

## PROFILE

- Proactive, self-motivated, creative and adaptable
- Experience in agriculture production and leader of 'hands-on' projects
- Knowledge in Best management practices (BMPs) and precision agriculture (e.g. use of soil moisture sensors and real-time data) for irrigation scheduling in agriculture production
- Data analysis and interpretation. Strong analytic and excellent oral and written communication skills



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Gainesville, Florida, United States

\*Willing to travel/relocate



## EDUCATION

### Ph.D.

Agricultural and Biological Engineering. Major in Agricultural Operations Management  
Dept. of Agricultural and Biological Engineering  
University of Florida. Gainesville, FL, US | May 2019

### M.S.

Agricultural Operations Management  
Dept. of Agricultural and Biological Engineering  
University of Florida. Gainesville, FL, US | Dec. 2013

### B.S.

Agricultural Sciences  
EARTH University (*cum laude*). Costa Rica | Dec. 2008



## RESEARCH AND PROFESSIONAL EXPERIENCE

### Agricultural and Biological Engineering Dept., University of Florida (UF) Post Doctoral Research Associate | May 2019- Present

Project: "*Blueberry water allocation and irrigation scheduling using evapotranspiration-based methods*".

Responsibilities:

- Collect blueberry irrigation and water balance data available to explore and estimate irrigation models parameters.
- Integrate Florida real-time weather data, cropping systems, and Kc values into the SmartIrrigation Blueberry App.
- Conduct a field trial in Citra, FL to test irrigation strategies and new blueberry SmartIrrigation App. Conduct grower demonstration events and write extension documents promoting the App.

### STEPUP Program | Summer 2019

Co-taught for the Successful Transition and Enhanced Preparation for Undergraduates Program (STEPUP) for undergrads in Engineering. Class: "*Intro to Agricultural and Biological Engineering*" based on engineering concepts, hydrological cycle, food and water scarcity, and climate change.

### Research Assistant | 2015-2018

PhD dissertation project: "*Evaluation of water use, water quality and crop yield impacts of corn and peanut irrigation and nutrient Best Management Practices in the springsheds of Suwanee River Water Management District*".

Goal: Evaluation of irrigation strategies and nitrogen (N) fertility rates on corn N uptake, yield and potential losses from the rootzone, compared to conventional production practices.

Responsibilities:

- Experimental field data collection (e.g. soil and tissue samplings, real-time data using soil moisture sensors, harvest), data analysis and interpretation. Live Oak, Florida
- Install and monitor soil moisture-salinity-temperature sensors (SMS). Develop a sensor-based methodology for irrigation scheduling simple to be used by growers.
- Use of crop simulation models to improve grower's decision making. Long-term growth and yield simulations under future climatic conditions.

### Research Assistant | 2014

Project: "*Evaluation of Smart Water Application Technologies (SWAT)*".

Responsibilities: water use and turf quality data collection in landscapes and residential areas. Evaluate the efficiency, water conservation and turf quality of SWAT technologies in residential landscapes. Collaborative project with Orange County Utilities.

## LANGUAGES

- Spanish (Native)
- English (Proficient)

## SKILLS

### Personal

- Proactive, self-motivated and enterprising
- Team work
- Excellent oral and writing communication skills
- Leadership and networking

### Technical

- Microsoft Office, R studio, SAS for data collection and analysis
- Certificate of the Decision Support System for Agrotechnology Transfer (DSSAT) Program
- Development and implementation of multidisciplinary projects
- Driver's license (Florida and Costa Rica)

## ASSOCIATIONS

- Chair of Mentoring Program at the Agricultural and Biological Engineering Department (ABE, UF) (2016-17)
- Grad Student Professional Development Committee (ABE, UF)
- ASABE Member
- UF Alumni Association
- Alpha Epsilon Member
- EARTH University Alumni Association
- Member of the *Colegio de Agrónomos* in Costa Rica

## EXPERIENCE

### Research Assistant | 2011-2013

Project: "Optimize irrigation for cold protection in strawberries".

- Sprinkler irrigation distribution uniformity testing (DULq testing) to evaluate the efficiency of different sprinkler pressures and spacing for cold protection.
- Evaluation of conventional irrigation practices for cold protection in strawberries, their efficiency in water conservation and marketable yield.

### Project Coordinator and Golf Course Turfgrass Management | 2009-2010

San Buenas Golf Resort and Spa, Puntarenas, Costa Rica

Project: Construction and establishment of a 9-hole golf course.

- Development of a turf-grass nursery for the maintenance propagation of the golf course. Integrated pest management program, fertilizer applications, reforestation, maintenance of native plant nursery for ornamental and landscape use. Personnel management.

## ACHIEVEMENTS

- Full assistantship for Ph.D. studies . University of Florida. Agricultural and Biological Engineering Dept. | 2015-2018
- M.S. Thesis: "Pressure and Spacing Effect of Sprinkler Irrigation for Cold Protection In Strawberries" awarded as best Agricultural and Biological Engineering Dept. thesis. | 2013
- Best paper in Natural Resources at Florida State Horticultural Society Conference. "Optimizing Sprinkler Irrigation Cold Protection in Strawberries: Two Years of Field Results". Proc. Fla. State Hort. Soc. | 2013
- Full assistantship for M.S. studies. University of Florida. Agricultural and Biological Engineering Dept. | 2011-2013.
- Graduated "Cum laude". EARTH University | 2008

## PUBLICATIONS

### Refereed publications

Zamora-Re, M. I., Dukes, M. D., Hensley, D., Rowland, D., Graham, W. (2019). "The effect of irrigation strategies and nitrogen fertilizer rates on maize growth and grain yield". *Field Crops Res.* Manuscript submitted for publication.

Rath, S., Graham, W., Kaplan, D., Zamora-Re, M.I., Dukes, M.D. (2019). Quantifying nitrate leaching to groundwater under a variety of water and nutrient management practices from a Corn-Peanut experiment in the Suwanee River Basin, Florida. *Agricultural Water Management.* Manuscript in preparation.

Zamora-Re, M. I., Dukes, M. D., Stanley, C. D., Werner, H. (2014). "Sprinkler Distribution Uniformity for Strawberry Cold Protection." *J. Irrig. Drain. Eng.*, 1-8.

Zamora-Re, M. I., Dukes, M. D., Stanley, C. D., Hubert, W. (2016). "Sprinkler Irrigation Pressure and Spacing Effect for Cold Protection of Strawberries." *J. Irrig. Drain. Eng.*, 142(1), 04015034.

### Non-refereed publications, posters and presentations

Zamora, M.I. and Dukes, M.D. 2017. Irrigation scheduling using real-time soil moisture data in corn production. Paper number 1701335, *ASABE Annual International Meeting.* (doi: 10.13031/aim.201701335).

Zamora, M.I.; Dukes, M.D. and Stanley, C. 2013. Irrigation Cold Protection in Strawberries: Two Years of Field Results. *Proc. Fla. State Hort. Soc.* 126:327-331. 2013.

Zamora, M.I.; Dukes, M.D. and Stanley, C. 2013. Sprinkler Irrigation for Freeze/Frost Protection in Strawberries. Dept. of Agricultural and Biological Engineering, October 2013, Gainesville, FL.

Zamora, M.I.; Dukes, M.D. and Stanley, C. 2012. Optimizing Water use for Frost Protection. UF Water Institute Symposium: Sustainable Water Resources: Complex Challenges, Integrated Solutions, February 2012, Gainesville, FL.

## REFERENCES

### Kati Migliaccio

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University of Florida  
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(352)-294-6743

### Michael D. Dukes

Professor and Director, UF/IFAS Center for Land Use Efficiency  
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### Bob Hochmuth

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