

Eli Hugghis
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EDUCATION

Master of Science: Plant Breeding and Genetics

May 2020

Michigan State University- East Lansing, MI

Bachelor of Science: Botany- Plant Cellular and Molecular Biology

May 2017

Minor: International Studies in Agriculture, Plant Biology, Crop Sciences

Purdue University- West Lafayette, IN

USDA/NIFA Multicultural Scholar

RELATED EXPERIENCE

Graduate Research Assistant with Dr. Addie Thompson- East Lansing, MI

Aug. 2018- Present

- Optimizing the use of nanoparticles as a rapid diagnostic tool for gene sequences in maize
- Investigating machine learning algorithms for high throughput disease detection in wheat
- Evaluating the use of recombinase polymerase amplification for rapid detection of presence and absence variants in maize

Agricorps Fellow- Eastern Region, Ghana

Jan. 2017- July 2018

- Taught agricultural knowledge and skills in a rural community in the Eastern Region of Ghana that compliment school curriculum at a local Junior High school as a science teacher
- Served as a 4-H adviser and an extension agent working with farmers in the community connecting local problems with local solutions
- Led efforts to integrate American agricultural technology and knowledge into a rural Ghanaian community
- Facilitated connections between local, government, and university agricultural organizations with local community members

Summer Research Assistant with Dr. Mitch Tuinstra- West Lafayette, IN

May 2017- Aug 2017

- Analyzed over 400 lines of West African Sorghum through phenotyping for grain quality
- Utilized Near-Infrared Spectroscopy (NIRS) and a Genome-Wide Association Study (GWAS) for West African lines
- Collected ground based measurements of Maize and Sorghum for phenotypic plant assessment.
- Presented research at the 2017 Graduate Student Plant Science Symposium

Research II Intern, DuPont Pioneer- Johnston, IA

Jan. 2016- Aug. 2016

- Evaluated and set up insect bioassays to understand potential for resistance to 3rd generation new actives for rootworm control
- Gained hands-on experience in insect rearing, handling, and processing
- Analyzed the gene expression of Western corn rootworm in response to traited material using a RT-QPCR analysis

Quality DNA Lab Intern, Dow Agro Sciences- West Lafayette, IN

May 2015- Aug. 2015

- Validated the use of Single Nucleotide Polymorphism (SNPs) for DNA extraction and PCR analysis over the use of older analysis methods
- Analyzed the genetic purity and characteristics of corn plant material through the use of high throughput liquid handlers and automated data analysis software
- Developed a database highlighting the characteristics of several markers and genetic line information for various corn plant materials
- Investigated cost savings procedures for PCR analysis

Undergraduate Research with Dr. Gebisa Ejeta, Purdue University

Aug. 2014- May 2017

- Investigating Sorghum varieties for resistance against the parasitic weed, Striga
- Testing the germination activity of Striga from several regions in Africa with root exudates from legumes

- Analyzing the sustainability of resistance in legumes toward the parasitic weed striga

OMP Student Worker- Office of Multicultural Programs (OMP), Purdue University

Aug. 2013- May 2016

- Recruited prospective students for Purdue University and the College of Agriculture
- Created surveys to evaluate the quality and efficiency of student summer programs such as the Hoosier Agribusiness Science Academy (HASA) Summer Institute and the STEAM academic boot camp
- Evaluated data from these surveys and analyzed the results into charts and graphs via Microsoft office
- Designed and updated current (OMP) website and social media information

Field Research with Dr. Robert Kratochvil- University of Maryland, College Park

Sept. 2012-April 2013

- Collected quantitative/qualitative data on the efficiency of intercropping forage radish and winter wheat
- Created a 1-5 grading scale to measure the quality of weed coverage on farm plots
- Analyzed the use of intercropping and herbicides as a weed preventative method

RELATED ACTIVITIES

- (MANRRS)-Minorities in Agriculture and Natural Resources and Related Sciences
 - MANRRS Michigan State University Graduate Student Chair
 - Organized professional development events for graduate students
 - Chairman of Jr MANRRS Purdue Committee 16-17'
 - Chartered the first Jr MANRRS Program in the state of Indiana.
 - Led and supervised club and committee meetings
 - Raised over \$4,500 for the program through grants and fundraising
 - Coordinated the inaugural annual Jr MANRRS Symposium
 - MANRRS Purdue Chapter Treasurer 14-15', 17'
 - Managed over \$20,000 for all club activities, travel, and events
 - Organized various fundraising activities generating over \$4,000
- LSAMP (Louis Stokes Alliance for Minority Participation)
- Botany Club, Purdue University

Aug. 2013-Present

Aug. 2014- May 2016

Aug 2013- May 2017

PROFESSIONAL DEVELOPMENT

- 2019 MANRRS National Conference- Overland Park, KS
- 2019 Maize Meetings- St. Louis, MO
- 2019 Global Food Security Symposium- Washington, DC
- 2018 MANRRS Regional Conference- Urbana- Champagne, IL
- 2017 MANRRS National Conference- Pittsburg, PA
- 2016 AFA Leader Conference- Kansas City, MS
- 2016 MANRRS Regional Cluster Minneapolis, MN
- 2015 AFA Leaders Conference- Kansas City, MS
- 2015 MANRRS National Conference- Houston, TX
- 2014 MANRRS Regional Conference- Ames, IA
- 2014 MANRRS National Conference- Birmingham, AL
- 2013 MANRRS Regional Conference- Madison, WI
- 2013 Multicultural Student Leadership Conference- West Lafayette, IN
- 2013 Connections Conference- West Lafayette, IN

PRESENTATIONS/SEMINARS

- Presented at the 2018 Maize Meetings in St. Louis, MO
- Presented at the 2017 National MANRRS Conference in Pittsburg, PA
- Presented at the 2017 International Agricultural Breeding Symposium in West Lafayette, IN
- Presented at the 2017 Graduate Student Plant Science Symposium in West Lafayette, IN

March 2017

April 2017

May 2017

August 2017

TECHNICAL SKILLS

- Microsoft Office software, R Statistical software
- Experience with automation and data analysis software, high throughput automation and liquid handlers
- Experience in DNA extraction and analysis of plant tissue, Single Nucleotide Polymorphism (SNPs), RT-QPCR analysis, gene expression analysis, insect handling and rearing, culturing bacterium and fungi, Isoelectric focusing, PCR sequencing of bacteria and plant DNA, Gram staining, plant propagation

HONORS

- Academic Achievement Graduate Assistantship, 2019-2020
- 2019 Next Generation Delegate, Chicago Council on Global Affairs, 2019
- 2019 MaGNET Travel Grant Awardee, Maize Meetings, 2019
- MANRRS VIP Farm Credit Scholarship Recipient, Farm Credit Mid-America, 2017
- 2016 Internship Program Grant Awards Recipient, DuPont Pioneer, 2016
- Outstanding College of Agriculture Sophomore Award, Purdue University, 2015
- Rex Hall Memorial Scholarship, Purdue University, 2015
- Rich Helen Willsey Scholarship, Purdue University, 2015-17
- Kelly and Margaret O'Neill Memorial Scholarship recipient, Purdue University, 2014-17
- Agricultural Seed Improvement Association, Inc. Scholarship recipient, Purdue University, 2014
- Service and Leadership Award, Purdue University, 2014
- Presidential Scholarship recipient, Purdue University, 2013-14
- Prince George's County Scholarship Fund, Maryland, 2013-14
- Dream 4 It Scholarship, Maryland, 2013-14
- J Bonner Wampler Alumni Scholarship, Purdue University, 2013
- William E Morris Scholarship, Purdue University, 2013-14
- Pearl W Smith Scholarship, Purdue University, 2013
- USDA/NIFA Multicultural Scholarship, USDA, 2013-17
- Presidential Scholarship, Purdue University, 2013-17
- Robert D Rock Memorial Scholarship, Purdue University, 2013
- Paul M Foster Memorial Scholarship, Purdue University, 2013

Speaking Engagements

- Master of Ceremony for grand opening of the Corn and Soybean Innovation Center- West Lafayette, IN **Fall 2016**
- Plant Science Representative for FFA Student Panel- West Lafayette, IN **Fall 2016**
- Plant Science Representative for GS119 class- West Lafayette, IN **Spring 2015**
- Guest speaker for Purdue Honors College Luncheon- West Lafayette, IN **Fall 2015**
- Student speaker for "Our Purdue" representing the College of Agriculture- West Lafayette, IN **Fall 2014**
- Student Speaker at the CoA Dean's Club Dinner- West Lafayette, IN **Fall 2014**
- Career Presenter at Gaithersburg Middle School-Gaithersburg, MD **December 2014**

Leadership

- Graduate Student Chair for MANRRS MSU- Michigan State University **Spring 2019-Present**
- Workshop Committee Chair for PBGB Symposium- Michigan State University **Fall 2019**
- Social Chair for Department of Plant, Soil, and Microbial Sciences- Michigan State University **Spring 2019**
- Planning Committee Member for Plant Science Research Symposium- Michigan State University **Spring 2019**
- Program Committee Member for Plant Science Research Symposium- Michigan State University **Spring 2019**
- Treasurer of MANRRS Purdue Chapter- Purdue University **Spring 2017**
- Committee Chair for Junior MANRRS- Purdue University **Fall 2016- Spring 2017**
- Discipleship Leader of Purdue Chi Alpha Christian Fellowship **Fall 2016- Spring 2017**
- Worship Leader of Purdue Chi Alpha Christian Fellowship **Fall 2015- Spring 2016**
- Department Botany and Plant Pathology Student Ambassador - Purdue University **Fall 2014- Spring 2017**

- MANRRS Purdue Chapter Treasurer- Purdue University **Fall 2014- Spring 2015**
- Planning Committee for Chi Alpha African American Leadership Conference- Midwest Region **Fall 2014**

Study Abroad

- Semester Abroad at Lincoln University in Lincoln, New Zealand **Spring 2016**
- Study Abroad Experience to Cartagena, Colombia, Purdue University **March 2014**

Other Involvement

- Mortar Board Honor Society-Barbara Cook Chapter, Purdue University **Spring 2016-Spring 2017**
- Purdue Chi Alpha Christian Fellowship **Fall 2013-Spring 2017**
 - Discipleship Leader 16'-18'
 - Worship Team Leader 16'- 18'

Community Service

- Visited Lansing High Schools to present on opportunities in Plant Sciences- Fall and Spring 2019
- Volunteer for Youth Track of Michigan Family Farms in Kalamazoo, MI - Fall 2018
- Akwadum, Ghana LEAD Workshop in Akwadum, Ghana – March 2018
 - Led and Organized, raised over 1,600GHC (~\$300USD) for event
- St. Ann's Soup Kitchen Volunteer in Lafayette, IN - Spring 2017
- Thea Bowman Jr MANRRS Organizer Fall 2016 - Spring 2017
- Mortar Board Reading is Leading Event Volunteer - Fall 2016
- Volunteer for College of Agriculture Book Drive - Fall 2016
- Volunteer at the Cary Homes in West Lafayette, IN, Fall 2016
- MANRRS Adopt-a-Highway Clean Up Fall 2014- Spring 2017
- MANRRS Clothing Drive, Fall 2013-2016
 - Organized it and participated in
- Mission Nutrition Volunteer- Maryland, Summer 2014