



# William & Mary

## **PERSONAL INFORMATION**

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Position Title: Associate Professor  
Department: Computer Science  
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## **EDUCATION**

2007 Ph.D. in Computer Science, University of Virginia  
--- Thesis Title: Taming the Sensor Networking Challenges  
--- Thesis Adviser: Professor John A. Stankovic

2004 M.CS. in Computer Science, University of Virginia

2002 M.E. in Computer Science, Nanjing University, China

1999 B.S. in Computer Science, Nanjing University, China

## **ACADEMIC POSITIONS**

2015~2017 Graduate Director, Computer Science Department, William & Mary

2013~present Associate Professor, Computer Science Department, William & Mary

2007~2013 Assistant Professor, Computer Science Department, William & Mary

Summer 2006 Research Intern, Health Platform Lab, Intel Corporation, Hillsboro, OR

## **HONORS, PRIZES AND AWARDS**

### **Honors & Awards**

1. Influencer Award of Graduate Class of 2017, William & Mary, 2018
2. Outstanding Service Award for IEEE PerCom, 2017
3. Plumeri Award for Faculty Excellence, William & Mary, 2015
4. Third Best Mobile App in The ACM MobiCom Second Mobile App Competition, 2014
5. ACM Senior Member, 2014
6. IEEE Senior Member, 2013

7. Third Best Mobile App in The ACM MobiCom First Mobile App Competition, 2013
8. NSF CAREER Award, 2013
9. Best paper award for the 18th IEEE International Conference on Network Protocols (IEEE ICNP 2010), selected from 170 submissions, 2010
10. Outstanding Service Award for IEEE Transactions on Instrumentation and Measurement, 2008

### **Journal Editorship**

1. Associate Editor, ACM Transactions on Sensor Networks, 2018-present
2. Associate Editor, Elsevier Computer Networks, 2013-present
3. Associate Editor, Elsevier Smart Health, 2016-present
4. Associate Editor, IEEE Internet of Things Journal, 2014-2018
5. Associate Editor, Journal of Computer Science and Technology, published by the Chinese Academy of Natural Sciences, 2018-present
6. Guest Editor, IEEE Access, Special Section on Wearable Healthcare Technologies, 2017
7. Guest Editor, IEEE Internet of Things Journal, Special Issue on Internet of Things for Smart and Connected Health, 2014

### **Conference Chairing**

1. Steering Committee Member, IEEE/ACM International Conference on Connected Health: Application, Systems and Engineering Technologies (CHASE), 2018-present
2. General Chair, IEEE/ACM International Conference on Connected Health: Applications, Systems and Engineering Technologies (CHASE), 2019
3. Technical Program Chair, IEEE/ACM International Conference on Connected Health: Applications, Systems and Engineering Technologies (CHASE), 2018
4. Technical Program Chair, the 14<sup>th</sup> EAI International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services (MobiQuitous), 2017
5. Workshop Chair, chairing all workshops at the IEEE/ACM International Conference on Connected Health: Applications, Systems and Engineering Technologies (CHASE), 2017
6. Work In Progress Chair, chairing the Work In Progress Session of the IEEE International Conference on Pervasive Computing and Communications (PerCom), 2017
7. Technical Program Vice Chair, chairing the Mobile, Sensor and Ubiquitous Computing track of the 22<sup>nd</sup> IEEE International Conference on Parallel and Distributed Systems (ICPADS), 2016
8. Workshop Chair, chairing all workshops at the IEEE International Conference on Connected Health: Applications, Systems and Engineering Technologies (CHASE), 2016
9. Technical Program Vice Chair, chairing the Embedded Devices and Medical Applications track of the 10<sup>th</sup> International Conference on Body Area Networks (BodyNets), 2015

10. Technical Program Vice Chair, chairing the Applications and Testbed Evaluation track of the 10<sup>th</sup> IEEE International Conference on Mobile Ad hoc and Sensor Systems (MASS), 2013
11. Technical Program Vice Chair, chairing the Networking track of the 2011 IEEE International Conference on Networking, Architecture, and Storage (NAS), 2011
12. Web Chair, the 9th ACM/IEEE International Conference on Information Processing in Sensor Networks (IPSN), 2010

#### **Proposal Review & Panel Services**

1. NSF proposal review panelist, 2008, 2011, 2012, 2015 (twice), 2016, 2017 (3 times), 2018 (twice), 2019 (invited)
2. NIH proposal review panelist, 2012, 2016
3. GENI proposal review panelist, 2010, 2013
4. CONICYT (Chile) proposal review, 2015
5. ACM SenSys Doctoral Colloquium panelist, 2011
6. IEEE CCW Panelist on Mobile Computing, 2014
7. MIPS (Maryland Industrial Partnerships Program) proposal review, 2015

#### **Awarded US Patents**

1. David Nguyen, Gang Zhou, Xin Qi, "Method of Conserving Power Based on Electronic Device's I/O Pattern," this patent was awarded on May 5th 2015 as US 9026819 B2
2. Andrew Pyles, Gang Zhou, Zhen Ren, "Method/system for conserving resources during conversation over wireless network transport media," this patent was awarded on July 16th 2013 as US 8488505 B2

#### **COURSES TAUGHT AT WILLIAM & MARY**

1. CSCI800 Dissertation, Computer Science, Spring 2009~present
2. CSCI790 Readings in Computer Science, Computer Science, Fall 2018, Spring 2018, Fall 2017 (2 sessions), Fall 2015 (3 sessions), Fall 2012 and Fall 2011 (2 sessions)
3. CSCI780 Recent Advances in Ubiquitous and Mobile Computing, Computer Science, Spring 2019
4. CSCI780 Sensors and Ubiquitous Computing, Computer Science, Spring 2015, Spring 2014 and Fall 2012
5. CSCI780 Wireless Sensor Networks, Computer Science, Fall 2010, Fall 2009 and Spring 2008
6. CSCI770 Colloquium, Computer Science, Spring 2013 and Fall 2012
7. CSCI766 Directed Studies, Computer Science, Fall 2015
8. CSCI710 Research Project, Computer Science, Spring 2018, Spring 2017, Fall 2016, Spring 2016, Fall 2015, Fall 2014 (2 sessions), Fall 2013, Spring 2013, Fall 2012, Fall 2010, Spring 2010, Fall 2009 and Spring 2008
9. Law 705 01 legal research/writing, the William & Mary Law School, Spring 2016
10. CSCI690 Readings in Computer Science, Computer Science, Spring 2017, Fall 2015, Spring 2013, Fall 2012, Spring 2010 and Spring 2008
11. CSCI680 Ubiquitous and Mobile Computing, Computer Science, Fall 2017 and Spring 2016

12. CSCI670 Colloquium, Computer Science, Spring 2015, Fall 2014, Spring 2013 and Fall 2012
13. CSCI666 Directed Studies, Computer Science, Spring 2017 and Spring 2016
14. CSCI634 Advanced Computer Networking, Computer Science, Fall 2016, Fall 2015, Fall 2014 and Fall 2011
15. CSCI597 Problems in Computer Science, Computer Science, Fall 2017
16. CSCI496 Honors, Computer Science, Fall 2017 and Spring 2011
17. CSCI495 Honors, Computer Science, Spring 2017 and Fall 2010
18. CSCI434/534 Network Systems and Design, Computer Science, Fall 2018, Spring 2018, Spring 2017, Spring 2013, Spring 2012, Spring 2011, Spring 2010 and Spring 2009
19. CSCI321 Database Systems, Computer Science, Fall 2008 and Fall 2007
20. CSCI320 Directed Study, Computer Science, Spring 2017

## **AWARDED GRANTS**

### **Awarded External Grants**

1. In 2018, a grant was **awarded by the National Science Foundation (NSF-CISE-CNS-CSR)**.  
Title: A Wearable Sensing Platform for Body Motion Modeling and Interaction  
**I am the sole PI. \$200,000 awarded to me.**
2. In 2016, a grant was **awarded by the National Science Foundation (NSF-CISE-CNS-TWC)**.  
Title: Towards Energy-Efficient Privacy-Preserving Active Authentication of Smartphone Users  
This is in collaboration with Dr. Kiran Balagani and Paolo Gasti from New York Institute of Technology.  
**I am the local PI at the W&M site. \$204,349 awarded to me.**
3. In 2015, a grant was **awarded by the Center for Innovative Technology (CIT)**.  
Title: Reducing Smartphone Application Delay through Read/Write Isolation  
**I am the sole PI. \$99,998 awarded to me.**
4. In 2013, a grant was **awarded by the Air Force Research Lab through DARPA**.  
Title: Investigating Contextual H-MOG (Hand-movement, -orientation, and -grasp) as a New Modality for Continuous Authentication of Smartphone Users  
This is in collaboration with Dr. Kiran Balagani and Paolo Gasti from New York Institute of Technology.  
**I am the local PI at the W&M site. \$195,214 awarded to me.**
5. In 2013, a grant was **awarded by the National Science Foundation (NSF-CISE-CNS-NeTS)**.  
Title: Exploiting Sensing Diversity and Conquering Communication Reality to Meet User Requirements in Performance-Critical Wireless Sensor Networks

**I am the sole PI. \$459,198 awarded to me.**

6. In 2012, a grant was **awarded by the National Science Foundation** (NSF-CISE-CNS-CSR).

Title: Network Traffic Aware Smartphone Energy Savings

**I am the sole PI. \$200,000 awarded to me.**

7. In 2009, a grant was **awarded by the National Science Foundation** (NSF-CISE-CNS-NeTS).

Title: Holistic Transparent Performance Assurance within the Crowded Spectrum

This is in collaboration with Dr. Guoliang Xing from Michigan State University.

**I am the leading PI, and W&M is the leading site. \$200,000 awarded to me.**

8. In 2009, a grant was **awarded by the National Science Foundation** (NSF-ECCS-IHCS).

Title: Multi-Scale QoS for Body Sensor Networks

This is in collaboration with Dr. John Lach and John Stankovic from the University of Virginia.

**I am the local PI at the W&M site. \$175,000 awarded to me.**

#### **Awarded Internal Grants**

1. W&M Faculty International Travel Grants Competition Award, \$500 in 2018, \$500 in 2017, \$400 in 2016, \$400 in 2014, \$400 in 2012, \$400 in 2011, \$500 in 2010 and \$500 in 2018
2. Research Support from W&M Technology Transfer Office for Prototyping Wearable Devices, \$12,000, 2015
3. Faculty Interdisciplinary Initiatives Grant funded by the Andrew W. Mellon Foundation for the Humanities, \$5000 in 2011 and \$5000 in 2010

## **RESEARCH**

### **Refereed Journal Publications**

1. *SignFi: Sign Language Recognition using WiFi*  
Yongsen Ma, **Gang Zhou**, Shuangquan Wang, Hongyang Zhao, Woosub Jung  
[IMWUT'18] Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies, pages 23:1-23:21, 2018  
**This paper is also published at ACM Ubicomp 2018**
2. *MEG: Memory and Energy Efficient Garbled Circuit Evaluation on Smartphones*  
Qing Yang, Ge Peng, Paolo Gasti, Kiran Balagani, Yantao Li, **Gang Zhou**  
[TIFS'18] IEEE Transactions on Information Forensics and Security, pages 1-10, 2018
3. *Using Data Augmentation in Continuous Authentication on Smartphones*  
Yantao Li, Hailong Hu, **Gang Zhou**  
[IoT'18] IEEE Internet of Things Journal, pages 1-13, 2018
4. *Sensor-based Continuous Authentication Using Cost-Effective Kernel Ridge Regression*  
Yantao Li, Hailong Hu, **Gang Zhou**, Shaojiang Deng  
[Access18] IEEE Access, pages 32554-32565, 2018
5. *BreathEZ: Using Smartwatches to Improve Choking First Aid*  
Amanda Watson, **Gang Zhou**  
[SmartHealth'18a] Elsevier Smart Health, pages 1-13, 2018

6. *Ultigesture: A Wristband-based Platform for Continuous Gesture Control in Healthcare*  
Hongyang Zhao, Shuangquan Wang, **Gang Zhou**, Daqing Zhang  
**[SmartHealth'18b] Elsevier Smart Health**, pages 1-22, 2018
7. *USB Side-channel Attack on Tor*  
Qing Yang, Paolo Gasti, Kiran Balagani, Yantao Li, **Gang Zhou**  
**[COMNET'18] Elsevier Computer Networks**, pages 1-10, 2018
8. *Pedestrian Walking Safety System based on Smartphone Built-in Sensors*  
Yantao Li, Fengtao Xue, Xinqi Fan, Zehui Qiu, **Gang Zhou**  
**[RJ18] IET Research Journals**, pages 751-758, 2018
9. *RoFi: Rotation-aware WiFi Channel Feedback*  
Yongsen Ma, **Gang Zhou**, Shan Lin, Haiming Chen  
**[IoT'17] IEEE Internet of Things Journal**, pages 1684-1695, 2017
10. *A Light-Weight Opportunistic Forwarding Protocol with Optimized Preamble length for Low-Duty-Cycle Wireless Sensor Networks*  
Haiming Chen, Li Cui, **Gang Zhou**  
**[JCST17] Springer Journal of Computer Science and Technology**, pages 168-180, 2017
11. *On Inferring Browsing Activity on Smartphones via USB Power Analysis Side-channel*  
Qing Yang, Paolo Gasti, **Gang Zhou**, Aydin Farajidavar, Kiran Balagani  
**[TIFS'17] IEEE Transactions on Information Forensics and Security**, pages 1056-1066, 2017
12. *ATPC: Adaptive Transmission Power Control for Wireless Sensor Networks*  
Shan Lin, Fei Miao, Jingbin Zhang, **Gang Zhou**, Gu Lin, Tian He, John A. Stankovic, Sang Son, George Pappas  
**[TOSN'16] ACM Transactions on Sensor Networks**, pages 6:1-6:31, 2016
13. *Continuous Authentication with Touch Behavioral Biometrics and Voice on Wearable Glasses*  
Ge Peng, **Gang Zhou**, David Nguyen, Xin Qi, Qing Yang, Shuangquan Wang  
**[THMS'16] IEEE Transactions on Human-Machine Systems**, pages 404-416, 2016
14. *Arbitrating Traffic Contention for Power Saving with Multiple PSM Clients*  
Dachuan Liu, Haining Wang, **Gang Zhou**, Weizhen Mao, Boyang Li  
**[TWC'16] IEEE Transactions on Wireless Communications**, pages 7030-7043, 2016
15. *Secure, Fast, and Energy-Efficient Outsourced Authentication for Smartphones*  
Paolo Gasti, Jaroslav Sedenka, Qing Yang, **Gang Zhou**, Kiran Balagani  
**[TIFS'16b] IEEE Transactions on Information Forensics and Security**, pages 2256-2571, 2016
16. *Toward Sensor-Based Random Number Generation for Mobile and IoT Devices*  
Kyle Wallace, Kevin Moran, Ed Novak, **Gang Zhou**, Kun Sun  
**[IoT'16c] IEEE Internet of Things Journal**, pages 1189-1201, 2016
17. *A Context-aware Framework for Reducing Bandwidth Usage of Mobile Video Chats*  
Xin Qi, Qing Yang, David Nguyen, Ge Peng, **Gang Zhou**, Bo Dai, Daqing Zhang, Yantao Li  
**[TMM'16] IEEE Transactions on Multimedia**, pages 1640-1649, 2016
18. *Prototyping Wearables: a Code-First Approach to Designing Embedded Systems*  
Daniel Graham, **Gang Zhou**  
**[IoT'16b] IEEE Internet of Things Journal**, pages 806-815, 2016
19. *A Smartphone Compatible SONAR Ranging Attachment for 2D Mapping*  
Daniel Graham, **Gang Zhou**, Ed Novak, Jeffrey Buffkin  
**[IoT'16a] IEEE Internet of Things Journal**, pages 779-786, 2016

20. *HMOG: New Behavioral Biometric Features for Continuous Authentication of Smartphone Users*  
Zdenka, Sitova, Jaroslav Sedenka, Qing Yang, Ge Peng, **Gang Zhou**, Paolo Gasti, Kiran Balagani  
[TIFS'16a] **IEEE Transactions on Information Forensics and Security**, pages 877-892, 2016
21. *Improving Web Performance in Home Broadband Access Networks*  
Yantao Li, **Gang Zhou**, Bin Nie  
[WPC'16] Springer Wireless Personal Communications, pages 925-940, 2016
22. *Determining Driver Phone Use Leveraging Smartphone Sensors*  
Yantao Li, **Gang Zhou**, Yue Li, Du Shen  
[MTA'16] Springer Multimedia Tools and Applications, pages 16959-16981, 2016
23. *Energy Modeling and Optimization for BSN and WiFi Networks using Joint Data Rate Adaptation*  
Yantao Li, **Gang Zhou**, Ge Peng  
[AHSWN'16] **Ad Hoc & Sensor Wireless Networks**, pages 149-173, 2016
24. *Mining Personal Frequent Routes via Road Corner Detection*  
Tianben Wang, Daqing Zhang, Xingshe Zhou, Xin Qi, Hongbo Ni, Haipeng Wang, **Gang Zhou**  
[TSMC'15] **IEEE Transactions on Systems, Man and Cybernetics: Systems**, pages 445-458, 2015
25. *Towards an EEG-based Brain-Computer Interface for Online Robot Control*  
Yantao Li, **Gang Zhou**, Daniel Graham, Andrew Holtzhauer  
[MTAP'15] **Springer Multimedia Tools and Applications**, pages 7999-8017, 2015
26. *Throughput Assurance for Multiple Body Sensor Networks*  
Zhen Ren, Xin Qi, **Gang Zhou**, Haining Wang, David T. Nguyen  
[TPDS'15] **IEEE Transactions on Parallel and Distributed Systems**, pages 1045-9219, 2015
27. *A Software Based Sonar Ranging Sensor for Smartphones*  
Daniel Graham, George Simmons, David T. Nguyen, **Gang Zhou**  
[IoT'15] **IEEE Internet of Things Journal**, pages 479-489, 2015
28. *Bluesaver: A Multi PHY Approach to Smartphone Energy Savings*  
Andrew Pyles, David T. Nguyen, Xin Qi, **Gang Zhou**  
[TWC'15] **IEEE Transactions on Wireless Communications**, pages 3367-3377, 2015
29. *Towards Stable Network Performance in Wireless Sensor Networks: A Multilevel Perspective*  
Shan Lin, **Gang Zhou**, Motza AI-Hami, Yafeng Wu, Kamin Whitehouse, John Stankovic, Xiaobing Wu, Hengchang Liu  
[TOSN'15] **ACM Transactions on Sensor Networks**, pages 42:1-42:26, 2015
30. *A Review on Radio Based Activity Recognition*  
Shuangquan Wang, **Gang Zhou**  
[DCN'15] **Elsevier Digital Communications and Networks**, pages 20-29, 2015 (Invited Paper)
31. *A Learning-based Approach to Confident Event Detection in Heterogeneous Sensor Networks*  
Matthew Keally, **Gang Zhou**, Guoliang Xing, David T. Nguyen, Xin Qi  
[TOSN'14] **ACM Transactions on Sensor Networks**, pages 10:1-10:28, 2014
32. *Exploiting the Data Sensitivity of Neurometric Fidelity for Optimizing EEG Sensing*  
Zhen Ren, Xin Qi, **Gang Zhou**, Haining Wang  
[IoT'14] **IEEE Internet of Things Journal**, pages 243-254, 2014.
33. *Providing Reliable and Real-time Delivery in the Presence of Body Shadowing in Breadcrumb Systems*  
Hengchang Liu, Pan Hui, Zhiheng Xie, Jingyuan Li, David Siu, **Gang Zhou**, Liusheng Huang, John A. Stankovic  
[TECS'14] **ACM Transactions in Embedded Computing Systems**, pages 94:1--94:24, 2014

34. *Typed VoIP Silence Prediction for Smartphone Energy Savings*  
Conner Kasten, **Gang Zhou**  
**[WPC'14b] Springer Wireless Personal Communications**, pages 1959-1973, 2014
35. *A Measurement-based Prioritization Scheme for Smartphone Applications*  
Yantao Li, **Gang Zhou**, George Ruddy, Bruce Cutler  
**[WPC'14a] Springer Wireless Personal Communications**, pages 333-346, 2014
36. *An Adaptive Backoff Algorithm for Multi-channel CSMA in Wireless Sensor Networks*  
Yantao Li, **Gang Zhou**, Nan Zheng, Liang Hong  
**[NCA'14] Springer Neural Computing and Applications**, pages 1845–1851, 2014
37. *Discrete-time Markov Model for Wireless Link Burstiness Simulations*  
Yantao Li, Daniel Graham, **Gang Zhou**, Xin Qi, Shaojiang Deng, Di Xiao  
**[WPC'13] Springer Wireless Personal Communications**, pages 987–1004, 2013
38. *Improvement and Performance Analysis of a Novel Hash Function based on Chaotic Neural Network*  
Yantao Li, Di Xiao, Shaojiang Deng, **Gang Zhou**  
**[NCA'13] Springer Neural Computing and Applications**, pages 391-402, 2013
39. *Communication Energy Modeling and Optimization through Joint Packet Size Analysis of BSN and WiFi Networks*  
Yantao Li, Xin Qi, Matthew Keally, Zhen Ren, **Gang Zhou**, Di Xiao, Shaojiang Deng  
**[TPDS'13] IEEE Transactions on Parallel and Distributed Systems**, pages 1741 - 1751, 2013
40. *Achieving Real-Time Target Tracking Using Wireless Sensor Networks*  
Tian He, Pascal A. Vicaire, Ting Yan, Liqian Luo, Lin Gu, **Gang Zhou**, Radu Stoleru, Qing Cao, John A. Stankovic, Tarek Abdelzaher  
**[TECS'11b] ACM Transactions in Embedded Computing Systems**, pages 1-37, 2011
41. *Adaptive and Radio-Agnostic QoS for Body Sensor Networks*  
**Gang Zhou**, Qiang Li, Jingyuan Li, Yafeng Wu, Shan Lin, Jian Lu, Chieh-Yih Wan, Mark D. Yarvis, John A. Stankovic  
**[TECS'11a] ACM Transactions in Embedded Computing Systems**, pages 1-34, November 2011
42. *A Self-Adaptive Spectrum Management Middleware for Wireless Sensor Networks*  
Robert Thompson, **Gang Zhou**, Lei Lu, Sudha Krishnamurthy, Hover Dong, Xin Qi, Yantao Li, Matthew Keally, Zhen Ren  
**[WPC'11b] Springer Wireless Personal Communications**, pages 131-151, November 2011
43. *Continuous Location Dependent Queries in Mobile Wireless Sensor Networks*  
Liang Hong, **Gang Zhou**, Bo Liu, Sang Son  
**[WPC'11a] Springer Wireless Personal Communications**, pages 153-173, November 2011
44. *Parallel Hash Function Construction Based on Chaotic Maps with Changeable Parameters*  
Yantao Li, Di Xiao, Shaojiang Deng, Qi Han, **Gang Zhou**  
**[NCA'11] Springer Neural Computing and Applications**, pages 1305-1312, February 2011
45. *AdaSynch: A General Adaptive Clock Synchronization Scheme Based on Kalman Filter for WSNs*  
Qiang Liu, Xue Liu, Jinglun Zhou, **Gang Zhou**, Guang Jin, Quan Sun, Min Xi  
**[WPC'10] Springer Wireless Personal Communications**, pages 217-239, August 2010
46. *A Multifrequency MAC Specially Designed for Wireless Sensor Network Applications*  
**Gang Zhou**, Yafeng Wu, Ting Yan, Tian He, Chengdu Huang, John A. Stankovic, Tarek F. Abdelzaher  
**[TECS'10] ACM Transactions in Embedded Computing Systems**, pages 1-41, March 2010
47. *Achieving Long-Term Surveillance in VigilNet*



Pascal Vicaire, Tian He, Qing Cao, Ting Yan, **Gang Zhou**, Lin Gu, Liqian Luo, Radu Stoleru, John A. Stankovic, Tarek F. Abdelzaher  
[TOSN'09] *ACM Transactions on Sensor Networks*, pages 1-39, February 2009

48. *Models and Solutions for Radio Irregularity in Wireless Sensor Networks*

**Gang Zhou**, Tian He, Sudha Krishnamurthy, John A. Stankovic  
[TOSN'06b] *ACM Transactions on Sensor Networks*, pages 221-262, May 2006

49. *VigilNet: An Integrated Sensor Network System for Energy-Efficient Surveillance*

Tian He, Sudha Krishnamurthy, Liqian Luo, Ting Yan, Radu Stoleru, **Gang Zhou**, Qing Cao, Pascal Vicaire, John A. Stankovic, Tarek F. Abdelzaher, Jonathan Hui, Bruce Krogh  
[TOSN'06a] *ACM Transactions on Sensor Networks*, pages 1-38, February 2006

#### Refereed Conference Publications

50. *CADET: Investigating a Collaborative and Distributed Entropy Transfer Protocol*

Kyle Wallace, **Gang Zhou**, Kun Sun  
[ICDCS'18] Proceedings of The 38<sup>th</sup> IEEE International Conference on Distributed Computing Systems, Austria, pages 797-807, 2018

51. *Eating Detection and Chews Counting through Sensing Mastication Muscle Contraction*

Shuangquan Wang, **Gang Zhou**, Yongsen Ma, Lisha Hu, Zhenyu Chen, Yiqiang Chen, Hongyang Zhao, Woosub Jung  
[CHASE'18b] Proceedings of The 3<sup>rd</sup> IEEE/ACM Conference on Connected Health: Applications, Systems and Engineering Technologies, Washington, D. C., pages 1-10, 2018

52. *MobiGesture: Mobility-Aware Hand Gesture Recognition for Healthcare*

Hongyang Zhao, Yongsen Ma, Shuangquan Wang, Amanda Watson, **Gang Zhou**  
[CHASE'18a] Proceedings of The 3<sup>rd</sup> IEEE/ACM Conference on Connected Health: Applications, Systems and Engineering Technologies, Washington, D. C., pages 1-10, 2018

53. *CNNAuth: Continuous Authentication via Two-stream Convolutional Neural Networks*

Hailong Hu, Yantao Li, Zhangqian Zhu, **Gang Zhou**  
[NAS'18] IEEE the 13<sup>th</sup> International Conference on Networking, Architecture, and Storage, Chongqing, China, pages 1-9, 2018

54. *A Video Optimization Framework for Tracking Teachers in the Classroom*

Lele Ma, Yantao Li, **Gang Zhou**  
[SOFC'18] The 2<sup>nd</sup> ACSIC Symposium on Frontiers in Computing, pages 1-5, Dallas, 2018

55. *Gesture-enabled Remote Control for Healthcare*

Hongyang Zhao, Shuangquan Wang, **Gang Zhou**, Daqing Zhang  
[CHASE'17] Proceedings of The 2<sup>nd</sup> IEEE/ACM Conference on Connected Health: Applications, Systems and Engineering Technologies, pages 392-401, Philadelphia, 2017

56. *EliMO: Eliminating Channel Feedback from MIMO*

Yongsen Ma, **Gang Zhou**, Shan Lin  
[SMARTCOMP'17] (Invited Paper) Proceedings of The 3<sup>rd</sup> IEEE International Conference on Smart Computing, pages 1-8, Hong Kong, 2017

57. *iRAM: Sensing Memory Needs of My Smartphone*

David Nguyen, Hongyang Zhao, **Gang Zhou**, Ge Peng, Guoliang Xing, Xin Qi  
[WiMob'16] Proceedings of The 12<sup>th</sup> IEEE International Conference on Wireless and Mobile Computing, Networking and Communications, pages 1-10, New York, 2016

58. *HIDE: AP-assisted Broadcast Traffic Management to Save Smartphone Energy*

Ge Peng, **Gang Zhou**, David Nguyen, Xin Qi, Shan Lin

- [ICDCS'16] The 36<sup>th</sup> IEEE International Conference on Distributed Computing Systems, pages 509-518, Nara, Japan, 2016
59. *RunBuddy: A Smartphone System for Running Rhythm Monitoring*  
Tian Hao, Guoliang Xing, **Gang Zhou**  
[Ubicomp'15] Proceedings of The 17<sup>th</sup> ACM International Conference on Ubiquitous Computing, pages 133-144, Osaka, Japan, 2015  
**Third Best Mobile App in the ACM MobiCom Second Mobile App Competition**
60. *Reducing Smartphone Application Delay through Read/Write Isolation*  
David T. Nguyen, **Gang Zhou**, Guoliang Xing, Xin Qi, Zijiang Hao, Ge Peng, Qing Yang  
[MobiSys'15] Proceedings of The 13<sup>th</sup> International Conference on Mobile Systems, Applications and Services, pages 287-300, Florence, Italy, 2015
61. *LBVC: Towards Low-bandwidth Video Chat on Smartphones*  
Xin Qi, Qing Yang, David Nguyen, **Gang Zhou**, Ge Peng  
[MMSys'15] Proceedings of The 6<sup>th</sup> ACM Multimedia Systems Conference, pages 1-12, Portland, Oregon, 2015
62. *All or None? The Dilemma of Handling WiFi Broadcast Traffic in Smartphone Suspend Mode*  
Ge Peng, **Gang Zhou**, David Nguyen, Xin Qi  
[INFOCOM'15] Proceedings of The 34<sup>th</sup> Annual IEEE International Conference on Computer Communications, pages 1212-1220, Hong Kong, 2015
63. *A Theoretical Analysis of Path Loss Based Activity Recognition*  
Iberedem Ekure, Shuangquan Wang, **Gang Zhou**  
[MASS'14] Proceedings of The 11<sup>th</sup> IEEE International Conference on Mobile Ad hoc and Sensor Systems, pages 277-281, Philadelphia, Pennsylvania, 2014
64. *Unleashing exposed terminals in enterprise WLANs: A rate adaptation approach*  
Jun Huang, Guoliang Xing, **Gang Zhou**  
[INFOCOM'14] Proceedings of The 33<sup>rd</sup> Annual IEEE International Conference on Computer Communications, pages 2481-2489, Toronto, ON, Canada, 2014
65. *iSleep: Unobtrusive Sleep Quality Monitoring using Smartphones*  
Tian Hao, Guoliang Xing, **Gang Zhou**  
[Sensys'13] Proceedings of the 11<sup>th</sup> ACM Conference on Embedded Networked Sensor Systems, pages 4:1-4:14, Rome, Italy, 2013 (17% Acceptance Rate)  
**Third Best Mobile App in the ACM MobiCom First Mobile App Competition**
66. *Storage-aware Smartphone Energy Savings*  
David T. Nguyen, Gang Zhou, Xin Qi, Ge Peng, Jianing Zhao, Tommy Nguyen, Duy Le  
[Ubicomp'13] Proceedings of The 2013 ACM International Joint Conference on Pervasive and Ubiquitous Computing, pages 677-686, Zurich, Switzerland, 2013  
**United States Patent # US 9026819B2: Method of Conserving Power Based on Electronic Device's I/O Pattern**
67. *Remora: Sensing Resource Sharing Among Smartphone-based Body Sensor Networks*  
Matthew Keally, Gang Zhou, Guoliang Xing, Jianxin Wu  
[IWQoS'13] Proceedings of ACM/IEEE The 21<sup>st</sup> International Symposium on Quality of Service, pages 1-10, 2013
68. *AdaSense: Adapting Sampling Rates for Activity Recognition in Body Sensor Networks*  
Xin Qi, Matthew Keally, **Gang Zhou**, Yantao Li, Zhen Ren  
[RTAS'13] Proceedings of the 19<sup>th</sup> IEEE Real-Time and Embedded Technology and Applications Symposium, pages 163-172, Philadelphia, PA, 2013
69. *RadioSense: Exploiting Wireless Communication Patterns for Body Sensor Network Activity Recognition*

- Xin Qi, Gang Zhou, Yantao Li, Ge Peng  
[RTSS'12] Proceedings of the 33<sup>rd</sup> IEEE Real-Time Systems Symposium, pages 95-104, San Juan, Puerto Rico, December 2012
70. *SAPSM: Smart Adaptive 802.11 PSM for Smartphones*  
Andrew Pyles, Xin Qi, Gang Zhou, Matthew Keally, Xue Liu  
[Ubicomp'12] Proceedings of the 14<sup>th</sup> ACM International Conference on Ubiquitous Computing, accepted, pages 11-20, Pittsburgh, PA, September 2012 (19.3% Acceptance Rate)
71. *Towards Energy Optimization Using Joint Data Rate Adaptation for BSN and WiFi Networks*  
Yantao Li, Ge Peng, Xin Qi, Gang Zhou, Di Xiao, Shaojiang Deng, Hongyu Huang  
[NAS'12] Proceedings of the 7<sup>th</sup> IEEE International Conference on Networking, Architecture, and Storage, pages 1-8, Xiamen, China, June 2012
72. *PBN: Towards Practical Activity Recognition Using Smartphone-Based Body Sensor Networks*  
Matthew Keally, Gang Zhou, Guoliang Xing, Jianxin Wu, Andrew Pyles  
[SenSys'11] Proceedings of the 9<sup>th</sup> ACM Conference on Embedded Networked Sensor Systems, pages 246-259, Seattle, WA, November 2011 (19.5% Acceptance Rate)
73. *SiFi: Exploiting VOIP Silence for WiFi Energy Savings in Smart Phones*  
Andrew Pyles, Zhen Ren, Gang Zhou, Xue Liu  
[Ubicomp'11] Proceedings of the 13<sup>th</sup> ACM International Conference on Ubiquitous Computing, pages 325-334, Beijing, China, September 2011  
**United States Patents #US 8488505 B2: Method/system for conserving resources during conversation over wireless network transport media**
74. *Exploiting Sensing Diversity for Confident Sensing in Wireless Sensor Networks*  
Matthew Keally, Gang Zhou, Guoliang Xing, Jianxin Wu  
[INFOCOM'11b] Proceedings of the 30<sup>th</sup> IEEE International Conference on Computer Communications, pages 1719-1727, Shanghai, China, March 2011 (15.9% Acceptance Rate)
75. *BodyT2: Throughput and Time Delay Performance Assurance for Heterogeneous BSNs*  
Zhen Ren, Gang Zhou, Andrew Pyles, Matthew Keally, Weizhen Mao, Haining Wang  
[INFOCOM'11a] Proceedings of the 30<sup>th</sup> IEEE International Conference on Computer Communications, pages 2750-2758, Shanghai, China, March 2011 (15.9% Acceptance Rate)
76. *Energy Modeling and Optimization through Joint Packet Size Analysis of BSN and WiFi Networks*  
Yantao Li, Xin Qi, Zhen Ren, Gang Zhou, Di Xiao, Shaojiang Deng  
[IPCCC'11] Proceedings of the 30<sup>th</sup> IEEE International Performance Computing and Communications Conference, pages 1-8, Orlando, FL, November 2011
77. *Beyond Co-existence: Exploring WiFi White Space for ZigBee Performance Assurance*  
Jun Huang, Guoliang Xing, **Gang Zhou**  
[ICNP'10] Proceedings of the 18<sup>th</sup> IEEE International Conference on Network Protocols, pages 305-314, Kyoto, Japan, October 2010 (18% Acceptance Rate)  
**Best Paper Award, selected from 170 submissions**
78. *Watchdog: Confident Event Detection in Heterogeneous Sensor Networks*  
Matt Keally, Gang Zhou, Guoliang Xing  
[RTAS'10] Proceedings of the 16<sup>th</sup> IEEE Real-Time and Embedded Technology and Applications Symposium, pages 279-288, Stockholm, Sweden, April 2010
79. *ACR: Active Collision Recovery in Dense Wireless Sensor Networks*  
Yafeng Wu, **Gang Zhou**, John A. Stankovic  
[INFOCOM'10] Proceedings of the 29<sup>th</sup> IEEE International Conference on Computer Communications, pages 911-919, San Diego, CA, March 2010 (17.5% Acceptance Rate)

80. *Multi-channel Interference Measurement and Modeling in Low-Power Wireless Networks*  
Guoliang Xing, Mo Sha, Jun Huang, **Gang Zhou**, Xiaorui Wang, Shucheng Liu  
[RTSS'09b] Proceedings of the 30<sup>th</sup> IEEE Real-Time Systems Symposium, pages 248-257, Washington, D.C., December 2009 (12% Acceptance Rate for the Wireless Sensor Networks track)
81. *Towards Stable Network Performance in Wireless Sensor Networks*  
Shan Lin, **Gang Zhou**, Kamin Whitehouse, Yafeng Wu, John A. Stankovic, Tian He  
[RTSS'09a] Proceedings of the 30<sup>th</sup> IEEE Real-Time Systems Symposium, pages 227-237, Washington, D.C., December 2009 (12% Acceptance Rate for the Wireless Sensor Networks track)
82. *PLL Based Time Synchronization in Wireless Sensor Networks*  
**Gang Zhou**, Sachin Shetty, George Simmons, Min Song  
[RTCSA'09] Proceedings of the 15<sup>th</sup> IEEE International Conference on Embedded and Real-Time Computing Systems and Applications, pages 51-56, Beijing, China, August 2009
83. *Sidewinder: A Predictive Data Forwarding Protocol for Mobile Wireless Sensor Networks*  
Matthew Keally, **Gang Zhou**, Guoliang Xing  
[SECON'09] Proceedings of the 5<sup>th</sup> Annual IEEE Communications Society Conference on Sensor, Mesh and Ad Hoc Communications and Networks, pages 538-546, Rome, Italy, June 2009 (18.8% Acceptance Rate)
84. *SAS: Self-Adaptive Spectrum Management for Wireless Sensor Networks*  
**Gang Zhou**, Lei Lu, Sudha Krishnamurthy, Matthew Keally, Zhen Ren  
[ICCCN'09] Proceedings of the 18<sup>th</sup> International Conference on Computer Communications and Networks, pages 1-6, San Francisco, CA, August 2009
85. *Traffic-Aware Channel Assignment in Wireless Sensor Networks*  
Yafeng Wu, Matthew Keally, **Gang Zhou**, Weizhen Mao  
[WASA'09] Proceedings of the 4<sup>th</sup> International Conference on Wireless Algorithms, Systems, and Applications, pages 479-488, Boston, MA, August 2009
86. *C-MAC: Model-driven Concurrent Medium Access Control for Wireless Sensor Network*  
Mo Sha, Guoliang Xing, **Gang Zhou**, Shucheng Liu, Xiaorui Wang  
[INFOCOM'09] Proceedings of the 28<sup>th</sup> IEEE International Conference on Computer Communications, pages 1845-1853, Rio de Janeiro, Brazil, March 2009 (19.6% Acceptance Rate)
87. *Accurate, Fast Fall Detection Using Gyroscopes and Accelerometer-Derived Posture Information*  
Qiang Li, John A. Stankovic, Mark Hanson, Adam Barth, John Lach, **Gang Zhou**  
[BSN'09] Proceedings of the 6<sup>th</sup> International Workshop on Wearable and Implantable Body Sensor Networks, pages 138-143, Berkeley, CA, June 2009
88. *Performance Analysis of Group Based Detection for Sparse Sensor Networks*  
Jingbin Zhang, **Gang Zhou**, Sang H. Son, John A. Stankovic, Kamin Whitehouse  
[ICDCS'08] Proceedings of the 28<sup>th</sup> IEEE International Conference on Distributed Computing Systems, pages 111-122, Beijing, China, June 2008 (16% Acceptance Rate)
89. *BodyQoS: Adaptive and Radio-Agnostic QoS for Body Sensor Networks*  
**Gang Zhou**, Jian Lu, Chieh-Yih Wan, Mark D. Yarvis, John A. Stankovic  
[INFOCOM'08] Proceedings of the 27<sup>th</sup> IEEE International Conference on Computer Communications, pages 565-573, Phoenix, AZ, April 2008 (21% Acceptance Rate)
90. *DEEJAM: Defeating Energy-Efficient Jamming in IEEE 802.15.4-based Wireless Networks*  
Anthony D. Wood, John A. Stankovic, **Gang Zhou**  
[SECON'07] Proceedings of the 3<sup>rd</sup> Annual IEEE Communications Society Conference on Sensor, Mesh and Ad Hoc Communications and Networks, pages 60-69, San Diego, California, June 2007
91. *TMMAC: An Energy Efficient Multi-Channel MAC Protocol for Ad Hoc Networks*

- Jingbin Zhang, **Gang Zhou**, Chengdu Huang, Ting Yan, Sang H. Son, John A. Stankovic  
**[ICC'07]** Proceedings of the 2007 IEEE International Conference on Communications, pages 3554-3561, Glasgow, Scotland, June 2007
92. *MMSN: Multi-Frequency Media Access Control for Wireless Sensor Networks*  
**Gang Zhou**, Chengdu Huang, Ting Yan, Tian He, John A. Stankovic, Tarek F. Abdelzaher  
**[INFOCOM'06c]** Proceedings of the 25<sup>th</sup> IEEE International Conference on Computer Communications, pages 1-12, Barcelona, Spain, April 2006 (18% Acceptance Rate)
93. *Achieving Real-Time Target Tracking Using Wireless Sensor Networks*  
Tian He, Pascal A. Vicaire, Ting Yan, Liqian Luo, Lin Gu, **Gang Zhou**, Radu Stoleru, Qing Cao, John A. Stankovic, Tarek F. Abdelzaher  
**[RTAS'06]** Proceedings of the 12<sup>th</sup> IEEE Real-Time and Embedded Technology and Applications Symposium, pages 37-48, San Jose, California, April 2006  
**Best Paper Finalist of RTAS'06**
94. *Achieving Long-Term Surveillance in VigilNet*  
Tian He, Pascal Vicaire, Ting Yan, Qing Cao, **Gang Zhou**, Lin Gu, Liqian Luo, Radu Stoleru, John A. Stankovic, Tarek F. Abdelzaher  
**[INFOCOM'06b]** Proceedings of the 25<sup>th</sup> IEEE International Conference on Computer Communications, pages 1-12, Barcelona, Spain, April 2006 (18% Acceptance Rate)
95. *ATPC: Adaptive Transmission Power Control for Wireless Sensor Networks*  
Shan Lin, Jingbin Zhang, **Gang Zhou**, Lin Gu, Tian He, John A. Stankovic  
**[SenSys'06]** Proceedings of the 4<sup>th</sup> ACM Conference on Embedded Networked Sensor Systems, pages 223-236, Boulder, Colorado, November 2006
96. *Achieving Repeatability of Asynchronous Events in Wireless Sensor Networks with EnviroLog*  
Liqian Luo, Tian He, **Gang Zhou**, Lin Gu, Tarek A. Abdelzaher, John A. Stankovic  
**[INFOCOM'06a]** Proceedings of the 25<sup>th</sup> IEEE International Conference on Computer Communications, pages 1-14, Barcelona, Spain, April 2006 (18% Acceptance Rate)
97. *SeeMote: In-Site Visualization and Logging Device for Wireless Sensor Networks*  
Leo Selavo, **Gang Zhou**, John A. Stankovic  
**[BASENETS'06] (Invited Paper)** Proceedings of the 3<sup>rd</sup> IEEE/CreateNet International Workshop on Broadband Advanced Sensor Networks, pages 1-9, San Jose, CA, October 2006
98. *RESTORE: A Real-time Event Correlation and Storage Service for Sensor Networks*  
Sudha Krishnamurthy, Tian He, **Gang Zhou**, John A. Stankovic, Sang H. Son  
**[INSS'06]** Proceedings of 3<sup>rd</sup> International Workshop on Networked Sensing Systems, pages 1-9, Chicago, Illinois, May 2006
99. *RID: Radio Interference Detection in Wireless Sensor Networks*  
**Gang Zhou**, Tian He, John A. Stankovic, Tarek F. Abdelzaher  
**[INFOCOM'05]** Proceedings of the 24<sup>th</sup> IEEE International Conference on Computer Communications, pages 891-901, Miami, Florida, March 2005 (17% Acceptance Rate)
100. *An Overview of the VigilNet Architecture*  
Tian He, Liqian Luo, Ting Yan, Lin Gu, Qing Cao, **Gang Zhou**, Radu Stoleru, Pascal Vicaire, Qiuhua Cao, John A. Stankovic, Sang H. Son, Tarek F. Abdelzaher  
**[RTCSA'05]** Proceedings of the 11<sup>th</sup> IEEE International Conference on Embedded and Real-Time Computing Systems and Applications, pages 109-114, Hong Kong, August 2005  
**(Invited Paper)**
101. *Load Balancing in Bounded-Latency Content Distribution*  
Chengdu Huang, **Gang Zhou**, Tarek F. Abdelzaher, Sang H. Son, John A. Stankovic

[RTSS'05] Proceedings of the 25<sup>th</sup> IEEE Real-Time Systems Symposium, pages 50-61, Miami, Florida, December 2005

102. *Impact of Radio Irregularity on Wireless Sensor Networks*

**Gang Zhou**, Tian He, Sudha Krishnamurthy, John A. Stankovic

[MobiSys'04] Proceedings of the 2<sup>nd</sup> ACM International Conference on Mobile Systems, Applications, and Services, pages 125-138, Boston, Massachusetts, June 2004 (13% Acceptance Rate)

**Refereed Workshop/Demo/Poster/White papers**

103. *CrowdWatch: Pedestrian Safety Assistance with Mobile Crowd Sensing*

Qianru Wang, Bin Guo, Ge Peng, **Gang Zhou**, Zhiwen Yu

[Ubicomp'16] Proceedings of The 2016 ACM International Joint Conference on Pervasive and Ubiquitous Computing, (Poster), pages 217-220, Heidelberg, Germany

104. *Microsleep Prediction Using an EKG Capable Heart Rate Monitor*

Amanda Watson, **Gang Zhou**

[CHASE'16] Proceedings of The 1<sup>st</sup> IEEE Conference on Connected Health: Applications, Systems and Engineering Technologies, (Poster), pages 328-329, Washington DC, USA

105. *CARE: Chewing Activity Recognition Using Noninvasive Single Axis Accelerometer*

Shuangquan Wang, **Gang Zhou**, Lisa Hu, Zhenyu Chen, Yiqiang Chen

[Ubicomp'15b] Proceedings of The 2015 ACM International Joint Conference on Pervasive and Ubiquitous Computing, pages 109-112, Osaka, Japan, 2015

106. *Poster: A Continuous and Noninvasive user Authentication System for Google Glass*

Ge Peng, David T. Nguyen, **Gang Zhou**, Shuangquan Wang

[MobiSys'15b] Proceedings of The 13<sup>th</sup> International Conference on Mobile Systems, Applications, and Services, pages 487-487, Florence, Italy, 2015

107. *A Multimodal Data Set for Evaluating Continuous Authentication Performance in Smartphones*

Qing Yang, Ge Peng, Xin Qi, David T. Nguyen, **Gang Zhou**, Zdenka Sitova, Paolo Gasti, Kiran S. Balagani

[SenSys'14] Proceedings of The 12<sup>th</sup> ACM Conference on Embedded Networked Sensor Systems, pages 358-359, Memphis, TN, 2014

108. *Smartphone Application Launch with Smarter Scheduling*

David T. Nguyen, Ge Peng, Daniel Graham, **Gang Zhou**, Guoliang Xing

[Ubicomp'14] Proceedings of The 2014 ACM International Joint Conference on Pervasive and Ubiquitous Computing, pages 131-134, Seattle, 2014

109. *Study of Storage Impact on Smartphone Application Delay*

David T. Nguyen, **Gang Zhou**, Guoliang Xing

[MobiSys'14] Proceedings of The 12<sup>th</sup> International Conference on Mobile Systems, Applications, and Services (Video), pages 389-389, Bretton Woods, NH, 2014

110. *Poster: Towards Reducing Smartphone Application Delay through Read/Write Isolation*

David T. Nguyen, **Gang Zhou**, Guoliang Xing

[MobiSys'14b] The 12<sup>th</sup> International Conference on Mobile Systems, Applications, and Services, (Poster), pages 378-378, Bretton Woods, NH, 2014

111. *Context-aware Frame Rate Adaption for Video Chats on Smartphones*

Xin Qi, Qing Yang, David T. Nguyen, **Gang Zhou**

[Ubicomp'13b] Proceedings of The 2013 ACM International Joint Conference on Pervasive and Ubiquitous Computing, pages 111-114, Zurich, Switzerland, 2013

112. *Confident Sensor Collaboration with Machine Learning*

**Gang Zhou**

**[PeCS'11] NSF Workshop on Pervasive Computing at Scale** (White Paper), pages 1-2, January 2011

*113. Accurate, Fast Fall Detection Method Using Posture and Context Information*

Qiang Li, **Gang Zhou**, John A. Stankovic

**[SenSys'08b]** Proceedings of the 6<sup>th</sup> ACM Conference on Embedded Networked Sensor Systems (Poster Abstract), pages 443-444, Raleigh, NC, November 2008

*114. Achieving Stable Network Performance for Wireless Sensor Networks*

Shan Lin, **Gang Zhou**, Yafeng Wu, Kamin Whitehouse, John A. Stankovic, Tian He

**[SenSys'08a]** Proceedings of the 6<sup>th</sup> ACM Conference on Embedded Networked Sensor Systems, (Poster Abstract), pages 453-454, Raleigh, NC, November 2008

*115. Aggregator-Centric QoS for Body Sensor Networks*

**Gang Zhou**, Chieh-Yih Wan, Mark D. Yarvis, John A. Stankovic

**[IPSN'07]** Proceedings of the 2007 ACM/IEEE International Conference on Information Processing in Sensor Networks (Demo Abstract), pages 539-540, Cambridge, MA, April 2007

*116. Crowded Spectrum in Wireless Sensor Networks*

**Gang Zhou**, John A. Stankovic, Sang F. Son

**[EmNets'06]** Proceedings of the 3<sup>rd</sup> Workshop on Embedded Networked Sensors, pages 1-5, Cambridge, MA, May 2006

*117. Ears on the Ground: Acoustic Streaming Service in Wireless Sensor Networks*

Jingbin Zhang, **Gang Zhou**, Sang H. Son, John A. Stankovic

**[IPSN'06]** Proceedings of the 2006 ACM/IEEE International Conference on Information Processing in Sensor Networks, pages 1-2, Nashville, Tennessee, April 2006

#### **Invited Talks**

1. "Sign Language Recognition Using WiFi," School of Computer Science and Engineering, Nanyang Technological University, 2018 (**Invited Colloquium Speaker**)
2. "Sign Language Recognition Using WiFi," Institute of Software, Tsinghua University, 2018 (**Invited Colloquium Speaker**)
3. "Sign Language Recognition Using WiFi," Resources Development and Knowledge Organization Center, Chinese Academy of Science, 2018 (**Invited Colloquium Speaker**)
4. "Sign Language Recognition Using WiFi," Institute of Software, Beihang University, 2018 (**Invited Colloquium Speaker**)
5. "Pushing Down User Information to Enhance Smart Device System Design," Computer Science Department, City University of Hong Kong, 2017 (**Invited Colloquium Speaker**)
6. "Pushing Down User Information to Enhance Smart Device System Design," Department of Computing, Hong Kong Polytechnic University, 2017 (**Invited Colloquium Speaker**)
7. "Pushing Down User Information to Enhance Smart Device System Design," The First International Workshop on Mobile and Pervasive Internet of Things (PerIoT'17), Hawaii, 2017 (**Invited Keynote Speaker**)
8. "Pushing Down User Information to Enhance Smart Device System Design," Center for Cybersecurity Education and Research, Old Dominion University, 2017 (**Invited Colloquium Speaker**)
9. "Pushing Down User Information to Enhance Smart Device System Design," **Invited IEEE IES/CIS Chapter Seminar Speaker** in Raleigh, North Carolina State University, 2017

10. "Reducing Smartphone Application Delay & Energy Consumption through Storage I/O Optimization," Institute of Software, Beijing University, 2016 (**Invited Colloquium Speaker**)
11. "Reducing Smartphone Application Delay through Read/Write Isolation," Institute of Computing Technology, Chinese Academy of Science, 2015 (**Invited Colloquium Speaker**)
12. "Reducing Smartphone Application Delay & Energy Consumption through Storage I/O Optimization," School of Computer Science and Technology, Shandong University, 2015 (**Invited Colloquium Speaker**)
13. "Reducing Smartphone Application Delay through Read/Write Isolation," College of Computer and Information Science, Southwest University, 2015 (**Invited Colloquium Speaker**)
14. "Pushing Down Human Information to Enhance Smartphone MAC Design," The 28<sup>th</sup> IEEE Annual Computer Communications Workshop, 2014 (**Invited Panel Speaker**)
15. "Smartphone-centered Body Networks," College of Computer and Information Science, Southwest University, 2014 (**Invited Colloquium Speaker**)
16. "Smartphone Energy Savings through Learning and Traffic Analysis," Department of Computer Science and Engineering, University of Arkansas, 2014 (**Invited Colloquium Speaker**)
17. "Smartphone Energy Savings through Learning and Traffic Analysis," School of Computer Science and Technology, University of Science and Technology of China, 2013 (**Invited Colloquium Speaker**)
18. "Smartphone Energy Savings through Learning and Traffic Analysis," Computer Science Department, Wuhan University, 2013 (**Invited Colloquium Speaker**)
19. "Smartphone Energy Savings through Learning and Traffic Analysis," Computer Science Department, Wuhan University of Technology, 2013 (**Invited Colloquium Speaker**)
20. "Smartphone Energy Savings through Learning and Traffic Analysis," College of Computer and Information Science, Southwest University, 2013 (**Invited Colloquium Speaker**)
21. "Smartphone Energy Savings through Learning and Traffic Analysis," Computer Science Department, Nanjing University, 2013 (**Invited Colloquium Speaker**)
22. "Smartphone Energy Savings through Learning and Traffic Analysis," College of Computer Science, Zhejiang University, 2013 (**Invited Colloquium Speaker**)
23. "Smartphone Energy Savings through Learning and Traffic Analysis," Institute of Computing Technology, Chinese Academy of Science, 2013 (**Invited Colloquium Speaker**)
24. "Network Traffic Aware Smartphone Energy Savings," Department of Electrical and Computer Engineering, Old Dominion University, 2013 (**Invited Speaker for Graduate Seminar Series**)
25. "Achieving Confident and Practical Body Sensor Networks," Information System Department, University of Maryland Baltimore County, 2012 (**Invited Colloquium Speaker**)
26. "Towards Achieving Confident Wireless Sensor Networks," Department of Computer and Information Science, Temple University, 2011 (**Invited Colloquium Speaker**)
27. "Towards Creating Confident Wireless Sensor Networks," Department of Computer and Information Sciences, University of Delaware, 2011 (**Invited CIS SIGNET Speaker**)
28. "Towards Creating Confident Wireless Sensor Networks," Institute of Computing Technology, Chinese Academy of Science, 2011 (**Invited Colloquium Speaker**)



29. "Providing Sensing and Communication Confidence for Performance-critical Wireless Sensor Networks," Computer Science Department, Virginia Commonwealth University, 2010 (**Invited Speaker for Fall 2010 Seminar Series**)
30. "Quality of Service for Body Sensor Networks," Nanjing University, 2009 (**Invited Colloquium Speaker**)
31. "Quality of Service for Body Sensor Networks," Sichuan University, 2009 (**Invited Colloquium Speaker**)
32. "Achieving Reliable Data Collection During Emergency Response," Hampton Roads Technology Council Sensors World, Williamsburg, VA, 2007 (**Invited talk**)

#### **Conference Technical Program Committee Members**

1. TPC Member, [INFOCOM] IEEE International Conference on Computer Communications, 2009-2019
2. TPC Member, [ICDCS] IEEE International Conference on Distributed Computing Systems, 2010 and 2015
3. TPC Member, [RTSS] IEEE Real-Time Systems Symposium 2010-2012
4. TPC Member, [RTAS] IEEE Real-Time and Embedded Technology and Applications Symposium, 2010
5. TPC Member, [PerCom] IEEE International Conference on Pervasive Computing and Communications, 2016
6. TPC Member, [CHASE] IEEE/ACM Conference on Connected Health: Applications, Systems and Engineering Technologies, 2016-2018
7. TPC Member, [IPDPS] IEEE International Parallel and Distributed Processing Symposium, 2008
8. TPC Member, [MASS] IEEE International Conference on Mobile Ad hoc and Sensor Systems, 2013 and 2014
9. TPC Member, [MobiQuitous] EAI International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services, 2017 and 2018
10. TPC Member, [IWQoS] IEEE/ACM International Symposium on Quality of Service, 2013
11. TPC Member, [ICCCN] IEEE International Conference on Computer Communications and Networks, 2007-2017
12. TPC Member, [ICPP] International Conference on Parallel Processing, 2013-2015
13. TPC Member, [IPCCC] IEEE International Performance Computing and Communications Conference, 2010-2017
14. TPC Member, [ICPADS] IEEE International Conference on Parallel and Distributed Systems, 2015 and 2016
15. TPC Member, [BSN] International Conference on Body Sensor Networks, 2011 and 2018
16. TPC Member, [BodyNets] International Conference on Body Area Networks, 2011 and 2013
17. TPC Member, [EMC] IEEE International Conference on Embedded and Multimedia Computing, 2010
18. TPC Member, [NAS] IEEE International Conference on Networking, Architecture, and Storage, 2012-2015
19. TPC Member, [BigDataService] IEEE International Conference on Big Data Computing Service and Applications, 2015 and 2017
20. TPC Member, [SUTC] IEEE International Conference on Sensor Networks, Ubiquitous, and Trustworthy Computing, 2010
21. TPC Member, [EUC] IEEE/IFIP International Conference on Embedded and Ubiquitous Computing 2012 and 2013
22. TPC Member, [INSS] IEEE International Conference on Networked Sensing Systems 2009-2012
23. TPC Member, [CCECE] IEEE IEEE Canadian Conference on Electrical and Computer Engineering, 2009 and 2014
24. TPC Member, [CollaborateCom] IEEE International Conference on Collaborative Computing: Networking, Applications and Worksharing, 2010
25. TPC Member, [CSCloud] IEEE International Conference on Cyber Security and Cloud Computing, 2015
26. TPC Member, [MiseNet] ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems, 2015
27. TPC Member, [HealthCom] IEEE International Conference on E-health Networking, Applications & Services, 2015 and 2017
28. TPC Member, [ICNC] IEEE International Conference on Computing, Networking and Communications, 2017-2019
29. TPC Member, [GI] IEEE Global Internet Symposium, 2015 and 2016
30. TPC Member, [IRADSN] International Symposium on Innovations and Real-time Applications of Distributed Sensor Networks, 2009
31. TPC Member, [S-Cube] International Conference on Sensor Systems and Software, 2014
32. TPC Member, [ICOT] International Conference on Orange Technologies, 2015

33. TPC Member, [Ubi-Health Tech] International Symposium on Future Information and Communication Technologies for Ubiquitous HealthCare, 2015

#### **Workshop Technical Program Committee Members**

1. TPC Member, [WWASN] Workshop on Wireless Ad hoc and Sensor Networks, 2008-2011
2. TPC Member, [WSSEC] the First International Workshop on Wireless Sensing Systems for Extreme Conditions, 2017
3. TPC Member, [PerIoT] IEEE the Second International Workshop on Mobile and Pervasive Internet of Things, 2018 and 2019
4. TPC Member, [CPNS] International Workshop on Cyber-Physical Networking Systems, 2011
5. TPC Member, [MobileHealth] ACM International Workshop on Pervasive Wireless Healthcare, 2015
6. TPC Member, [PhoneCom] IEEE International Workshop on Sensing, Networking, and Computing with Smartphones, 2012
7. TPC Member, [HeterSenet] ACM SIGMOBILE International Workshop on Integrated Heterogeneous Sensor Networks, 2008
8. TPC Member, [EmNets] IEEE Workshop on Embedded Networked Sensors, 2008

#### **Invited Reviewers for the Following Journals**

1. ACM Transactions on Sensor Networks, 2005-2016
2. IEEE Journal of Biomedical and Health Informatics, 2017
3. [IMWUT] Proceedings of ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies, 2017
4. ACM Transactions on Cyber-Physical Systems, 2017
5. ACM Transactions in Embedded Computing Systems, 2010
6. ACM Transactions on Computing Education, 2009
7. ACM Transactions on Multimedia, 2016
8. ACM SIGMETRICS Performance Evaluation Review, 2008 and 2009
9. IEEE/ACM Transactions on Networking, 2007, 2011-2013
10. IEEE Access, 2017-2018
11. IEEE Transactions on Mobile Computing, 2006-2016
12. IEEE Transactions on Emerging Topics in Computing, 2013
13. IEEE Transactions on Cybernetics, 2014
14. IEEE Transactions on Wireless Communications, 2008-2009, 2011-2014
15. IEEE Transactions on Parallel and Distributed Systems, 2008-2010 and 2013-2014
16. IEEE Transactions on Communications, 2012
17. IEEE Transactions on Vehicular Technology, 2006
18. IEEE Transactions on Instrumentation & Measurement, 2007 and 2008
19. IEEE Transactions on Industrial Informatics, 2009, 2011 and 2015
20. IEEE Transactions on Computers 2007 and 2011
21. IEEE Journal on Selected Areas in Communications, 2008
22. IEEE Embedded Systems Letters, 2006 and 2010
23. IEEE Communications Letters, 2010
24. IEEE Communications Magazine, 2014
25. IEEE Journal of Communications and Networks, 2007
26. ACM/Springer Personal and Ubiquitous Computing Journal, 2011
27. Springer Wireless Personal Communications, 2009
28. Springer Real-time Systems, 2009
29. Springer Personal and Ubiquitous Computing, 2014
30. Elsevier Computer Communications 2007 and 2011-2013
31. Elsevier Journal of Parallel and Distributed Computing, 2013
32. Elsevier Ad Hoc Networks, 2007-2009
33. Elsevier Pervasive and Mobile Computing, 2011-2013 and 2017
34. Elsevier Computer Networks, 2012 and 2013
35. Elsevier System Architecture 2012 and 2013
36. Elsevier Sustainable Computing, Informatics and Systems, 2012
37. IBM Journal of Research and Development, 2010
38. BCS (The British Computer Society) the Computer Journal, 2006

39. WILEY Wireless Communications and Mobile Computing, 2007 and 2010-2011
40. EURASIP Journal on Embedded Systems, 2010
41. KSII Transactions on Internet and Information Systems, 2013
42. ETRI Journal, 2008
43. KICS Journal of Communications and Networks, 2007
44. International Journal of Distributed Sensor Networks, 2008
45. International Journal of Sensor Networks, 2007

**Invited Reviewer for the Following Conferences & Workshops**

1. ACM SenSys, 2007
2. ACM MobiSys 2013
3. ACM UbiComp, 2012 and 2015
4. ACM/IEEE IPSN, 2005
5. IEEE INFOCOM, 2009-2019
6. IEEE ICDCS, 2006, 2010 and 2015
7. IEEE RTSS, 2005 and 2009-2012
8. IEEE RTAS, 2010
9. IEEE PerCom, 2016-2017
10. IEEE/ACM CHASE, 2016-2018
11. IEEE IPDPS, 2008
12. IEEE MASS, 2014
13. EAI Mobiquitous, 2017 and 2018
14. IEEE IWQoS, 2013
15. IEEE ICCCN, 2006-2017
16. ICPP 2013-2015
17. IEEE IPCCC, 2010-2017
18. IEEE ICPADS, 2015 and 2016
19. BSN, 2011, 2018
20. BodyNets, 2011 and 2013
21. IEEE EMC, 2010
22. IEEE NAS, 2011-2015
23. IEEE BigDataService, 2015 and 2017
24. IEEE SUTC, 2010
25. IEEE/IFIP EUC, 2012 and 2013
26. INSS 2009-2012
27. CCECE, 2009, 2014
28. IEEE CollaborateCom, 2010
29. IEEE CSCloud, 2015
30. ACM MiseNet, 2015
31. IEEE Healthcom, 2015 and 2017
32. IEEE ICNC, 2017-2019
33. IEEE GI, 2015 and 2016
34. IRADSN, 2009
35. S-Cube, 2014
36. ICOT, 2015
37. Ubi-Health Tech, 2015
38. IEEE WWASN, 2008-2011
39. WSSEC, 2017
40. IEEE PerIoT, 2018 and 2019
41. IEEE CPNS, 2011
42. ACM MobileHealth 2015
43. IEEE PhoneCom, 2012
44. ACM HeterSenet, 2008
45. IEEE EmNets, 2008
46. IEEE SECON, 2004
47. IEEE RTCSA, 2005 and 2006

48. IEEE CPNS, 2011
49. IEEE ICC, 2007
50. IEEE/ACM CCGrid, 2014
51. IEEE VTC, 2009
52. IEEE ISCIT, 2007
53. IEEE MASCOTS 2012
54. IFIP NPC, 2010
55. WTS, 2008
56. EXPONWIRELESS, 2006

## **PROFESSIONAL SERVICE**

### **Service at William & Mary**

1. Member of the Financial Conflict of Interest Committee, William & Mary, 2018-present
2. Member of the International Studies Advisory Committee, William & Mary, 2017-present
3. Member of the Parking Advisory Committee, William & Mary, 2017-present
4. Member of the Admission Policy Advisory Committee, William & Mary, 2016-present
5. Member of the Committee on Graduate Studies, Arts & Sciences, 2015-2017
6. Member of the A&S Graduate Awards Committee, Arts & Sciences, 2011-2013
7. Freshman/sophomore adviser for undergraduate students, Arts & Sciences, 2010-present
8. Judge panelist of the 1<sup>st</sup> Annual Business Model Competition, Mason School of Business, 2016
9. Judge panelist of William and Mary 3 Day Startup, Mason School of Business, 2016

### **Service at the Department of Computer Science, William & Mary**

1. Graduate Program Director, 2015-2017
2. Chair of the Awards and Prizes Committee, 2017-present
3. Chair of the Graduate Admissions Committee, 2015-2017
4. Chair of the Colloquium Committee, 2012 and 2014-2015
5. Member of the Faculty Recruiting Committee, 2014-2017
6. Member of the Personnel Committee, 2013-present
7. Member of the Colloquium Committee, 2011
8. Member of the Graduate Curriculum Committee, 2010-2017 and 2018-present
9. Member of the Graduate Admissions Committee, 2009-2015
10. Member of the Web Presence Committee, 2007-2011
11. Member of the System Committee, 2007-2009
12. Chair of PhD Degree Dissertation Committees for 14 students, 2007-present
13. Member of PhD Degree Dissertation Committees for 26 additional students, 2007-present

14. Chair of Master's Degree Comprehensive Exam Committees for 13 students, 2007-present
15. Member of Master's Degree Comprehensive Exam Committees for 14 additional students, 2007-present
16. Chair of the Undergraduate Honors Thesis Exam Committee for Benjamin Powell, 2018
17. Member of the Undergraduate Honors Thesis Exam Committee for Brett Cooley, 2013

### **Graduated PhDs**

1. Kyle Wallace, PhD, August 2018, dissertation title: Understanding and Enriching Randomness within Resource-Constrained Devices.
2. Qing Yang, PhD, January 2018, dissertation title: Exploiting Power for Smartphone Security and Privacy, initial placement at Gemalto, VA as an Algorithm Engineer.
3. Ge Peng (female), PhD, May 2017, dissertation title: Enhancing Energy Efficiency and Privacy Protection of Smart Devices, initial placement at Google, WA as a Software Engineer.
4. David Nguyen, PhD, May 2016, dissertation title: Enhancing Mobile Device System Using Information from Users and Upper Layers, initial placement at Facebook, CA as a Research Scientist.
5. Daniel Graham (Minority), PhD, May 2016, dissertation title: Enhancing the Sensing Capabilities of Mobile and Embedded Systems, initial placement at Microsoft, Seattle as a Program Manager.
6. Xin Qi, PhD, May 2015, dissertation title: Improving Context Recognition and Leveraging Context Awareness in Mobile Systems, initial placement at VMware, CA as a Technical Staff.
7. Andrew Pyles, PhD, May 2013, dissertation title: Network Traffic Aware Smartphone Energy Savings, initial placement at MITRE, VA as a Senior Cyber Security Engineer.
8. Zhen Ren (female), PhD, co-advised with Prof. Haining Wang, August 2012, dissertation title: Towards Confidential Body Sensor Networking, initial placement at Synopsys, NC as a Research and Development Engineer.
9. Matthew Keally, PhD, May 2012, dissertation title: A Learning-based Approach to Exploiting Sensing Diversity in Performance Critical Sensor Networks, initial placement at MITRE, VA as a Senior Cyber Security Engineer.

### **Current PhD Students**

Yongsen Ma, Hongyang Zhao, Amanda Watson, Shuangquan Wang, Woosub Jung and George Simmons

### **Visiting Scholars**

Yantao Li (current), Fang Wang, Mingyan Xu, Haimin Chen, Yongfen Wang, Kun Liu and Shuangquan Wang

### **Graduated Master's Students**

1. Xiaoran Peng, May 2018, Master's project title: A Continuous Jump Detection Framework for Smart Devices
2. Aaron Wells, May 2017, Master's project title: Fingerprinting Walls to Enhance Bluetooth Indoor Localization
3. Leigh Garbs, December 2016, Master's project title: Smartphone Storage Subsystem Configuration and Subsystem Power Consumption
4. Amanda Watson, May 2016, Master's project title: Detecting and Predicting Microsleep Events Using an EKG Capable Heart Rate Monitor
5. Steven Walker, May 2016, Master's project title: Real-time Sensor-based Rowing Assistant

6. Kyle Wallace, December 2014, Master's project title: An Efficient Sensor-Based Random Number Generator for Android OS
7. Conner Kasten, December 2013, Master's project title: Save Energy via Silence Types
8. Bruce Cutler, May 2013, Master's project title: Localization in Mobile Health
9. Daniel Leong, December 2012, Master's project title: Ubiquitous Phone Access
10. Andrew Pyles, December 2010, Master's project title: WiFi Energy Savings in Smartphones
11. George Simmons, December 2010, Master's project title: FPGA Based Phase Locked Loop Time Synchronization for Wireless Sensor Networks
12. Robert Thompson, May 2010, Master's project title: Self-adaptive Spectrum Control
13. Matthew Keally, May 2008, Master's project title: Content-driven Aggregation in Wireless Sensor Networks

#### **Advising Undergraduate Students**

1. Benjamin Powell, Honors Thesis: Turning Detection in Sandbar Sharks through Accelerometer Data, 2016-2018
2. Kelvin Abrokwa-Johnson (Minority), undergraduate research on smart devices in vehicles, 2016 and 2017
3. Matthew Cohen, undergraduate research on smart devices for K-12 education, 2016
4. Fei He (Female), undergraduate research on mobile computing, recipient of the 2015 Charles Center Summer Research Scholarship for the research with me, 2015
5. Jeffrey Buffkin, undergraduate research on embedded and wearable devices, 2015
6. Kevin Ji, undergraduate research on sensor networks, 2013