

# MANISH WADHWA

## CONTACT INFORMATION

Department of Information Technology  
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## EDUCATION

- Ph.D., Electrical and Computer Engineering, Old Dominion University, August 2010.  
*Thesis: Analysis and Optimization of Dynamic Spectrum Sharing for Cognitive Radio Networks.*
- M.S., Electrical and Computer Engineering, University of Wisconsin - Milwaukee, May 2005.
- B.Tech., Electronics and Communication Engineering, Guru Nanak Dev University, Amritsar, India, 2003.

## EMPLOYMENT

- 2011 – Present    **Assistant Professor**, Department of Information Technology, South University
- 2010 – 2011    **Adjunct Assistant Professor**, Old Dominion University, ECPI University
- 2007 – 2010    **Instructor**, Old Dominion University
- 2006 – 2007    **Research Assistant**, Old Dominion University
- 2003 – 2005    **Teaching Assistant**, University of Wisconsin - Milwaukee

## TEACHING EXPERIENCE

South University

- Computer and Internet Literacy, ITS 1000
- Foundations of Information Technology, ITS 1101

ECPI University

- Data Communications and Networking, EET 252
- Semiconductor Devices, ET120

Old Dominion University

- Computer Communication Network, ECE 742/842
- Network Engineering/Design, ECE 455/555
- Computer Networking, ECE 642
- Introduction to Computer Networks and Data Communication, ECE 355
- Communication Systems, ECE 451/551
- Circuits, Signals and Linear Systems, ECE 202/371

## RESEARCH INTERESTS

- Cognitive Radio Networking:
  - Optimization of Dynamic Spectrum Sharing in Cognitive Radio Networks.
  - Designing of Algorithms and Protocols for Dynamic Spectrum Scheduling.
  - Sensing in Cognitive Radio Networks.
  - Cognitive Mesh Networking.
- Wireless Mesh Networks and Sensor Networks.

## JOURNAL PUBLICATIONS

- Manish Wadhwa, Chunsheng Xin, Min Song, E.K. Park, “Throughput Analysis of a Contention Based Dynamic Spectrum Sharing Model,” *IEEE Transactions on Wireless Communications*, vol 9, no. 4, pp. 1426-1433, April 2010.
- Manish Wadhwa, Min Song, Chunsheng Xin, “An Efficient Algorithm to Optimize Interference and System Capacity in Wireless Cognitive Networks,” *IEEE Transactions on Wireless Communications* (*under Review*).
- Manish Wadhwa, Chunsheng Xin, Min Song, “Optimal Spectrum Sharing for Contention-Based Cognitive Radio Networks,” to be submitted to *International Journal of Computer Networks*. (*in preparation*)

## CONFERENCE PROCEEDINGS

- Yanxiao Zhao, Min Song, Chunsheng Xin, Manish Wadhwa, “Distance Estimation Based Spectrum Sensing with Primary User Signal Identification for Cognitive Radio Networks,” submitted to *IEEE INFOCOM 2012*. (*under Review*)
- Manish Wadhwa, Min Song, “Performance of 802.11b Communication Systems in the Presence of Bluetooth Devices.” 4th IEEE International Conference on Information Technology: Research and Education (ITRE’06), pp. 74-78, Oct. 16-19 2006, Tel Aviv, Israel.
- Manish Wadhwa, Min Song, Vinay Rali, Sachin Shetty, “Impact of Antenna Orientation on the performance of Wireless Sensor Networks.” 2nd IEEE International Conference on Computer Science and Information Technology (ICCST 2009), pp. 143-147, August 8-11 2009, Beijing, China.

## INDUSTRY EXPERIENCE AND INTERNSHIPS

- EthoStream, Total Wireless Solutions Providers, Milwaukee, WI 2005  
Installation of Wireless Networks.
- GrapeCity India Ltd., New Delhi, India 2003  
VB.Net based solutions.
- Semi Conductors Ltd., Mohali, India Summer 2003  
Internship: Worked on the project “Closed Loop Anesthesia Drug Delivery System.” This project was about automatic anesthesia delivery to patients based on continuous monitoring of their consciousness levels during operation. Also, worked closely on the manufacturing and testing of various VLSI chips for watches, pacemakers etc.

- Center for Electronics Design and Technology, Punjab, India June-July 2001  
Internship: Application and Programming of PLCs and Drives, Languages: S5, S7 (both Siemens), AB (Allen Bradley). Also, worked on power supply designing using various design parameters.

## HONORS AND SERVICES

### Editor

- International Journal of Computer Networks.
- International Journal of Information Technology.

### Associations

- Member of IEEE.

### Reviewer

- Reviewer of IEEE Transactions on Wireless Communications, International Journal of Computer Networks, IJCN, IEEE JCM (Journal of Communications), IJAHUC (International Journal of Ad Hoc and Ubiquitous Computing), IEEE ICC AHSN, IEEE Globecom, AdHocNets.

### Awards

- Outstanding Teaching Instructor Award, ECE Department, Old Dominion University, spring 2010.

### Summer Camp

- Conducted demonstrations with wireless communications and networks to high school students in the Hampton Roads area (Aug 6- 10, 2007)

## REFERENCES

Dr. Min Song

Associate Professor and Program Director, CNS/CISE

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