

Luis Pablo Barquin Valle

Agricultural and Biological Engineering
University of Florida
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Interests

Storm water design
Groundwater hydrology
Irrigation and Drainage

Water Quality
GIS
Tropical Fruit Crops

Waste Management
Poultry Science
Watershed Modeling

Education

Master of Science (2007-2009) **Agricultural Operations Management**, August 2009 **GPA: 4/4**
Major in Agricultural and Biological Engineering
Minor in Soil and Water Science
University of Florida, Gainesville, USA

Thesis: Modeling shallow water table contribution to soil-water status in the capillary fringe of a very gravelly loam soil of South Florida. Chairmen: K. Migliaccio, R. Muñoz-Carpena, J. Crane, B. Schaffer, Y. Li

Licenciatura (2001-2004) **Agronomy and Natural Resources**, December 2004 **GPA: 9/10**
EARTH University, Costa Rica
Graduated with Honors

Thesis: Evaluation of Banana (*Musa* spp.) production response to well drained conditions (EARTH University, Costa Rica).

Professional Experience

Aug 2007 - present **Graduate Research Assistant**, University of Florida, Department of Agricultural and Biological Engineering, Tropical Research and Education Center, USA.

- Developing a calibration equation for multisensor capacitance probe to determine the soil water content of a non disturbed Rockdale soil.
- Identifying capillary rise diurnal fluctuations of groundwater and soil moisture using circular statistics.
- Developing a model to predict soil moisture from capillary rise of the groundwater applying drained to equilibrium assumptions.

- Jan 2007 - Aug 2007 **Research Assistant**, University of Florida, Department of Soil and Water Science, Tropical Research and Education Center, USA.
- Ion Chromatography water quality analysis.
 - Miccosukee Indian Reservation water quality sampling.
 - Loxahatchee River Watershed soil and water quality sampling.
 - Slow release fertilizer nutrient management in tomatoes.
 - Hydrogen Dioxide toxicity to hydroponic greenhouse tomatoes case study.
- Mar 2005 - Dec 2006 **Poultry Farms Supervisor**, Corporacion Multiinversiones DIP, Guatemala.
- Manager of 3 farms in the South Coast of Guatemala.
 - Supervisory responsibility of 70 employees and production of over 12 million birds per year.
 - Involved in Biosecurity and HACCP total quality training team.
 - Handling automated systems of tunnel ventilation for poultry management.
- Jan 2005 - Mar 2005 **Consultant**, Cámara de Productores de Leche (Dairy Producers Association), Guatemala.
- Consultant for the National Dairy Situation Report of 2004.
- Jan 2004 - Dec 2004 **Research Assistant**, EARTH University, Costa Rica.
- Soil physical properties survey of EARTH tropical crops farm.
 - Effect of drainage conditions in banana production.
- Aug 2003 - Dec 2003 **Internship**, University of Florida, Tropical Research and Education Center, USA.
- Monitoring groundwater flow and water quality along the eastern boundary of the Everglades National Park.
 - Installing soil moisture automated irrigation systems in tomatoes.
 - Construction and Installation of lysimeters.
 - Sampling air and rainfall water quality of TREC's weather station.
- Jan 2001 - Dec 2003 **Entrepreneur PEPASA partner**, Suppliers of PIPASA Costa Rica.
- Business project of poultry farming.

Academic Honors and Awards

2008	<i>Academic Outstanding Achievement</i>	<i>University of Florida International Center Dean</i>
2008	<i>L. Russell Norton Memorial Fellowship</i>	<i>Dade County AgriCouncil</i>
2007	<i>Graduate Research Assistantship</i>	<i>University of Florida</i>
2004	<i>Graduated with Honors</i>	<i>EARTH University</i>
2001	<i>W. K. Kellogg Scholarship</i>	<i>EARTH University</i>
2001	<i>Cooperacion Española Scholarship</i>	<i>AECI-EARTH University</i>

Publication

Barquin, L.P., Mérida, M.A. 2004. *Efecto de las condiciones de drenaje sobre el comportamiento y producción de banano (Musa spp.) Segunda Fase (Second Phase of Banana (Musa spp.) production response to well drained conditions)*. Dissertation Lic. Ing. Agr., Guácimo, CR, EARTH University. 64 p.

Presentations

Barquin, L.P., Muñoz-Carpena, R., Migliaccio, K., Crane, J., Schaffer, B. 2008. Capillary rise modeling. University of Florida TREC Seminar series, Homestead, FL, June 5, 2008.

Barquin, L.P., Muñoz-Carpena, R., Migliaccio, K. 2008. Shallow groundwater influence to soil water dynamics on a very gravelly loam soil of South Florida. Florida American Society of Agricultural and Biological Engineers Annual Meeting 2008, Duck Key, FL, June 12-13, 2008.

Barquin, L.P., Li, Y., Palmateer, A., Olczyk, T. 2007. Hydrogen dioxide toxicity to greenhouse tomatoes. Florida State Horticultural Society Annual Meeting 2007, West Palm Beach, FL, June 3-5, 2007.

Poster Presentation

Barquin, L.P., Migliaccio, K. 2009. Potential Effect of BMPs in the reduction of irrigation practices of tropical fruit crops and field nurseries in Miami-Dade County's Biscayne Bay Watershed. Presented by Dr. Migliaccio at 2009 USDA-CSREES National Water Conference 2009, St. Louis, MO, February 8 - 12, 2009.

Workshop

Water Quality Sampling and Monitoring Technology Workshop. 5/19/2007. Tropical REC, Homestead, FL. Ion Chromatography water analysis.

Supplemental Course Work

GIS in Land Resource Management Project (Fall 2008) University of Florida, Gainesville, FL, USA.

SAS intermediate course (Sept 2008) University of Florida, IFAS statistics, Immokalee, FL, USA.

MATLAB introductory course (May 2008) University of Florida, Gainesville, FL, USA.

Automated systems of tunnel ventilation for poultry management (May 2005) Chore Time, Guatemala.

Drip Irrigation school (Aug 2003) University of Florida Extension, Homestead, and FL.

Special Skills

Software: Arc GIS, SAS, SigmaPlot, Adobe InDesign, Java, RETC, UML.

Laboratory skills: soil water science, hydrology and irrigation.

Soil moisture sensor technology: EnviroSCAN, RSU watermark.

Tempe Pressure Cells soil water characteristic determination method.

Richard's Pressure Plates soil water characteristic determination method.

Operation of Agricultural Machinery.

Artificial Insemination.

Professional Societies

American Society of Agricultural and Biological Engineers

AGEARTH (Association of EARTH University Alumnae)

Service and Community Volunteered

VI Agricultural Engineering Congress of Latin America and the Caribbean, Costa Rica (2004) Volunteer.

Ecology Project International, Costa Rica (2001-2004) sea turtle ecology program member.

EARTH Community Development Project, Costa Rica (2003) Farmers extension and local government strengthening program.

I Central American Workshop of Sustainable Development for United Nations Development Program, Costa Rica (2002).

Diagnose of life conditions of post civil war rural community in Escuintla, Guatemala (2000) Volunteer.