

Amy Hammett

Big Data Storyteller. Next Gen Workforce Developer.
Public-Private Partnerships.

amy@ourscienceclass.net ✉

205-614-0945 📞

Lafayette, LA 📍

Developing local, regional, and national networks for advanced decision science and the creating the NextGen workforce is the work of my life.

SKILLS

Decision Science

Data Analysis

Machine Learning

Artificial Intelligence

STEM Translation

Transdisciplinary Systems-Thinking

Cross-Sector Communications

Instructional Design

Workforce Development

EDUCATION

Masters Degree: Interdisciplinary Studies / Informatics (In Progress)

University of Louisiana at Lafayette

2024 - Present

Lafayette, LA

Courses

- Decision Science
- Artificial Intelligence
- Machine Learning
- Cybersecurity

Masters Degree: Gifted Education

Fort Hays State University (2019)

Hays, KS

Achievements/Tasks

- Launched "Big Data in K20 Initiative".
- Launched "Equity in Rural Education Initiative".

Bachelors: Biology and English; Biology Teaching Certification

University of Louisiana (2005)

Lafayette, LA

WORK EXPERIENCE

Operations Analyst

Understanding Ag, LLC & Soil Health Academy

02/2023 - 05/2024

Remote

Achievements/Tasks

- Proposal development and development of operations for both a federally-contracted, peer-to-peer farmer and rancher consulting firm and for an agricultural education non-profit. Interdisciplinary and transdisciplinary education of lead agricultural producers.
- Processing data for geoscience applications and analyzing correlated on-farm or ranch soils data for producers and their consultants.
- Using APIs to develop data lakes for large, desegregated data sets in a variety of formats and conducting statistical analyses and translational information to advise stakeholders.

WORK EXPERIENCE

Director of Regional and National Collaborations University of Alabama - Alabama Water Institute

07/2022 - 04/2023

Tuscaloosa, AL

Achievements/Tasks

- Serving the federal research-to-operations mission by developing energy, water, soil and public health public-private partnership (P3) collaborations by developing water, energy, soil, and health geospatial and other data intelligence and transdisciplinary translation content.
- Work closely with universities, government agencies, and non-governmental organizations to develop systems to be replicated in other regional and national estuary and river systems.
- Lead a diverse, multi-disciplinary team in planning and implementing outreach and advocacy efforts including strategic campaigns, education efforts, and collaboration with members of regional and national agencies to meet the information needs of local, state, and federal agencies and interest groups.

STEM Program Manager State of Alabama - AL STEM Council

11/2021 - 07/2022

Northport, AL

The [Alabama STEM Council](#) was formed by Governor Kay Ivey's [Executive Order No. 72](#).

Achievements/Tasks

- Strategic planning, STEM program development, and management of new STEM initiatives for the Alabama STEM Council.
- Designed STEM workforce pipelines for the State of Alabama's industrial and governmental forces focused on computer science (ML/AI) skill development in the atmospheric and climate sciences, geology, and hydrology, biotechnology, urban agriculture, smart forestry, aquaculture, and soil and water conservation.
- Designed data transfer and cybersecurity framework using SOC2 standards and the NIST framework for the Alabama Supercomputing Authority (ASA) for the Governor's Office of Education and Workforce Statistics (OEWS).

STEM Teacher and Transdisciplinary STEM Consultant Louisiana and Kansas Secondary Schools & Baker University

2006 - 2021

Maize Public Schools (2014-2021); Baker University (2018); Insight School of Kansas, K12, Inc. (2015); Wichita Public Schools (2011-2014); Haysville Public Schools (2010-2011); Iberia Parish School System (2006-2009)

Achievements/Tasks

- Conducted primary transdisciplinary research on harmful algal blooms (HABs) in Cheney Reservoir with USGS-KS hydrologists and student data collection team. Developed first machine learning algorithm to predict HABs in a drinking water reservoir.
- Advised USDA-NRCS on transdisciplinary soil, water, and public health, convening collaborations and communications between USDA-NRCS, USGS-KS, the State of Kansas Water Office, Kansas Department of Health and Environment, City of Wichita water engineers, U.S. senators, State of Kansas Governor's office, and multiple science researchers by presenting big data models on water quality and quantity and soil health to stakeholders at multiple local, state, and federal conferences.
- Developed and taught teacher professional learning classes and workshops on NextGen Storylines, Project-Based, and Brain-Based learning.

Big Data Consultant Microsoft

03/2020 - 12/2020

Remote

Achievements/Tasks

- Developed big data fusion processes to cross-match and simultaneously extract relational data intelligence from multiple federal big data silos to enable machine learning and artificial intelligence systems development at Microsoft.
- Developed big data theoretical framework, cross-matched disaggregated federal big data, and authored Future Farmers of America (FFA), and Center for Agriculture Science Educations (CASE) curriculum about sensor-intelligent agriculture, Machine Learning (ML) and Artificial Intelligence (AI) for USDA.
- Proposed the addition of a spectrophotometer for Landsat 9 to USGS for the modeling of evapotranspiration and movement of water in atmospheric rivers, redundant development of big data ML/AI systems for democratic checks and balances, and Homeland Security oversight of federal open data systems and national STEM Education.
- Tech team lead for big agriculture and industry leadership and Agriculture Education leaders in Farmbeats Hackathon 2020.
- Developed framework for the Microsoft - NASA's Day of Data in collaboration with Microsoft's Hacking STEM with Excel team, International Space Station's STEM on Station team, and the myNASADData team of NASA Langley Research Center (LaRC).

WORK EXPERIENCE

○ Graduate Research Associate Fort Hays State University

08/2018 - 05/2019

Science Math Education Institute (SMEI)

Achievements/Tasks

- Began "Big Data in K20 Initiative" with NSTA director of Pre-Service Teacher Education, Dr. Paul Adams.
- Launched "Equity in Rural Education Initiative" with [SMEI](#) Director, Earl Legleiter.
- First Tinker Fellow - *The Concord Consortium*.

Hays, KS

OTHER PROFESSIONAL CONTRIBUTIONS

USDA-NIFA (2023 - Present)

- Federal Grant Peer Reviewer – Food, Agricultural, Natural Resources, and Human Sciences Grant Programs

Publication in American Water Resource Association's IMPACT (2024)

- ["How Agriculture is Changing the Water Cycle"](#)

AWRA Conference Committee (Spring 2024)

- Organizing undergraduate and graduate student activities.

Ogallala Aquifer Summit (2020 - 2021)

- [Presenter on NextGen Data Science Education to the Ogallala Water Coordinated Agriculture Project \(CAP\)](#), a USDA-NIFA funded research and outreach project focused on bringing stakeholders together to address issues related to ground and surface water declines (water quantity & water quality).

Predictive Modeling for Proactive Water Treatment - City of Wichita, KS (2018-2021)

- Developed first-ever machine learning model to predict HABs a week prior to occurrence in Cheney Reservoir, the primary drinking water supply for Wichita, for the City of Wichita and USGS - Kansas.

NASA Data Reviewer (2019)

- Data review of [myNASAData Earth-Space Science phenomena modules](#).

Drafted formal proposal for a Nation- and Global-Scale Hydrological Prediction ML/AI System for Research-to-Operations (2014-2024)

- From 2014 - 2024, I developed predictive hydrology proposals and cross-pollinated interdisciplinary and transdisciplinary research across all sectors and levels of United States government and non-government entities.
- On February 21, 2020, I formally proposed the development of a nation- and global-scale, machine learning and artificially intelligent, transdisciplinary hydrological prediction research network to leaders of NSF, USDA, and USGS and urged all to look to NOAA for expanded collaboration and leadership.