James C. Fulton

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Education

University of Florida (UF), Gainesville, FL, (8/2016 – present)
Ph.D. Plant Pathology

New Mexico State University (NMSU), Las Cruces, NM, (1/2014 – 5/2016)
M.S Major: Horticulture
Minor: Applied Statistics
Good Standing (3.953 GPA)

University of Virginia (UVA), Charlottesville, VA, (1/2009 – 12/2010)
B.A. Biology (with distinction)
Dean's List (3.65 GPA)

Northern Virginia Community College, Annandale, VA, (1/2007 – 12/2008)
A.S. Science (Magna cum Laude)
Presidential Scholar (3.925 GPA)
Phi Theta Kappa International Honor Society, 2007 – 2008

Peace Corps Pre-Service Training, Guatemala, (8/2011 – 10/2011)

Certifications

Project Design and Management Certificate, Peace Corps, (3/2012)

Behavioral Analysis, Change, and Management Certificate, Peace Corps, (3/2012)

Test Scores

GRE Verbal Reasoning – 165/170 Quantitative Reasoning – 163/170, (12/2010)

Professional Experience

University of Florida Graduate School Fellowship (2016 – 2020)

Fellow, National Science Foundation, GK12 DISSECT Program, (9/2014 – 10/2015)

Peace Corps Volunteer, Guatemala, (8/2011 – 4/2013)

Assistant instructor, Northern Virginia Community College, (1/2007 – 12/2008, 2/2011 – 7/2011)

Service member, Americorps NCCC, Louisiana, Texas, and Mississippi, (1/2006 – 11/2006)

Research Activities

Doctor of Philosophy thesis research (8/2016 – present)

Network analysis into farmer-level coordination with the Florida Plant Diagnostic Network (FPDN) in conjunction with the National Plant Diagnostic Network. Examining agricultural information diffusion between FPDN and state-based extension network to individual Florida pepper (Capsicum annuum) producers.

Master thesis research (1/2014 – 5/2016)

To explore the causes and consequences of stip, a disorder affecting chile pepper fruit, and to provide a reliable inducement protocol for future study, my research has incorporated three major avenues of analysis. We have designed a series of experiments to analyze the polar and non-polar metabolomics of symptomatic and asymptomatic tissue, carotenoid profile differences, distinct microscopic phenotype differences, and studies examining cultivar susceptibility and environmental factors influencing symptom development in the greenhouse.

Research Skills

- Experimental design, development, and data analysis of greenhouse studies
- Laboratory preparation, hygienic chemical use, and laboratory etiquette

Use and data analysis of the following tools:

- Gas chromatography/mass spectrometry (TOF – Time of Flight)
- High performance liquid chromatography (with photodiode array detector)
- Scanning electron microscope (including elemental analysis)
- Confocal microscope
- Stereo-fluorescent microscope
- SPAD-502 plus chlorophyll meter
- Competency with SAS (Statistical Analysis System), and Metaboanalyst
- Introductory knowledge of R, and complex networking program Cytoscape
- PAR/LAI
- Lyophilizer
- Centrifuge
- Nitrogen evaporator

Awards and Honors

- University of Florida Graduate School Fellowship Award (2016 – 2020)
- Marvin Wilson Memorial Endowment Fund 2015
- NM Crop Production Association Scholarship Award 2015
- Fellow, National Science Foundation's GK-12 DISSECT Program 2014
- Paul W. Price Memorial Scholarship 2014
- Albuquerque Area Extension Master Gardeners Current Use Scholarship 2014
- NMSU Agricultural Experiment Station Poster "Award of Excellence." 2014
- Fellow, Paul D. Coverdell Fellowship 2013
- University of Virginia graduation with Distinction 2010
- Northern Virginia Community College Presidential Scholar Award 2008
- Student Ambassador/ Orientation Leader Recognition Award 2008
- Congressional Award (bronze) 2006
- Honorary Citizen of St. Bernard's Parish 2006
- Segal AmeriCorps Education Award 2006
- Nominated for Best Volunteer of the Round 2005

Professional and Honorary Society Memberships

- Gamma Sigma Delta (January 2015 – present)
- American Society of Horticulture Science (January 2014 – present)
- Phi Kappa Phi (2015-present)
- Phi Theta Kappa International Honor Society (2008 – present)

Service to University

Facilitating workshop design and initialization between Cuba's Institute of Plant Health Investigations (INISAV) and University of Florida researchers and scientists (8/2016 – present)

Facilitated NMSU's participation in President Obama's 100,000 Strong in the Americas Initiative in conjunction with La Universidad de La Salle. Bogota, Colombia. (2015)

Graduate student representative, NMSU Library Student Advisory & Advocacy Council (2014-2015)

Vice President, Plant & Environmental Sciences Dep. Graduate Student Organization (2015)

Established UVA's Transfer Student Society (2009-2010)

Community Service

Student Ambassador, Northern Virginia Community College 1/2007 – 12/2008
Served as official representative for current students to four-year institutions

Co-Founder, Mentor 4 Youth 1/2007 – 12/2008

Co-Founded and developed the model for a tutoring and mentoring organization whose target clientele was disadvantaged youth

Director, Globe 1 1/2007 – 12/2008
Researched and facilitated lectures and public debates on themes of domestic and international importance

References

Karen A. Garrett, Ph.D.
Professor
Epidemiologist, Network Analysis
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Mark E. Uchanski, Ph.D.
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Additional references available upon request

Publications and Presentations

Publications

Garrett A., Karen, Poudel, R., Andersen, K., Fulton, J., Hernandez Nopsa, J., Buddenhagen, C., Choudhury, R., and Y. Xing. 2017 (in-progess). Network Analyses: Multivariate Models for Disentangling Relations Affecting Plant Diseases.

Fulton J., Holguin O., Steiner R., and M. Uchanski. 2017 (in-progress). Stip, an exploration into a physiological disorder affecting pepper. Journal of American Society of Horticulture Sciences.

Fulton J., Steiner R., and M. Uchanski. 2017 (in-review). A cultivar evaluation study examining susceptibility differences to chile pepper stip. HortTech.

Fulton J., and M. Uchanski. 2017. A review of chile pepper (Capsicum annuum) stip: a physiological disorder of peppers. HortScience: 52(1).

Burgett T., R. Folk, J. Fulton, A. Peel, E. Pontelli, and V. Szczepanski. 2015. DISSECT: Analysis of Pedagogical Techniques to Integrate Computational Thinking into K-12 Curricula. Frontiers in Education 2015: 549.

J. Fulton, A. Peel, E. Pontelli. 2015. DISSECT: An Experiment in Infusing Computational Thinking in a Sixth Grade Classroom. Frontiers in Education 2015: 554.

Presentations/posters

Poster: Thursday, February 23rd 2017. "Along the Pepper Grapevine": A network systems look into information flow among the Florida pepper industry and its consequences on disease recognition and response.

Poster: Thursday, December 8th 2016. "Along the Pepper Grapevine": A network systems look into information flow among the Florida pepper industry and its consequences on disease recognition and response.

Poster: Thursday, December 8th 2016. Determining Management Outcomes in Ecuadorian Potato Seed Systems.

Presentation: Friday, April 15th 2016. Stip: A Southwest Disorder Affecting Pepper Fruits (Exit Seminar)

Poster: Wednesday, September 9th 2016. Chile Pepper Stip: A Physiological Disorder of Peppers (NMSU Chile Field Day)

Presentation: Friday, October 23rd 2015. DISSECT: Analysis of Pedagogical Techniques to Integrate Computational Thinking into K-12 Curricula.

Presentation: Wednesday, August 5th 2015. Stip: A physiological Disorder of Pepper Fruits (ASHS 2015 Conference)

Poster: Wednesday, March 18th 2015. Chile Pepper Stip: A Greenhouse Study (NMSU GRAS 2015)

Presentation: Tuesday, February 3rd 2015. Chile Pepper Update (2015 New Mexico Chile Conference)

Poster: Tuesday, February 2014. Chile Pepper Stip: A Physiological Disorder of the Desert Southwest (2014 New Mexico Chile Conference)

Additional Skills

Computer literacy: Linux, R, SAS, PBASIC, Microsoft Office Suite

Multi-lingual: Proficient Spanish (oral and written); basic K'iche (indigenous Guatemalan language)