BIJAN GOLKAR

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QUALIFICATION HIGHLIGHTS

- Developed a system-level simulator for LTE cellular networks based on International Telecommunication Union recommendations
- Executed a simulation campaign for the International Mobile Telecommunications-Advanced (IMT-Advanced) Canadian Evaluation Group to assess the performance of the LTE standard
- Designed a practical, adaptive and scalable resource allocation framework for autonomous cellular networks

EDUCATION

Doctor of Philosophy 2007 – 2013

Electrical and Computer Engineering Department, University of Toronto

Advisor: Elvino S. Sousa

Thesis title: *Resource Allocation in Autonomous Cellular Networks*

Master of Applied Science 2005 – 2007

Systems and Computer Engineering Department, Carleton University

Advisor: Florence Danilo-Lemoine

Thesis title: *MIMO Structures for Multi-carrier CDMA Systems*

Bachelor of Science 2001 – 2005

Electrical Engineering Department, KNToosi University of Technology

Thesis title: *Design and Implementation of a Remote Video Monitoring System*

RESEARCH INTERESTS

- System design and resource allocation in heterogeneous cellular networks
- Broadband access networks (LTE, WiMax)
- Multi-antenna systems (MIMO)

PUBLICATIONS

Journal Papers

- Golkar B., Sousa E. S., "A network shadow fading gain model for autonomous cellular networks", submitted to *IEEE Transactions on Wireless Communications*, July 2013
- Golkar B., Sousa E. S., "Resource allocation in autonomous cellular networks", *IEEE Transactions on Wireless Communications*, vol. 12, no. 11, pp. 5572-5583, November 2013

Conference Papers

- Golkar B., Sousa E. S., "Adaptive partitioned interference management in cellular networks", *IEEE Global Communications Conference (Globecom)*, December *2012*
- Jamali V., Golkar B., Salari S., Ahmadian M., Sousa E. S., "Cooperative spectrum sensing with per-user power constraints", *IEEE International symposium on Personal, Indoor and Mobile Radio Communications (PIMRC),* September *2012*
- Golkar B., Sousa E. S., "A network shadow fading model for autonomous infrastructure wireless networks", *20th European Signal Processing Conference (EUSIPCO),* August 2012
- Golkar B., Sousa E. S., "A generalized methodology for frequency reuse in autonomous cellular networks"*, IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC),* September 2011
- Zhang Y., Golkar B., Sousa E. S., Zhang Q., "Efficient user selection for downlink zero-forcing based multiuser MIMO systems", *IEEE Vehicular Communication Conference (VTC)*, September 2011
- Golkar B., Sousa E. S., "Adaptive localized resource allocation with access point coordination in cellular networks", *IEEE International Conference on Communications (ICC)*, June 2011
- Golkar B., Danilo-Lemoine F., "Bit error rate analysis of multiuser and space-time coded MC-CDMA systems", *IEEE Military Communications Conference (MILCOM),* October 2007
- Golkar B., Danilo-Lemoine F., "Space-time coding and spatial multiplexing in MIMO multicarrier CDMA", *IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC),* September 2007

RELEVANT GRADUATE LEVEL COURSES

- Convex optimization
- Probability and random processes
- Digital signal processing

- Information Theory
- Four courses in different aspects of communications (Theory, wireless networks and standards)

PROFESSIONAL SERVICES

- Volunteer at PIMRC 2011
- Reviewer for IEEE Communications Magazine, Journal of Communications Networks
- Reviewer for multiple international conferences (VTC, PIMRC, …)

TEACHING EXPERIENCE

Teaching assistant Winter 2008 – 2012

Wireless communications, ECE Department, University of Toronto

Teaching assistant Fall 2008 – 2011

Communication systems, ECE Department, University of Toronto

Teaching assistant Winter 2007

Digital Signal Processing, SCE Department, Carleton University

Teaching assistant Winter 2006

Telecommunications Engineering, SCE Department, Carleton University

LANGUAGE SKILLS

- English (Fluent)
- French (Intermediate)
- Farsi (Native)

PERSONAL INTERESTS AND ACTIVITIES

- Classical violinist
- Member of the HartHouse Orchestra at University of Toronto 2007 – 2013
- Executive member of the Argentine Tango Club at University of Toronto 2009 – 2011
- Sports/Outdoor activities: Alpine skiing, Backcountry camping, Cycling, Tennis