

Joseph Emmanuel Quansah, Ph.D., MSE

Associate Professor

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Education & Training

Purdue University, West Lafayette IN	Agricultural & Biological Engineering	Ph.D.	2007
Purdue University, West Lafayette IN	Civil Engineering	MSE	2004
Kwame Nkrumah Univ. of Science & Tech, Kumasi.	Geomatics Engineering	B.Sc.	1999

Other Preparations

KU Leuven, Leuven, Belgium	Earth Observation (<i>Study Abroad</i>)	Graduate Certificate	2005
Purdue University, West Lafayette IN	Applied Management Principles	Graduate Certificate	2006

Professional Experience

2017 – Present	Associate Professor, Department of Agricultural & Environmental Sciences, Tuskegee University
2011 – 2017	Assistant Professor of Agricultural & Biological Engineering, Department of Agricultural & Environmental Sciences, Tuskegee University
2011 – Present	Founding Director, Geospatial and Climate Change Center, Tuskegee University
2015 – 2019	Director, Geospatial Research, Education and Training Programs (Summer GREP & GET)
2009 – 2010	Research Hydrologist, United States Geological Survey (USGS), Lee Town Science Center WV
2007 – 2009	Post-Doctoral Research Associate, Dept. of Agric. & Biological Engineering Purdue University
2003 – 2007	Graduate Teaching and Research Assistant, Purdue University, IN
2001 – 2003	Head of GIS Operations, Aero Surveys Limited,
1999 - 2001	Teaching Assistant, Dept. of Geomatics Eng., Kwame Nkrumah Univ. of Science & Tech. Ghana

Areas of Expertise, Research & Teaching Interest

- *Water Resources and Ecohydrologic Engineering:*

Integrated modeling of hydrologic systems, groundwater, and water quality at varied field to watershed scales, landuse/Land management impacts, computer-based systems for water resources management and decision making.

- *Geospatial Science and Information Systems:*

Satellite Remote Sensing, Geographic Information Systems, Global Positioning Systems, Precision Agriculture, Digital Agriculture, and related geospatial approach to water, soils and natural resources monitoring and management, forestry resource management, agricultural management practices, early warning systems and disaster management, big data science.

- *Climate Variability and Change:*

Global climate change impacts on water resources, agriculture and crop modeling and yield, climate resilience and adaptation for sustainable water resources and agricultural management.

- *Digital Agriculture and Artificial Intelligence Applications.*

The use of wireless field soil and water sensors and geospatial tools for implementing digital agriculture, artificial intelligence and machine learn in satellite image processing, and crop modeling.

Administrative Responsibilities and Achievements

- Led in the establishment, and directs Geospatial and Climate Change Center (GCCC)
- Led in the development of a PhD program in Agricultural and Environmental Sciences Engineering.
- Member - Campus IT Committee on Learning Management System (LMS)
- Co-developed a Professional Graduate Certificate Program in Geospatial Sciences.
- Established the Tuskegee Scholarly Publications Repository for hosting, thesis, dissertation, and university peer review journals.
- Collaborated as Research Analyst on NGA GEOINT Pathfinder unclassified projects.
- Established and directed annual two weeks summer Geospatial Research and Education Program (GREP) for high school students, funded through the NGA.
- Established and directed annual two-day summer Geospatial Education and Teaching (GET) workshop for k-14 teachers, funded through the NGA.
- Graduate Faculty, Tuskegee University.
- Served as Major Advisor, Co-Advisor, and committee member, on over 25 Graduate students research thesis/dissertation development.
- Faculty Advisor to Graduate Students Association, Depart. of Agric. and Environmental Science.
- 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. & Nutritional Sci. Tuskegee Uni.
- Member, College of Engineering Industry Advisory Council, Tuskegee University.
- Member –Best Graduate student Thesis & Best Graduate Student Award Committees.
- Campus Administrator for the Intergraph Hexagon Geospatial software – Erdas Imagine
- Campus Co-Administrator for ESRI ArcGIS software.

Professional Services

- 2019- Present Co-Founder and Co-President, Joseph & Elizabeth Quansah Foundation
<https://www.jequansahfoundation.org/>
- 2022 Co-Organizer and Session Chair- Envisioning 2050 in the Southeast: AI-driven Innovations in Agriculture conference
- 2021 Review Panelist, NIFA Data Science for Food and Agricultural Systems (DSFAS)
- 2018 - 2022 Chair and Review Panelist, Louisiana Board of Regents Support Fund Departmental Enhancement Agricultural Sciences.
- 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
- 2011, 2012, 2015: Convener and Hydrology Session Chair – American Geophysical Union Fall meeting.
- 2011, 2013 Review Panelist, USDA-AFRI Agriculture Systems & Tech.: Eng. Products & Processes.
- 2015 - 2016 Review Panelist, USDA Small Business Innovation Research Prog. 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-Present Journal Reviewer - Transactions of ASABE.
- 2011 - 2015 Convener and Hydrology Session Chair – American Geophysical Union Fall meeting
- 2007-2011 Journal Reviewer - Journal of Terrestrial Observation (JTO).

Scientific and Professional Society Memberships

- Alabama Remote Sensing Consortium (ARSC)
- American Society of Agricultural and Biological Engineers (ASABE).
 - 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).
 - Global Environmental Change and Hydrology Groups
- AmericaView /AlabamaView.
- American Society for Photogrammetry & Remote Sensing (ASPRS).
- Online Learning Consortium, Inc.
- American Society of Geographers

Honors and Awards

- 2017 Community Geospatial Intelligence Training Council (CGTC)
- 2015 National Geospatial Intelligence Agency Grant award.
- 2010 Gamma Sigma Delta Honor Society of Agriculture.
- 2005 Stevan J. Kristof Outstanding Research in Remote Sensing Award, Purdue University.
- 2014 USDA NIFA grant award.
- 2013 Participant, White House Conference Call on Climate Change and Environmental Justice.
- 2008 Travel grant award, Purdue Global Engineering Program.
- 2004 Graduate Research Assistantship, Purdue ABE and Purdue Terrestrial Observatory
- 2005 Travel grant award, Agricultural and Biological Engineering, Purdue - Study Abroad.
- 2005 Travel grant award, International Programs in Agricultural, Purdue University.

Awards by Graduate Student Advisees

- 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 Kageha – Best Graduate Student Award, College of Agriculture, Environ. & Nutrition Sciences.
- 2015 Pauline Kageha – Best Graduate Student oral presentation at 73rd Annual Professional Agricultural Workers Conference 6-8 December 2015

Selected Funded Grants:

- **Joseph 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
- **Joseph 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)**, Souleymane Fall Tej Gautam) Middle Alabama River Basin Watershed Plan - Auburn University/USDA-NRCS - \$49,401.00.
- **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)

- **Joseph Quansah** (PI, Tuskegee University) - *Computational Skills Development for Next Generation Agriscience Professionals for Sustaining Data Driven Agriculture, NIFA Higher Education Challenge (HEC)* - \$739,050 (2020-023) (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)
- 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://aaes.auburn.edu/ai-driven-innovations-in-agriculture/>
- Robert Zabawa, Eunice A. Bonsi, **Joseph E. Quansah**, 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*. (2020-2022), \$96000 Center of Excellence for International Engagement and Development (CEIED) – NIFA.
- **J. E. Quansah**, 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).
- Rhonda Collier (PI – Tuskegee University), **Joseph Quansah** (Tuskegee University) *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
- 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** (Project Director) 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)
- **J. E. Quansah** (Project Director), 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,

Professional Development Activities

- 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 Environment 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, 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. Quagraine, 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

- 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
- 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 Cconference 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. 73rd 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. 20th 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” 6th 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 Student, I have served and continue to serve as major academic advisor or committee member in more than twenty-five (25) graduate level applied research in the areas of hydrology, watershed modeling, geospatial science, climate change, crop modeling, forestry and soil science.

Completed (Major Advisor)

1. Aisha Favors, “Assessing the use of Agricultural Best Management Practices by Small-Scale Farmers within the Black Belt Region of Alabama” 2020
2. John Myers “Development of a Geospatial Database For The Efficient Management Of Tuskegee National Forest”, 2019.
3. Amina Brenda Naliaka, “Assessing the Impacts of Climate Change on Water Quantity within The Alabama River Basin”. 2018.
4. Naomi Antoinette Belle “Modeling the Fate and Transport of Pollutants from Stone’s Throw Landfill Within the Coosa-Tallapoosa River Basin”, 2018
5. Dionne Blanks “Assessing Changes in Forest Systems and Health using Remote Sensing”, 2017.
6. Pauline Kageha Welikhe “Assessment of Climate Change Impacts on Crop Yield and Soil Moisture Variability in Alabama”, 2016
7. Oluwatomiwa Adalumo, “Assessment of climate Variability impact on Water Resources within the Alabama River Basin”, 2014

Completed (Co-Advisor)

8. Tanzir Hossain “An Assessment of Elements and Bacterial Community Composition & Diversity in Surface Water and Sediments: A Case Study In Choctawhatchee, Uphabee And Cubahatchee Creek In Lower Tallapoosa River Basin, Alabama. 2019
9. Ayoyinka Omobayode Aina “Analysis of The Relationships Between Climate Extremes and Crop Production in Alabama and Georgia (1988 – 2017), 2019.
10. Daja Elum “Identifying Adaptation Strategies for Mitigating Climate Change Impacts on Crop Yields”, 2019.
11. Megan Franklin “Assessing Vulnerability to Climate Extremes in Alabama”, 2017.
12. Timmera Whaley “Assessment of Environmental Justice in Alabama using Geographic Information System” 2017

Completed (Committee Member)

13. Tristeen Bownes, “Heir Property and Economic Development: A Case Study of the Economic Impact of Heir Property in Prairie Farms, Alabama”, 2017
14. Devotha Joseph Mwazemb “Climate Change Projection and Impact on Maize Production in Morogoro and Mbeya Regions” 2016.
15. Rokaya M. A. Hassan ‘Estimation of Evaporation over Egypt Using Weather Research and Forecasting (WRF) Model’, 2014
16. Doaa M. Z. Saleh “Evaluation of the Sensitivity of Weather Research and Forecasting Model to Parameterization Schemes for Wind Prediction over Egypt”, 2014
17. Irin Nishi “Impact of Climate Change on Major Crops in Mississippi”, 2014
18. Rebecca Gyawu, “Evaluation of the Community Food and Physical Activity Environment in the Alabama Black Belt using GIS”, 2014
19. Denisha D. Thorton,” Impact of Climate Changes on Major Crops in Georgia”, 2012

External and Non-Committee Advising

20. 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.
21. 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	Credits	Semester
EVSC 0695	Introduction to Agricultural Informatics	3	Spring
EVSC 0560	Hydrology & Water Resources Management	3	Spring
EVSC 0560 DL (Online)	Hydrology & Water Resources Management	3	Spring
EVSC 0504	Environmental Science II (Co-Taught)	3	Spring
EVSC 0450/EVSC 0695	Introduction to Agricultural Informatics	3	Spring
EVSC 0545	Remote Sensing: Principles & Applications	3	Fall
Graduate Joint Taught	Emerging Zoonoses – Remote Sensing Applications in Epidemiological studies	3	Fall
EVSC 0545 DL(Online)	Remote Sensing: Principles & Applications	3	Fall
PLSS 0425	Soil Genesis and Classification	3	Fall
EVSC 0507	Geographic Information Systems (Co-Taught)	3	Fall
AGEC 501	Environmental, Economics, Sustainable Development and Agriculture (Co-Taught)	3	Fall

Summary of Teaching Evaluations

Average Student Evaluation Scores: **4.8/5**