

ERIC S. MCLAMORE

Associate Professor
Agricultural & Biological Engineering Department, IFAS
University of Florida
Tel: (352)392-1864 Ext. 105
email: emclamor@ufl.edu

Education

Ph.D.	Civil Engineering	Purdue University, 2008
M.S.	Environmental Engineering	Texas Tech University, 2004
B.S.	Civil Engineering	Texas Tech University, 2002

Relevant Awards and Honors

Association of Public Land Grant Universities/USDA New Teacher Award (2016)
Amer. Soc. Engineering Education Teaching Innovation award (2016)
ASABE Researcher of the Year, Florida Section (2015)
ASABE National Teacher of the Year (2015)
ASABE Teacher of the Year, Florida Section (2014)
IFAS Early Career Award (2013)
UF Assistant Professor Excellence Award (2012)

Research and Teaching program

My research in Latin American is focused on development and application of biotechnology (sensors, functional food) for empowering vulnerable rural communities. I primarily work with Universidad del Valle (UV; Cali, Colombia) and the International Center for Tropical Agriculture (CIAT; Palmira, Colombia). The specific areas I work on are listed below (in bullets). Together with my colleagues at UV and CIAT, we have recently submitted 5 additional manuscripts for peer review related to illegal mining and herbicide/pesticide abuse. These manuscripts extend our technology work into social sciences and capacity building (in collaboration with I. Velez-Torres at UV), and our current efforts focus on empowerment of vulnerable communities and job creation as means for post conflict resolution. We are submitting four research/teaching proposals in 2016 to continue our work on capacity building and food/water safety in Colombia.

- Illegal mining and food/water safety (unpublished),
- Herbicide/pesticide abuse (unpublished)
- Pathogenic bacteria in food/water and disease (4 manuscripts, see below)
- Low cost nanotechnology development (10 manuscripts, see below)
- Plant physiology (2 manuscripts, see below)
- Functional foods and nutrition (1 manuscripts, see below)

In October, 2016 I was a Fulbright specialist at Universidad del Valle (Cali, Colombia) for one month, and I plan to submit a proposal for a 9 month sabbatical appointment at CIAT through Fulbright in the future. Although I do not have a formal extension appointment, I have been involved with a number of projects in Cali to instill the importance of community outreach by academia, including a: i) a biosensor training session at the UV book fair (led by McLamore), ii) a community meeting/survey in La Toma, Colombia on the use of mercury test strips, and iii) a community meeting/survey in El Tiple, Colombia regarding glyphosate and explosive residue analysis.

Literature Cited (collaborators from Latin America underlined)

Pathogenic bacteria in food/water and disease

- 1) Vanegas, D.C., J.C. Claussen, E.S. McLamore, C. Gomes (2016) Microbial Pathogen Detection Strategies. In: Encyclopedia of Agricultural, Food, and Biological Engineering, Third Edition. Eds: D.R. Heldman, C.I. Moraru, Taylor & Francis. ISBN 9781439811115
- 2) Vanegas, D.C., C. Gomes, E.S. McLamore (2016). Biosensors for indirect monitoring of foodborne bacteria. Biosensors Journal. 5:1
- 3) Marvasi, M., D.C. Vanegas, P. Chaturvedi, E.S. McLamore, M. Tepliski (2015). Salmonella enterica biofilm-mediated dispersal by nitric oxide donors in association with cellulose nanocrystal hydrogels. AMB Express, 5:28
- 4) Vanegas, D.C., E.S. McLamore (2014). Xanthine oxidase biosensor for monitoring meat spoilage. Proceedings of SPIE, Paper No. 8717-91070.

Low cost nanotechnology development

- 1) McLamore, E.S., M. Convertino, I. Oksoy, M. Taguchi, D.C. Vanegas, C. Gomes, J.C. Claussen (2016). Biomimetic Fractal Nanometals as a Transducer Layer in Electrochemical Biosensing. In: Semiconductor Device-Based Sensors for Gas, Chemical, and Biomedical Applications. Ed by Fan Ren and Stephen J Pearton, CRC Press; ISBN: 1439813876
- 2) Claussen, J.C., Campuzano, Pedrero, D.C. Vanegas, E.S. McLamore, Kuralay, Daniele, A.W.A. Salim (2014) Chapter 11: Hybrid Metallic Nanoparticles: Enhanced Bioanalysis and Biosensing via Carbon Nanotubes, Graphene, and Organic Conjugation, In: Nanobiosensing and Nanobioanalyses (ed: M.C. Vestergaard, K. Kerman, I.M. Hsing, E. Tamiya). Springer Verlag
- 3) Taguchi, M., N. Schwalb, D.C. Vanegas, N. Garland, M. Tan, H. Yamaguchi, J.C. Claussen, E.S. McLamore (2016). pulSED: Pulsed sonoelectrodeposition of nanometal for enhancing electrochemical biosensor performance. Analyst, 141: 3367-3378
- 4) Burrs, S.L., D.C. Vanegas, P. Hendershot, H. Greenslet, C. Gomes, E.S. McLamore (2015). A Comparative Study of Graphene-Hydrogel Hybrid Nanocomposites for Biosensing. Analyst, 140: 1466-1476.
- 5) Chaturvedi, P., D.C. Vanegas, S.L. Burrs, M. Taguchi, P. Sharma, E.S. McLamore (2014). A nanoceria-platinum-graphene nanocomposite for electrochemical biosensors. Biosensors & Bioelectronics, 58: 179-185.
- 6) Zhang, M., B. Gao, D.C. Vanegas, E.S. McLamore, J. Fang, L. Liu, L. Wu, H. Chen, M. Inyang, Y. Yao, Y. Zhou, Y. Sun (2014). Simple approach for large-scale production of reduced graphene oxide films. Chemical Engineering Journal, 243: 340-346.
- 7) Vanegas, D.C., M. Taguchi, P. Chaturvedi, S.L. Burrs, M. Tan, H. Yamaguchi, E.S. McLamore (2014). A comparative study of carbon-platinum hybrid nanostructure architecture for amperometric biosensing. Analyst, 39: 660-667.
- 8) Taguchi, M., N. Garland, N. Schwalb, D.C. Vanegas, S.L. Burrs, E.S. McLamore (2014). A Pulsed Sonoelectrodeposition Platform for Nanomaterial-Mediated Biosensor Development. Proceedings of SPIE, Paper No. 8717-91084.
- 9) Vanegas, D.C., M. Taguchi, S.L. Burrs, G. Justinvil, E.S. McLamore (2013). Self-Referencing nanomaterial-mediated biosensors for monitoring analyte flux. Proceedings of SPIE, Paper No. 8719-23.
- 10) E.S. McLamore, S.L. Burrs, D.C. Vanegas, M. Taguchi, P. Chaturvedi, S. Jairaim, Tong, Z. (2013). Hydrogel-nanotube composites for development of electrochemical biosensors. Proceedings of SPIE, Paper No. 8717-8719.

Plant physiology

- 1) Deng, W.H., B.Y. Chen, Y.Q. Zhang, S.L. Yan, H.B. Gao, J.Q. Zhang, E.S. McLamore, D.C. Vanegas, Y.B. Shen, B. Wu (2016) Influence of *Artemisia ordosica* extract on growth of associated plants by regulating the absorption of NH_4^+ and K^+ . Allelopathy Journal, 37(2): 175-193.

- 2) Vanegas, D.C., A. Cannon, G. Clark, S. Roux, E.S. McLamore (2015). A self referencing microbiosensor for measuring ATP flux. *Biosensors and Bioelectronics*. 74: 37-44.

Functional foods and nutrition

- 1) Wang, J., Y. Huang, K. Li, Y. Chen, E.S. McLamore, Y. Shen (2016). Leaf Extracts from *Lithocarpus polystachyus* Rehd. Promote Glycogen Synthesis in T2DM Mice. *PLoS One*, *In press*.