

Xiaolan (Ellen) Zhang

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RESEARCH INTERESTS

My research interests are in the area of Computer Network and Distributed Systems. I am specifically interested in mobile ad hoc network, disruption tolerant network, dynamic spectrum access network, multimedia streaming systems, network coding, network (e.g. mobility) trace analysis and modeling, and performance evaluation (through modeling, simulation and experimentation).

EDUCATIONS

- **Ph.D. in Computer Science**, Sept 2007, University of Massachusetts at Amherst

Thesis Title: Routing in DTN: Performance Modeling, Network Coding Benefit, and Real Mobility Trace Modeling, Advisors: Prof. Jim Kurose, Prof. Don Towsley

- **Master of Science (M.S.) in Computer Science**, May, 2001, University of Massachusetts at Amherst
- **Bachelor of Science (B.S.) in Computer Science**, July, 1992, Peking University, Beijing, China

PUBLICATIONS

Journal

- **Xiaolan Zhang**, Giovanni Neglia, Jim Kurose, Don Towsley, and Haixiang Wang, **Benefits of Network Coding for Unicast Application in Disruption Tolerant Networks**, accepted to appear in IEEE/ACM Transactions on Networking, 2012
- **Xiaolan Zhang**, Honggang Zhang, Yu Gu, **Impact of Source Counter on Routing Performance in Resource Constrained DTNs**, in Elsevier Journal of Pervasive and Mobile Computing, Volume 7, Issue 2, April 2011, Pages 172–188
- **Xiaolan Zhang**, Giovanni Neglia, Jim Kurose, and Don Towsley, **Performance Modeling of Epidemic Routing**, in Elsevier Computer Networks journal, 2007, Volume 51/10, pages 2859-2891.1. Cited by 268 (Google Scholar)

Book Chapter

- **Xiaolan Zhang**, Giovanni Neglia, Jim Kuroes, **Chapter 10: Network Coding in Disruption Tolerant Networks** in the book titled **Network Coding: Fundamentals and Applications**, edited by Muriel Medard, Alex Sprintson, Academic Press, ISBN: 978-0-12-380918-b, Oct 2012

Conference and Workshop papers

- Giovanni Neglia, **Xiaolan Zhang**, Jim Kurose, Don Towsley and Haixiang Wang, **On Optimal Packet Routing in Deterministic DTNs**, to appear in IEEE Vehicular Technology Conference (VTC) 2013
- Hung-Da Shih, **Xiaolan Zhang**, David S.L. Wei, Kshirasagar Naik, Rung Ching Chen, **Design and Implementation of a Mobile Sensor Network Test-bed using Sun SPOTS**, in International Conference on Networking and Information Technology (ICNIT) 2012
- **Xiaolan Zhang**, Honggang Zhang, Yu Gu, **Impact of Source Counter on DTN Routing Control under Resource Constraints**, in ACM International Workshop on Mobile Opportunistic Networks (MobiOpp) 2010. Cited by 10 (Google Scholar)
- **Xiaolan Zhang**, Jim Kurose, Brian Levine, Don Towsley, and Honggang Zhang, **Study of a Bus-Based Disruption Tolerant Network: Mobility Modeling and Impact on Routing**, in ACM International Conference on Mobile Computing and Networking (MobiCom) 2007. Cited by 278 (Google Scholar)
- Giovanni Neglia, and **Xiaolan Zhang**, **Optimal Delay-Power Trade-off in Sparse Delay Tolerant Networks: a preliminary study**, SIGCOMM Challenged Network workshop, 2006. Cited by 47 (Google Scholar)
- **Xiaolan Zhang**, Giovanni Neglia, Jim Kurose, and Don Towsley, **On the Benefits of Random Linear Coding for Unicast Applications in Disruption Tolerant Networks**, IEEE Second Workshop on Network Coding, Theory, and Applications (NETCOD), 2006. Cited by 58 (Google Scholar)
- **Xiaolan Zhang**, Giovanni Neglia, Jim Kurose, and Don Towsley, **Performance Modeling of Epidemic Routing**, IFIP Networking 2006, one of the top ranking papers and recommended for fast track consideration of Computer Networks journal. Cited by 110 (Google Scholar)
- **Xiaolan Zhang**, Michael K. Bradshaw, Yang Guo, Bing Wang, Jim Kurose, Prashant Shenoy, and Don Towsley, **AMPS: A Flexible, Scalable Proxy Testbed for Implementing Streaming Services**, ACM Workshop on Networking and Operating Systems Support for Digital Audio and Video (NOSSDAV) 2004.
- **Xiaolan Zhang**, Don Towsley, and Jack Wileden, **Towards Interoperable Multimedia Streaming Systems**, International Packet Video workshop, 2002

Under Review/Preparation

- Ohad Kravchick, David, S.L. Wei, **Xiaolan Zhang**, **Delay-Sensitive Data Gathering in Wireless Sensor Networks**, submitted to IFIP/IEEE Networking, 2013
- Ruofan Jin, Bing Wang, Wei Wei, **Xiaolan Zhang**, Xian Chen, Yaakov Bar-Shalom, Peter Willett, **Failure Node Detection in Mobile Ad-Hoc Networks**, under preparation
- **Xiaolan Zhang**, Jim Kurose, Brian Neil Levine, Don Towsley, Honggang Zhang, **On the Mobility Modeling of a Real Bus-based Disruption Tolerant Network**, to be submitted to IEEE Transactions on Mobile Computing

Technical Report

- Bing Wang, Michael K. Bradshaw, Yang Guo, Jim Kurose, Subhabrata Sen, Prashant Shenoy, Don Towsley, Wei Wei, **Xiaolan Zhang**, **Empirical Study of Proxy-assisted Video Streaming Over the Best-effort Internet**, UMass CMPSCI Technical Report 03-33.

PROFESSIONAL ACTIVITIES

- NSF Networking Technology and Systems (NeTS) program Review Panelist, Spring 2012
- Reviewer for many conferences and journals, including IEEE Journal on Selected Areas in Communications, IEEE/ACM Transactions on Networking, IEEE Transactions on Communications, ACM Multimedia Systems Journal, IEEE Transaction on Mobile Computing, IEEE Transactions on Vehicular Technology, Elsevier Ad Hoc, International Journal of Ad Hoc and Ubiquitous Computing, Elsevier Pervasive and Mobile Computing, International Journal of Communication Systems, ACM Transactions on Autonomous Adaptive Systems, Discrete Applied Mathematics, IEEE International Conference on Mobile Ad-hoc and Sensor Systems, IEEE INFOCOM, IEEE SECON
- Technical program committee member for International Workshop on Quality of Service (IWQoS) 2008, 7th IEEE International Conference on Pervasive Computing and Communication (IEEE PerCom'09), ACM Mobicom workshop on Challenged Networks (CHANT) (2009- 2011), IEEE International Conference on Computer Communications and Networks (ICCCN) 2010, CRNet (International Workshop on Cognitive Radio Networks) 2010, IEEE Globecom AHSN (2011-2013)

UNIVERSITY SERVICE

- Nominating committee for Clare Boothe Luce program (Fordham University, since 2010)
- Associate Chair for Graduate Studies, Computer and Information Science Department, Fordham University (Aug 2010 to June 2012)
- Assessment Round Table (Fordham University, Spring 2009)

- Assessment Planning Task Force, Graduate School of Arts and Science (Fordham University, Fall 2008)
- Committee on Doctoral Program in Information Science (Fordham University, Spring 2008)
- Undergraduate curriculum committee (CIS Dept, Fordham University, Fall 2007 - present)

WORK EXPERIENCE

- Assistant Professor, Department of Computer and Information Science Aug'07-now FORDHAM UNIVERSITY New York, New York
- Senior Software Engineer and Project Leader July'93-May'98 GEOGRAPHICAL INFORMATION SYSTEM LAB, BEIJING UNIVERSITY Beijing, P.R.China
- Testing Engineer July'93-Jan'94, HEWLETT PACKARD CORP. Cupertino, CA
- Software Engineer July'92-July'93, STATE KEY CASE LAB, BEIJING UNIVERSITY Beijing, P.R.China