

BRENDA V. ORTIZ

DOSSIER SUMMARY

Year Employed: January 2009

Graduate Faculty Status: Level 2

Title: Associate Professor

Assigned Duties (official): Research = 20%; Extension = 75%; Service = 5%

Teaching Experience Statistics

Post-doctoral Researchers 2 – Supervised as major advisor	Graduate Students (Completed) 1 – Ph.D. (as major professor) / 4 – M.Sc. (as major professor)	Graduate Students (Current)
Visiting scholars 7 – Visitors from four countries	2 – Ph.D. (as committee member) / 4 – M.Sc. (as committee member)	

Research Experience Statistics

Publications	Grants Funded as PI/co-PI		
	Senior	Junior	
Book Chapters	-	1	- PI Research Funding: \$2,513,308 - Co-PI Research Funding: 6,523,901 - PI Teaching Funding: \$33,400 - Co-PI Teaching Funding: \$36,715
Peer-reviewed Publications	20	12	
Conference proceedings papers with Presentation	18	19	
Published Abstracts with Presentation	35	8	
Posters	9	9	
Invited Presentations	30	-	

Extension Experience Statistics

Publications/Other Extension methods	Grants Funded as PI/co-PI		
	Senior	Junior	
Extension Publications	6	4	- PI Extension Funding: \$980,631 - Co-PI Extension Funding: \$3, 291,924
Chapters in Extension Production Guides	6	3	
Timely Information Pub. & News Letters	20	11	
Extension Presentations	140	-	
Organized In-service Trainings & Workshops	37	-	
Participation in Field Days	20	-	
On-farm demonstrations	50	12	
Popular Press articles	-	37	
Web publications/Blogs	7	5	
iBooks	1	-	
Videos	7	-	

Service

University Member – Executive committee, Climate Cluster hire Faculty Outreach and Engagement Council and the Community of Practice (2020-)	Professional - Vi-leader, Extension and Education Community–ASA (2020) - Adjunct faculty Sao Paulo State University–Brazil (2018-) - Vice-leader, Extension and Education Community–ASA (2020) - Appointed as a member of the Precision Agriculture CCA Exam and Procedures Committee– ASA (2017-present) - Leader, Precision Ag Systems Community–ASA (2015) - Vice-leader, Precision Ag Systems Community–ASA (2014) - Associate Editor, Transactions of the ASABE and Applied Engineering in Agriculture (2012 – present) - Reviewer for several journals (ASABE, ASA, Prec. Ag) - USDA-NIFA grant review panel: 4 (2015, 2013, 2011, 2010) - Member, ASABE Prec. Agriculture Committee (2010-present) - Member, Southeast Climate Consortium (2009-2016) - Member, The TransAtlantic Precision Agriculture Consortium (TAPAC) (2009-present)
College Smart Confined Systems and Macine Systems search committees – BSEN (2018 and 2019) Adjunct faculty status, BSEN department (2017- present) Member, Global International Programs (2014-present) Reviewer AAES Grant Proposals (2012)	
Department Committee chair - Agroclimatologist (2016) and Cotton/Cropping systems agronomist (2015) Committee member – Crop Physiologist (2017), Cotton/soybean breeder (2015), Soil physics (2014), Department Head (2013), Peanut Breeder (2011), Accountant (2011)	

International

<ul style="list-style-type: none"> - Visiting scientist at the Food and Agriculture Organization (FAO) of United Nations - Research and Extension unit – (Sep. 2019 to Feb. 20) - Visiting professor at Sao Paulo State University (Plant prod. graduate program). Lectures/advice to graduate students. (2017, 2018) - Member of the Int. Technical Advisory Council of the Colombia Oil Palm Research Center (Cenipalma) - Colombia. (2016-) - Visitor Scholar Fellowship from Technical University of Munich (TUM) in 2016. Lectures to grad. students and seminars prepared. - Co-leader of AU CoA efforts to collaborate with Cuban institutions. Four MoU have been signed and multiple activities (2010-).
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BRENDA V. ORTIZ

Professor and Extension Specialist
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Dr. Brenda Ortiz is a Professor at Auburn University. She has an extension and research appointment in the area of Precision Agriculture. Her Ph.D. is in Agricultural Engineering from The University of Georgia. She has a 75% extension appointment and 25 research appointment. She is the leader of the statewide Precision Agriculture Extension Program in the College of Agriculture. Her main research and extension focus include: the evaluation of site specific management practices with the use of precision agriculture technologies, the evaluation of precision agriculture technologies for variable rate application of inputs (e.g., water, nutrient, seed), on-farm demonstration of precision irrigation strategies and technologies, the study and evaluation of technologies and methodologies to assess within-field soil, crop and yield variability, the study of the impact of weather and climate on agriculture especially corn and wheat crops, identification of adaptation strategies to reduce climate-related risk in agriculture, the use of field studies and crop growth simulation modeling to evaluate different management strategies for improving grain production.

EDUCATION

Ph.D. Biological and Agricultural Engineering. **The University of Georgia**. 2008

B.S. Agricultural Engineering. **Universidad Nacional de Colombia and Universidad del Valle, Colombia**. 1997

PROFESSIONAL EXPERIENCE

Auburn University, Auburn, AL – October 2019 -
Professor –Precision Agriculture Specialist, Crop, Soil and Environmental Sciences Department.

Auburn University, Auburn, AL, November 2008 – September 2019
Associate professor –Precision Agriculture Specialist, Crop, Soil and Environmental Sciences Department.

The University of Georgia, Athens, GA, August 2004-October 2008
Research Assistant, Department of Biological and Agricultural Engineering.

Colombian Sugar Cane Research Center - Centro de Investigación de la Caña de Azúcar de Colombia, CENICAÑA, August 1997-August 2004
Research Assistant, Geographic Information System area.

PUBLICATIONS

Referred Journal Articles (*Graduate student/PostDoctoral Fellow, ** Visiting scholar)

- **Jimenez, A-F., **B. V. Ortiz**, L. Bondesan, G. Morata. 2020. Long short-term memory neural network for irrigation management: a case study from Southern Alabama, USA. *Precision Agriculture*. <https://doi.org/10.1007/s11119-020-09753-z>
- **Jimenez, A-F., **B. V. Ortiz**, L. Bondesan, G. Morata. D. Damianidis. 2020. Evaluation of two recurrent neural network methods for prediction of irrigation rate and timing. *Transactions of the ASABE*. 63(5): 1327-1348. (doi: 10.13031/trans.13765)
- *Lena, B., **B. V. Ortiz**, A-F. Jimenez, A. Sanz-Saez, S. O'Shaughnessy, M. K. Durstock, G. Pate. 2020. Evaluation of infrared canopy temperature data in relation to soil water-based irrigation scheduling in a humid subtropical climate. *Transactions of the ASABE*. 63(5): 1217-1231
- *Filho, JFDCL, **B. V. Ortiz**, K. Balkcom, D. Damianidis, T. J. Knappenberger, M. Dougherty. 2020. Evaluation of Two Irrigation Scheduling Methods and Nitrogen Rates on Corn Production in Alabama. *International Journal of Agronomy* Volume 2020, Article ID 8869383, 13 pages <https://doi.org/10.1155/2020/8869383>.
- *Filho, JFDCL, **B. V. Ortiz**, D. Damianidis, K. Balkcom, M. Dougherty, T. J. Knappenberger. 2020. Irrigation Scheduling to Promote Corn Productivity in Alabama. *Journal of Agricultural Science*. 12:9. URL: <https://doi.org/10.5539/jas.v12n9p34>
- Poncet, A. M., T. Knappenberger, C. Brodbeck, M. Fogle, J. N Shaw, B. V. Ortiz. 2019. Multispectral UAS Data Accuracy for Different Radiometric Calibration Methods. *Remote Sensing*. Vol 11(16): 1917
- *Damianidis, D., **B. V. Ortiz**, G. Windham, K. I. Bowen, G. Hoogenboom, B. T. Scully, A. Hagan, T. Knappenberger, P. Woli, W. P. Williams. 2018. Evaluating a generic drought index as a predictive tool for aflatoxin contamination of corn: From plot to regional level. *Crop Protection*. 113: 64-74. <https://doi.org/10.1016/j.cropro.2018.07.013>. (50%)
- Eunhye Yoo, Ruth Kerry, Ben Ingram, **B V. Ortiz**, Brian Scully. 2018. Defining and Characterizing Aflatoxin Contamination Risk Areas for Corn in Georgia, USA: Adjusting for Collinearity and Spatial Correlation. *Spatial Statistics*. In Press. Available online 2 July 2018. <https://doi.org/10.1016/j.spasta.2018.06.003>. (15%)
- *Damianos Damianidis; **B V. Ortiz**; Kira Bowen; Gary Windham; Gerrit Hoogenboom; Austin Hagan; Thorsten Knappenberger; Hamed Abbas; Brian Scully; Spyridon Mourtzinis. 2018. Minimum temperature, rainfall and agronomic management impacts on corn grain aflatoxin contamination doi: 10.2134/agronj2017.11.0628; Date posted: May 12, 2018
- Kerry, R., **B. V. Ortiz**, B. R. Ingram, B. T. Scully. 2016. A Spatio-Temporal investigation of risk factors for aflatoxin contamination of corn in southern Georgia, USA using geostatistical methods. *Crop Protection* 94:144–158; <http://dx.doi.org/10.1016/j.cropro.2016.12.005>
- *Mourtzinis, S., **B. V. Ortiz**, D. Damianidis. 2016. Climate Change and ENSO Effects on Southeastern US Climate Patterns and Maize Yield. *Scientific Reports (Journal of Nature)*. 6, 29777; doi: 10.1038/srep29777.

- *Sarkar, R., **B. V. Ortiz**, K. Balkcom. 2015. Strategic adaptation of nitrogen management for El Nino Southern Oscillation-induced winter wheat systems. *Mitigation and Adaptation Strategies for Global Change*. DOI 10.1007/s11027-015-9676-6
- *Woli, P., **B. V. Ortiz**, J. Johnson, G. Hoogenboom. 2015. El Niño-Southern Oscillation effects on winter wheat in the southeastern USA. 2015. *Agronomy Journal* 107:2193–2204
- Tian, D., S. Asseng, C. J. Martinez, V. Misra, D. Cammarano, **B. V. Ortiz**. 2015. Does decadal climate variation influence wheat and maize production in the southeast USA? *Agricultural and Forest Meteorology* 204, 1–9
- Bowen, K. L., K. L. Flanders, A. K. Hagan, **B. Ortiz**. 2014. Insect damage, aflatoxin content and yield of Bt corn in Alabama. *Journal of Economic Entomology* 2014 107 (5): 1818-1827
doi: 10.1603/EC13442
- Vellidis, G., **B. Ortiz**, J. Beasley, R. Hill, H. Henry, H. Brannen. 2014. Reducing Digging Losses by Using Automated Steering to Plant and Invert Peanuts. *Agronomy* 4(3), 337-348;
doi:10.3390/agronomy4030337
- *Torino, M. S., **B.V. Ortiz**, J. P. Fulton, K. S. Balkcom, and C. W. Wood. 2014. Evaluation of Vegetation Indices for Early Assessment of Corn Status and Yield Potential in the Southeastern United States. *Agronomy Journal* 106:1389–1401. doi:10.2134/agronj13.0578.
- *Woli, P., **B.V. Ortiz**, D. Buntin, K. Flanders. 2014. El Niño-Southern Oscillation (ENSO) Effects on Hessian Fly (Diptera: Cecidomyiidae) Infestation in the Southeastern USA. *Environmental Entomology Journal*. doi: <http://dx.doi.org/10.1603/EN14032>
- **Ortiz, B. V.**, K. B. Balkcom, L. Duzy, E. van Santen, D. L. Hartzog. 2013. Evaluation of agronomic and economic benefits of using RTK-based autoguidance systems on peanut production. *Journal of Precision Agriculture* 14(4): 357-375. DOI 10.1007/s11119-012-9297-y
- *Tapley, M., **B. V. Ortiz**, and E. van Santen. 2013. Location, Seeding Date, and Variety Interactions on Winter Wheat Yield in the Southeast USA. *Agronomy Journal* 105:509-518.
doi:10.2134/agronj2012.0379
- Cammarano, D., L. Stefanova, **B. Ortiz**, M. R. Rodrigues, S. Asseng, G. Vellidis, V. Misra, G. Wilkerson, B. Basso, J. W. Jones, K. Boote. 2013. Evaluating the fidelity of downscaled climate data on simulated wheat and maize production in the southeastern US. *Regional Environmental Change Journal*. Published online: 06 February, 2013. DOI 10.1007/s10113-013-0410-1.
- Bartels, W., C.A., Furman, D.C., Diehl, F.S., Royce, D.R., Dourte, **B., Ortiz**, D., Zierden, T.A., Irani, C., Fraise, and J., Jones. 2012. Warming up to climate change: A participatory approach to engaging with agricultural stakeholders in the Southeast US. *Journal of Regional Environmental Change*. Published online: November 2012. DOI 10.1007/s10113-012-0371-9
- **Ortiz, B. V.**, D. G. Sullivan, C. Perry, P. Lu, R. Kemerait, R. F. Davis, A. Smith, G. Vellidis, R. Nicholds. 2012. Variable Rate Application of Nematicides on cotton Fields: A Promising Site-Specific Management Strategy. *Journal of Nematology* 44(1): 31-39.
- Mourtzinis, F., F. J. Arriaga, K. S. Balkcom, **B. V. Ortiz**. 2013. Corn Grain and Stover Yield Prediction at R1 Growth Stage. *Agronomy Journal* 105:1045-1050.

- Davis, R. F., S. K. Aryal, C. D. Perry, D. G. Sullivan, P. Timper, **B. V. Ortiz**, K. L. Stevenson, G. Vellidis, and G. Hawkins: 2013. Utilizing Management Zones for *Rotylenchulus reniformis* in Cotton: effects on nematode levels, crop damage, and *Pasteuria* sp. *Journal of Crop Protection* 50:53-60.
- **Ortiz, B. V.**, D. G. Sullivan, C. Perry, G. Vellidis. 2011. Delineation of management zones for southern root-knot nematode using fuzzy clustering of terrain and edaphic field characteristics. *Communications in Soil Science and Plant Analysis journal* 42(16): 1972-1994.
- **Ortiz, B. V.**, S. Thomson, Huang, Y., K. N. Reddy, W. Ding. 2011. Determination of differences in crop injury from aerial application of glyphosate using vegetation indices. *Computers and Electronics in Agriculture* 77:204-213
- Persson, T., **Ortiz, B.**, D. Bransby, S. Sladden, W. Wu, G. Hoogenboom. 2011. Determining the impact of climate and soil variability on switchgrass (*Panicum virgatum* L.) production in the southeastern USA; a simulation study. *Biofuels, Bioproducts & Bioenergy journal* (DOI: 10.1002/bbb.288).
- **Ortiz, B. V.**, C. Perry, G. Vellidis, D. G. Sullivan. 2010. Geostatistical modeling of the spatial variability and risk areas of southern root-knot nematodes in relation to soil properties. *Geoderma* 156:243-252
- Persson, T., A. Garcia y Garcia, J. Paz, **B.V. Ortiz**, G. Hoogenboom. 2010. Simulating the production potential and net energy yield of maize-ethanol in the southeastern USA. *European Journal of Agronomy* 32:272-279
- Huang, Y., S. Thomson, **B. V. Ortiz**, K. N. Reddy, W. Ding, R.M. Zablotowicz, and J. R. Bright. 2010. Airborne Remote Sensing Assessment of the Damage to Cotton Caused by Spray Drift from Aerially Applied Glyphosate through Spray Deposition Measurements. *Biosystems Engineering* 107:212-220
- **Ortiz, B. V.**, G. Hoogenboom, G. Vellidis, K. Boote, R. F. Davis, C. Perry. 2009. Adapting the CROPGRO cotton model to simulate cotton biomass and yield under southern root-knot nematode parasitism. *Transactions of ASABE* 52(6):2129-2140.
- Van Etten ML, L.B. Prevost, A.C. Deen, **B. V. Ortiz**, L.A. Donovan, S-M. Chang. 2008. Gender differences in reproductive and physiological traits in a gynodioecious species, *Geranium maculatum* (Geraniaceae). *International Journal of Plant Sciences* 169 (2).

Extension Publications

- Morata, G., B. Goodrich, **B. V. Ortiz**. 2019. Investment Costs of Center Pivot Irrigation in Alabama – Three Scenarios. ANR-2541. Alabama Cooperative Extension System. <https://www.aces.edu/blog/topics/crop-production/investment-costs-of-center-pivot-irrigation-in-alabama-three-scenarios/>
- **Ortiz, B.**, A. Hagan, R. Kemeraite, K. Flanders, S. Tubs, S. Monfort, M. Abney, E. Sikora, D. Buntin, D. Delaney, D. Monks, W. Birdsong, D. Wright, J. Johnson, K. Balkcom, J. Langcuster. 2016.

Climate and Crops – Adapting crops to a variable Climate. iBook. Publisher: Alabama Cooperative Extension System. 129 p.

- Woli, P; **Ortiz, B.**, K. Flanders, A. Hagan, B. Kemerait, D. Wright. 2014. Adapting Corn Production to climate in Alabama. ANR-2090. <http://www.aces.edu/pubs/docs/A/ANR-2090/ANR-2090.pdf>
- Woli, P; **Ortiz, B.**, K. Flanders, A. Hagan, B. Kemerait, D. Wright. 2014. Adapting Wheat Production to climate in Alabama. ANR-2046. <http://www.aces.edu/pubs/docs/A/ANR-2046/ANR-2046.pdf>
- Woli, P; **Ortiz, B.** 2014. El Niño-Southern Oscillation and its Impact on Alabama’s Climate. ANR-2091. <http://www.aces.edu/pubs/docs/A/ANR-2091/ANR-2091.pdf>
- Woli, P; **Ortiz, B.**, K. Flanders, A. Hagan, B. Kemerait, D. Wright. 2013. Adapting Corn Production to climate in the Southeast. <http://www.agroclimate.org/seclimate/wp-content/uploads/2013/07/Corn-Production-and-Climate-Variability.pdf>
- Woli, P; **Ortiz, B.**, K. Flanders, A. Hagan, B. Kemerait, D. Wright. 2013. Adapting Wheat Production to climate in the Southeast. <http://www.agroclimate.org/seclimate/wp-content/uploads/2013/07/Wheat-Production-and-Climate-Variability.pdf>
- **Ortiz, B.**, C. Burmester, K. Balkcom, D. Delaney, C. Mitchell, M. Patterson, K. Flanders, A. Hagan, J. P. Fulton, and M. Runge. 2012-2013 Alabama Winter Wheat Production Guide. Alabama Cooperative Extension System. ANR-0992. 41 p. <http://www.aces.edu/pubs/docs/A/ANR-0992/ANR-0992.pdf>
- Sarkar, R., **B. V. Ortiz**, V. Sharda, P. Srisvastava. 2012. The ABCs of Climate Variability. Alabama Cooperative Extension System. ANR-1437. 4p.
- **Ortiz, B. V.**, M. Tapley, E. van Santen. Planting Date and Variety Selection effects on Wheat Yield. 2012. Alabama Cooperative Extension System. ANR-1442. 4p.
- **Ortiz, B. V.**, C. Burmester, K. Balkcom, D. Delaney, C. Mitchell, M. Patterson, K. Flanders, A. Hagan, J. Fulton, M. Runge. 2012-2013 Alabama Winter Wheat Production Guide. Alabama Cooperative Extension System. ANR-0992. 43p.
- **Ortiz, B. V.**, J. Shaw, J. Fulton. 2011. Basis of Crop Sensing. ACES publication ANR-1352. 6p.

Extension Digital Irrigation Newsletter

- As part of the Alabama Irrigation Extension Program, 14 digital newsletters were prepared in 2020. <https://www.aces.edu/blog/topics/farming/alabama-irrigation-management-newsletter/>

Abstracts - Proceedings / Conference papers / Posters

- Bondesan, L., **B. V. Ortiz**, G. T. Morata, D. Damianidis, A. F. Jimenez, G. Vellidis, F. Morari. 2019. Evaluating and improving soil sensor-based variable irrigation scheduling on farmers’ fields in Alabama. In: J.A. Taylor (Ed.), Precision Agriculture’19 – *Proceedings of the 12th European Conference on Precision Agriculture (ECPA2019)*, Montpellier, FR (*peer reviewed paper*).

- Jimenez, A-F., **B. V. Ortiz**, L. Bondesan, G. T. Morata, D. Damianidis. 2019. Artificial Neural Networks for irrigation management: a case study from Southern Alabama, USA. In: J.A. Taylor (Ed.), Precision Agriculture'19 – *Proceedings of the 12th European Conference on Precision Agriculture (ECPA2019)*, Montpellier, FR (*peer reviewed paper*).
- Ortiz, B. V.**, A. Hagan, R. C. Kemerait, K. Flanders, S. Tubbs, D. Monks, W. S. Monfort, M. Abney, W. Birdsong, D. Wright, D. Zierden, E. Sikora, D. P. Delaney, D. Buntin, J. Johnson, K. Balkcom, A. Majundar. 2017. Helping Southeast Us Farmers To Adapt To Climate Variability: A Climate Ibook. In Proceedings of the International Congress of Agricultural Sciences – AGROCIENCIAS. Havana, Cuba, 20-24 November, 2017.
- Ortiz, B. V.**, F. Morlin, C. Brodbeck. Exploring the use of Canopy Temperature for irrigation Scheduling. American Society of Agronomy Meeting. Tampa, Florida. 22-25 October, 2017.
- Del Corso, M., **B. V. Ortiz**, and C. Brodbeck. Study of Irrigation and Nitrogen Rate Impact on Corn Yield and Spectral Reflectance in Alabama. American Society of Agronomy Meeting. Tampa, Florida. 22-25 October, 2017.
- Kerry, R., B. R. Ingram, F. Navarro, **B. V.Ortiz**, B. T. Scully. 2017. Determining Corn Aflatoxin Risk within Counties in Southern Georgia using Remotely Sensed Data, USA. In: J.A. Taylor (Ed.), Precision Agriculture'17 – *Proceedings of the 11th European Conference on Precision Agriculture (ECPA2017)*, Edinburgh, Scotland (*peer reviewed paper*).
- Felipe, N., B. R. Ingram, R. Kerry, **B. V.Ortiz**, , B. T. Scully. 2017. A Web-based GIS Decision Support Tool for Determining Corn Aflatoxin Risk: A Case Study Data from Southern Georgia, USA. In: J. A. Taylor (Ed.), Precision Agriculture'17 – *Proceedings of the 11th European Conference on Precision Agriculture (ECPA2017)*, Edinburgh, Scotland (*peer reviewed paper*).
- Ortiz, B. V.**, W. Bartels, C. Fraisse, D. Zierden. 2017. Increasing agricultural production and resilience through data services and decision support systems. INFORMS Conference. (Invited Presentation). Houston, Texas. October 23-26, 2017.
- Ortiz, B. V.**, A. Hagan, R. C. Kemerait, K. Flanders, S. Tubbs, W. S. Monfort, M. Abney, E. Sikora, D. Buntin, D. P. Delaney, D. Monks, W. Birdsong, D. Wright, D. J. Johnson, K. Balkcom. 2017. Climate and Crops iBook – A resource to help Southeast farming adapting to a Variable Climate. In Proceedings of the Beltwide Cotton Conference. Dallas, Texas. 4-6, January, 2017.
- Ortiz, B. V.**, M. Del Corso, G. Pate. 2017. Impact of Late Nitrogen Application on Corn Yield and Spectral Reflectance. Results of Preliminary studies in Alabama. 15th Annual Nitrogen Use Efficiency Meeting. Baton Rouge, Louisiana. 7-9, August, 2017.
- F. Morlin, **B. V. Ortiz**, P. C. de Menezes, L. A. da Silva Gírio, C. Zerbato, M. del Corso, C. E. Angeli Furlani. Evaluation of Two Canopy Sensors for Estimation of Saptio-Temporal Variability of

Soybean Growth. 15th Annual Nitrogen Use Efficiency Meeting. Baton Rouge, Louisiana. 7-9, August, 2017. (Poster). 3rd place graduate student poster competition.

Kerry, R., **B. Ortiz**, B. Ingram, B. Scully, E. Yoo. 2016. Irregularly Sampled Data in Space and Time: Using Poisson Kriging to Reduce the Influence of Uncertain Observations in Assessing the Risk of Aflatoxin Contamination of Corn in Southern Georgia, USA. *Proceedings of the 12th Spatial Accuracy Assessment in Natural Resources and Environmental Sciences International Symposium*. Montpellier, France, 5-8 July, 2016. (peer reviewed paper).

Ortiz, B.V., V. Zanella, K. Thorp, F. Morari, G. Hoogenboom. 2015. Coupling Crop Simulation Modeling and Crop Sensing to Improve within-Field Nitrogen Management. American Society of Agronomy Meeting. Minneapolis, Minnesota. 15-18 November, 2015

Kerry, R., **B. V. Ortiz**, B. Ingram. 2015. Differentially Sampled Data in Space and Time: Using Poisson Kriging to Analyze Aflatoxin Contamination of Corn in Southern Georgia, USA. *Pedometrics* 2015, Cordoba, Spain, September 14-15, 2015.

Zanella, V., **B. V. Ortiz**, K. Thorp, F. Morari, G. Mosca, G. Hoogenboom. 2015. Combining crop sensing and simulation modeling to assess within-field corn nitrogen stress. In: J.V. Stafford (Ed.), *Precision Agriculture 2015 – Proceedings of the 10th European Conference on Precision Agriculture (10ECPA)*, Tel aviv, Israel (peer reviewed paper).

Damianidis, D., **B. V. Ortiz**, G. Windham, B. Scully, and P. Woli. 2015. Predicting pre-harvest aflatoxin corn contamination with a drought index. In: J.V. Stafford (Ed.), *Precision Agriculture 2015 – Proceedings of the 10th European Conference on Precision Agriculture (10ECPA)*, Tel aviv, Israel (peer reviewed paper).

Ortiz, B.V., C. Fraise, D. Dourte, W. Bartels, D. Zierden, P. Knox. 2015. Climate-related risk management in agriculture: Its importance for coping with current and future climate changes in the Southeastern USA. *2015 American Dairy Science Association and American Society of Animal Science Annual meeting*. Orlando, Florida. 13-15 July, 2015.

Guertal, E. A., **B. V. Ortiz**, E. J. Sikora. 2015. Golf Course Nematodes in Alabama – Population and Control Options. *ONTA 47th Annual Meeting*. Varadero, Cuba. 17-22 May, 2015.

Ortiz, B. V., C. Fraise, D. Daniel, W. Bartels, D. Zierden, P. Knox, M. Risse, G. Vellidis, S. Templeton, M. Thomas. 2015. From climate variability to climate change: Building adaptive capacity among row crop farmers in the Southeastern USA. *Third Global Science Conference on Climate Smart Agriculture*. Montpellier, France. 16-18 March, 2015.

Damianidis, D., **B. V. Ortiz**, G. L. Windham, P. Woli. 2015. Predicting Aflatoxin Contamination Risk in Corn with a Generic Drought Index. *Southern Association of Agricultural Scientists*. Atlanta, Georgia, February 2-5, 2015.

- Ortiz, B. V.,** P. Woli, D. Buntin, K. Flanders, J. Johnson. 2015. Climate Variability and Adaptation Options for Cereal Crops in the Southeast USA. *Southern Association of Agricultural Scientists*. Atlanta, Georgia, February 2-5, 2015.
- Ortiz, B. V.,** P. Woli, D. Buntin, K. Flanders, E. van Santen. 2014. Use of the ENSO forecast for adapting winter wheat management strategies in the Southeastern USA. *Adaptation Futures 2014 – Third International Climate Change Adaptation Conference*. Fortaleza, Brazil. 12-16 May, 2014.
- Woli, P., **B. V. Ortiz,** J. Johnson, G. Hoogenboom. 2014. El Niño-Southern Oscillation (ENSO) Effects on Hessian Fly Infestation in Wheat in the Southeastern USA. *American Society of Agronomy Meeting*. Long Beach, California. 2-5 November, 2014.
- Woli, P., **B. V. Ortiz,** D. Buntin, K. Flanders. 2014. El Niño-Southern Oscillation Effects on the Yield Difference Between Early and Late Maturity Varieties of Winter Wheat in the Southeastern USA. *American Society of Agronomy Meeting*. Long Beach, California. 2-5 November, 2014.
- Ortiz, B. V.,** J. P. Fulton, A. Tagarakis, M. S. Torino, G. Pate, B. Arnall. 2014. How does sensor-based Variable Rate N application differ from Uniform N rate?: Lessons learned from corn on-farm studies in Alabama. Poster 203. *American Society of Agronomy Meeting*. Long Beach, California. 2-5 November, 2014.
- van Santen, E., **B. V. Ortiz,** W. Alison, A. Blount, V. A. Corriher, D. Hancock, R. La Guardia Nave, L. R. Nelson, J. K. Rogers, S. Roberts, S. Ray Smith Jr. 2014. Effect of ENSO Phase on Seasonal Forage Yield of Annual Ryegrass. Poster 743. *American Society of Agronomy Meeting*. Long Beach, California. 2-5 November, 2014.
- Ortiz, B. V.,** P. Woli, D. Buntin, K. Flanders, E. van Santen. 2014. Use of ENSO Forecast for adapting winter wheat management strategies in the Southeastern USA. In *Proceedings of the Third International Climate Change Adaptation Conference – Adaptation Futures 2014*, Fortaleza, Brazil, May 12-16, 2014. *Poster*.
- Vellidis, G., **B. Ortiz,** J. Beasley, R. Hill, H. Henry, and H. Brannen. 2013. Using RTK-based GPS guidance for planting and inverting peanuts. In: J.V. Stafford (Ed.), *Precision Agriculture '13 – Proc. of the 9th European Conference on Precision Agriculture (9ECPA)*, Lleida, Spain, p.357-364. **Received “Best paper award” (peer reviewed paper)**.
- Torino, M., **B. V. Ortiz,** J. Fulton, K. Balkcom, W. Wood. Evaluation of Vegetation Indices (VI) for their Sensitivity to Corn Biomass and Chlorophyll Content Changes Associated with Nitrogen Fertilization. In *Proceedings of ASA-CSSA-SSSA International Annual Meetings, Cincinnati, Ohio, October 21-24, 2012. Abstract*
- Sarkar, R., **B. V. Ortiz,** K. Balkcom, M. Tapley. Use of ENSO Forecasts to Select Nitrogen Fertilizer Application Strategies for Winter Wheat in Alabama. In *Proceedings of ASA-CSSA-SSSA International Annual Meetings, Cincinnati, Ohio, October 21-24, 2012. Abstract*

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- Ortiz, B. V.**, R. Davis, C. Perry, D. Sullivan, R. Kemerait. Precision Agriculture Strategies for Managing Nematodes in the US Cotton Belt. In *Proceedings of XLIV Organization of Nematologists of Tropical America (ONTA) Annual Meeting, Cancun, Mexico, September 3-7, 2012. Abstract*
- Torino, M., **B. V. Ortiz**, K. Balkcom, J. Fulton, W. Wood. Evaluation of Differences in Corn Biomass and Nitrogen Uptake at Various Growth Stages Using Spectral Vegetation Indices. In *Proceedings of 11th International Conference on Precision Agriculture, Indianapolis, Indiana, July 15-18, 2012.*
- Ortiz, B.** Raising Awareness of the Potential of Crop Sensing Technologies to Improve Environmental Stewardship. In *Proceedings of 11th International Conference on Precision Agriculture, Indianapolis, Indiana, July 15-18, 2012.*
- Ortiz, B. V.**, G. Vellidis, K. Balkcom, H. Stone, J. P. Fulton, E. van Santen. Evaluation of the Advantages of Using GPS-Based Auto-Guidance on Rolling Terrain Peanut Fields. In *Proceedings of 11th International Conference on Precision Agriculture, Indianapolis, Indiana, July 15-18, 2012.*
- Ortiz, B. V.**, A. R. Salvacion, B.T. Scully, C.W. Fraisse. Modeling Probability of Corn Aflatoxin Using a Drought Index in South Georgia. In *Proceedings of Southern Association of Agricultural Scientists Annual Meeting and Conference, Birmingham, Alabama, February 5-7, 2012.*
- Tapley, M., **B. V. Ortiz**, E. van Santen. Effects of Planting Date and Variety Selection on Winter Wheat Yield in Alabama. In *Proceedings of Southern Association of Agricultural Scientists Annual Meeting and Conference, Birmingham, Alabama, February 5-7, 2012.*
- Torino, M., **B. V. Ortiz**, K. Balkcom, J. Fulton, W. Wood. Determination of differences in corn biomass and nitrogen uptake at various growth stages using spectral vegetation indices. In *Proceedings of Southern Association of Agricultural Scientists Annual Meeting and Conference, Birmingham, Alabama, February 5-7, 2012.*
- Torino, M., **B. V. Ortiz**, J. Fulton K. Balkcom. Determination of differences in corn biomass and nitrogen uptake at various growth stages using spectral vegetation indices. In *Proceedings of 11th International Conference of Precision Agriculture-ICPA Conference, Indianapolis, Indiana, July 15-18, 2012.*
- Ortiz, B.V.**, M. Tapley, E. van Santen, Kathryn. V. Glass. The Impact of El Niño Southern Oscillation (ENSO) On Wheat Production In the Southeast U. S. In *Proceedings of ASA-CSSA-SSSA International Annual Meetings, San Antonio, Texas, October 16-19, 2011.*
- A. Salvacion, **B. V. Ortiz**, B. Scully, D. M. Wilson, G. Hoogenboom, D. Lee. Effect of Rainfall and Maximum Temperature on Corn Aflatoxin in the Southeastern U. S Coastal Plain. In *Proceedings of the Climate Information for Managing Risks, Orlando, Florida, May 24-27, 2011.*

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- B. V. Ortiz.**, C. Perry, R. Kemerait, P. Lu, R. F. Davis, A. Smith, G. Vellidis, K. Rucker. Precision agriculture strategies for managing southern root-knot nematodes in cotton fields. In *Proceedings of American Phytopathology Society Southern Division 2011 meeting. Corpus Christi, Texas, February 07, 201*
- B. V. Ortiz**, S. Thomson, Yanbo, H., K. N. Reddy, W. Ding and H. Stone. 2010. Determination of crop injury from aerial application of glyphosate using vegetation indices and geostatistics. In *Proceedings of the 10th International Conference of Precision Agriculture, Denver, Colorado, 18-21 Jul., 2010*.
- B. V. Ortiz**, Perry D. G. Sullivan, B. Kemerait, Pamela Lu, R. F. Davis, and A. Smith. 2010. Variable rate application of nematicides on cotton fields: a promising site-specific management strategy. In *Proceedings of the 10th International Conference of Precision Agriculture, Denver, Colorado, 18-21 Jul., 2010*.
- K. Balkcom, **B. V. Ortiz**, W. Goodman, J.P. Fulton. 2010. Profitability of rtk autoguidance and its influence on peanut production. In *Proceedings of the 10th International Conference of Precision Agriculture, Denver, Colorado, 18-21 Jul., 2010*.
- Yanbo, H., S. Thomson, **B. V. Ortiz**, K. N. Reddy, W. Ding and R. M. Zablotowicz. Determination of cotton plant injury by aerial application of glyphosate using remote sensing and spray drift sampling. In *Proceedings of Beltwide Cotton Conference, New Orleans, Louisiana, 4-7 Jan., 2010*.
- R. C. Kemerait, C. D. Perry, **B. V. Ortiz**, P. Lu, R. F. Davis, D. Sullivan, F.H.Sanders and R. L. Nichols. Risk Management Zones for Southern Root-Knot Nematodes: The Reality and Challenges in Georgia. In *Proceedings of Beltwide Cotton Conference, New Orleans, Louisiana, 4-7 Jan., 2010*
- C. D. Perry, R. C. Kemerait, **B. V. Ortiz**, P. Lu, R. F. Davis, D. Sullivan and R. L. Nichols. Development and Assessment of Risk Zones for Management of Southern Root-Knot Nematodes at Three Locations in Georgia. In *Proceedings of Beltwide Cotton Conference, New Orleans, Louisiana, 4-7 Jan., 2010*
- Ortiz, B. V.**, G. Hoogenboom, G. Vellidis, Boote, K., C. Perry. 2009. Prediction of within field cotton yield losses caused by the southern root-knot nematode with cropping system model-CROPGRO-cotton. In *Proceeding of the Seven European Conference on Precision Agriculture (7ECPA)*. Wageningen, Netherlands. 6-8 July. 2009. (peer reviewed paper).
- G. Vellidis, **B. Ortiz**, G. Ritchie, A. Peristeropoulos, R.W. Hill, C. Perry, and K. Rucker. 2009. Using GreenSeeker® to drive variable rate application of plant growth regulators and defoliants on cotton. In *Proceeding of the Seven European Conference on Precision Agriculture (7ECPA)*. Wageningen, Netherlands. 6-8 July. 2009. (peer reviewed paper).
- Ortiz, B. V.**, G. Hoogenboom, G. Vellidis, R. F. Davis, Boote, K., C. Perry. 2009. Modeling the effects of Southern Root-knot Nematode on Cotton Biomass and Yield. In *Proceedings of 2008 ASABE Annual International Meeting*. Reno, NV. 21-24 Jun. 2009.

Ortiz, B. V., C. Perry D. G. Sullivan, B. Kemerait, A. Ziehl, R. F. Davis, G. Vellidis.
2008. Cotton Yield Response to Variable Rate Nematicides According to Risk Zones. In
Proceedings of 2008 ASABE Annual International Meeting. Rhode Island, Providence 29 June – 3
July. 2008.

Ortiz, B. V., C. Perry D. G. Sullivan, B. Kemerait, A. Ziehl, R. F. Davis, G. Vellidis.
2008. Cotton Yield Response to Variable Rate Nematicides According to Risk Zones. In
Proceedings of Beltwide Cotton Conference, Nashville, Tennessee, 8-11 Jan., 2008.

Selected extension/outreach meetings organized over the last five years

Ortiz, B. V., L. Bondesan, G. Morata, B. Lena, Tyler Sandlin, Donna Shanklin, D. Williams. 2019.
Alabama Irrigation Workshop. Decatur, January 22nd, 2019. 100 people. Organizer and speaker.

Ortiz, B. V., L. Bondesan, G. Morata, B. Lena, W. Birdsong, B. Dillard, J. Kelton. 2019. Alabama
Irrigation Workshop. Dothan, January 23rd, 2019. 70 people. Organizer and speaker.

Ortiz, B. V., L. Bondesan, G. Morata, B. Lena, Donna Shanklin Tyler Sandlin, D. Williams. 2019.
Irrigation Field Day, Town Creek, AL. June 26th, 2019. 70 people. Organizer and speaker.

Ortiz, B. V., L. Bondesan, G. Morata, B. Lena. 2019. Alabama Precision Agriculture Workshop,
Birmingham, AL. July 30th, 2019. 70 people. Organizer and speaker.

Gamble, A., B. Ortiz, S. Li, T. Sandlin, D. Delaney, R. Prasad, K, Balkcom. 2018. 2018 Alabama Row
Crops Short Course. Auburn, AL. December 13-14, 2018. 260 people. Co-organizer

B. Ortiz, Gamble, A., S. Li, T. Sandlin, D. Delaney, R. Prasad, K, Balkcom. 2017. 2017 Alabama Row
Crops Short Course. Auburn, AL. December 12-13, 2017. 180 people. Co-organizer

Ortiz, B. 2016. Advanced Precision Agriculture Workshop. I organized this one-day statewide workshop
to showcase five precision agriculture management strategies. Auburn, AL. January 28, 2016. 130
people. Organizer.

B. Ortiz. 2016. 2016 Corn and Wheat Short Course. Auburn, AL. December 12-13, 2016. 95 people.
Organizer

Selected international invited presentations over the last three years

- 2020. Do we have to adapt extension approaches to the digital farming environment?. Final seminar.
Food and Agriculture Organization (FAO). Rome, Italy. February 21, 2020.
- 2020. Should farmers or the extension approach adapt to the possibilities of digital agriculture?
Technical University of Munich. Freising, Germany. February 7th, 2020.
- 2019. Strengthening Extension Programs in the Digital Era. Seminar. Food and Agriculture
Organization (FAO). Rome, Italy. October 30th, 2019. 2019. Invited by USDA- Foreign Agricultural
Service to represent USA during an APEC workshop in Korea. Workshop title: Smart Agriculture
Policies for Sustainable Growth. Presentation title: Smart Farming: Key Strategies to Sustainable
Agriculture USA Perspective. Seoul, Korea. June 11-12, 2019.
- Invited by USDA- Foreign Agricultural Service to represent USA on an APEC meeting in Taipei,
Taiwan. Workshop title: Promoting gender inclusion in Smart Agriculture. Presentation title:

Challenges and opportunities to closing the gap between ageing farmers and youth in agriculture. Taipei, Taiwan. October 22-24, 2018.

- 2018. Crop Growth Simulation Modeling applied to Peanut Production. Graduate Course: Advances in Peanut Production. Sao Paulo State University, Jaboticabal campus, Brazil. August 1-3, 2018.

Professional Memberships:

American Society of Agricultural and Biological Engineers (ASABE), 2004-present

International Society of Precision Agriculture (ISPA), 2018-present

American Society of Agronomy (ASA), 2009-present

Crop Science Society of America, 2009-present

Public Service, Professional Service and Professional Memberships

- 2020 *Vice-leader* of ASA Extension and Education Systems Community
- 2015 *Leader* of American Society of Agronomy (ASA) Precision Agriculture Systems Community
- 2014 *Vice-leader* of ASA Precision Agriculture Systems Community
- 2015: *Reviewer, Grant Proposal* - USDA/CARE program
- 2013: *Reviewer, Grant Proposal* - USDA/A3141 NIFA program
- 2012: *Reviewer, Grant Proposal* – Alabama Agricultural Experimental Station
- 2010-2011: *Reviewer, Grant Proposal* - USDA/SBIR
- 2009 - PRESENT: *Leader* of the Cuba working group of Auburn University – College of Agriculture.
- 2011 - PRESENT: *Editor, Associate Editor* - Trans of ASABE and Applied Engineering in Agriculture
- 2008 - 2011: *Editor, Associate Editor* – Agronomy Journal
- 2004 - PRESENT: American Society of Agricultural and Biological Engineers
- 2009 - PRESENT: American Society of Agronomy
- 2009 - PRESENT: American Society of Crop Science

Honors and Awards

- 2020. **Rittenour Award for Excellence** in Production Agriculture & Forestry Research from the Alabama Farmers Federation. Montgomery, Alabama. September 2020.
- 2019. Visiting Scientist at the Food and Agriculture Organization (FAO) of UN. (09/19 to 02/20)
- 2018. **Invited speaker** to XLVII Brazilian Congress of Agricultural Engineering - CONBEA. August 7th, 2018.
- 2018. Appointed to **Adjunct faculty** at Sao Paulo State University, Brazil. August 2018.
- 2018. **Invited by the Sao Paulo State University** in Brazil to be part of a group international and national faculty teaching the course: Advances in Peanut Production. August 1-8, 2018.
- 2017. 2017 **ASABE Educational Aids Blue Ribbon Award**. Category: Publications, Comprehensive (33 or more pages). Award received for the iBook “Climate and Crops: Adapting Farming to a Variable Climate”.
- 2017. **Richard L. Guthrie Award** for Achievement in International Agriculture. Auburn University College of Agriculture.
- 2017. **Dean’s Grantsmanship Award**, Auburn University College of Agriculture and Alabama Agricultural Experiment Station.
- 2017. The Climate and Crops iBook was **selected as an international finalist** in two categories as **Best Book of the Year** during the 2017 iBooks Author Conference. The Climate and Crops iBook

was finalist in the categories of: Best Book of the Year, Education (Science) and Best Book of the Year, Education (Overall).

- 2017. **3rd Place** graduate student poster competition to Franciele Morlin, visiting student from Brazil. 15th Annual Nitrogen Use Efficiency Meeting. Baton Rouge, Louisiana. August 7-9, 2017.
- 2017. **Invited by the Sao Paulo State University** in Brazil to give three Precision Agriculture lectures with field practices and discuss research opportunities. February 11-19, 2017.
- **Visitor Scholar Fellowship from Technical University of Munich (TUM)**, Germany. May 1-10, 2016. I was awarded with this fellowship to visit TUM, learn and discuss Precision Agriculture Research and give two lectures to MSc students from the Precision Agriculture program/
- 2015. My Ph.D. student, Damianos Damianidis won the 2nd place **during the graduate student oral presentation** of the 2015 Southern Branch American Society of Agronomy meeting in Atlanta, GA. February 2015.
- 2014. **NIFA Partnership Award** received from USDA-NIFA. For outstanding leadership and innovation in climate extension, by engaging agricultural producers and helping them implement management strategies to protect crops from weather extremes. October, 2014.
- 2014. National winner of **Achievement Award** received from the National Association County Agricultural Agents. July 22, 2014.
- 2014. National winner of **Search for Excellence award** - Remote Sensing & Precision Ag Category from the National Association County Agricultural Agents. July 22, 2014.
- 2014. Alabama winner of **Achievement Award** received from the Alabama Association County Agricultural Agents. April, 2014.
- 2014. Alabama winner of **Search for Excellence award** - Remote Sensing & Precision Ag Category from the Alabama Association County Agricultural Agents. April, 2014.
- 2013. 2013 **Best Paper Award** for the paper “Using RTK-based GPS guidance for planting and investing peanuts” during the 9th European Conference of Precision Agriculture. Lleida, Spain. July 2013. Note: 95 papers from all over the world were presented at the conference. My contribution to this paper was of 50%. The paper was presented by the first author Dr. George Vellidis.
- 2012. My M.Sc. student, Mathew Tapley won the **Best graduate student oral presentation** during the 2012 Southern Branch American Society of Agronomy meeting in Birmingham, AL. February 2012.
- 2012. Nominated to receive the **2012 Junior Faculty Award** from the College of Agriculture. Auburn University.
- 2011. **Dean's Grantsmanship Award 2011** - College of Agriculture. Auburn University.
- 2011. Nominated to receive the **2011 Junior Faculty Award** from the College of Agriculture. Auburn University.
- Dean's Grantsmanship Award 2011 - Auburn University College of Agriculture.
- 2010 - Outstanding Scientific Paper Award. Georgia Association of Plant Pathologists -2010 meeting. Savannah, GA.