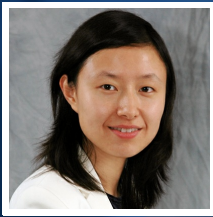


# Wireless Network Optimization and Applications



Lili Qiu

Professor, Computer Science Associate Professor, Computer Science Assistant Professor, Computer Science

## CURRENT RESEARCH

Spectrum management, localization and tracking, big data analytics, wireless network management, 4G/5G

We all want fast and reliable Internet on our mobile devices, to browse the web, stream videos and music. As wireless networks become increasingly popular, wireless carriers are running out of spectrum to accommodate users' ever increasing hunger for network bandwidth. Dr. Lili Qiu, Professor of Computer Science at the University of Texas at Austin, develops a series of novel approaches to manage spectrum, automate diagnosis and planning, optimize performance, and enable new applications.

Dr. Qiu was a former researcher at Microsoft Research and named Association for Computing Machinery (ACM) Distinguished Scientist in 2013. She has published a book chapter, titled *Characterizing Web Workload for Mobile Clients*. In order to transfer her work into practical implementation, she collaborates with researchers in both academia and industry including several major cellular providers. Her research is based on solid theoretical foundation and targets practical networking challenges. She has led her team to develop working prototypes and apply them to real networks. Her research areas include (i) spectrum management, (ii) wearable computing, (iii) large-scale data analytics, and (iv) network management and optimization. Below are a description of some of the current projects:

- Managing Wireless Spectrum: Traffic demands have increased exponentially, but the problem is that we have a finite spectrum. The only way to sustain the demand growth is to efficiently use the available spectrum -- dynamically determining which spectrum are available at which time and location to maximize spectrum utilization. To this front, Dr. Qiu's research addresses both theoretical and practical challenges. The...

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## AFFILIATION



The University of Texas at Austin

## EDUCATION

- Ph.D. in Computer Science 2001, Cornell University
- M.S. in Computer Science 1999, Cornell University
- B.S. in Computer Science 1996, University of Bridgeport
- B.S. in Physics 1996, University of Bridgeport

## AWARDS

- ACM Distinguished Scientist, 2013
- Faculty Fellowship in Computer Science, 2008 - Present
- National Science Foundation Faculty Early Career Award, 2006 - 2011
- IEEE Senior Member, 2007
- CRMA: Collision-Resistant Multiple Access. Best paper award finalist at ACM MobiCom 2011
- and 1 more...

## RESEARCH AREAS

Technology, Computational Sciences / Mathematics, Telecommunications, Informational Sciences / Internet

## FUNDING REQUEST

Your contributions will support the continued research of Dr. Lili Qiu and her team at the University of Texas at Austin, as they develop novel approaches to manage and optimize wireless networks and use them to enable new applications. Donations will help fund research projects. Annual \$100-500K are required per project, which is used to support Ph.D. students to conduct research. Partner with Dr. Qiu as she collaborates with cellular providers to bring high quality network service to users all across the nation!