

**Eric W. Harmsen**  
**Professor of Agricultural and Biosystems Engineering**

**PROFESSIONAL PREPARATION**

- 1991 Post Doctorate, Soil Science, North Carolina State University
- 1989 Ph.D., Agricultural Engineering, University of Wisconsin-Madison
- 1984 M.S., Agricultural Engineering, Michigan State University
- 1981 B.S., Agricultural Engineering, Michigan State University

**PROFESSIONAL AFFILIATIONS/HONORS:** Member American Society of Agricultural Engineers, Member Caribbean Food Crop Society, Member Puerto Rico Society of Agricultural Scientists, Gamma Sigma Delta (Agricultural Honor Society). Engineer of the Year Award, PR Section of ASABE, 2009.

**APPOINTMENTS:**

- 1999-Present, Professor, Agricultural and Biosystems Engineering Department, University of Puerto Rico, Mayagüez, PR.
- 1994-1999, Chief Engineer, ICF Kaiser Engineers, Pittsburgh, Pennsylvania.
- 1991-1994, Manager, Pittsburgh Groundwater Modeling Section, International Technology Corporation, Pittsburgh, Pennsylvania.

**FIVE RECENT RELEVANT PUBLICATIONS (of 59 total)**

- Harmsen, E. W.**, N. L. Miller, N. J. Schlegel and J. E. Gonzalez, 2009. Seasonal Climate Change Impacts on Evapotranspiration, Precipitation Deficit and Crop Yield in Puerto Rico, *J. Agricultural Water Management* 96(7):1085–1095.
- Jury, M., S. Chiao and **E. W. Harmsen**, 2009. Mesoscale Structure of TradeWind Convection over Puerto Rico: Composite Observations and Numerical Simulation. *Boundary-Layer Meteorol.* DOI 10.1007/s10546-009-9393-3
- Harmsen, E. W.**, J. Mecikalski, M. J. Cardona-Soto, A. Rojas Gonzalez and R. Vasquez, 2009. Estimating daily evapotranspiration in Puerto Rico using satellite remote sensing. *WSEAS Transactions on Environment and Development*, Vol. 6(5):456-465.
- Rojas-González, A. M., **E. W. Harmsen** and S. Cruz Pol, 2009. Performance evaluation of MPE rainfall product at hourly and daily temporal resolution within a Hydro-Estimator pixel. *Transactions on Environment and Development*, Vol. 7(5):478-487.

**FIVE OTHER RELEVANT PUBLICATIONS**

- Harmsen, E. W.**, S. E. Gomez Mesa, E. Cabassa, N. D. Ramirez Beltran, S. C. Pol, R. J. Kuligowski ,R. Vasquez, 2008. Satellite Sub-Pixel Rainfall Variability. *WSEAS TRANSACTIONS on SIGNAL PROCESSING*. Issue 8, Volume 7, Pages 504-513.
- González, J. E., J. C. Luvall, D. Rickman, D. E. Comarazamy, A. J. Picón, **E. W. Harmsen**, H. Parsiani, N. Ramírez, R. Vázquez, R. Williams, R. B. Waide, and C. A. Tepley, 2005: Urban heat islands developing in coastal tropical cities. *EOS Transactions, AGU*, 86, 42, pp. 397 & 403.
- Harmsen, E. W.**, V. H. Ramirez Builes, M. D. Dukes, X. Jia, J. E. Gonzalez And L. R. Pérez Alegía, 2009. A Ground-Based Method for Calibrating Remotely Sensed Surface Temperature for use in Estimating Evapotranspiration. *WSEAS TRANSACTIONS on ENVIRONMENT and DEVELOPMENT*. Issue 1, Volume 5, January. pp 13-23.
- Harmsen, E. W.** 2003. Fifty years of crop evapotranspiration studies in Puerto Rico. *Journal of Soil and Water Conservation*. July/August, Vol. 58, No. 4, pg. 214-223.
- Harmsen, E. W.**, M. R. Goyal, and S. Torres Justiniano, 2002. Estimating Evapotranspiration in Puerto Rico. *J. Agric. Univ. P.R.* 86(1-2):35-54.

### **SYNERGISTIC ACTIVITIES**

- **Associate Research Editor:** Journal of Soil and Water Conservation (2001 – 2005).
- **Journal Reviewer:** ASCE Journal of Irrigation and Drainage; UPR Journal of Agriculture

### **SCIENTIFIC COLLABORATORS OUTSIDE OF THE UNIVERSITY OF UNIVERSITY OF PUERTO RICO**

Norman L. Miller, Climate Science Department, Earth Sciences Division, Berkeley National Laboratory,  
Nicole J. Schlegel, Earth and Planetary Science Department, University of California, Berkeley  
Jorge E. Gonzalez, Department of Mechanical Engineering, City College of New York  
John Mecikalksi, Department of Atmospheric Sciences, University of Alabama in Huntsville (UAH),  
National Space Science and Technology Center (NSSTC)  
Michael D. Dukes, Associate Professor, Department of Agricultural and Biological Engineering,  
University of Florida, Gainesville, FL.  
Xinhua Jia, Assistant Professor, Department of Agricultural and Biosystems Engineering, North Dakota  
State University, Fargo, ND  
Wayne Skaggs, Professor, Department of Agricultural and Biological Engineering, North Carolina State  
University.  
Mary P. Anderson, Professor, Department of Geology and Hydrogeology, University of Wisconsin-  
Madison.  
James Converse, Department of Agricultural Engineering, University of Wisconsin-Madison.

### **GRADUATE ADVISORS**

Wendell Gillham and Wayne Skaggs, Post Doctoral Study, North Carolina State University, 1989-1991.  
James Converse, Ph.D., University of Wisconsin-Madison, 1984-1989.  
Ted Loudon and Vincent Bralts, M.S., Michigan State University, 1981-1983.

### **CURRENT GRADUATE STUDENTS**

Alejandra Rojas Gonzalez, Ph.D., Civil Engineering, UPRM  
Santa Elizabeth Gomez, M.S., Mathematics, UPRM  
Melvin Cardona Soto, M.S. Computer and Electrical Engineering, UPRM

### **COMPLETED GRADUATE STUDENTS**

Victor Hugo Ramirez, M.S., 2007, Agronomy and Soils, UPRM  
Marcel Giovanni-Prieto, M.S., 2007, Civil Engineering, UPRM  
Beatriz Cruz, M.S., 2006, Industrial Engineering, UPRM  
Carmen Lis Arcelay, M.S., 2005, Agronomy and Soils, UPRM  
Jose Paulino-Paulino, M.S., 2004, Agronomy and Soils, UPRM