

Gregory C. Bernard
Assistant Professor of Plant Sciences
Henderson Hall Room 111
Tuskegee University
Tuskegee, AL 36088
334-727-8085
gbernard@mytu.tuskegee.edu

Professional Preparation

Tuskegee University	Integrative Biosciences	Ph.D., 2015
North Carolina State University	Plant Pathology	M.S., 2010
N.C. A&T State University	Animal Health	M.S., 2004
N.C. A&T State University	Animal Science	B.S., 1999

Appointments

Assistant Professor of Plant Sciences, Tuskegee University	June 2017 - present
Post-Doctoral Researcher, Tuskegee University	2015-2017
Botany and Biotechnology Lecturer	2015-2017
Plant Breeding and Genetics Program Mentor	2014-Present

Products

(i) Five closely related products

1. Inocent Ritte, Marceline Egnin, Paul Kusolwa, Papias Binagwa, Kheri Kitenge, Desmond Mortley, Steven Samuels, **Gregory C. Bernard**, Osagie Idehen, and Conrad Bonsi. Characterization of Markers Linked to Resistance Motifs against Maize Lethal Necrosis in Tanzanian Maize Germplasms (In Press).
2. Inocent Ritte, Marceline Egnin, Paul Kusolwa, Papias Binagwa, Kheri Kitenge, Desmond Mortley, Steven Samuels, **Gregory Bernard**, Osagie Idehen, and Conrad Bonsi. (2017). Evaluation of Tanzanian Maize Germplasms for Identification of Resistant Genotypes Against Maize Lethal Necrosis. African Journal of Plant Science. Vol 11(10):377-391
3. **Gregory C. Bernard**, Marceline Egnin, Conrad Bonsi, Desmond Mortley, William H. Witola, Wendell McElhenney, Steven Samuels, Caroline Land, and Kathy Lawrence (2017). Evaluation of root-knot nematode resistance in sweetpotato. African Journal of Agricultural Research. Vol. 12(16):1411-1414.
4. Gregory **C. Bernard**, Marceline Egnin, Conrad Bonsi. (2017). The Impact of Plant-Parasitic Nematodes on Agriculture and Methods of Control. Nematology - Concepts, Diagnosis and Control," ISBN 978-953-51-3416-9. InTech Open Access DOI: 10.5772/intechopen.68958
5. Co-Principal Investigator 2016 USDA-NIFA Grant. Title: EXPLORING NEXT GENERATION SWEETPOTATO BREEDING WITH CRISPR ASSOCIATED PROTEINS Marceline Egnin (Project Director), Desmond Mortley (PI), **Bernard Gregory** (PI), Samuel Steven (PI), Conrad Bonsi (PI), Stanton Gelvin (CoPI), Lan-Ying Lee (SP), Sy M. Traoré (CoPI consultant), Jolly Curtis, External Evaluator. USDA-NIFA Amount: \$497,500 (USD) for three years Date: Fall 2017

(ii) Other Significant Products

1. Steven Samuels, Alwan Z. Marceline Egnin, Jesse Jaynes, T.D. Connell, **Gregory C. Bernard**, and Toufic Nashar. (2017). Novel Therapeutic Approach for Inhibition of HIV-1 Using Cell-Penetrating Peptide and Bacterial Toxins. *Journal of AIDS & Clinical Research*. 8(10):737.
2. **Gregory C. Bernard**, Marceline Egnin, Conrad Bonsi, Desmond Mortley, William Witola, Steven Samuels, Caroline Land, and Kathy Lawrence. Efficient Evaluation of Physical and Molecular Plant Immune Responses to Root-knot Nematode Infection in Selected Sweetpotato Cultivars. *In Vitro Cellular & Developmental Biology*. Plant (2016) 52: 437. doi:10.1007/s11627-016-9771-8
3. **Gregory C. Bernard**, Marceline Egnin, Steven Samuels, Conrad Bonsi, Desmond Mortley, William Witola, Caroline Land and Kathy Lawrence. (2015). Host Reactions of Developing Sweetpotato Storage Roots Under Root-knot Nematode Challenge. Department of Agriculture and Environmental Sciences, College of Agriculture, Environment and Nutrition Sciences, Tuskegee University, Tuskegee Alabama, 36088 *In Vitro Cellular & Developmental Biology*. Vole 51. S36 Abstract.ISSN/1071-2690
4. Phenotypic and molecular investigation of developing sweetpotato storage roots under root-knot nematode challenge. **Gregory C. Bernard**, Marceline Egnin, Steven Samuels, William Witola, Desmond Mortley, Conrad Bonsi and Kathy Lawrence. (2015). National Sweetpotato Collaborators Group Annual Meeting, Nashville, TN.
5. Molecular fingerprinting analysis of transcripts involved in host response to disease in developing sweetpotato storage roots (2014). **Gregory C. Bernard**, Marceline Egnin, Steven Samuels, Innocent Ritte, Osagie Idehen, Crystal Lee Desmond Mortley, William Witola, and Conrad Bonsi. *In Vitro Cellular & Developmental Biology*, 50: S58-59. ISSN 1071-2690.
6. Co-Principal Investigator 2014 USDA-NIFA Grant Title: TRAINING THE NEXT GENERATION Y OF AGRICULTURAL PROFESSIONALS AND FARMERS THROUGH MOLECULAR GENETICS AND BREEDING CURRICULA Marceline Egnin (PD). USDA-NIFA Amount: \$300,000 (USD) for three years Date: Fall 2014
7. Principal Investigator. USDA Capacity Building Grant - DECIPHERING HIDDEN MECHANISMS IN THE BIOMAGNETIC RESPONSE IN PLANTS, A STUDY ON THE EFFECTS OF MAGNETIC FIELDS ON PLANT GROWTH, DEVELOPMENT AND DISEASE RESPONSE FROM PHENOME TO GENOME AND METABOLOME – Proposal Recommended for Funding 2019

Synergistic Activities

1. 2019 Currently mentoring an undergraduate student in plant breeding and bioinformatic analyses of next-generation sequencing data.
2. 2018 Member of the Editorial board for the *Plant Science Open Access Journal* at MedCrave
3. 2017 Mentor to a local high school student to improve student learning in the use of plant extracts in agricultural pest management.
4. 2017 Served as Science Fair Judge for the local elementary school system.
5. 2016 Presented information on the value of international studies to elementary and high school students during an outreach program targeting young underrepresented males held at Tuskegee University.
6. 2015-present Current advisor to undergraduate students enrolled in a training program for next-generation plant breeding and genetics researcher (iBREED).

Honors and Awards

1. 2018 Sigma Xi National Scientific Research Honor Society Inductee
2. 2017 Invited as a plenary speaker for the “International Colloquium on Biotechnology & Industrial Revolution” Brisbane, Australia
3. 2016 Awarded for Exceptional Service as Judge for Undergraduate Student Presentations at the Professional Agricultural Workers Conference, Tuskegee University
4. 2016 Awarded for Exceptional Service as Moderator for Undergraduate Student Presentations at the Professional Agricultural Workers Conference, Tuskegee University

5. 2016 Awarded Travel Award as Judge for undergraduate research presentations at Annual Biomedical Research Conference for Minority Students
6. 2015 Awarded 1st place in Ph.D. student oral presentation at the National Sweetpotato Collaborators Group Meeting, Nashville, TN.

Research Summary

My research involves the development of nano-biopesticides against plant pathogens of economic and scientific importance and transcriptome analysis of molecular factors involved in host-pathogen interactions and the identification of environmentally-sound, cost-effective, alternative measures to enhance plant growth and development for crop producers.