

# Rahul Mangharam

## EDUCATION

Ph.D., Electrical & Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, March 2008.

M.S., Electrical & Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, August 2002.

B.S., Electrical & Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, May 2000.

## ACADEMIC EMPLOYMENT

05/08-present: **Director, mLAB** Real-Time and Embedded Networked Systems Lab, *University of Pennsylvania*

04/08-present: **Stephen J. Angello Chair** of Electrical and Systems Engineering, *University of Pennsylvania*

02/08-present: **Assistant Professor** *Dept. of Electrical and Systems Engineering, University of Pennsylvania*

10/07-01/08: **Assistant Professor-Designate** *Dept. of Electrical and Systems Engineering, University of Pennsylvania*

## HONORS AND AWARDS

Best Student Paper Award, IEEE Conference on Sensors, Mesh, Ad Hoc Communications & Networks (SECON), 2006

Sixth Annual Lockheed Martin Project Award and Sigma Xi Competition Award, Carnegie Mellon University, 2006

Meeting of the Minds - Eta Kappa Nu Research Award, Carnegie Mellon University, 2002

## TEACHING

ECE 848, Special Topics in Electrical Engineering, Wireless Sensor Networks, Fall 2006

ECE 220, Fundamentals of Electrical Engineering, Spring 2000

## CURRENT GROUP

Miroslav Pajic (ESE), Mark Hamilton (ECE), Andrew Avrin (ESE) and Daniel Lustig (ESE).

## FORMER GROUP MEMBERS

Daniel Weller (MIT), Malolan Shantanakrishnan (Mathworks), Ryohei Suzuki (Tokyo University), Jalaja Kurubarahalli (Intel), Chih-Yuan Liao (Qualcomm), Yoshisato Takeda (Mitsubishi Electric) and Kunal Shah (Cisco).

## SELECTED SYNERGISTIC ACTIVITIES

Participant, NSF-NCO/NITRD National Workshop on *High Confidence Automotive Cyber-Physical Systems*, April 2008. In cooperation with the United States Council for Automotive Research (USCAR).

Participant, NSF-NCO/NITRD National Workshop on *New Research Directions in Composable and Systems Technologies for High Confidence Cyber-Physical Systems*, July 2007.

Participant, NSF National Workshop on *High Confidence Medical Device Software and Safety*, Boston, MA, June 2007.

## OTHER PROFESSIONAL ACTIVITIES

Program Committee, ACM INFOCOM, 2009

Program Committee, IEEE Real-Time Systems Symposium (RTSS), 2008

Program Committee, IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS), 2008

Program Committee, 2nd IEEE International Symposium on Wireless Vehicular Communications (WiVeC), 2008

Program Committee, IEEE MoVeNet, 2nd International Workshop on Mobile Vehicular Networks, 2008

Organizing Committee, IEEE International Conference on Communication System software and Networks (COM-SNETS), 2009

Program Committee, International Symposium on Vehicular Computing Systems, 2008

Organizing Committee, IEEE International Conference on Communication System software and Middleware (COM-SWARE), 2008

Program Committee, IEEE Workshop on Mobile Networks for Vehicular Environments, (INFOCOM/MOVE), 2008

#### **FIVE RELATED PUBLICATIONS**

1. R. Mangharam, A. Rowe and R. Rajkumar, "FireFly: A Cross-Layer Platform for Wireless Sensor Networks", *Real Time Systems Journal, Special Issue on Real-Time Wireless Sensor Networks*. Nov 2007.
2. R. Mangharam, A. Rowe and R. Rajkumar, "Voice over Sensor Networks", *IEEE Real-Time Systems Symposium (IEEE RTSS)*, Dec 2006.
3. R. Mangharam and R. Rajkumar, "MAX: A Maximal Transmission Concurrency MAC for Wireless Networks with Regular Structure", *IEEE International Conference on Broadband Communications, Networks and Systems (IEEE BROADNETS)*, Oct 2006.
4. R. Mangharam, D. S. Weller, R. Rajkumar, P. Mudalige and F. Bai, "GrooveNet: A Hybrid Simulator for Vehicle-to-Vehicle Networks", *Second International Workshop on Vehicle-to-Vehicle Communications (IEEE V2VCOM)*, July 2006.
5. R. Mangharam, S. Pollin, B. Bougard, R. Rajkumar, F. Catthoor, L. Van der Perre, "Optimal Fixed and Scalable Energy Management for Wireless Networks", *IEEE INFOCOM*, March 2005.

#### **FIVE OTHER PUBLICATIONS**

1. R. Mangharam, R. Rajkumar, M. Hamilton, Priyantha Mudalige and Fan Bai, "Bounded-Latency Alerts in Vehicular Networks", *IEEE INFOCOM/MOVE*, May 2007.
2. A. Rowe, R. Mangharam and R. Rajkumar, "RT-Link: A Time-Synchronized Link Protocol for Energy Constrained Multi-hop Wireless Networks", *IEEE International Conference on Sensors, Mesh and Ad Hoc Communications and Networks (IEEE SECON)*, Sept 2006.
3. S. Pollin, R. Mangharam, B. Bougard, L. Van der Perre, R. Rajkumar, I. Moerman, F. Catthoor, "MEERA: Cross-Layer Methodology for Energy Efficient Resource Allocation for Wireless Networks", *IEEE Transactions on Wireless Communications*, 2007.
4. R. Mangharam, D. S. Weller, D. D. Stancil, R. Rajkumar, "GrooveSim: A Topography-Accurate Simulator for Geographic Routing in Vehicular Networks", *ACM Mobicom/VANET*, Sept. 2005.
5. R. Mangharam, M. Demirhan, R. Rajkumar, and D. Raychaudhuri, Size matters: Size-based scheduling for MPEG-4 over wireless channels, *SPIE & ACM Proceedings in Multimedia Computing and Networking*. Vol. 3020 pp. 110-122. San Jose, CA, January 2004.