Applications, Services and Engineering for Cellular Cognitive Systems". He also serves as TPC Chair or Co-Chair for several conferences such as TPC Chair of 8th ICST/ACM International
Conference on Body Area Networks (BODYNETS 2013) and TPC symposium Co-Chair of IEEE conference on communications 2015 (ICC 2015, Mobile and Wireless Networking symposium), TPC Chair of IEEE HEALTHCOM 2015, TPC co-chair of IEEE ISCC 2015 and TPC track co-chair for the "Cognitive, Cellular and Mobile Networks (CCM)" of IEEE ICCCN 2014-2015. He is the TPC member for IEEE INFOCOM 2013-2015, BSN 2014, and IEEE ICDCS 2015. He serves on NSF panels from 2012 to 2015. His research is supported by NSF (total amount over 1.4M dollars), DoT, UMass President Office, and UMass Healey Grant. His research is reported by media such as USA ABC 6 TV and Standard Times Newspaper.