

JUBIN JOSE

Wireless Networking and Communications Group
1 University Station, Mail code: C0806
Austin, Texas 78712

(512) 706-5594 (Mobile)
jubin@austin.utexas.edu
<http://uts.cc.utexas.edu/~jjose/>

EDUCATION

University of Texas at Austin 2008 - Present

Ph.D. in Electrical and Computer Engineering

Advisor: Prof. Sriram Vishwanath

GPA: 3.9/4.0, Major: 4.0/4.0

Thesis (under preparation): Physical-layer Aware Resource Allocation for Wireless Networks

University of Texas at Austin 2006 - 2008

Master of Science in Electrical and Computer Engineering

GPA: 4.0/4.0

Thesis: Scheduling and Pre-Conditioning in Multi-User Multiple Antenna Systems

Indian Institute of Technology Madras 2002 - 2006

Bachelor of Technology in Electrical Engineering

GPA: 9.31/10.0

RESEARCH INTERESTS

- Wireless Communications - Multi-User MIMO, Future Cellular Networks
- Resource Allocation in Wireless Networks - Distributed Algorithms, Cross-layer Algorithms
- Network Information Theory - Interference Channels, Capacity Scaling

INDUSTRY EXPERIENCE

NEC Labs America Inc., Princeton May - August 2010
Summer Research Assistant

- Robust interference alignment schemes and outer bounds for MIMO interference networks

Corporate R&D, Qualcomm Inc., San Diego May - August 2009
Interim Engineering Intern

- HSDPA Capacity and Coverage analysis for Femtocells

Bell Labs, Alcatel-Lucent Inc., Murray Hill June - August 2008
Summer Consultant, Enabling Computing Technologies

- Analyzed pilot contamination problem in multi-cell systems with uplink training and developed multi-cell MMSE-based precoding

Bell Labs, Alcatel-Lucent Inc., Murray Hill June - August 2007
Summer Consultant, Mathematical and Algorithmic Sciences Research Center

- Developed precoding methods for multi-user multiple-antenna TDD systems

Cambridge Silicon Radio, Bangalore, India
Student Intern

May - August 2005

- Memory Analysis and Testing of 3G Multimode Protocol Stack

ACADEMIC EXPERIENCE

Graduate Research Assistant, UT Austin

August 2007 - Present

- Working on research problems arising from throughput maximization in wireless networks; Our results span all layers of the protocol stack with applications in relay, cellular and ad hoc networks

Teaching Assistant, UT Austin

August - December 2007

- Teaching Assistant for Distributed Information System Security

Teaching Assistant, UT Austin

August 2006 - May 2007

- Teaching Assistant for Introduction to Automatic Control in three semesters

PATENTS

1. "Methods for Reducing Inter-Cell Interference by Precoding Signals for Transmission in Wireless MIMO System," filed on 02/06/2009, Joint inventor with A. Ashikhmin and T. L. Marzetta, Alcatel-Lucent Bell Labs.
2. "MIMO Communication System with User Scheduling and Modified Precoding based on Channel Vector Magnitudes," filed on 08/20/2008, Joint inventor with A. Ashikhmin and P. A. Whiting, Alcatel-Lucent Bell Labs.

PUBLICATIONS

Pre-prints

1. Jubin Jose and Sriram Vishwanath, "Network Utility Maximization: A rate-distortion perspective," submitted for publication, e-print, arXiv:1008.0044.
2. Vidur Bhargava, Jubin Jose and Sriram Vishwanath, "Q-CMRA: Queue-based Channel Measuring & Rate Allocation," submitted for publication.
3. Jubin Jose and Sriram Vishwanath, "Queue-Architecture and Stability Analysis in Cooperative Relay Networks," e-print, arXiv:1007.1255
4. Jubin Jose and Sriram Vishwanath, "Distributed Rate Allocation for Wireless Networks," submitted for publication, e-print, arXiv:1002.2813
5. Jubin Jose, Alexei Ashikhmin, Thomas L. Marzetta and Sriram Vishwanath, "Pilot Contamination and Precoding in Multi-Cell TDD Systems," submitted to IEEE Transactions on Wireless Communications, e-print, arXiv:0901.1703
6. Jubin Jose, Alexei Ashikhmin, Phil Whiting and Sriram Vishwanath, "Linear Precoding for Multi-User Multiple Antenna TDD Systems," submitted to IEEE Transactions on Vehicular Technology, e-print, arXiv:0812.0621

Published

7. Jubin Jose and Sriram Vishwanath, "Sum Capacity of K User Gaussian Degraded Interference Channels," in Proc. of IEEE Information Theory Workshop (ITW), Dublin, Ireland, Aug-Sep, 2010.
8. Jubin Jose, Ahmed Abdel-Hadi, Piyush Gupta and Sriram Vishwanath, "On the Impact of Mobility on Multicast Capacity of Wireless Networks," in Proc. of IEEE INFOCOM, San Diego, CA, Mar, 2010.
9. Jubin Jose, Lei Ying and Sriram Vishwanath, "On the Stability Region of Amplify-and-Forward Cooperative Relay Networks," in Proc. of IEEE Information Theory Workshop (ITW), Taormina, Sicily, Oct, 2009.
10. Amin Jafarian, Jubin Jose and Sriram Vishwanath, "Algebraic Lattice Alignment for K-User Interference Channels," in Proc. of Allerton Conference on Communication, Control, and Computing, Monticello, IL, Sep-Oct, 2009.
11. Jubin Jose, Alexei Ashikhmin, Thomas L. Marzetta and Sriram Vishwanath, "Pilot Contamination Problem in Multi-Cell TDD Systems," in Proc. of IEEE International Symposium on Information Theory (ISIT), Seoul, South Korea, Jun-Jul, 2009.
12. Jubin Jose, Alexei Ashikhmin, Phil Whiting and Sriram Vishwanath, "Precoding Methods in Multi-User TDD MIMO Systems," in Proc. of Allerton Conference on Communication, Control, and Computing, Monticello, IL, Sept, 2008.
13. Jubin Jose, Alexei Ashikhmin, Phil Whiting and Sriram Vishwanath, "Scheduling and Pre-Conditioning in Multi-User MIMO TDD Systems," in Proc. of IEEE International Conference on Communications (ICC), Beijing, China, May, 2008.
14. Jubin Jose, Sheetal Kalyani and K. Giridhar, "Impulsive Interference Cancellation in Uplink Macro-Diversity Combining," in Proc. of IEEE Wireless Communications and Networking Conference (WCNC), Hong Kong, Mar, 2007.

SKILLS

- Excellent communication skills and ability to work very well in groups
- Computer languages: C, C++, Perl, Assembly Coding
- Familiar with x-kernel framework for implementing network protocols
- Software: Matlab, Spice, TKGate, XCircuit, LabVIEW, LaTeX, GAMS
- Hardware: Intel 8086 Microprocessor, ADI BlackFin 533 DSP Processor
- Platforms: Windows, Linux, Mac

HONORS AND AWARDS

- Graduate Research Assistantship from UT Austin, Spring 07 - present
- Teaching Assistantship from UT Austin, Fall 06 - Fall 07
- Awarded MCM merit scholarship on IIT Madras' 44-th Institute Day
- Ranked 78-th among approx. 175,000 students in IIT Joint Entrance Examination, 2002