

Amy Hammett

Next Generation Science Educator

With 14 years in Science Education and 8 years of experience in data analytics, my greatest passion is facilitating open-ended, student-science investigations into "the unknowns" and developing opportunities for students to lead in the democratization of big data. This, alone, is equity.

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SKILLS

NGSS Curriculum Development

Equitable 3D Assessment

Data Intelligence

Machine Learning

Artificial Intelligence

EDUCATION

PhD Candidate - Curriculum & Instruction (Present)

Kansas State University; Manhattan, KS

Focus:

- Using Data Science Education (DSE) to promote equity in Science Education.
- Develop equitable science curricula around local, regional, and global issues of concern to all stakeholders using primary, student collected and federal big data in collaboration with local, state, and federal partners.

Masters - Gifted Education (2019)

Fort Hays State; Hays, KS

+30 Graduate Coursework - Linguistics & Cognitive Science (2010)

University of Louisiana; Lafayette, LA

Bachelors - English & Biology & Alternative Science Teaching Certification (2005)

University of Louisiana; Lafayette, LA

WORK EXPERIENCE

K16 Science Teacher

Secondary Science / Data Science Education

2006 – 2020

Employing School Districts (2006-2020)

- Maize Public Schools (2014-2020); 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)
- Courses Designed and Taught: Astronomy, Biology, Chemistry, Forensic Science, Physics, Science Research and Design, and Zoology.

Contact: Maize / Baker University (Chris Botts - cbotts@usd266.com); Wichita (Laura Swanson - lswanson@usd259.net); Haysville (Phil Bressler - phil_bressler@usd376.com); Iberia (Charlotte Olivier - colivier@iberiaschools.org)

Graduate Research Associate

Fort Hays State University

2018 – 2019

Achievements/Tasks

- Began "Big Data in K16 Initiative" with NSTA director of Pre-Service Teacher Education, Dr. Paul Adams.
- Began "Equity in Rural Education Initiative" with Earl Legleiter, Director of the Science and Math Education Institute (SMEI).

Contact: Earl Legleiter – (785) 628-4561

Hays, KS

WORK EXPERIENCE

Trauma Registrar

HCA / Wesley Medical Center

2016

- Summer employment analyzing American College of Surgeons (ACS) national trauma databank ICD-10 coding, in-hospital diagnostics, and physician narrative for actionable trends and patterns for a Level 1 trauma facility.

Contact: Mike Valdez – (316) 962-2468

iAE & pAE Data Systems Programmer

York Services (formerly F.A. Richard & Assoc.)

2005 – 2006

Lafayette, LA

Achievements/Tasks

- Developing data architecture, data mining, and data analytics in risk control division, serving corporate healthcare and other major commercial lines.
- Technical, science, and medical writing of user documentation.
- Online professional learning course development in Mindflash.

Contact: Jamie Debaillon / David Sturgis - (985) 674-4520

Bookkeeper / Accounting

Landry, Harris & Co., LLC

2002 – 2005

Lafayette, LA

Achievements/Tasks

- All monthly accounting for multimillion-dollar, multi-line commercial insurance agency.

Contact: Charon Tyrell – (337) 266-2151

Medical Writer / ICD-9 & Coding

Acadiana Family Physicians

1999 – 2001

Lafayette, LA

Responsibilities

- ICD-9 coding, Accounts Receivable, and writing medical brochures for Allied Health Hospital and a physicians' clinic.

Contact: Paula Quebedeaux – (337) 234-1111

CURRICULUM & PROFESSIONAL DEVELOPMENT

Microsoft - Education (2020-Present)

- Curriculum development of Data Science Education (DSE) curricula about smart (sensor-intelligent) agriculture, Machine Learning (ML), and Artificial Intelligence (AI). Consult on how to use risk scoring to extract big data intelligence from disaggregated federal big data silos (NASA, NOAA, USDA, USGS, EPA, and others).

Ogallala CAP NextGen Data Science (2020 – 2021)

- Scheduled to present NextGen Data Science for the Ogallala Water Coordinated Agriculture Project (CAP), a USDA funded research and outreach project focused on helping address issues related to groundwater declines (quantity & quality), at the 2020 Ogallala Summit in Amarillo, TX. (Postponed to 2021 due to COVID-19.)

National Science Teaching Association (NSTA) The Science Teacher publication: "Messy Data, Real Science: Exploring harmful algal blooms with real-world data" (May/April 2020): <https://bit.ly/messydatarealscience>

NASA Data Science Review (2019 – 2020)

- Reviewer of myNASAData Earth-Space Science phenomena modules: <https://mynasadata.larc.nasa.gov>

Science Education Resource Center (SERC) Data Science Education Module Development (2019 – 2020)

- Developing SERC Data Science module on harmful algal blooms (HABs) for higher education researchers.

CURRICULUM & PROFESSIONAL DEVELOPMENT

NSF KS Established Program to Stimulate Competitive Research (EPSCoR): Microbiome of Aquatic, Plants, and Soils (MAPS) (2018-2020)

- Developed NGSS curriculum around harmful algal blooms to develop data science skills and OneHealth systems-thinking. Developed data science analytics and Machine Learning (ML) system for the City of Wichita to predict HABs in Cheney Reservoir, the primary drinking water supply for Wichita.
- Presented at EPA Clean Water Hearing, Governor's Water Conference, Great Plains Limnology Conference, Kansas Association of Environmental Education Conference, and numerous state-level policy meetings to which students and I were invited. Contacts: Scott Macey (smacey@wichita.gov, City of Wichita); Matt Unruh (matt.unruh@kwo.ks.gov, Kansas Water Office); Trudy Bennett (trudyben@usgs.gov, United States Geological Survey)

KSDE Science Master Teacher / Missouri, Iowa, Nebraska, Kansas, and Colorado (MINK & Co.) - Secondary Science Lead (2018 – 2020)

- Trained by the NGSX team of Northwestern University to pilot storyline teaching: "Why Don't Antibiotics Work Like They Used To?"
- Conduct teacher professional learning webinars with 5 states' NextGen Science Education leaders.

Regeneron International Science & Engineering Fair (2018 – 2020)

- Research Teacher Captain; presenting "Big Data Analytics" and "Authentic Student-Led Science Research" to +200 U.S.-based Science Educators.

Achieve's Task Annotation Project in Science (TAPS) (2019)

- Developed NGSS secondary science performance exemplars and performance task template for new task development for Achieve and National Science Education Leadership Association (NSELA).
- Trained by Achieve's Associate Director in EQulP rubric assessment.

KS Department of Education Teacher Trainer at Annual Kansas Association of Teachers of Science (KATS) Conference (2017-2019)

- Present NextGen Storylines and NSF KS EPSCoR Atomic, Molecular, and Optical Physics curriculum to Kansas Science teachers.

NGSX NextGen Storyline Pilot Team - KS/OK (2018)

- Piloted "Why Don't Antibiotics Work Like They Used To?" with Northwestern's NGSX InquiryHub team.

Baker University: Project-Based, Brain-Based Learning Teacher Professional Learning Series (2018-2019)

- Taught teacher professional learning series on NextGen Storylines, Project-Based, and Brain-Based learning.

Big Data in K16 Workshop (2018)

- Organized professional development workshop on big data analytics for Kansas teachers, hosted by Fort Hays State University.

NSF KS Established Program to Stimulate Competitive Research (EPSCoR): Atomic, Molecular, and Optical Physics (2017)

- Led Kansas Science teachers in NGSS Physics curriculum and professional development.
- Developed data regressions on Kansas seismic data using United States Geological Survey (USGS) IRIS datasets and discovered correlation to oil & gas wastewater injection sites. Reported data methodology and analytics to State of Kansas / Governor Brownback's Induced Seismicity Task Force. State policy instituted to reduce rate of wastewater injection to lower magnitude of induced seismic activity.

Math-Science Partnership & Modeling Instruction - USD 266 Maize (2014-2017)

- Led monthly professional learning sessions in both Math-Science Partnership and Modeling Instruction (MI) to district science and math teachers.

Physical Science, Biology, Chemistry, and Physics First Modeling Instruction (2011-2020)

- Implementation of Physics First with Computational Modeling with Modeling Instruction (MI) and American Association for Physics Teachers (AAPT) (2019-2020).
- Facilitated summer Chemistry teacher professional development workshop for USD 259 - Wichita Public Schools and surrounding districts (2014).
- Participant in Physical Science Modeling workshops with Dr. Paul Adams (2011-2012).

HONORS / AWARDS

2020 State of Kansas Governor's Be the Vision Award

Kansas Water Office

2020 PreK-16 Excellence in Education Award

Kansas Association for Conservation and Environmental Education (KACEE)

2018 Science Master Teacher

Kansas Department of Education

2017 CASIS Award

American Seed Trade Association

2020 Teacher of the Year

Maize Public Schools

2019 Robert F. Tinker Fellow

Concord Consortium

2018 Mohling Award

Wendell Mohling Foundation

2014 Environmental Educator Award

Sierra Club