Miguel A. Erazo Villegas

Birthplace   La Paz-Bolivia
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EDUCATION

- **Ph.D. in Computer Science**, Florida International University (In progress).

- **M.S. in Computer Engineering (GPA: 4.0)**, University of Puerto Rico at Mayagüez (UPRM), Thesis: "*An Energy-Efficient MAC Protocol for Wireless Sensor Networks for Wide Area Large Scale Environmental Monitoring*", Puerto Rico, June 2006.

- **B.S. in Electronics Engineering (GPA: 3.2, Best GPA of Electronics Engineering between 2000 students),** Universidad Mayor de San Andrés (Major University of Saint Andrews, UMSA), Thesis: "*GSM Network for Nuevatel Enterprises in Oruro*", La Paz-Bolivia, April 1999.

- **Cisco Certified Network Associate (CCNA),** Cisco Career Certifications, March 2004.

LANGUAGES

- Spanish.

- English (CBT TOEFL: 267/300, IBT TOEFL:106/120).

PROGRAMMING SKILLS

- C++, Java , Simulations in ns-2 in C++ and Tcl, NesC/TinyOS.

ACADEMIC HONORS & SCHOLARSHIPS

- "José Trías Monje" scholarship, UPRM, Puerto Rico, 2007.
- AGEP Mentor, UPRM, Puerto Rico, 2007-2008.
- AGEP Mentoree, 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.
- "Memorandum for best student", Electronics Engineering, UMSA, La Paz, Bolivia, 1998.

RESEARCH INTEREST/ EXPERIENCE

- Network design and modeling.

- Simulation and performance analysis of wireless networks

- Security and protocols for wireless sensor networks.

- Wireless mesh networks.

- Optimal scheduling mechanisms for MAC protocols

- Research project: **Wide Area Large Scale Automation for Information Processing (WALSAIP),** Electrical and Computer Engineering, University of Puerto Rico, 2005 – 2007, NSF Award num 0424546. I won the scholarship in UPRM by a Research Assistantship where I work in the networking group for WALSAIP project with Professors Yi Qian and Kejie Lu as part of the Network Communications and Infrastructure Group (NCIG). This networking group is dedicated to develop a suitable sensor network MAC protocol for environmental monitoring in wetlands in tropical areas. For those purposes, I worked in the design, simulations in ns-2 and implementation in mica2 and mica2dot motes. Currently, we are focusing in improving security mechanism for wireless sensor networks.

WORK EXPERIENCE

- Research Assistant. Design, simulation and implementation of SEA-MAC protocol and security improvements for wireless sensor networks.

- Management, Provisioning and Troubleshooting of a xDSL platform and development of a Graphical Management Platform for user's service performance monitoring purposes, AES COMMUNICATIONS BOLIVIA S.A., La Paz, Bolivia, December 2000 – June 2004.

- Supervision and installation activities for NOKIA for installation of GSM equipment, NUEVATEL-PCS, La Paz, Bolivia, July 2000 – October 2000.

- Teacher assistant. Calculus II and Digital Systems I, La Paz, Bolivia, UMSA, 1997-1999.

PUBLICATIONS

- M. Erazo., Y. Qian., K. Lu and D. Rodríguez, "Analysis and Design of a MAC Protocol for Wireless Sensor Networks with Periodic Monitoring Applications", accepted to MILCOM 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", Fourth LACCEI International Latin

American and Caribbean Conference for Engineering and Technology. LACCEI 2006, June 2006.