

**Joseph Emmanuel Quansah, Ph.D., MSE**

Associate Professor; Director - Geospatial Center;  
Director - Agricultural and Environmental Sciences Engineering PhD Program  
Department of Agriculture, Environment and Nutrition Sciences, Tuskegee University  
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**Education & Training**

Purdue University, West Lafayette, IN, USA, Agricultural & Biological Engineering **Ph.D.** 2007  
*Area of Specialization:* Environmental & Natural Resources Engineering  
*Dissertation:* Early Warning System for Water Quality Assessment within Agricultural Watersheds

Purdue University, West Lafayette, IN, USA Civil Engineering **MSE** 2004

KNUST Kumasi, Ghana Geomatics Engineering **B.Sc.** 1999

**Other Preparations**

KU Leuven, Belgium (*Study Abroad*) Earth Observation Graduate Certificate 2005  
Purdue University, West Lafayette, IN Applied Management Principles Graduate Certificate 2006  
ESRI Virtual Campus Ten (10) Certifications 2004

**Professional Experience**

2017 – Present Associate Professor, Depart. of Agricultural & Environmental Sciences, Tuskegee University  
2011 – 2017 Assistant Professor of Agricultural & Biological Engineering, Department of Agricultural & Environmental Sciences, Tuskegee University  
2022 – Present Founding Director, Agricultural and Environmental Sciences Engineering PhD Program  
2020 – Present Founding Director, Graduate Certificate in Geospatial Sciences.  
2011 – Present Founding Director, Geospatial Center, Tuskegee University  
2026 – Present Founding Director, Research and Education in Hydrology (REH) Summer program  
2015 Present Founding Director, Geospatial Research, Education & Training Summer Programs  
2009 – 2011 Research Hydrologist, United States Geological Survey, Lee Town Science Center, WV  
2007 – 2009 Post-Doctoral Research Associate, Dept. of Agric. & Biological Engineering Purdue Univ.  
2003 – 2007 Graduate Teaching and Research Assistant, Purdue University, IN  
2001 – 2003 Head of GIS Operations, Aero Surveys Limited,  
1999 - 2001 Teaching Assistant, Department of Geomatics Engineering, KNUST, Kumasi, Ghana

**Areas of Expertise, Research & Teaching Interest**

▪ *Civil, Environmental and Natural Resources Engineering:*

Integrated hydrologic/water quality/groundwater modeling at basin/watershed to field scales, watershed and ecohydrological modeling, land use/Land management impacts, Artificial Intelligence /Machine Learning (AI/ML) applications for hydrology and water resources management, soil and water conservation, and environmental and agricultural decision support systems.

▪ *Geospatial Informatics, Data Science & Adverse Weather Studies:*

Remote Sensing, Geographic Information Systems, Precision Agriculture, Data Science and Digital Agriculture, Artificial Intelligence /Machine Learning (AI/ML) applications, and related geospatial approaches to water, soil, and natural resources monitoring and management, ecosystem services/modeling, early warning systems, and disaster management.

Drought impacts on water resources, agriculture, forestry, and crop modeling, climate resilience, and adaptation for sustainable water resources, agriculture, and forest management.

## Administrative Responsibilities and Achievements

- **Founding Director, Geospatial Center (GC)**, <https://www.tuskegee.edu/gccc>  
In 2011, through a funded white paper, I established the Geospatial Center (GC) in CAENS to educate, train, and provide related opportunities for Tuskegee University students in geospatial data science and machine learning. The Geospatial Center can now boast of five faculty, about ten different courses taught by the faculty, several postdocs, several 1000s of undergraduate and graduate students taken courses at the center, and 100s of graduate students who have studied and completed critically important research under different faculty supervision, utilizing the state-of-the-art workstations, GPUs, and geospatial software and tools. The GC serves as one of the most important research hubs and facilities in Tuskegee University and is the central research center for all students in the Agricultural and Environmental Engineering PhD program. The center faculty fund and support several dozen graduate and undergraduate students, who regularly contribute to R&D at the university.
- **Founding Director, PhD Program in Agricultural and Environmental Sciences Engineering**  
I led in the development of the Agricultural and Environmental Sciences Engineering (AESE) PhD program that builds upon and leverages faculty expertise, resources, and academic strengths of the College of Agriculture, Environment and Nutrition Sciences (CAENS) and the College of Engineering (CoE) (<https://www.tuskegee.edu/graduate-school/Graduate-Programs.html>)  
The three major research and teaching areas are: 1) Environmental and Natural Resources Engineering, 2) Food Science and Food Processing Engineering, and 3) Renewable Energy, Biomass, and Bioenergy Conversion. I researched and developed the program structure, course content, and curricula, and all documentation for approvals at all stages, including the CAENS and CoE Deans, the faculty senate, the provost's office, the Tuskegee University Board of Trustees, and the Southern Association of Colleges and Schools Commission on Colleges (SACS COC). In the SACS COC's approval letter to the University, it stated that this important PhD program will raise Tuskegee University's accreditation by one level, bringing it closer to the R2 category. The program has been fully integrated into the university's system, and several students are enrolled. The AESE program will significantly contribute to the state, national, and global agricultural, engineering, and environmental sustainability through quality graduate education, research, discovery, and engagement in the agricultural, life sciences, environmental, biological, and natural resources engineering disciplines.
- **Founding Director, Micro-Credential - Professional Graduate Certificate in Geospatial Sciences**  
To further encourage and motivate students to embrace geospatial and data science courses in CAENS and within the Geospatial Center to improve their skills and job preparedness, I led the development of a new microcredential, the *Graduate Certificate in Geospatial Sciences*. The Certificate in Geospatial Sciences is designed to provide Tuskegee University students with these critical skills and training in geospatial and big data analysis and applications, including artificial intelligence. In the current 21st-century data-driven job market, with high demand for professionals with these micro-credential certificates, Tuskegee University students will be more competitive and successful in the jobs of the future. The 13-credit certificate program is designed for on-campus graduate and undergraduate students who can complete all required courses while enrolled. But most importantly, it is also designed for professionals across the United States and beyond who can enroll as online students, either on a part-time or full-time basis.
- **Hydrology Co-lead - 1890 Multistate Integrated Project on Adverse Weather Events**  
I co-chaired the hydrology group on developing a blueprint for adverse events research goals and priorities for 1890 institutions. The multi-state, multi-institutional, and multidisciplinary proposal sets the rationale, goals, and objectives, and desired outcomes for all nineteen 1890 land-grant institutions. The document serves as a guide for all 1890 institution research activities and project goals for the USDA NIFA Evans Allen grants.
- **2026 ARD Biennial Symposium Research Symposium Poster Committee Lead for Agricultural Systems and Technology**

- **Technical Committee/Administrative Advisors -1890 Multistate Integrated Adverse Weather Events Project**

I served with other committee members to ensure the successful implementation of the objectives and the delivery of outputs for the 1890 Multistate Integrated Project on Adverse weather events.

- **1890 Artificial Intelligence Working Group**

Serve as co-chair for the 1890 AI working group tasked with developing a blueprint for AI integration in research, education, and Extension programs in 1890 institutions.

- **Tuskegee University Research Strategic Planning Champions' Team Members**

Serve as a member to provide a clear roadmap for Research Strategic Planning and the advancement of all aspects of research across the university

- **Tuskegee Scholarly Publications**

To help CAENS and Tuskegee University adopt 21st-century digital repository and journal hosting platforms, I led the development of the first-ever Tuskegee Scholarly Publications Repository (<https://tuspubs.tuskegee.edu/>), currently hosting theses, dissertations, and university peer-reviewed journals, including the Professional Agricultural Workers Journal, which publishes proceedings from the PAWC and peer-reviewed publications.

- **Agricultural Informatics**

As the PI for the USDA-HEC project, I introduced and developed (1) a full semester course in Agricultural Informatics and (2) a two-week sandwich module for Tuskegee University Students. The two programs introduced students to an overview of current and emerging technologies used in agricultural data collection, management, and processing, including programming, ground, aerial, and space-borne sensing, and sensor techniques for predictive mapping and geospatial Information system approaches. The programs equipped students with basic computational thinking, Artificial Intelligence in geospatial processing, and software development skills for Agricultural Informatics careers. Over 100 Tuskegee University students have taken either the full semester course or the two-week sandwich module.

- **Hackathon Programs**

To provide Tuskegee University students with opportunities to implement and compete in computational thinking, programming, and artificial intelligence, I have led or served on several committees that have organized national and international hackathon competitions for students in the US and globally. I have also organized, trained, coached, funded, and traveled with several Tuskegee University students to compete in these Hackathons. Some of these hackathon competitions I have led and taken students to include the 2024 ASABE Annual International Meeting in Anaheim, California, the 2024 ARD Research Symposium in Nashville, Tennessee, the 2025 AgHack for Health in Kigali, Rwanda, the 2025 CyberPlay 1890 foundation competition in Washington DC, during the 135<sup>th</sup> commemoration of the second Morrill Act, the 2025 AgTech Hackathon during PAWC, Tuskegee Alabama, and the upcoming 2026 ARD Research Symposium in New Orleans, Louisiana.

- **Digital Infrastructure for Research and Extension on Crops and Technology for Agriculture**

As the PI for the USDA-NIFA project, I have installed a network of soil sensors and data loggers with cloud access in several fields of small-scale farmers across the Alabama Black Belt Counties (ABBC). The Soil Sensor Network and Digital Agricultural System (SSNDAS) has greatly enhanced precision and climate-smart agriculture and extension services for Farmers, Ranchers, Foresters, and Landowners within the Alabama Black Belt Region. The SSNDAS provides archival/historical data on soil biophysical properties and conditions, including soil moisture, temperature, and EC, critical for the continued implementation of precision agriculture for participating farmers. Access to the database allows both farmers and extension experts to consult in real time on important management decisions.

- **iCOVER - Innovative Cover-crop Opportunity, Verification, and Economy-stimulating technology for underserved farmers using Robotics**  
As the Tuskegee University PI for the iCOVER project, I have actively recruited and engaged small-scale farmers in the Alabama Black Belt Region to implement cover crops as a sustainable agriculture approach to mitigate the impacts of adverse weather. The project uses robotics and drones to plant and manage cover crops for farmers who register for the program. More than 40 farmers from Hale, Perry, Dallas, Marengo, Sumter, Greene, and Bullock counties signed up and registered for cover crop implementation, including specialty crop farmers, women farmers, and beginning farmers. The project involved active collaboration with Tuskegee University Cooperative Extension to identify interested farmers, enroll them, and begin building digital feedback loops to support affordability, technology, partnerships, and capacity development.
- **Member - Campus IT Committee on Learning Management System (LMS)**  
As a member of this committee, I reviewed at least 3 different MLSs and voted to migrate the LMS from Blackboard to the current LMS, Canvas.
- **Research and Education in Hydrology (REH)**  
The two-week REH summer program provides participants with hands-on training in hydrologic modeling and the use of AI / Machine Learning for processing hydrologic data to support agricultural water management decisions. Participants will receive training in the operations and use of the National Water Model (NWM) and the Soil and Water Assessment Tool (SWAT) for conducting simulations, hydrologic forecasting, and watershed analysis, with hands-on exposure to Python for hydrologic data analysis.
- **Established and directs the annual two-week summer Geospatial Research and Education Program**  
The two-week summer program brings minority students from across the US to Tuskegee University GC and provides remote sensing and GIS education and training, culminating in a research project and presentations. The majority of participants have eventually enrolled in Tuskegee University as undergraduate students.
- **Established and directs annual three-day summer Geospatial Education and Teaching workshop for K-14 teachers.**  
The program provides geospatial training to teachers from local minority high schools and community colleges. Participating teachers benefit from increased knowledge of Remote Sensing and Geographic Information Systems and how they apply across most fields.
- **Tuskegee Data Science Program**  
I played an active role in developing curricula and content for the university's new BSc program in Data Science.
- **Member, Graduate Council**  
Participates in regular meetings and actively contributes to developing new procedures, application documents, and requirements for Tuskegee University graduate school admissions.
- **Special Committee for streamlining Graduate School Application**  
Participated actively and contributed to the development of new procedures, application documents, and requirements for Tuskegee University graduate school admission.
- Member, Microsoft Tuskegee University Farm of the Future project
- Faculty Senate Special Committee for reviewing College of Engineering courses

- Collaborated as Research Analyst on NGA GEOINT Pathfinder unclassified projects.
- Graduate Faculty, Tuskegee University.
- Served as Major Advisor, Co-Advisor, and committee member, on over 45 Graduate students' research thesis/dissertation development.
- Faculty Advisor to Graduate Students Association, Department of Agric. and Environmental Science.
- Faculty Advisor to Harvest Dreams Water Conservation Group
- Member, Committee for drafting MOU with EPA
- Member, NATO Science for Peace Project, and Capacity Building Africa Project: Africa-U.S. Network of Centers of Excellence in Water and Environmental Science & Engineering."
- Chair – Mentorship Committee -College of Agric. Environ. & Nutrition Sci. Tuskegee Uni.
- Member, College of Engineering Industry Advisory Council, Tuskegee University.
- Member –Best Graduate Student Dissertation/Thesis & Best Graduate Student Award Committees.
- Campus Administrator for the Intergraph Hexagon Geospatial.

### Professional Services

2026	Organizing Committee for Hackathon at the ARD Research Symposium 2026 April, 2026, New Orleans, Louisiana.
2025	PAWC Planning Committee
2025	Organized the first AgTech Hackathon at the 2025 annual Professional Agricultural Workers Conference (PAWC), Montgomery, AL, Nov 14 -16, 2025
2025	Organized and trained students for the 2025 CyberPlay 1890 foundation competition in Washington, DC, during the 135 <sup>th</sup> commemoration of the second Morrill Act, September 8-11, 2025
2025	Part of the Organization of the AgHack 4 Health Hackathon Challenge, Kigali, Rwanda, June 30 -July 4, 2025
2024	Organization of the Digital Agriculture Hackathon at ASABE 2024, Annual International Meeting, Anaheim, CA 92802, July 28-31, 2024
2024	Organization of the first-ever Hackathon at the ARD Research Symposium 2024, April 5-9, 2024, Nashville, Tennessee
2024	U.S. Department of Energy Environment System Science (ESS) Southern Coastal System Workshop on developing “Critical Knowledge Gaps for Coastal Systems: Research Priorities for the U.S. South Atlantic and Gulf of Mexico.”
2023	UC Berkeley National Workshop on Data Science Education
2023	Technical Committee/Chair Elect 1890 Multistate Climate Change Climate Project
2023- Present	NOAA Cooperative Institute for Research to Operations in Hydrology Council of Fellows
2023- Present	Organizing Committee – 1 <sup>st</sup> Cooperative Institute for Research to Operations in Hydrology (CIROH) Training and Developers Conference. <a href="https://ciroh.ua.edu/devconference/">https://ciroh.ua.edu/devconference/</a>
2022- Present	Alabama Water Resources Research Institute (AWRRI) Council
2018 - Present	Chair and Review Panelist, Louisiana Board of Regents Support Fund Departmental Enhancement Agricultural Sciences.
2018-2023	AmericaView Education-Outreach Committee
2023- Present	Review Editor, Frontiers in Water
2019- Present	Co-Founder and Co-President, Joseph & Elizabeth Quansah Foundation
2023	Scientific Committee - AI in agriculture: innovation and discovery to equitably meet producer needs and perceptions Conference <a href="https://abe.ufl.edu/2023-ai-conference/">https://abe.ufl.edu/2023-ai-conference/</a>

- 2022 Co-Organizer and Session Chair- Envisioning 2050 in the Southeast: AI-driven Innovations in Agriculture conference, Auburn <https://aaes.auburn.edu/ai-driven-innovations-in-agriculture/>
- 2021 Review Panelist, NIFA Data Science for Food and Agricultural Systems (DSFAS)
- 2019 Selected for National Oceanic and Atmospheric Administration (NOAA) Independent External Review Team (IERT) for Center for Earth System Sciences and Remote Sensing Technologies
- 2017 Convener and host of Geospatial Intelligence (GEOINT) at HBCU conference/meeting
- 2017 NGA Pathfinder Project, Lead Tuskegee Collaborator with NGA Scientists
- 2011-2015 Convener and Hydrology Session Chair – American Geophysical Union Fall meeting.
- 2013 Participant, White House Conference Call on Climate Change and Environmental Justice.
- 2011, 2013 Review Panelist, USDA-AFRI Agriculture Systems & Tech.: Eng. Products & Processes.
- 2015 - 2016 Review Panelist, USDA Small Business Innovation Research Program Phase I / II proposal.
- 2016 Review Panelist, USDA-NIFA Pre-doctoral and Postdoctoral Fellowships Program
- 2012 Review Panelist, USDA-NIFA 1890 Capacity Building Grant Technical Review.
- 2016 Journal Reviewer - Journal of Environmental Progress & Sustainable Energy
- 2010 Journal Reviewer - Transactions of ASABE.
- 2007-2011 Journal Reviewer - Journal of Terrestrial Observation (JTO).

#### **Scientific and Professional Society Memberships**

- NOAA Cooperative Institute for Research to Operations in Hydrology Council of Fellows
- Alabama Water Resources Research Institute (AWRRI) Council
- Alabama Remote Sensing Consortium (ARSC)
- International Society for Photogrammetry and Remote Sensing (ISPRS)
- American Society for Photogrammetry & Remote Sensing (ASPRS).
- American Society of Agricultural and Biological Engineers (ASABE).
- Alliance of Crop, Soil, and Environmental Science Societies (ACSESS)
- ASABE Technical Committee Natural Res. & Environ. Systems (NRES)
- American Society of Civil Engineers (ASCE).
- Gamma Sigma Delta Honor Society of Agriculture.
- American Geophysical Union (AGU).
- AGU Global Environmental Change and Hydrology Groups
- AmericaView /AlabamaView.
- Online Learning Consortium, Inc.

#### **Honors and Awards**

- 2023 Outstanding Faculty Performance Award for INNOVATION
- 2017 Community Geospatial Intelligence Training Council (CGTC)
- 2010 Gamma Sigma Delta Honor Society of Agriculture.
- 2008 Purdue Global Engineering Program.
- 2005 Stevan J. Kristof Outstanding Research in Remote Sensing Award, Purdue University.
- 2004 Graduate Research Assistantship, Purdue ABE and Purdue Terrestrial Observatory
- 2005 Agricultural and Biological Engineering, Purdue - Study Abroad.
- 2005 International Programs in Agriculture, Purdue University.

## Selected Funded Grants:

### *Funded Grants*

- **Joseph E. Quansah (PI)**, Souleymane Fall, Rui Chen, and Tej Gautam. Addressing Environmental Justice Issues and Assessing Economic Impacts of Drought on Agriculture for Underserved Communities. University of Alabama/USGS \$583,658.00 (2023-2026)
- **Joseph E. Quansah (PI)**, Raymon Shange, Souleymane Fall, Robert Zabawa, Fan Wu. Improving modeling and forecast product delivery in agricultural lands. University of Alabama NWS- NOAA-DoC UA - \$729,545 (2022-2026)
- **Joseph E. Quansah (PI)**, Raymon Shange, Olga Bolden-Tiller and Anthony Kumi. iCOVER = Innovative Cover-crop Opportunity, Verification and Economy stimulating technology for underserved farmers using Robotics. University of Illinois at Urbana-Champaign /USDA \$1,000,000 (2023-2027).
- S. Fall, **J. Quansah (Co-PI)**, and Gamal El Afandi. Empowering Extension Agents at 1890s Institutions through Online Education and Geospatial Training to Advance Agricultural Sustainability and Environmental Stewardship USDA/NIFA. USDA/NIFA \$600,000 08/2025-07/2028
- **Joseph Quansah (PI)** and Rui Chen. Developing Geospatial micro-credential certificate to boost employment opportunities for African Americans and underserved communities. 1890 Center of Excellence for Student Success and Workforce Development (SSWD), EXCEL Faculty Fellowship, \$95000 (2023-2024)
- Rui Chen (PI) and **Joseph Quansah (Co-PI)** Assessing Educational Attainment Gap in Data Analytics and AI for African Americans and Underserved Communities: Strengthening Workforce Development through Micro-Credential Certification 1890 Center of Excellence for Student Success and Workforce Development (SSWD), EXCEL Faculty Fellowship, \$95000 (2023-2024)
- **Joseph Quansah (PI)**, Souleymane Fall, Desmond Mortley, Anthony Kumi, Rui Chen, Lindsey Lunsford, Gregory Bernard, Rashidah Farid-Tilghman, Ronald Smith, William Hodge, Justin Tate, Osagie Idehen, and Lucy Baah-Asare. *Climate Smart Approach to Agricultural and Environmental Management for Socially Disadvantaged Farmers Ranchers, Foresters, and Landowners*. 2023-2028: USDA/NIFA/Evans Allen – ALX-WCV18-23).
- **Joseph E. Quansah (PI)**, Raymon Shange, Souleymane Fall, Robert Zabawa, Fan Wu. Cooperative Institute for Research to Operation in Hydrology (CIROH) - \$360 million NOAA-NWS-NWS CIPO-2021-2007043 (Lead Institution - University of Alabama, and consortium of 14 universities and partners. (<https://www.tuskegee.edu/news/tuskegee-university-to-take-part-in-noaas-360-million-national-water-effort>
- **Joseph Quansah (PI)**, Desmond Mortley and Raymon Shange. Digital Infrastructure for Research and Extension on Crops and Technology for Agriculture (DIRECT4AG), University of Illinois at Urbana-Champaign/USDA-AFRI (Award: \$800,000, 2022-67021-36838) (2022-2025)
- **Joseph Quansah (PI)**, Souleymane Fall Tej Gautam. Environment Evaluation and Watershed Assessment for Irrigation Expansion and Resource Conservation Alabama - Middle Alabama River Basin Watershed Plan. Auburn University/USDA-NRCS - \$49,401.00 (2022-2023)
- **Joseph Quansah (PI)** - Computational Skills Development for Next Generation Agriscience Professionals for Sustaining Data Driven Agriculture, NIFA Higher Education Challenge (HEC) - \$739,050 (2020-024) (Lead Institution - Purdue University, and University of Kentucky).
- Woubit Abebe, Temesgen Samuel, Asseged Dibaba, Gopal Reddy, Gemechu Wirtu, **Joseph E. Quansah**, and Fan Wu. Strengthening Global Competence of Tuskegee Veterinary Students with Focus on Emerging Zoonoses And Food Animal Medicine, USDA-NIFA (Award- \$148,910.00, 2022-2023)
- **J. E. Quansah (PI)**, R. Shange, S. Fall, G. El Afandi, E. Kebede, R. Ankumah, A. Kumi, D. Alexander, A. Elliott, and R. Smith. *Efficient Water Use and Adaptation to Climate Variability: A Sustainable Production*

*Solution for Historically Disadvantaged and Limited Resource Farmers and Landowners.* (2018-2023: USDA/NIFA/Evans Allen – ALX-WCV18).

- Robert Zabawa, Eunice A. Bonsi, **Joseph E. Quansah (CO-PI)**, Anthony Kumi, Lindsey Lundsford, Lucy Asare-Baah, Alberta N. A. Aryee, Zachary Senwo and Sphein Tubene. *An Integrated Approach to Strengthening Global Food Security and Nutrition for Health and Well-Being: A School Lunch Program Model.* (2021-2023), \$96000 Center of Excellence for International Engagement and Development (CEIED) – NIFA.
- Rhonda Collier, **Joseph Quansah (CO-PI)** Alabama – Colombia: *Water, Sanitation, and Hygiene (AC-WASH)* (Partnering institutions: University of Alabama, Alabama and Universidad del Norte, Barranquilla, Colombia) One year - \$71,730.71(2022-2023)
- **Joseph Quansah** Co-Lead/Co-PI for Hydrology/Water System Section. 1890 Multistate Integrated Project: Climate Change: Impacts for Underserved Farmers, Landowners & Communities of Color.
- Brenda V Ortiz, (Auburn University), Kati W. Migliaccio (Univ. of Florida), Alex Thomasson (Mississippi State Univ.), et al, **Joseph Quansah.** *Envisioning 2050 in the Southeast: AI-driven Innovations in Agriculture.* \$50,000 USDA-NIFA-AFRI-007692. <https://aes.auburn.edu/ai-driven-innovations-in-agriculture/> (2022)
- Zabawa, **J. Quansah** and J. Schelhas (USDA/FS), Co-PIs. *Impact of Heir Property on Personal and Community Asset Building.* USDA/FS, 7/27/16-7/31/18, \$34,200. R.
- Olga Bolden-Tiller, Deloris Alexander, Deepa Bedi, Tasha Hargrove, Byeng Min, **Joseph Quansah**, Albert Russell, Richard Whittington, and Robert Zabawa. *Tuskegee University Multi-institutional mEntoring Network for Transforming Organizational cultuRe (MENTOR) Program – Tomorrow’s Unique (TU) Mentor Program*
- **J. E. Quansah**\_(PI) and S. Fall.- *Enhancing Geospatial Research, Teaching and Outreach Capabilities at Tuskegee University* (\$727,463.00, 2015-2020: National Geospatial –Intelligence Agency (NGA) National Academic Research Program (NARP)- STEM Award (U-005-15-OCSC ) (2015-2020)
- **J. E. Quansah**\_(PI), S.Fall, R. Ankumah, M. Ngandu, G. El Alfandi, R. Shange, R. Smith, L. Osinuga and J. Sullen. *Assessment of Global Climate Change Impacts on Water Resources and Crop Productivity and Adaptations by Limited Resource Farmers and Landowners in the Black Belt Region of Alabama.* (\$513,810.00, 2013-2017: USDA/NIFA/Evans Allen – 1001194)
- Raymon Shange, **Joseph E Quansah**, Souleymane Fall, Ronald Smith, Jerry Bettis, , Uma Karki, Gamal El Afandi, Anthony Kumi, Matthew Robinson. *Development of a Forest Management System to Enhance Ecosystem Restoration and Management for Limited Resource Farmers.,* 2016 (\$599,999 - FY 2016-2019, USDA-NIFA- CBGP- 005696)
- S.Fall, **J. E Quansah**, M. Ngandu, R. Ankumah, and C. Conrad.- *Implementing the Agricultural and Environmental Sciences Engineering Doctoral Program at Tuskegee University* (\$149,992.00, 2013-2016: USDA-NIFA-CBGP-004108)
- **J. E Quansah**\_(collaborator) - NOAA Center for Atmospheric Science and Meteorology. (\$3Million, FY 2016-2021, NOAA NOO-SEC-OED-2016-2004758) Lead institution: Howard University (Washington, DC). Affiliate institution: Tuskegee University.
- **Joseph E Quansah**\_(Senior Scientist) *Real-time Remote Sensing for Early Warning & Mitigation of Disasters, Including Epidemics: The Mediterranean Dialogue Earth Observatory (MDEO),* FY 2011- 2014 NATO Science for Peace Project - SFPP 983168.
- **Joseph Quansah**\_(Senior Scientist) USAID/Senegal project on education and education in agriculture (ERA) focuses on curriculum revision and mapping in response to a more labor market demand-driven education and training at the University of Ziguinchor, Lycee Agricole Technique de Bignona, and the Centre de Formation Nationale des Techniciens en Eaux et Forets; providing leadership assistance to involve TU in capacity building

of AETs in other regions (Thies, Saint Louis, and Dakar).(FY 2011-FY 2016 \$760,790) Ntam Baharanyi (PI) and Youssouf Diabate (Co-Pi)

- **Joseph Quansah** (Senior Scientist). Africa-U.S. Network of Centers of Excellence in Water and Environmental Science and Engineering" USAID FY 2011-2016 (8.2 Million over five years). The grant funded Africa-U.S. international partnership projects for research and capacity building in environmental, energy, and climate change science and engineering in West Africa Universities. Lead Institution- Tuskegee University. Partners: Princeton and four universities in West Africa. Principal/Partnership Director - Nosa O. Egiebor.

### *Pending Grants*

**Joseph E. Quansah (PI)**, Souleymane Fall (CO-PI) Integrating Soil Moisture Forecasting and NWM-Based Water Risk Assessment into Agricultural Land Management Tool. CIROH/NOAA/USGS

W. Lee Ellenburg (PI), **Joseph Quansah** (CO-PI). Enhancing the Unified Alabama Mesonet with Soil Hydraulic Characterization to Advance Integrated Decision Support. CIROH/NOAA/USGS

**Joseph Quansah (PI)** with UIUC: DSFAS PARTNERSHIP: Next Phase of DIRECT4AG-Digital Infrastructure for Integrated Research and Extension on Cropping Systems and Technology for Sustainable Agriculture. USDA-NIFA-AFRI—011134 May 1, 2026-April 30, 2029, \$800K

### **Professional Development Activities**

- 2023 Training in Canva Learning Management System
- 2016 Faculty Development Workshop on Institutional Effectiveness
- 2014 Certified Online Instructor Training
- 2014 Quality Matters (QM) Online Course Standards Training
- 2013 Training for Teaching Online, Tuskegee University.
- 2013 Professional Development Intensive Workshop II, Tuskegee University.
- 2007 Preparing future Faculty, Purdue University.
- 2007 Grant Writing Skills, Purdue University.
- 2006 Graduate Certificate, Applied Management Principles - Purdue University.
- 2005 Graduate Certificate, Earth Observation (Study Abroad) - University of Leuven (KU Leuven)
- 2004 ESRI GIS Certifications

### **Publications**

#### *Books & Book Chapters*

Gilbert L. Rochon, **Joseph E. Quansah**, Souleymane Fall, Bereket Araya, Larry L. Biehl, Thierno Thiam, Sohaib Ghani, Lova Rakotomalala, Hildred S. Rochon, Angel Torres Valcarcel, Bertin Hilaire Mbongo, Jinha Jung, Darion Grant, Wonkook Kim, Abdur Rahman M. Maud & Chetan Maringanti. "Remote Sensing, Public Health & Disaster Mitigation," in Nancy Hoalst-Pullen and Mark W. Patterson, Eds. Geospatial Technologies in Environmental Management. Volume 3 of Geotechnologies and the Environment, Chapter 11, pp. 187 -209, NY: Springer, 2010.

Gilbert L. Rochon, Dev Niyogi, Alok Chaturvedi, Krishna Madhavan, Raj Arangarasan, Larry Biehl, **Joseph E Quansah** and Souleymane Fall. "Adopting Multisensor Remote Sensing Datasets and Coupled Models for Disaster Management," Ch. 5, pp.75–100, in Shailesh Nayak & Sisi Zlatanova, Eds., Remote Sensing and GIS Technologies for Monitoring and Prediction of Disasters. Heidelberg: Springer, 2008. DOI 10.1007/978-3-540-79259-8\_5 ISSN 1863-5520.

**Joseph E. Quansah**, Bernard A. Engel Rochon, Gilbert L., Flanagan, Dennis C., and Chaubey, Indrajeet. Early Warning System for Water Quality Assessment within Agricultural Watersheds. Purdue University, Ph.D. Dissertation, 2007.

Gilbert L. Rochon, Dev Niyogi, Alok Chaturvedi, Rajarathinam Arangarasan, Krishna Madhavan, Larry Biehl, **Joseph E. Quansah**, Modeling, Visualization & Fusion Of Archival And Real-Time Multi-Sensor Satellite Data, Socio-Economic Data And In-Situ Data In Support Of Disaster Mitigation, Book Title: Remote Sensing & GIS Technologies for Monitoring and Prediction of Disasters", to be published by Springer Verlag and edited by Dr. Sisi Zlatanova (Delft University of Technology, Netherlands), 2007.

### *Peer-Reviewed Publications*

Fall, S.\*, **Quansah, J. E.**, and Diaz, S. G. County-Level Assessment of Agricultural Vulnerability to Climate Extremes in Alabama (USA), *agriculture* (Manuscript ID -4272393, forthcoming)

Gutierrez Diaz, S., Fall, S. and **Quansah, J. E.\*** Geospatial and Data Science Microcredentials: A Pathway to Career Advancement, **2026**, *Education Sciences* 2026, 16, 717

Olakanmi, E. E, Fall, S., and **Quansah, J. E.\***. Soil Moisture Frameworks for Irrigation Decision Support Systems. *Agricultural Sciences*, **2026**, (AS| ID: 3005307)

Olakanmi, E. E., Ebbuah, L.E., Fall, S., and **Quansah, J. E.\***. Estimating Soil Moisture at Different Depths Using Multiple Satellite-Derived Indices. *Advances in Remote Sensing*, **2026**, \*(ARS| ID: 2630446),

**Quansah, J. E.\***, Doria, R. D., Olakanmi, E. E and Fall, S. Development of an Agricultural Water Risk Assessment Framework Utilizing the National Water Model Streamflow Forecasts. *Hydrology* **2026**,13(2), 43; <https://doi.org/10.3390/hydrology13020043>

**Quansah, J.\***; Doria, R.; Fall, S. Evaluating the Performance of the National Water Model: A Spatiotemporal Analysis of Streamflow Forecasting. *Water* **2025**, 17, 2950. <https://doi.org/10.3390/w17202950>

Atayi, J.; Zhou, X.; Iliadis, C.; Glenis, V.; Kang, D.; Sheng, Z.; **Quansah, J.**; Hunter, J.G. Evaluating the Effectiveness of Soil Profile Rehabilitation for Pluvial Flood Mitigation Through Two-Dimensional Hydrodynamic Modeling. *Hydrology* **2025**, 12, 44. <https://doi.org/10.3390/hydrology12030044>

Coppess, J., A. Studer, M. Sullivan, R. Bhattarai, D. Bowman, L. Gentry, C. Mitchell, C. Navarro, S. Satheesan, R. Panchani, **J. Quansah** and N. Johannig. "The DIRECT4AG Project, Part 3: Technology for Cover Crop Establishment." *farmdoc daily* (14):195, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, October 28, 2024. [Permalink](#)

Coppess, J., A. Studer, R. Bhattarai, D. Bowman, L. Gentry, C. Mitchell, C. Navarro, S. Satheesan, R. Panchani and **J. Quansah**. "The DIRECT4AG Project, Part 2: Helping Advance Adoption of Cover Crops." *farmdoc daily* (14):191, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, October 21, 2024. [Permalink](#)

Coppess, J., A. Studer, R. Bhattarai, D. Bowman, L. Gentry, C. Mitchell, C. Navarro and **J. Quansah**. "Innovations in Research and Extension: The DIRECT4AG Project, Part 1; An Introduction." *farmdoc daily* (14):187, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, October 14, 2024. [Permalink](#)

Tanzir Hossain, Raymon S Shange, Ramble O Ankumah, Souleymane Fall, Wendell H McElhenney, **Joseph E Quansah**, Taposh K Sarker and Jacob J Aun. Prokaryotic Community Composition and Diversity in Sediments from Choctawhatchee, Uphabee, and Cubahatchee Creeks in the Lower Tallapoosa River Basin, Macon County, Alabama: An Observational Study. *Air, Soil and Water Research Volume 17: 1–14.2024 sagepub.com/journals-permissions* <https://doi.org/10.1177/11786221241228054>

Souleymane Fall \*, Kapo Coulibaly, **Joseph Quansah**, Gamal El Afandi, Differential Urban Heat Vulnerability: The Tale of Three Alabama Cities. 2023. *Urban Sci.* 2023, 7(4), 121; <https://doi.org/10.3390/urbansci7040121>

- Fall S, Abdallah E, **Quansah J**, Franklin M, Whalley-Omidire, T. County-level Assessment of Vulnerability to COVID-19 in Alabama. 2022. *ISPRS Int. J. Geo-Inf.* 2022, *11*, 320. <https://doi.org/10.3390/ijgi11050320>
- Joseph E. Quansah\***, Amina B. Naliaka, Souleymane Fall, Ramble Ankumah and Gamal EL Afandi. Assessing Future Impacts of Climate Change on Streamflow within the Alabama River Basin. *Climate* 2021, *9*, 55. <https://www.mdpi.com/2225-1154/9/4/55>
- Souleymane Fall, Kapo M. Coulibaly, **Joseph E. Quansah**, Gamal El Afandi, Ramble Ankumah. Observed Daily Temperature Variability and Extremes Over the Southeastern USA (1978 – 2017) *Climate* 2021, *9*, 110
- Joseph E. Quansah\***, Pauline Welikhe, Gamal El Afandi, Souleymane Fall, Desmond Mortley and Ramble Ankumah (2020). “CROPGRO-Soybean Model Calibration and Assessment of Soybean Yield Responses to Climate Change”. *American Journal of Climate Change* Vol 9 (3) 297-316, (2020) <https://doi.org/10.4236/ajcc.2020.93019>
- Pauline Welikhe, **Joseph E Quansah\***, Souleymane Fall, and Wendell McElhenney. “Estimation of Soil Moisture Percentage Using LANDSAT-based Moisture Stress Index”. *Journal of Remote Sensing & GIS.* 6 200 (2017) doi: 10.4172/2469-4134.1000200
- Pauline Welikhe, **Joseph E Quansah\***, Kenneth Boote, Senthold Asseng, Gamal El Afandi, Souleymane Fall, Desmond Mortley and Ramble Ankumah. “Impact of Climate Change on Corn Yields in Alabama” 2016. *Professional Agricultural Workers Journal*: Vol. 4: No. 1, 12 (2016)
- Rebecca Gyawu, **Joseph E Quansah**, Souleymane Fall, and Peter N Gichuhi and Adelia Bovell-Benjamin. “Community Food Environment Measures In the Alabama Black Belt: Implications for Cancer Risk Reduction” 2015. *Preventive Medicine Reports.* PMEDR Vol. 144 (2): 689-698 (2015)
- Joseph E. Quansah\***, Bernard A. Engel and Gilbert L. Rochon. “Early Warning Systems: A Review” *Journal of Terrestrial Observation (JTO).* 2(2) (2010)
- J. E. Quansah**, B A. Engel, I. Chaubey. Tillage Practices Usage in Early Warning Prediction of Atrazine Pollution. *Transactions of ASABE* Vol. 51(4): 1311-1321 (2008)
- Joseph E. Quansah\***, Gilbert L. Rochon, Kwamena K. Quagrainie, Steve Amisah, Mucai Muchiri and Charles Ngugi. “Remote sensing applications for sustainable aquaculture in Africa” *Institute for Electrical Engineering and Electronics (IEEE) International Geoscience and Remote Sensing Symposium (IGARSS)* Barcelona, Spain, 23-28 July 2007. Proceedings No. 1-4244-1212-9/07: 1255 –1259 (2007).
- Gilbert L. Rochon, Loring F. Nies, Chad T. Jafvert, Julie A. Stuart, Rabi H. Mohtar, **Joseph Quansah** and Akilah Martin. “Education in Sustainable Production in US Universities.” *Clean Technologies and Environmental Policy.* Springer Verlag. Vol.8 (1):38–48 (2006)

### **Conference Presentations and Proceedings**

- E. Olakanmi, **J. Quansah**, R. Doria, S. Fall: Development of an Integrated Forecast-Based Framework for Streamflow and Soil Moisture Modeling to Support Agricultural Water Management. 2026 Annual UCOWR/NIWR Conference, Hilton Palacio Del Rio in San Antonio, TX, June 8 - 10, 2026
- S. Gutierrez-Diaz, **J. Quansah**, and S. Fall. Drought-Based Composite Index System for Informed Decision-Making and Risk Management for Alabama’s Farmers. ARD Research Symposium, Louisiana, AL, March 28 -31, 2026
- Eniola E. Olakanmi, **Joseph E. Quansah**, and Souleymane Fall. Improving Depth-Specific Soil Moisture Forecasts Using Machine Learning and Remotely Sensed Data, ARD Research Symposium, Louisiana, AL, March 28 - 31, 2026
- L. Ebbuah, **J. Quansah**, and S. Fall. Assessing the Impacts of Droughts on Agricultural Productivity and Adaptive Options for Alabama Farmers. ARD Research Symposium, Louisiana, AL, March 28 -31, 2026
- Joseph E. Quansah**, Improving Modeling and Forecast Product Delivery in Agricultural Lands, CIROH 5-Year Review meeting, University of Alabama, Tuscaloosa, AL, March 03-04, 2026

- Joseph E. Quansah** and Souleymane Fall. Addressing Environmental Justice Issues and Assessing Economic Impacts of Drought on Agriculture for Underserved Communities. 3<sup>rd</sup> CIROH Science meeting, University of Alabama, Tuscaloosa, AL, September 15-18, 2025
- Joseph E. Quansah** and Souleymane Fall. Improving modeling and forecast product delivery in agricultural lands, 3<sup>rd</sup> CIROH Science meeting, University of Alabama, Tuscaloosa, AL, September 15-18, 2025
- J. Quansah**, E. Olakanmi, R. Garcia, S. Fall, and F. Wu, The Development of An Agricultural Water Risk Assessment and Management System Utilizing National Water Model (NWM) Forecast and Soil Moisture Products. 3<sup>rd</sup> CIROH Developers Conference, University of Vermont, May 28-30, 2025
- Joseph E. Quansah**, Ruben Doria Garcia, Souleymane Fall, Desmond Mortley, Raymon Shange Robert Zabawa, Fan Wu, and Eniola Olakanmi. Improving modeling and forecast product delivery in agricultural lands, 3<sup>rd</sup> CIROH Science meeting, University of Alabama, Tuscaloosa, AL, Oct. 14-17, 2024
- Joseph E. Quansah**, Souleymane Fall, Lydia Ebbuah and Sara Guitierrez-Diaz. Addressing Environmental Justice Issues and Assessing Economic Impacts of Drought on Agriculture for Underserved Communities. 3<sup>rd</sup> CIROH Science meeting, University of Alabama, Tuscaloosa AL, Oct. 14-17, 2024
- Joseph Quansah**, Souleymane Fall, Desmond Mortley, Tony Kumi, Lydia Ebbuah and John Amonoo. Integrated Modeling and AI: Enhancing Water Use Efficiency for Limited Resources Farmers in Underserved Communities, 2024 Artificial Intelligence in Agriculture Conference A&M Hotel & Conference Center - College Station, Texas April 15th – 17th, 2024.
- Joseph Quansah**, Raymon Shange, Olga Bolden-Tiller and Anthony Kumi. Innovative Cover-crop Opportunity, Verification and Economy stimulating technology for underserved farmers using Robotics – iCOVER. 132nd Annual Farmers Conference March 12th - 15th, 2024
- Saraswat, D., Ault, A., Buckmaster, D., Charterji, S., Dvorak, J.S, Fall, S., Franke-Dvorak, T.C., Knobloch, N., Krogmeier, J.V., **Quansah, J.E.**, Raturi, A., & Ward. M. A Model for Increasing Agricultural Computational and Career Readiness Skills in ABE and Agriscience Students Across Three States, 2024 ASABE AIM, Anaheim CA July 28-31, 2024
- Joseph E. Quansah**, Engaging Minority Farmers in Technology Use: Dialogue on Data Collection to Optimize their Agricultural Management Practices. 82<sup>nd</sup> Annual Professional Agricultural Workers Conference, November 17- 19, 2024. Renaissance Montgomery Hotel and Spa, Montgomery, AL.
- Olakanmi, Eniola E, **J. Quansah**, S. Fall, and D. Mortley. Estimation Of Soil Moisture At Varying Depths Using Multiple Satellite-Derived Indices And In-Situ Validation. 82<sup>nd</sup> Annual Professional Agricultural Workers Conference, November 17- 19, 2024. Renaissance Montgomery Hotel and Spa, Montgomery, AL.
- Gutierrez Diaz, Sara., **J. Quansah**, R. Chen, and S. Fall. Literature Review: Status of Micro-Credentials As A Means For Professional Advancement For Minority Groups. 82<sup>nd</sup> Annual Professional Agricultural Workers Conference, November 17- 19, 2024. Renaissance Montgomery Hotel and Spa, Montgomery, AL.
- Ebbuah, Lydia E, **J. Quansah**, and S. Fall. Assessing the Productivity and Economic Impacts Of Drought On Agriculture For Minority Farmers In Underserved Communities. 82<sup>st</sup> Annual Professional Agricultural Workers Conference, November 17- 19, 2024. Renaissance Montgomery Hotel and Spa, Montgomery, AL.
- Amonoo, John K. G.<sup>1</sup>, **J. E. Quansah**<sup>1</sup>, A. Kumi<sup>1</sup> and S. Fall<sup>1</sup>. Innovative Cover Cropping Approach to Enhance Resilience To Climate Change For Minority Farmers. 82<sup>nd</sup> Annual Professional Agricultural Workers Conference, November 17- 19, 2024. Renaissance Montgomery Hotel and Spa, Montgomery, AL.
- Saraswat, D., Ault, A., Buckmaster, D., Charterji, S., Dvorak, J.S, Fall, S., Franke-Dvorak, T.C., Knobloch, N., Krogmeier, J.V., **Quansah, J.E.**, Raturi, A., & Ward. M. A Model for Increasing Agricultural Computational and Career Readiness Skills in ABE and Agriscience Students Across Three States ASABE AIM, Anaheim, California, July 28-31, 2024.
- Joseph E. Quansah**, Souleymane Fall, Raymon Shange Robert Zabawa, Fan Wu, Improving modeling and forecast product delivery in agricultural lands, 2<sup>nd</sup> CIROH Science meeting, University of Alabama, Tuscaloosa AL, Oct. 2-4, 2023

- Quansah, J.,** R. Doria, S. Fall, D. Mortley. Enhancing Digital Agriculture for Small Scale Farmers in Underserved Communities Within Alabama, Center for Digital Agriculture Conference 2024: Future of Digital Agriculture, iHotel and Illinois Conference Center at the University of Illinois at Urbana-Champaign, March 6, 2024
- Joseph Quansah,** Climate Change: Impacts and Adaptation Options for Sustainable Agriculture in the Caribbean. Farmer to Farmer Conversations, Jamaica Organic Agriculture Movement, Dec. 3, 2023
- Joseph Quansah,** Accelerating Change to Tackle Water Criss, World Water day webinar, March 3, 2023.
- Doria Garcia, Ruben, **J. Quansah\***, S. Fall, and D. Mortley. Integrated modeling approach to sustainable agricultural water management within underserved communities. *81<sup>st</sup> Annual Professional Agricultural Workers Conference*, October 29<sup>th</sup> -31<sup>st</sup>, 2023. Renaissance Montgomery Hotel and Spa, Montgomery, AL.
- Olakanmi, Eniola E., **J. Quansah\***, and D. Mortley. Literature Review: Adoption of Cover Crop Practices Among Minority And Socially Disadvantaged Farmers. *81<sup>st</sup> Annual Professional Agricultural Workers Conference*, October 29<sup>th</sup> -31<sup>st</sup>, 2023. Renaissance Montgomery Hotel and Spa, Montgomery, AL.
- Gutierrez Diaz, Sara., **J. Quansah\***, R. Chen, and S. Fall. Literature Review: Status of Micro-Credentials as A Means For Professional Advancement For Minority Groups. . *81<sup>st</sup> Annual Professional Agricultural Workers Conference*, October 29<sup>th</sup> -31<sup>st</sup>, 2023. Renaissance Montgomery Hotel and Spa, Montgomery, AL.
- Ruben d. Doria-Garcia, **Joseph E. Quansah**, and Souleymane Fall (2023) Use of National Water Model Forecast Product to Enhance Agricultural Land Management within the Middle Alabama Basin. Conference on Water, Climate, and Food Security, Prairie View A&M University, 9-10 March, 2023
- Julia Atayi, James Hunter, Dong Hee Kang, and **Joseph E. Quansah** (2023) Flood Hazard Mapping Using Geospatial and Multi-Criteria Analysis. Morgan State University, April 17, 2023
- Julia Atayi, James Hunter, Dong Hee Kang, and **Joseph E. Quansah** (2023) Flood Hazard Mapping Using Geospatial and Multi-Criteria Analysis. CSAWWA/CWEA Spring Meeting, WSSC Water's Bright Dam, Brookeville, MD. May 4, 2023
- Ebbuah, L., **J. Quansah**, R. Zabawa, S. Fall, T. Gautam (2022). Spatiotemporal Trends of Food Insecurity Within the Alabama Black Belt Region. *80<sup>th</sup> Annual Professional Agricultural Workers Conference*, November 13-15, 2022. Renaissance Montgomery Hotel and Spa, Montgomery, AL.
- Christian Peterson, Jasmine Boone, **Joseph Quansah** and Olga Bolden-Tiller. Development of an Ethogram for Computer-Based Detection of Estrus in Housed Does. *80<sup>th</sup> Annual Professional Agricultural Workers Conference*, November 13-15, 2022. Renaissance Montgomery Hotel and Spa, Montgomery, AL
- Christian Peterson, Jasmine Boone, **Joseph Quansah** and Olga Bolden-Tiller. Development of an Ethogram for Computer-Based Detection of Estrus in Housed Does. Envisioning 2050 in the Southeast: AI-driven Innovations in Agriculture conference, Auburn AL March 9-11, 2022
- Berson J. VALCIN, **Joseph Quansah** and Kokoasse Kpombrekou-A, Applications of Artificial Intelligence in Soil Science: A Review. Envisioning 2050 in the Southeast: AI-driven Innovations in Agriculture conference, Auburn AL March 9-11, 2022
- Joseph Quansah,** Evolution from Soil Quality to Dynamic Soil Survey, National Cooperative Soil Survey – 2021 Virtual Conference Auburn University, June 8-10, 2021
- Aisha Favors, **Joseph E Quansah**, Souleymane Fall, Desmond Mortley, Raymon Shange, Franklin Quarcoo and Ramble O. Ankumah. Identifying Effective Agricultural Best Management Practices for Small-Scale Farmers Within the Black Belt Region of Alabama. 77th Annual Professional Agricultural Workers Conference 8-10 December 2019 Tuskegee University, AL
- Ovigeroye Ojarikre, T. Hossain, Raymon Shange, Wendell McElhenney, **Joseph E Quansah**, and Souleymane Fall, Tuskegee University. An Observational Study of Water Quality and Bacterial Communities in Sediments: A Case Study of Choctawfaula, Uppapee and Cubahatchee Creeks in the Lower Tallpoosa River Basin, Alabama. 77th Annual Professional Agricultural Workers Conference 8-10 December 2019 Tuskegee University, AL

- Joseph E Quansah**, Enhancing GEOINT in HBCUs: The case of Tuskegee University. National Geospatial Intelligence Agency (NGA) Intelligence Community (IC) Academic Research Symposium, National Academy of Sciences, Constitution Ave, Washington, DC Sept. 26-28, 2017.
- J E. Quansah**, Enhancing GEOINT in Minority Serving Institutions. 2017 Community Geospatial Intelligence Training Council (CGTC) Annual Conference. NGA Headquarters, Springfield, Virginia, June 28-29, 2017
- J. E Quansah**, P. Welikhe, K. Boote, S. Asseng, G. El Afandi, S. Fall, D. Mortley, and R. Ankumah. Assessment of Corn and Soybean Yield Responses to Regional Climate Change. ARD Research Symposium. Atlanta, Georgia 30303, April 1-4, 2017
- D. Blanks, **J. E Quansah** and S. Fall. Satellite Remote Sensing Approach to Forest Management. ARD Research Symposium. Atlanta, Georgia 30303, April 1-4, 2017
- M. Franklin, S. Fall and **J. E Quansah**, Assessing Vulnerability to Climate Extremes in Alabama. ARD Research Symposium. Atlanta, Georgia 30303, April 1-4, 2017
- Gilbert Rochon, Marseyas Fernandez, Thierno Thiam, **Joseph E Quansah**, Souleymane Fall, Gamal Salah El Afandi, Chaker El Amrani, Tajje-Eddine Rachidi, Subhas Sikdar, Gülay Altay, Tarek El-Ghazawi, Mohamed Magdy Abdel Wahab, Nosa Egiebor And Chadia Affane Aji. : Towards Pan-African Disaster Resilience: Potential Collaborative Extension of the Mediterranean Dialogue Earth Observatory (MDEO) Model to Support Biogenic and Anthropogenic Disaster Resilience, Early Warning, Mitigation and Recovery for Vulnerable Populations within the African Continent and in the African Diaspora, 11th International Conference of the African Association of Remote Sensing of the Environment (AARSE), Kampala, Uganda. Oct. 24-28.2016.
- Joseph E. Quansah**, Enhancing Geospatial Research, Teaching and Outreach Capabilities at Tuskegee University: An Update. National Geospatial Intelligence Agency (NGA) Intelligence Community Academic Research Symposium, National Academy of Sciences, Keck Center, Washington, DC Sept. 19-23, 2016.
- James Hunter, Dong Hee Kang, **Joseph Quansah** and Gary Wallace Using the Long-Term Hydrologic Impact Assessment Method as a tool for Stormwater Compliance, 13th Urban Watershed Management Symposium, World Environmental and Water Resources Congress. West Palm Beach, Florida, May 22-26, 2016.
- Pauline K. Welikhe, **Joseph E. Quansah**, Souleymane Fall and Gamal El Afandi. Soil Moisture Estimation and Crop Yield Projection Using Geospatial Approach. NGA GEOINT R&D STEM Outreach Symposium, Springfield, VA, 16 March 2016
- Meghan Franklin Souleymane Fall and **Joseph E Quansah**. Analyzing the 2008 Flood Episode in Lawrence County, IL, Using Geospatial Techniques. NGA GEOINT R&D STEM Outreach Symposium, Springfield, VA, 16 March 2016
- Joseph E Quansah**. Enhancing Geospatial Research, Teaching and Outreach Capabilities at Tuskegee University. National Geospatial Intelligence Agency (NGA) Intelligence Community Academic Research Symposium, National Academy of Sciences, Keck Center, Washington, DC Sept. 15-17, 2015
- Pauline K. Welikhe, **Joseph E. Quansah**, Ramble Ankumah, Gamal El Afandi Souleymane Fall and Desmond Mortley. Impact of Climate Change on Corn Yields in Alabama. 73<sup>rd</sup> Annual Professional Agricultural Workers Conference 6-8 December 2015
- Gilbert L. Rochon, Chaker El Amrani, Tajjedine Rachidi, Tarek El Ghazawi, Gamal El Afandi, **Joseph E. Quansah**, Souleymane Fall, Gülay Altay and Mohammad A. Mohammad “Real-time access to orbital optical sensors for disaster early warning: a NATO science for peace sponsored partnership of universities in morocco, Turkey and the USA” Journal of Physical Chemistry and Biophysics, Vol 3 (5): 56 (2013). OMICS Publishing Group. ISSN 2161-0398. Scientific Track Abstracts
- Gilbert Rochon, Chaker El Amrani, Tajje-eddine Rachidi, Gülay Altay, Tarek El Ghazawi, Gamal Salah El Afandi, Mohammed A. Mohammed, **Joseph E Quansah**, Souleymane Fall and Chadia Affane-Aji. “The role of the NATO Science for Peace supported Mediterranean Dialogue Earth Observatory (MDEO), based in Morocco, in addressing Early Warning of Disasters, including those associated with Meteorological and Climatic Change Events, and the anticipated correlates with Food Security and Public Health,” International Symposium on Weather and Climate Extremes, Food Security and Biodiversity (ISCEFS), Sponsored by George Mason

University, Global Environment and National Resource Institute, the UN World Meteorological Organization (WMO) and the UN Food and Agriculture Organization (FAO), Washington, DC, Oct. 20-24, 2014. Session 5-*Food, Water & Energy in Africa*

- Gilbert Rochon, Chaker El Amrani, Tajje-eddine Rachidi, Gülay Altay, Tarek El Ghazawi, Gamal Salah El Afandi, Mohammed A. Mohammed, **Joseph E Quansah**, Souleymane Fall and Chadia Affane-Aji.. Real-Time Access to Orbital Optical Sensors for Disaster Early Warning: NATO Science for Peace Sponsored Partnership of Universities in Morocco, Turkey and the USA. The OMICS Group OPTICS 2013: International Conference and Exhibition on Lasers, Optics and Photonics. San Antonio, Texas. Oct. 07-09, 2013.
- Gyawu R, Fall S, **Quansah J**, Bovell-Benjamin A. Assessment of the consumer food and physical activity environment in the Alabama Black Belt using GIS. Association of 1890 Research Directors, Inc. 1890 Research: Sowing seeds of change 1890 for the global community. Jacksonville, FL, US, April 7-10, 2013.
- Gyawu R, Fall S, **Quansah J**, Bovell-Benjamin A. Assessment of the consumer food and physical activity environment in the Alabama Black Belt using GIS. ARD, (2013). Professional Agricultural Workers Conference Oral Presentation, December 2013
- Joseph E Quansah**, Gamal El Afandi and Souleymane Fall. Geospatial and Climate Change Research at Tuskegee University. Presentation to Scientists and Researchers USDA –ARS Soil Sedimentation Laboratory in Oxford, Mississippi, February 17, 2012.
- Hunter, J., Engel, B., and **Quansah, J**, Web-Based Low Impact Development Decision Support Tool for Watershed Planning. Low Impact Development. Proceedings of ASCE. doi: 10.1061/41099(367) 43: 484-495(2010).
- Gilbert Rochon, Dev. Niyogi, Souleymane Fall, **Joseph E. Quansah**, Larry Biehl, Bereket Araya, Chetan Maringanti, Angel Torres Valcarcel, Lova Rakotomalala, Hildred S. Rochon, Bertin Hilaire Mbongo & Thierno Thiam. Best Management Practices (BMPs) for Corporate, Academic and Governmental Transfer of Sustainable Technology to Developing Countries. Clean Technologies & Environmental Policy. Vol. 12, (1): February, 19–30. 2010. Special Issue on Best Management Practices for Technology Transfer to Industry. Invited submission. 4/28/09 ISSN 1618-954X(Print) 1618-95558 (online). Eds., Antonio Martins & Teresa Mata, Springer: DOI 10.1007/s10098-009-0218-3
- Gilbert L. Rochon, Chaker El Amrani, Tajjeddine Rachidi, Dr. Gülay Altay - Boğaziçi Tarek El Ghazawi, Gamal El Afandi, **Joseph E Quansah**, Souleymane Fall, Gülay Altay and Mohammad A. Mohammad Satellite Data Acquisition & Distribution Constraints: Case Studies From Africa And Alabama, USA Seaspace Corp. 20<sup>th</sup> International Remote Sensing Conference San Diego, California, Oct. 21 - 24, 2012
- G. Rochon, C. El Amrani, T. Rachidi, G. Altay, T. El Ghazawi, O. Ersoy, **J. Quansah**, S. Fall, C. A. Aji, G. S. El Afandi 2012: Real-Time Remote Sensing for Disaster Life Cycle Management: The Mediterranean Dialogue Earth Observatory (MDEO). African Association of Remote Sensing of the Environment (AARSE), 9th International Conference, El Jadida, Morocco, Oct. 29-Nov. 02, 2012.
- El Afandi, G., Fall, S., Egiebor, N., Rochon, G. and **Quansah, J**. 2012: Estimation of Meteorological Drought Index over West Africa. 8th International Scientific Conference, Al-Azhar University, Environment, Development, and Bioinformatics, Cairo, Egypt, March 26-28, 2012
- Joseph E. Quansah** and Stephen Faulkner. “Modeling impacts of wetlands restoration on water quality and quantity within the Tensas River Basin. Morgan State University, May 5 2011.
- Joseph E. Quansah**, Nosa O. Egiebor, Souleymane Fall and Gilbert Rochon. “Geospatial and Environmental Modeling Approach to Climate Change Adaptation in Africa” 6<sup>th</sup> Edition of 2iE’s Science Week, Ouagadougou Burkina Faso, April 4 - 8, 2011
- Stephen Faulkner, Bogdan Chivoiu, **Joseph Quansah**, Wylie Barrow, J. Hardin Waddle, *et al.*” Integrated modeling framework for forecasting ecosystem services. USGS Chesapeake Bay workshop, Rocky Gap Resort, Cumberland, MD. Nov. 17-18, 2010,
- Gilbert L. Rochon, Bertin Hilaire Mbongo, Larry Biehl, Jinha Jung, Souleymane Fall, **Joseph E. Quansah**, Bereket Araya, Abdur Rahman Maud, Wonkook Kim, Darion Grant and Thierno Thiam “Combining Heterogeneous Data for Improved Identification & Sustainable Mitigation of Infectious Disease Vector Habitat and for

- Assessment of Vulnerability to Vector-Borne, Water-Borne and Airborne Diseases.” US-Egypt Workshop on Space Technology and Geo-information for Sustainable Development, Cairo, Egypt 14-17 June 2010.
- Gilbert L. Rochon, Larry Biehl, Wonkook Kim, Abdur Rahman M. Maud, Bertin Hilaire Mbongo, Jinha Jung, Souleymane Fall, **Joseph E. Quansah**, Thierno Thiam, Benjamin Weiss and Oluwatoba Omotilewa. (2010) "Earth Observing Satellites for Environmental Monitoring & Assessment: Availability, Acquisition, Analysis & Application of Archival and Real-Time Remotely Sensed Data." International Conference on Disaster Risks and Climate Change: Technological and Managerial Opportunities & Challenges for the Greater Mekong Sub-Region. Mae Fah Luang University, Natural Resources & Environmental Monitoring Center (NREMC) & School of IT, in collaboration with the Asian Disaster Preparedness Center (ADPC), MRC, DDPM, Water Resources Dept., National Park Dept., Purdue University and Fulbright-Thailand. Chiang Rai, Thailand, July 10-12, 2010
- James G. Hunter, Bernard A. Engel, and **Joseph E. Quansah** “Web-based Low Impact Development Decision Support Tool for Watershed Planning” ASCE - 2010 International Low Impact Development Conference: Redefining Water, San Francisco, California, April 11-14, 2010
- Jong-Gun Kim, Bernie Engel, Indrajeet Chaubey, Youn Shik Park, **Joseph, E. Quansah**, Larry Theller, Wonseok Jang, Kyoung Jae Lim. Development of Web-based Load Duration Curve for Analysis of TMDL and Water Quality Characteristics. ASABE Annual International Meeting. *Paper no. 096176*, Reno, Nevada June 21 -24, 2009.
- Rochon, G.L.; Araya, B.; Biehl, L.L.; Grant, D.; Ersoy, O.; **Quansah, J.**; Altay, G.; Wahab, M.; El Afandi, G.S.; El-Ghazawi, T.; Mohamed, M.A.; Shokr, M.; Sithole, H., "Acquisition, analysis and distribution of real-time multi-sensor satellite data, in a high performance computing environment, for disaster mitigation applications: Case studies from the NATO science for peace funded Kamal Ewida Earth Observatory in Egypt, the Electronic Geophysical Year (eGY)-Africa and the US Geological Survey supported AmericaView" IEEE Sensors Conference, Christchurch, New Zealand. Oct. 25-28, 2009 pp.1020-1025, IEEE ISSN: 1930-0395, DOI: 10.1109/ICSENS.2009.5398522
- Gilbert L. Rochon, **Joseph E. Quansah**, Larry Biehl, et. al.” Advances in High Performance Computing & in Satellite Remote Sensing to Support Sustainable Development & Disaster Mitigation in Africa”. Bowie State University, Bowie, Maryland. March 10, 2009
- J. E. Quansah**, B. A. Engel, M. Arabi, I. Chaubey and C Mariganti. “Modeling and Optimization Approach to Managing Critical Pollution Areas within Watersheds” USDA-CSREES National Water Conference, St. Louis, MO, Feb. 8-12, 2009.
- Chaubey, I. C. Mariganti, M. Arabi, B. Engel, and **J. Quansah** “Development of a multi-objective optimization tool for the selection and placement of BMPs for pesticide control” USDA-CSREES National Water Conference, St. Louis, MO, Feb. 8-12, 2009
- Bernie Engel, James Hunter and **Joseph Quansah** “Web-Based Decision Support and Planning Tools for Watershed Management” MN/MI/WI Lake Superior SWCDs Webinar conference, Jan. 28, 2009.
- Quansah, J. E.**, G. L. Rochon, L. Biehl, L. Rakotomalala, A. Martin, A. Torres Valcarcel, B. Araya, S. Fall, C. Mariganti, C. Robinson, E. S. Rochon, K. Frink, J.-P. Antelo, J. Smith-Hopkins and M. Flournoy IV. Early warning and mitigation systems for vector-borne and zoonotic diseases. 7th conference of the African Association of Remote Sensing of the Environment (AARSE), Accra, Ghana. Oct. 27-31.2008.
- Gilbert Rochon, Dev Niyogi, Souleymane Fall, **Joseph E. Quansah**, Larry Biehl, *et al.* “Bi-Directional Sustainable Technology Transfer from Universities to Industry and to Developing Countries: BMPs,” Clean Technologies & Environmental Policy. Special Issue on Best Management Practices for Technology Transfer to Industry. Invited submission. 2008.
- Gilbert L. Rochon, M. Magdy Abdel Wahab, Gad El-Qady, Gamal El Afandi, Ado Dan-Isa, Happy Sithole, Khomotso Kganyago, Souleymane Fall, **Joseph E. Quansah**, Bereket Araya. Overcoming Bandwidth Limitations to Accelerate Applications of Remote Sensing & High-Performance Computing for African Development: Contributions from Egypt, Nigeria and South Africa. Remote Sensing on the African Continent, IEEE IGARSS, Boston, MA, Hynes Convention Center, July 9, 2008

- Gilbert L. Rochon, Lefteri Tsoukalas, Chris Johannsen, **Joseph E. Quansah**, Larry Biehl, *et. al.* BioFuels: The Dialectics of Energy Security and Food Security, BioFuels Symposium, North Atlantic Treaty Organization (NATO) Pilot Study on Clean Technologies & Processes. Berlin, Germany, May 4-9, 2008.
- Gilbert L. Rochon, Okan K. Ersoy, Larry Biehl, **Joseph E. Quansah** and Oguz Gungor. Establishing a Shared Spatial Database of Archival and Remotely Sensed Data for NATO Countries and Affiliates. NATO Science for Peace & Security, Pilot Study on Clean Technologies Processes Annual Meeting. Porto, Portugal, May 5-9, 2007.
- Gilbert Rochon, Butare Rukundo, **Joseph Quansah** and Mohamed A. Mohamed. "Remote Sensing for Sustainable Public Health & Infectious Disease Mitigation in Africa, UN Global Earth Observing System of Systems (GEOSS) Workshop. Ouagadougou, Burkina Faso, Sept. 16-18, 2007
- G. L Rochon, Mohamed A. Mohamed, Dev Niyogi, Melba M. Crawford, J. Paul Robinson, Souleymane Fall, **Joseph E. Quansah**, Larry Biehl, Jie Shan, Carol Xiaohui Song, *et. al.*. Multidisciplinary Research Enabled by Real-time and Archival Remote Sensing and High-Performance Computing to Support Environmental Sustainability and Disaster Mitigation. Al Ahzar University, Departments of Astronomy and Meteorology, Cairo, Egypt, Nov. 4, 2006
- G. L Rochon, Mohamed A. Mohamed, Dev Niyogi, Melba M. Crawford, J. Paul Robinson, Souleymane Fall, **Joseph E. Quansah**, Larry Biehl, Jie Shan, Carol Xiaohui Song, *et. al.*. Integration of Real-Time and Archival Remote Sensing with High Performance Computing & Dynamic Modeling to Support Disaster Mitigation. African Association for Remote Sensing of Environment (AARSE), Cairo, Egypt, Oct. 30 - Nov. 2, 2006
- GL Rochon, Mohamed A. Mohamed, Dev Niyogi, Melba M. Crawford, J. Paul Robinson, Souleymane Fall, **Joseph E. Quansah**, Larry Biehl, Jie Shan, Carol Xiaohui Song, Derrick S. Kearney, Lan Zhao and Amy Neuenschwander. "In Situ Monitoring, Satellite Remote Sensing, Proximal Sensing & High-Performance Computing to Facilitate Sustainability and Disaster Preparedness." Cairo University, Aerospace Studies Department, Cairo, Egypt, Nov. 2, 2006.
- Gilbert L. Rochon, Dev Niyogi, Krishna Madhavan, Rajarathinam Arangarasan, Alok Chaturvedi, Maruti Ram Ponaganti, UC Mohanty, Larry Biehl, **Joseph E. Quansah**, *et. al.* "Toward Intelligent and Sustainable Archiving of Geo-Spatial Data," International Society for Photogrammetry & Remote Sensing (ISPRS) International Symposium on Geospatial Databases for Sustainable Development. Goa, India. Sept. 27-30, 2006,
- Dev Niyogi, Gilbert L. Rochon, Krishna Madhavan, Rajarathinam Arangarasan, UC Mohanty, Alok Chaturvedi, Maruti Ram Ponaganti, Larry Biehl, **Joseph E. Quansah**, *et. al.* "Modeling, Visualization and Fusion of Archival Data to support Disaster Mitigation." Geo-Informatics for Disaster Management (Gi4DM 2). Goa, India. Sept. 25-26, 2006.

### **Graduate Student Advising and Research Committee**

As a graduate faculty member and Advisor to Graduate and undergraduate Students, I have served and continue to serve as a major academic advisor or committee member in more than thirty-five (35) graduate-level applied research in the areas of hydrology, watershed modeling, geospatial science, climate change, crop modeling, forestry, and soil science. **I have, through my personal research grants, supported the majority of all these students with full tuition, stipend, workshops, and conference attendance totaling over \$1.5m**

### **Awards by Graduate Student Advisees**

- 2026 Sara Gutierrez Diaz – Second Place Award, Outstanding Achievement in Agricultural Systems and Technology, Graduate Student Competitive Oral Presentation. - ARD Research Symposium, Louisiana, AL, March 28 -31, 2026
- 2026 Eniola E Olakanmi – Third Place Award, Outstanding Achievement in Agricultural Systems and Technology, Graduate Student Competitive Oral Presentation. - ARD Research Symposium, Louisiana, AL, March 28 -31, 2026

- 2026 Eniola E Olakanmi, Meghan Franklin, Cameron Jones & Kalon Jones – First Place Award. UIUC Center for Digital Agriculture AgTech Hackathon competition Urbana-Champaign, IL March 6-10, 2026
- 2017 Dionne Blanks – Best Graduate Student Research Poster - ARD Research Symposium. Atlanta, Georgia 30303, April 1-4, 2017
- 2017 Megan Franklin - Best Graduate Student Award, College of Agriculture, Environ. & Nutrition Sciences.
- 2016 Pauline K. Welikhe – Best Graduate Student Award, College of Agriculture, Environ. & Nutrition Sciences.
- 2015 Pauline Welikhe – Best Graduate Student oral presentation at 73<sup>rd</sup> Annual Professional Agricultural Workers Conference 6-8 December 2015

### Major Advisor

1. **Meghan Fraklin** AESE PhD Student 2028 “Integrating Agritech & AI to Optimize Agricultural Management for Small-Scale Farmers”
2. **Eniola Olakanmi**, AESE PhD Student 2026 “Integrating Varied Soil Moisture Predictive Assessment Systems to Optimize Agricultural Crop and Irrigation Management”
3. **Lydia Efua Ebbuah**, AESE PhD Student 2026 “Assessing the Impacts of Droughts on Agricultural Productivity and Adaptive Options for Alabama Small Scale Farmers”
4. **John K. Amonoo**, AESE PhD Student 2026 “Assessing Drought Impact on Forest Systems and Forest Carbon Sequestration in Alabama”
5. **Sara Gutierrez Diaz**, AESE PhD Student 2026, “Drought-based composite index tool to enhance agriculture for farmers in Alabama”
6. **Ruben Doria-Garcia** “Integrated Hydrologic Modeling Approach to Agricultural Land Management.” 2024
7. **Danielle Renee Perkins**, 2024
8. Aisha Favors, “Assessing the use of Agricultural Best Management Practices by Small-Scale Farmers within the Black Belt Region of Alabama” 2020
9. **John Myers** “Development of a Geospatial Database for The Efficient Management of Tuskegee National Forest”, 2019.
10. **Amina Brenda Naliaka**, “Assessing the Impacts of Climate Change on Water Quantity within The Alabama River Basin”. 2018.
11. **Naomi Antoinette Belle** “Modeling the Fate and Transport of Pollutants from Stone’s Throw Landfill Within the Coosa-Tallapoosa River Basin”, 2018
12. **Dionne Blanks** “Assessing Changes in Forest Systems and Health using Remote Sensing”, 2017.
13. **Pauline Kageha Welikhe** “Assessment of Climate Change Impacts on Crop Yield and Soil Moisture Variability in Alabama”, 2016
14. **Oluwatomiwa Adalumo**, “Assessment of climate Variability impact on Water Resources within the Alabama River Basin”, 2014

### Co-Advisor

15. **Meriche Toussaint**, MS Environmental Science Student
16. **Jean Louis Cyuma**, AESE PhD Student 2028
17. **Lydia Efua Ebbuah** “Spatiotemporal Analysis of Key Indicators for Exposure to Food Insecurity Within The Alabama Black Belt Region” 2023
18. **Ayoyinka Omobayode Aina** “Analysis of The Relationships Between Climate Extremes and Crop Production in Alabama and Georgia (1988 – 2017), 2019.
19. **Daja Elum** “Identifying Adaptation Strategies for Mitigating Climate Change Impacts on Crop Yields”, 2019.
20. **Megan Franklin** “Assessing Vulnerability to Climate Extremes in Alabama”, 2017.

21. **Timmera Whaley** “Assessment of Environmental Justice in Alabama using Geographic Information System” 2017

**Committee Member**

22. **Katie Dames**, IBS PhD Student 2026 “Ecological Simplification of Wetland Habitats Using Indicator Species and Climate Variables in Southern Alabama”
23. **Devotha Joseph Mwazembe**, IBS PhD Student 2025 Effect of Future Climatic Conditions on Crop Growth, Nutritional Quality and Soil-Biochemical Properties And Development Of Potential Adaptation Measures
24. **Christian Shamar Peterson**, “Computer-Based Detection of Estrus Behaviors in Individually Housed Kiko Does” 2024
25. **Katie Dames** “Impacts of High Anthropogenic Activity on the Foraging Behaviors and Habitat Utilization of Individual Bottlenose Dolphins (*Tursiops truncatus*) In Active and Protected Waters within Mobile Estuary in Mobile, Alabama” 2022.
26. **Tanzir Hossain** “An Assessment of Elements and Bacterial Community Composition & Diversity in Surface Water and Sediments: A Case Study In Choctawhatchee, Uphatchee And Cubahatchee Creek In Lower Tallapoosa River Basin, Alabama. 2019
27. **Tristeen Bownes**, “Heir Property and Economic Development: A Case Study of the Economic Impact of Heir Property in Prairie Farms, Alabama”, 2017
28. **Devotha Joseph Mwazemb** “Climate Change Projection and Impact on Maize Production in Morogoro and Mbeya Regions” 2016.
29. **Rokaya M. A. Hassan** ‘Estimation of Evaporation over Egypt Using Weather Research and Forecasting (WRF) Model’, 2014
30. **Doaa M. Z. Saleh** “Evaluation of the Sensitivity of Weather Research and Forecasting Model to Parameterization Schemes for Wind Prediction over Egypt”, 2014
31. **Irin Nishi** “Impact of Climate Change on Major Crops in Mississippi”, 2014
32. **Rebecca Gyawu**, “Evaluation of the Community Food and Physical Activity Environment in the Alabama Black Belt using GIS”, 2014
33. **Denisha D. Thorton**,” Impact of Climate Changes on Major Crops in Georgia”, 2012

**External Committee Member/Advising**

34. **Julia Atayi**, Doctoral Candidate. Evaluating the Effectiveness of Soil Profile Rehabilitation for Urban Flood Mitigation through 1D/2D Hydrodynamic Modeling Morgan State University 2026
34. **Mercy A. A. Derkyi, Ph.D.** “Fighting over forest; Interactive governance of conflicts over forest and tree resources in Ghana's high forest zone" African Studies Centre, Leiden, Ph.D. Dissertation, 2012.
35. **R. M. Records**, M. Arabi, S. R. Fassnacht, W. G. Duffy, M. Ahmadi, and K. C. Hegewisch. Climate change and wetland loss impacts on a western river’s water quality. *Hydrol. Earth Syst. Sci.*, 18, 4509–4527, 2014.

**University Courses Developed and Taught**

Course ID	Course Title	Level	Credits	Semester
		Graduate (G)/Undergraduate (UG)		
EVSC 0560	Hydrology & Water Resources Management	G	3	Spring
EVSC 0560 DL (Online)	Hydrology & Water Resources Management	G	3	Spring
EVSC 0545	Remote Sensing: Principles & Applications	G	3	Fall
EVSC 0545 DL (Online)	Remote Sensing: Principles & Applications	G	3	Fall
EVSC 0504	Environmental Science II (Co-Taught)	G	3	Spring

EVSC 0450/EVSC 0695	Introduction to Agricultural Informatics	UG/G	3	Spring
PLSS 0425	Soil Genesis and Classification	UG	3	Fall
Graduate Joint Taught	Emerging Zoonoses – Remote Sensing Applications in Epidemiological studies	G	3	Fall
Two Week Sandwich	Introduction to Agricultural Informatics	G/UG	3	Fall/Spring

**Summary of Teaching Evaluations:** Average Student Evaluation Scores: **4.9/5**