

Xiaofan (Fred) Jiang

Assistant Professor
Department of Electrical Engineering
Columbia University

<http://jiang.ee.columbia.edu>
jiang@ee.columbia.edu

EDUCATION

University of California, Berkeley 2005.9-2010.9

Ph.D. in Computer Science, completed 2010.9

Thesis: *High-Fidelity Wireless Building Energy Monitoring Architecture*

M.S. in Electrical Engineering and Computer Science, completed in 2007.12

Ph.D. Advisor: David E. Culler

University of California, Berkeley 2001.9-2004.12

B.Sc. in Electrical Engineering and Computer Science, Summa Cum Laude

Minor in Business Administration, Haas School of Business

Cumulative GPA 3.8, technical GPA 3.9

EMPLOYMENT

Columbia University in the City of New York, New York 2015.7-Present

Assistant Professor of Electrical Engineering (tenure-track)

Affiliate, Department of Computer Science

Co-Chair of Smart Cities Center, Data Science Institute (DSI)

Air Scientific Inc., Beijing 2014.7-2015.3

Co-Founder and CTO

Intel Labs China, Beijing 2012.9-2014.7

Director, Analytics and IoT Research Laboratory

Chief Architect, China Intel IoT Joint Labs

Microsoft Research Asia, Beijing 2010.10-2012.9

Researcher

Google, Palo Alto CA 2007.6-2007.8

Engineering Intern

Arch Rock, San Francisco CA 2006.1-2006.5

Technical Consulting

Intel Corporation, Santa Clara CA 2005.2-2005.7

Component Design Engineer

Xilinx, San Jose CA 2004.1-2004.7

Intern Engineer

RESEARCH AREAS

Sensor networks, wireless and embedded systems, cyber-physical systems, and Internet-of-Things: My research lies at the intersection of *systems* and *data*, with foci on mobile and wearable systems, Internet of Things, intelligent built environments, urban safety, and connected health.

- Please visit the *Intelligent and Connected Systems Lab's* website for recent research projects and news updates: <http://icsl.ee.columbia.edu/>

AWARDS AND HONORS

- Best Demo Award, ACM/IEEE IoTDI (2018)
- Best Presentation Award, IEEE VNC (2018)
- 2nd Place, App Contest, IEEE VNC (2018)
- MIT Technology Review 35 Innovators Under 35 Semi-Finalist. (2017)
- Best Paper Runner Up Award, ACM BuildSys (2017)
- Best Poster Award, ACM BuildSys (2016)
- Best Demo – Runner Up, ACM SenSys (2016)
- Best Demo Award, ACM SenSys (2011)
- National Science Foundation (NSF) Graduate Fellowship (GRFP). (2006)
- Best Paper Award, IEEE IPSN (2005)
- Vodafone-US Foundation Fellows Initiative Scholarship (2004)

PATENTS

- US Patent Application: "Novel conductive thread-based wearable sensor for perspiration level sensing". Xiaofan Jiang, Ji Jia. Columbia University. (2018)
- US Patent Application: "Polarity-Coincidence Correlation Adaptive Time-Delay Estimation - PCC-ATDE". Peter Kinget, Xiaofan Jiang, Daniel de Godoy Peixoto. Columbia University. (2018)
- US Patent Application, Pub No. US 2013/0073681 A1: "Creating Interactive Zones", Xiaofan Jiang, Chieh-Jan Mike Liang, Jeff Hsu, Caiquan Liu, Jie Liu, Feng Zhao. Microsoft. (2012)
- US Patent #US 8730048: "Earphone-based game controller and health monitor". Guo Bin Shen, Xiaofan Jiang. Microsoft. (2012)
- US Patent #US 8,396,086 B1: "Scalable Association Scheme for TV White-space MIMO Wireless System". Carroll Philip Gossett, Yuan Yuan, Kevin C. Yu, Xiaofan Jiang, Michial Allen Gunter, Emmanouil Koukoumidise. Google Inc. (2009)
- US Patent #US 8,565,138 B1: "Random Shuffling Mechanism for MIMO Wireless System". Yuan Yuan, Kevin C. Yu, Emmanouil Koukoumidise, Xiaofan Jiang, Michial Allen Gunter, Carroll Philip Gossett. Google Inc. (2009)
- US Patent #US 8,699,411 B1: "Dynamic TDMA System for TV White Space MIMO Wireless". Carroll Philip Gossett, Yuan Yuan, Kevin C. Yu, Emmanouil Koukoumidise, Xiaofan Jiang, Michial Allen Gunter. Google Inc. (2009)
- US Patent #US 8,559,455 B1: "Dynamic Scheduling Scheme for TV White-space MIMO Wireless System". Yuan Yuan, Kevin C. Yu, Carroll Philip Gossett, Michial Allen Gunter, Xiaofan Jiang, David James Carmichael. Google Inc. (2009)

PROFESSIONAL ACTIVITIES AND SERVICES

Leadership Roles

- TPC co-Chair, ACM CHASE '20
- General co-Chair, ACM SenSys '19
- Steering Committee, ACM SenSys
- Executive Committee, ACM Emerging Interest Group on Energy (EIG-ENERGY)
- Steering Committee Chair, ACM BuildSys (2017-2018)
- TPC co-Chair, ACM BuildSys '14

Technical Program Committee

- ACM SenSys '13, '14, '15, '16, '17, '18
- ACM BuildSys 10, '12, '13, '17, '18
- ACM/IEEE IPSN 11', '12, '18
- ACM/IEEE IoTDI '17, '18, '19
- IEEE DCOSS '13, '14, '15, '16
- ACM e-Energy '15, '19
- ACM EWSN '11, '13
- ACM MobiSys '14
- MobiCASE '14
- IEEE RTAS '13
- ACM HotMobile '16
- ACM ASPLOS '14 (external reviewer)

Editorial

- Guest Editor, IEEE Pervasive Computing SI on IoT Communications, 2018
- Guest Editor, ACM Transactions on Sensor Networks SI on Smart and Efficient Built Environments, 2018

Organizing Committee

- Local Arrangement co-Chair, ACM SIGCOMM '20
- Publicity co-Chair, EWSN '20
- Co-Chair, IoT Expo '16, IEEE SCIE '17, ICCCN '17 HoT
- Co-Chair, PhD Forum/Doctoral Colloquium at ACM SenSys '17
- Publication Chair, ACM SenSys '16, ACM BuildSys '16
- Publicity Chair, ACM SenSys '12, ACM EWSN '16, ACM EWSN '20
- Demo Chair, ACM BuildSys '11, ACM/IEEE IPSN '12, ACM/IEEE IPSN '16, ACM SenSys '16
- Web Chair, ACM SenSys '10, '11
- Poster Chair, ACM BuildSys '11

Department, School, and University Committees

- Co-Chair, Smart Cities Center, Data Science Institute (10/2015 – current)

- Faculty, Computer Engineering (1/2016 – current)
- EE MS Career/Development/Internships (chair) (9/2017 – current)
- EE MS admissions (member) (9/2016 – current)
- EE computing labs (member) (9/2017 – current)
- University Green Leaders Network (member) (1/2018 – current)

Professional Organization Membership

- Professional Member, Association for Computing Machinery (ACM)
- Professional Member, Institute of Electrical and Electronics Engineers (IEEE)

RESEARCH FUNDING

CSR: CHS: Improving Pedestrian Safety in Urban Cities using Intelligent Wearable Systems

Agency: National Science Foundation (NSF)

PI Status: PI (Co-PI: Peter Kinget)

Period: 6/1/2017 - 5/31/2021

Funding (Columbia): \$766,642

Total Project Funding: \$1,200,000 (Columbia lead)

CSR: Overheard at Home - Mitigating Over- hearing of Continuous Listening Devices

Agency: National Science Foundation (NSF)

PI Status: PI

Period: 7/1/2018 - 6/30/2021

Funding (Columbia): \$247,989

Total Project Funding: \$500,000 (UNC lead)

Gift: Smart Cities Research at Columbia Intelligent and Connected Systems

Company: Sino-US Cyber-Physical Technology Co.

PI Status: PI

Date: 8/31/2018

Funding: \$150,000 (unrestricted)

Industry Sponsored Research: Bidirectional Modular DC Vehicle Charger

Company: Longmax Corporation Ltd.

PI Status: Senior Personnel (PI: Matthias Preindl)

Date: 9/1/2019 – 8/31/2022

Funding: \$180,000 (1GRA/2Years)

TEACHING, EDUCATION, AND OUTREACH

Course Development

- **EECS E4764: IoT - Intelligent and Connected Systems**

Created new course on Internet of Things at the undergraduate level (4xxx). This course is also a core course for the Computer Engineering program. Topics include working with sensors and actuators, serial protocols and buses, designing embedded hardware, creating wired and wireless networks, programming on embedded and mobile platforms, building RESTful web

services on edge devices and in the cloud, performing visualization and data analytics on sensor data, and finally creating end-to-end IoT applications. A strong lab component and a course project are designed to help students better understand IoT topics. This course was previously designated ELEN E4902 when first offered.

- **edX lectures on Data Science**

Gave 4 online lectures on “Enabling Technologies for Data Science and Analytics: The Internet of Things” as part of ColumbiaX's DS103x -Data Science and Analytics in Context.

- **ELEN E6908: Topics in Cyber-Physical Systems**

Created a new topic course on Cyber-Physical Systems. Several application domains are emphasized: smart cities and the built environment, fitness and health care, air quality and environment, and industrial CPS. Several key cross-cutting topics, independent of the application domain, are also covered, including time-series data analytics, energy and power, scalability, time synchronization, and wireless networking.

Courses Taught

- **EECS E4764: IoT - Intelligent and Connected Systems**

Fall 2019 / Enrollment: 57

Course evaluation:

Organization and Preparation	Classroom Delivery	Approachability	Overall
N/A	N/A	N/A	N/A

- **ELEN E6908: Topics in Cyber-Physical Systems**

Spring 2019 / Enrollment: 10

Course evaluation:

Organization and Preparation	Classroom Delivery	Approachability	Overall
4.33	4.67	4.67	4.67

- **ELEN E4764: IoT - Intelligent and Connected Systems**

Fall 2018 / Enrollment: 59

Course evaluation:

Organization and Preparation	Classroom Delivery	Approachability	Overall
4.20	4.16	4.11	4.13

- **ELEN E9705: Seminar in Cyber-Physical Systems**

Spring 2018 / Enrollment: 8

Course evaluation:

Organization and Preparation	Classroom Delivery	Approachability	Overall
4.88	4.88	4.88	4.88

- **ELEN E4764: IoT - Intelligent and Connected Systems**

Fall 2017 / Enrollment: 36

Course evaluation:

Organization and Preparation	Classroom Delivery	Approachability	Overall
4.43	4.56	4.65	4.65

- **ENGI E1102: The Art of Engineering - EE Lab**

Spring 2017 / Enrollment: 31 (EE Lab)

Course evaluation: N/A

- **EECS E4764: IoT - Intelligent and Connected Systems**

Fall 2016 / Enrollment: 39

Course evaluation:

Organization and Preparation	Classroom Delivery	Approachability	Overall
4.36	4.17	4.21	4.21

- **ELEN E4902: IoT - Intelligent and Connected Systems**

Fall 2015 / Enrollment: 34

Course evaluation:

Organization and Preparation	Classroom Delivery	Approachability	Overall
4.63	4.40	4.63	4.57

Student Supervision (Columbia)

Ph.D.

- Daniel De Godoy Peixoto, *Thesis: Improving Pedestrian Safety using Wearable Sensors*, graduation Oct. 2019, 2016-2019 (co-advised with Peter Kinget)
- Peter Wei, 2016.7-present
- Stephen Xia, 2016.7-present
- Jingping Nie, 2019.1-present

M.S.

- Ji Jia, *Project: Smart and Secure Pillbox*, 2016.1-2018.5 (now CEO of Intelligent Fabrics)
- Rishikanth Chandrasekaran, *Project: Energy Footprinting in Smart Cities*. 2016.1-2017.6 (now PhD student at UCSD)
- Maanit Mehra, *Project: Locating Mosquito Breeding Grounds*. 2017-2018
- Jordan Vega, *Project: Energy Footprinting in Smart Cities*. 2017-2018
- Asmita Goyanka, *Project: Embedded Machine Learning*. MS, 2018.9-2019.5
- Yigong Hu, *Project: Continuous In-Situ Wearable Platform for Bio-signal acquisition and emotion recognition*. 2019.1-present

B.S.

- Yuanyuting Wang, *Project: Continuous In-Situ Wearable Platform for Bio-signal acquisition and emotion recognition*. 2019.6-present

Doctoral Thesis Committee

As Co-Advisor

- Daniel De Godoy Peixoto, *Thesis: Improving Pedestrian Safety using Wearable Sensors*. Electrical Engineering, SEAS. Advisors: Peter Kinget, Fred Jiang. Defense Date: 2019.10.1

As Reader

- Shan Zhong, Electrical Engineering, SEAS. Advisor: Xiaodong Wang. Defense Date: 2019.9.11
- Joao Cerqueira, Electrical Engineering, SEAS. Advisor: Mingoo Seok. Defense Date: 2019.8.9
- Brendan Jou, Electrical Engineering, SEAS. Advisor: Shih-Fu Chang. Defense Date: 2016.6.6

Outreach and K-12 Education

- 2019 | Mentored three high school students, including one female, during the summer.
- 2018 | K-12 / Under-Represented Groups: SWE Workshop to high school female students. Topic: "Introduction to Sound Source Localization"
- 2017 | K-12 / Under-Represented Groups: SWE Workshop to high school female students. Topic: "Introduction to Sound Source Localization"
- 2016 | General Public: 4 lectures on EdX <https://www.edx.org/course/enabling-technologies-data-science-columbiadx-ds103x>
- 2016 | Organized Columbia-Rio Design Challenge on the theme *Sensing and the City*. [Columbia Global Centers – Rio de Janeiro announcement](#), [Design Challenge website](#).

MEDIA AND NEWS

- 2018. Featured in the March 2018 issue of IEEE Signal Processing Magazine. "[Signal Processing Supports a New Wave of Audio Research](#)".
- 2017. Featured in EurekaAlert! Science News (operated by AAAS). "[Data Science Institute professor leads team to design smart headphones](#)".
- 2016. Featured in Brazilian newspaper O Globo. "[Xiaofan Jiang, electrical engineer: 'Rich are extravagant in consumption because it is cheap'](#)".
- 2016. Interview with O'Reilly on ambient computing, published in the O'Reilly Report "[Ambient Computing: How Invisible Hardware, Self-Starting Apps, and Nonstop Surveillance Reshapes Our Public and Private Lives](#)"
- 2016. Interview with O'Reilly on "Impact of IoT on existing networks", published in the O'Reilly Report "[Are Your Networks Ready for the IoT?](#)"
- 2015. Featured in Columbia Engineering Magazine: [Fred Jiang | Building Systems to Collect, Exchange, and Analyze Data](#)
- 2013-2014. "PAM: Pervasive Air-Quality Monitoring" project was featured in: [CCTV](#), [People's Daily](#), [Nikkei Technology](#), [Chinese Computer World](#), [DragonTV](#), [Nanfeng Weekend](#), [Business Times](#)
- 2012-2013. "SEPTIMU / MusicalHeart / LifeX" project was featured in: [The Economist](#), [New Scientist](#), [CNET](#), [Gizmodo](#)

INVITED TALKS

Note: some talk titles are kept generic to incorporate multiple research projects, and are constantly updated with new material

- **University of California, Los Angeles, Los Angeles 2019**
Seminar: Intelligent and Connected Systems for Sensible Urban Living
- **University of Illinois, Urbana-Champaign, Champaign 2019**
Seminar: Intelligent and Connected Systems for Sensible Urban Living
- **University of California, Berkeley, Berkeley 2019**
Seminar: Intelligent and Connected Systems for Sensible Urban Living
- **University of Pennsylvania, Philadelphia 2019**
Seminar: Intelligent and Connected Systems for Sensible Urban Living
- **Singapore Nanyang Technological University, Singapore 2018**
Chinese University of Hong Kong, Hong Kong 2018
Hong Kong Polytechnic University, Hong Kong 2018
Tsinghua University, Beijing 2017
Seminars: Intelligent and Connected Systems for Sensible Urban Living
- **COPPA UFRJ, Rio de Janeiro 2016**
Keynote: Sensing and the City - Air Quality and Building Energy
- **IBM T.J. Watson Research Center, Yorktown 2015**
Seminar: City-Scale Air Pollution Monitoring
- **University of Virginia, Charlottesville 2015**
Seminar: IoT Meets Physical Analytics
- **Carnegie Mellon University, Pittsburg 2015**
Seminar: Bringing Together Internet-of-Things with Physical Analytics
- **University of Michigan at Ann Arbor, Ann Arbor 2014**
Invited Talk: Air-Quality Monitoring and Data Analytics
- **Intel Developers Forum (IDF), Shenzhen 2014**
Talk: End-to-end Internet of Things Solutions on Intel® Architecture
- **First Workshop on Internet of Things Applications, Beijing 2012**
Keynote: Intelligent Modules for Building Internet-of-Things
- **Intl. Conference on Human Probes and Smartphone Sensing, Chiang Mai, 2011**
Keynote: People-centric Sensing – from Smartphones to Smartplaces
- **National Taiwan University, Taipei 2011**
Lecture: Bridging the Gap between Humans and the Physical World – A Step Toward Reducing Energy Consumption and Increasing Comfort
- **CCF Advanced Disciplines Lectures, Beijing 2011**
Lecture: Internet of Humans and Things: Connecting Humans to the Physical World with Virtual Zones
- **Emerging CPS Applications Workshop, Stockholm, 2010**
Rethinking the Energy Infrastructure from a Cyber-Physical Perspective
- **Lawrence Berkeley National Laboratory, Berkeley 2008**

PUBLICATIONS

Note: students primarily advised by me are underlined.

ACM SenSys and ACM/IEEE IPSN are widely regarded as the two most prestigious venues (considering both conferences and journals) in sensor networks research, with acceptance rates of 14%-20% for SenSys and 14%-26% for IPSN. ACM/IEEE IoTDI is a relatively young conference that is emerging to be the premier venue for Internet-of-Things research (most recent acceptance rate is 23.6%). ACM BuildSys is a conference focusing on systems issues in energy-efficient buildings, cities, and transportation systems, with papers from electrical engineers, computer scientists, and civil engineers. BuildSys is CORE A ranked, with a higher acceptance rate at around 30%; it is one of the two premier conferences (along with ACM e-Energy) for ACM Emerging Interest Group on Energy (EIG-ENERGY). IEEE Internet-of-Things Journal (IoT-J), established in 2014, is emerging to be the premier journal for IoT research with an Impact Factor of 9.515. Given my research areas, these are the best places for me to publish my work, in terms of both prestige and dissemination.

Refereed Conference Publications:

2019

- [2] Wei, P. and **Jiang, X.**, 2019, November. Data-Driven Energy and Population Estimation for City-Wide Energy Footprinting. In *Proceedings of the 6th Conference on Systems for Energy-Efficient Built Environments, Cities, and Transportation (ACM BuildSys '19)*. ACM. *accepted*

2018

- [3] de Godoy, D., Islam, B., Xia, S., Islam, M.T., Chandrasekaran, R., Chen, Y.C., Nirjon, S., Kinget, P. and **Jiang, X.**, 2018, April. PAWS: A Wearable Acoustic System for Pedestrian Safety. In *International Conference on Internet-of-Things Design and Implementation (ACM IoTDI '18)*. ACM. (23.6% acceptance rate)
- [4] de Godoy, D., **Jiang, X.** and Kinget, P.R., 2018, April. A 78.2 nW 3-Channel Time-Delay-to-Digital Converter using Polarity Coincidence for Audio-based Object Localization. In *IEEE Custom Integrated Circuits Conference (IEEE CICC '18)*. IEEE.
- [5] Wei, P., Xia, S. and **Jiang, X.**, 2018, July. Energy Saving Recommendations and User Location Modeling in Commercial Buildings. In *Proceedings of the 26th Conference on User Modeling, Adaptation and Personalization (ACM UMAP '18)*. ACM. (28% acceptance rate)
- [6] Jia, J., Xu, C., Pan, S., Xia, S., Wei, P., Noh, H.Y., Zhang, P. and **Jiang, X.**, 2018, October. Moisture Based Perspiration Level Estimation. In *Proceedings of the 2018 ACM International Joint Conference and 2018 International Symposium on Pervasive and Ubiquitous Computing and Wearable Computers (ACM UbiComp '18)*. ACM.

2017

- [7] Wei, P., Chen, X., Vega, J., Xia, S., Chandrasekaran, R. and **Jiang, X.**, 2017, November. ePrints: a real-time and scalable system for fair apportionment and tracking of personal energy footprints in commercial buildings. In *Proceedings of the 4th ACM International Conference on Systems*

for Energy-Efficient Built Environments (ACM BuildSys '17). ACM. (31% acceptance rate) (**Best Paper-Runner Up Award**)

- [8] Xia, S., Lu, Y., Wei, P. and **Jiang, X.**, 2017, September. SPINDLES: a smartphone platform for intelligent detection and notification of leg shaking. In *Proceedings of the 2017 ACM International Joint Conference on Pervasive and Ubiquitous Computing and Proceedings of the 2017 ACM International Symposium on Wearable Computers (ACM UbiComp '17)*. ACM.

2015

- [9] Li, Y., Y. Wang, Y. Cheng, X. Li, G. Xing, and X. Jiang (2015). QiLoc: A Qi wireless charging based system for robust user-initiated indoor location services. In *Proceedings of the 12th Annual International Conference on Sensing, Communication, and Networking (IEEE SECON '15)*, IEEE.

2014

- [10] Cheng, Y., X. Li, Z. Li, S. Jiang, Y. Li, J. Jia and **X. Jiang** (2014). AirCloud: a cloud-based air-quality monitoring system for everyone. In *Proceedings of the 12th ACM Conference on Embedded Network Sensor Systems (ACM SenSys '14)*. ACM. (18% acceptance rate)

2013

- [11] Nirjon, S., R. F. Dickerson, P. Asare, Q. Li, D. Hong, J. A. Stankovic, P. Hu, G. Shen and **X. Jiang** (2013). Auditeur: a mobile-cloud service platform for acoustic event detection on smartphones. *Proceeding of the 11th annual international conference on Mobile systems, applications, and services (ACM MobiSys '13)*. Taipei, Taiwan, ACM: 403-416. (16% acceptance rate)

2012

- [12] Hong, D., B. Zhang, Q. Li, S. Nirjon, R. Dickerson, G. Shen, X. Jiang and J. Stankovic (2012). SEPTIMU: continuous in-situ human wellness monitoring and feedback using sensors embedded in earphones. *Proceedings of the 11th International Conference on Information Processing in Sensor Networks (IEEE IPSN '12)*, IEEE. (15% acceptance rate)

- [13] **Jiang, X.**, C.-J. M. Liang, K. Chen, B. Zhang, J. Hsu, J. Liu, B. Cao and F. Zhao (2012). Design and evaluation of a wireless magnetic-based proximity detection platform for indoor applications. *Proceedings of the 11th international conference on Information Processing in Sensor Networks (ACM IPSN '12)*. Beijing, China, ACM: 221-232. (15% acceptance rate) (**Runner Up to Best Presentation**)

- [14] Nirjon, S., R. F. Dickerson, Q. Li, P. Asare, J. A. Stankovic, D. Hong, B. Zhang, X. Jiang, G. Shen and F. Zhao (2012). MusicalHeart: a hearty way of listening to music. *Proceedings of the 10th ACM Conference on Embedded Network Sensor Systems (ACM SenSys '12)*. Toronto, Ontario, Canada, ACM: 43-56. (18% acceptance rate)

2010

- [15] Dawson-Haggerty, S., **X. Jiang**, G. Tolle, J. Ortiz and D. Culler (2010). sMAP: a simple measurement and actuation profile for physical information. *Proceedings of the 8th ACM Conference on Embedded Networked Sensor Systems (ACM SenSys '10)*. Zurich, Switzerland, ACM: 197-210. (17% acceptance rate)

2009

- [16] **Jiang, X.**, S. Dawson-Haggerty, P. Dutta and D. Culler (2009). Design and implementation of a high-fidelity AC metering network. *Proceedings of the 2009 International Conference on*

Information Processing in Sensor Networks (IEEE IPSN '09), IEEE Computer Society: 253-264.

- [17] **Jiang, X.**, M. V. Ly, J. Taneja, P. Dutta and D. Culler (2009). Experiences with a high-fidelity wireless building energy auditing network. *Proceedings of the 7th ACM Conference on Embedded Networked Sensor Systems (ACM SenSys '09)*. Berkeley, California, ACM: 113-126. (18% acceptance rate)

2008

- [18] Dutta, P., J. Taneja, J. Jeong, **X. Jiang** and D. Culler (2008). A building block approach to sensor network systems. *Proceedings of the 6th ACM conference on Embedded network sensor systems (ACM SenSys '08)*. Raleigh, NC, USA, ACM: 267-280. (16% acceptance rate)
- [19] He, M. M., E. M. Reutzel, **X. Jiang**, R. H. Katz, S. R. Sanders, D. E. Culler and K. Lutz (2008). An architecture for local energy generation, distribution, and sharing. *Energy 2030 Conference*, 2008. ENERGY 2008. IEEE.
- [20] Jeong, J., **X. Jiang** and D. Culler (2008). Design and analysis of micro-solar power systems for wireless sensor networks. In *Proceedings of the 5th International Conference on Networked Sensing Systems*, 2008. INSS 2008. IEEE.

2007

- [21] **Jiang, X.**, P. Dutta, D. Culler and I. Stoica (2007). Micro power meter for energy monitoring of wireless sensor networks at scale. *Proceedings of the 6th international conference on Information processing in sensor networks (ACM IPSN '07)*. Cambridge, Massachusetts, USA, ACM: 186-195. (25% acceptance rate)

2005

- [22] **Jiang, X.**, J. Polastre and D. Culler (2005). Perpetual environmentally powered sensor networks. *Proceedings of the 4th international symposium on Information processing in sensor networks (IEEE IPSN '05)*. Los Angeles, California, IEEE. (26% acceptance rate) (**Best Paper Award**)
- [23] Whitehouse, K., C. Karlof, A. Woo, **F. Jiang** and D. Culler (2005). The effects of ranging noise on multihop localization: an empirical study. *Proceedings of the 4th international symposium on Information processing in sensor networks (IEEE IPSN '05)*, IEEE. (26% acceptance rate)

Refereed Journal Publications:

2019

- [24] Xia, S., de Godoy, D., Islam, B., Islam, M.T., Nirjon, S., Kinget, P.R. and Jiang, X., 2019. Improving Pedestrian Safety in Cities using Intelligent Wearable Systems. *IEEE Internet of Things Journal*. IEEE. (**Impact factor: 9.515**).

2018

- [25] Wei, P., Chen, X., Vega, J., Xia, S., Chandrasekaran, R. and Jiang, X., 2018. A Scalable System for Apportionment and Tracking of Energy Footprints in Commercial Buildings. *ACM Transactions on Sensor Networks (TOSN)*, 14(3-4), p.22. ACM. (Impact factor: 2.322).
- [26] Jia, J., Xu, C., Pan, S., Xia, S., Wei, P., Noh, H., Zhang, P. and Jiang, X., 2018. Conductive Thread-Based Textile Sensor for Continuous Perspiration Level Monitoring. *Sensors*, 18(11), p.3775. Elsevier. (Impact factor: 3.031).
- [27] Jia, J., Yu, J., Hanumesh, R.S., Xia, S., Wei, P., Choi, H. and Jiang, X., 2018. Intelligent and privacy-

preserving medication adherence system. *Smart Health*, 9, pp.250-264. Elsevier.

- [28] Xia, S., Wei, P., Vega, J.M. and **Jiang, X.**, 2018. SPINDLES+: An adaptive and personalized system for leg shake detection. *Smart Health*, 9, pp.204-218. Elsevier.

2011

- [29] Katz, R. H., D. E. Culler, S. Sanders, S. Alspaugh, Y. Chen, S. Dawson-Haggerty, P. Dutta, M. He, **X. Jiang** and L. Keys (2011). "An information-centric energy infrastructure: The Berkeley view." *Sustainable Computing: Informatics and Systems* 1(1): 7-22. Elsevier.

2007

- [30] **Jiang, X.**, J. Taneja, J. Ortiz, A. Tavakoli, P. Dutta, J. Jeong, D. Culler, P. Levis and S. Shenker (2007). "An architecture for energy management in wireless sensor networks." *SIGBED Rev.* 4(3): 31-36. ACM.

Book Chapters:

- [31] **X. Jiang** (2016) Large Scale Air-Quality Monitoring in Smart and Sustainable Cities. *Smart Cities: Foundations and Principles*, Wiley.
- [32] Cheng, Y., X. Li, Z. Li, S. Jiang and **X. Jiang** (2014). Fine-Grained Air Quality Monitoring Based on Gaussian Process Regression. *Neural Information Processing*, Springer International Publishing: 126-134.

Refereed Workshop and Conference Demo, Poster Publications:

2019

- [33] Wei, P., Shi, H., Yang, J., Qian, J., Ji, Y. and **Jiang, X.**, 2019, September. City-scale vehicle tracking and traffic flow estimation using low frame-rate traffic cameras. Workshop Paper. In *Proceedings of the 2019 ACM International Joint Conference on Pervasive and Ubiquitous Computing and Proceedings of the 2019 ACM International Symposium on Wearable Computers* (pp. 602-610). ACM.

2018

- [34] de Godoy, D., Xia, S., Fernandez, W., Jiang, X. and Kinget, P.R., 2018, April. An Ultra-Low-Power Custom Integrated Circuit based Sound-Source Localization System. Demo Abstract. In *International Conference on Internet-of-Things Design and Implementation (ACM/IEEE IoTDI '18)*. ACM. **(Best Demo Award)**.
- [35] Wei, P. and **Jiang, X.**, 2018, November. A data-driven system for city-scale personal energy footprint estimations. Poster Abstract. In *Proceedings of the 5th Conference on Systems for Built Environments (ACM BuildSys '18)*. ACM.
- [36] Xia, S., de Godoy, D., Islam, B., Islam, M.T., Nirjon, S., Kinget, P.R. and **Jiang, X.**, 2018, December. A Smartphone-Based System for Improving Pedestrian Safety. Demo Abstract. In *2018 IEEE Vehicular Networking Conference (IEEE VNC '18)*. IEEE. **(Best Presentation Award)**

2017

- [37] Godoy, D., Jia, J., Jiang, X., 2017. RIO-40C - A Low-Cost Wearable Sunlight Exposure Monitor for Skincare. Demo Abstract. In *Proceedings of the 2nd ACM/IEEE International Conference on Internet-of-Things Design and Implementation (ACM/IEEE IoTDI '17)*. ACM/IEEE.

2016

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