

Angela Bittner

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Education

M.S. Environmental Sciences and Engineering August 2019-Present
University of North Carolina, Chapel Hill, NC
B.S. Chemistry-Environmental Science May 2017
Taylor University, Upland, IN

Skills

- ArcGIS and ArcGIS Pro software
- MATLAB programming
- GC-MS, AA, NMR, IR, LC-MS, and UV-VIS analytical methods
- Histology, microtomy, and immunohistochemical techniques
- SEM and EDS processing for geologic samples
- Water sampling and statistical analysis

Work Experience

Histology Lab Technician November 2017-May 2019
Indiana Animal Disease Diagnostic Lab, Purdue University

- Trim in animal tissues, detailing anatomical features, cross sections, and margins of specimens
- Prepare histological slides via processing, embedding, cutting, and staining methods
- Perform special stains per pathologist request
- Conduct and program immunohistochemical staining
- Prepare and label chemical reagents for stains
- Update and adhere to standard operating procedures and SDS forms

Teaching Assistant for introductory chemistry courses August 2014-May 2017
Taylor University Department of Chemistry and Biochemistry

- Supervise students during lab sessions and answer questions pertaining to set up and procedure
- Assist professor in conveying course concepts to students
- Provide materials and equipment for students as needed

Stockroom Preparation Assistant August 2014-May 2017
Taylor University Department of Chemistry and Biochemistry

- Properly label and handle chemicals according to standard lab practices
- Understand lab hazard waste disposal procedures and consult SDS information
- Prepare solutions and equipment required for the lab procedures

Water Sampling Technician April 2018
*Indiana School Lead Sampling Program, Indiana Geological Survey, Indiana University
Bloomington*

- Assist Technical Assistance Provider with data collection and record keeping
- Collect water samples from fixtures throughout schools in Indiana
- Denote active and inactive water fountain and kitchen fixtures on a sampling design plan

Research

UNC-BME lab August 2019-Present

University of North Carolina at Chapel Hill, Chapel Hill, North Carolina

- Assess concentrations of inorganic contaminants in groundwater and surface water spatially and temporally using Bayesian Maximum Entropy statistical analysis and MATLAB programming
- Evaluate potential geogenic and anthropogenic sources of contamination contributing to occupational and household exposures

Directed Research Associate February 2017-April 2017

Taylor University Department of Chemistry and Biochemistry

- evaluate data available for the White River in the Hoosier Riverwatch database pertaining to dissolved oxygen content, pH, orthophosphate levels, nitrate levels, and turbidity
- investigate whether outliers influence mean/median values
- consider the role that test kit incremental systems play in determining the accuracy of results
- determine overall water quality for the White River

Research Experience for Undergraduates Participant May 2015-July 2015

Miami University Department of Geology and Environmental Earth Science, Oxford, Ohio

- collect geological samples from field sites and record GPS coordinates of sampling locations
- conduct biological preparation of samples prior to SEM analysis
- analyze samples using SEM and EDS methods
- consider textural trends and biological abundance on rock surfaces
- evaluate ability of manganese oxide coatings to sequester heavy metals

Conference Posters

Bittner, AK; King, D. Assessment of the Parameters and Techniques of the Hoosier Riverwatch Water Quality Monitoring System for Chemical Analysis. [Abstract] 2017. Butler University Undergraduate Research Conference.

Bittner, AK; Krekeler, MPS; Barrett, HA. A comparative study of manganese oxide coatings in a disturbed landscape in rural Kentucky. [Abstract] 2015. Abstracts and Program of the Annual Meetings of the Geological Society of America. Paper 288-47.

Publications

Bittner, AK; Gadel, J; King, D. Statistical Assessment of the Reliability of the Hoosier Riverwatch Database- A Community-Based Volunteer Waterway Monitoring Program. [under review]. 2017. Indiana Academy of Sciences.

Awards and Recognitions

- NIOSH Traineeship Recipient January 2020-Present
- Gillings Merit Award (ESE) at UNC August 2019- December 2019
- Certificate of Diversity and Inclusion in Veterinary Medicine November 2018
- President of American Chemical Society student chapter at Taylor August 2016-May 2017
- Treasurer of American Chemical Society student chapter at Taylor August 2015-May 2016