

Miguel A. Erazo

Modeling and Networking Systems Research Group
Department of Computer Science
Florida International University
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RESEARCH INTERESTS My research goal is to design, build and evaluate network protocols and tools to improve the robustness and performance of wired and wireless networks. My current research interests include congestion control, simulation and emulation of large scale networks, performance modeling of networked systems, and MAC and routing protocols for wireless networks.

EDUCATION

Florida International University, Miami FL 33199
Ph.D. student, Computer Science (August 2007 - present)
Advisor: Dr Jason Liu

University of Puerto Rico, Mayagüez PR 33164 (GPA 4.0)
M.S. in Computer Engineering
Thesis: An Energy MAC Protocol for WSNs for Wide Area Large Scale Environmental Monitoring

Universidad Mayor de San Andrés, La Paz-Bolivia
B.E. (Hons) in Electronics Engineering
Thesis: GSM Network for Nuevatel Enterprises in Oruro

RESEARCH EXPERIENCE

Research Assistant, Florida International University (Fall 2007 - present)
Design, implementation, and evaluation of a platform, based on virtualization and emulation techniques, for evaluation of transport protocols.
Research Advisor: Dr. Jason Liu

Research Assistant, University of Puerto Rico (Spring 2005 - Fall 2007)
Design, implementation, and evaluation of a MAC protocol for Wireless Sensor Networks for Environmental Monitoring Purposes.
Research Advisors: Dr. Yi Qian and Dr. Kejie Lu

RELEVANT COURSE WORK Modeling and Simulation of Data Communication Systems, Computer Networks, Wireless Networks, Computer Networks, Object Oriented Programming, Algorithms

PUBLICATIONS

M. Erazo, Y. Qian, K. Lu, and D. Rodríguez, “**Enabling Periodic Monitoring Applications in Wireless Sensor Networks: Design and Analysis of an Efficient MAC Protocol**”, in Handbook on Sensor Networks, Edited by Yang Xiao, Hui Chen, and Frank H. Li, to be published by World Scientific Publishing Co., 2009 .

M. Erazo, Y.Li, J. Liu, "SVEET! A Scalable Virtualized Evaluation Environment for TCP", the 5th International Conference on Testbeds and Research Infrastructures for the Development of Networks and Communities (TridentCom'09).

M. Erazo, Y. Qian., K. Lu and D. Rodríguez, "Analysis and Design of a MAC Protocol for Wireless Sensor Networks with Periodic Monitoring Applications", Proceedings of MILCOM 2007, Orlando, FL, November 2007.

M. Erazo, Y. Qian, "SEA-MAC: Simple Energy Aware MAC Protocol for Wireless Sensor Networks for Environmental Monitoring", Proceedings of ISWPC'2007, San Juan, PR, February 2007

M. Erazo., Y. Qian, "An Energy-Efficient MAC Protocol for Wireless Sensor Networks for Wide Area Large Scale Environmental Monitoring", LACCEI 2006, June 2006 .

SOFTWARE

- Linux TCP congestion control algorithms ported to PRIME network simulator (C++)
- Simple Energy-Efficient MAC Protocol (SEA-MAC) code for NS-2 code (C++ and Tcl)
- Graphical Management Platform for monitoring user's performance (VBasic)

WORK EXPERIENCE **Support Engineer,** AES Communications Bolivia (La Paz-Bolivia, 2000-2004) Management, Provisioning, Troubleshooting, and development of applications for xDSL platform.

Support Engineer, Nuevatel PCS (La Paz-Bolivia, July 2000 - October 2000) Supervision and installation activities for installation of GSM equipment

TEACHING EXPERIENCE **Teaching Assistant**
My duties at various times have included office hours, leading weekly recitations, designing research projects (for the graduate-level course) and making computer lab exercises.

* COP 2210 - Introduction to Programming

* CGS 2518 - Data Analysis

* MAT 102 - Calculus II

* ELE 601 - Digital Systems I

PROFESSIONAL ACTIVITIES **Reviewer:**
* ACM/IEEE/SCS Workshop on Principles of Advanced and Distributed Simulation (PADS) 2009

* ACM/IEEE/SCS Workshop on Principles of Advanced and Distributed Simulation (PADS) 2008

* Military Communications Conference (MILCOM 2007)

IEEE member

HONORS AND AWARDS **CyberBridges / GreenLight Fellow,** FIU, 2009
José Trías Monje scholarship, UPRM, Puerto Rico, 2007.
AGEP program Fellow, UPRM, Puerto Rico, 2007-2008.
AGEP program Fellow, UPRM, Puerto Rico, 2006-2007.
Outstanding student in Electronics Engineering, College of Engineering, UMSA, La

Paz, Bolivia, 2000.

Maximum Grades in term 1999-2000, UMSA, La Paz, Bolivia, 2000.

Excellence Award, Electronics Engineering, UMSA, La Paz, Bolivia, 2000.

Maximum Grades in term 1998-1999, UMSA, La Paz, Bolivia, 1999.

Excellence Award, Electronics Engineering, UMSA, La Paz, Bolivia, 1999.

Best Student, Electronics Engineering, UMSA, La Paz, Bolivia, 1998.

COMPUTER SKILLS C, C++, Java, Perl, Tcl, UNIX shell scripting, Linux
Network simulators : NS-2, PRIME

REFERENCES Available upon request