

Antoinette H. Issis

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Education

Lebanon Valley College BS Chemistry (minor Business Administration) May 2016

Research and Work Experience

Chemist *City of Lebanon Authority* **November 2020-present**

Supervisor: Cora Shenk

- Perform laboratory analysis of samples from the wastewater treatment plant and assist in reporting, scheduling and other tasks required to maintain the accreditation standing of the laboratory.
- Analysis performed include: BOD/CBOD, Total Suspended Solids (TSS), COD, Total Nitrogen (TKN), Nitrates, pH, alkalinity, volatile acids, and Quantitray Microbiology.
- Data Maintenance- including calculations, entry and data review, creating and reviewing spreadsheets.
- Other duties include- sample receiving, pipette calibrations, washing lab ware, collecting drinking water sample collection, collection of composite and grab samples from wastewater treatment plant.

Wet Chemistry and Metals Analyst *ALS Environmental* **July 2016-present**

Supervisor: Matthew Olley

- Distillation of soil and water samples in order to test for reactive sulfide and cyanide. Reactive sulfide and total sulfide samples are analyzed by titration. Hot plate digestion of samples to test for hexavalent chromium using UV-vis spectroscopy.
- Distillation of soil and water samples for total cyanide, weak acid dissociable cyanide, free cyanide, and amenable cyanide. Amenable cyanide is pretreated using Calcium hypochlorite and dechlorinated using sodium arsenite.
- Autoclave digestion of soils for Mercury, and waterbath digestion drinking water, wastewater for Mercury. Cetac Analysis (cold vapor atomic absorption spectroscopy) for Mercury in Solid and aqueous samples.
- Preparation of Low-Level Mercury and analysis of Low-Level Mercury (EPA 1631) by Cold Vapor Atomic Florescence Spectroscopy (CVFAS).
- Microwave digestion of soils, drinking water, wastewater, ground water and surface waters for 6020 and 6010 metals. Hot block digestion of soils for 6010 and 6020 metals. Hotblock digestion drinking water and wastewater samples for EPA methods 200.7 and 200.8 metals.
- Placing samples received from clients in order according to chain of custody, checking pH of samples, labeling samples after logging into LIMS.
- Respirator trained in order to dump hazardous materials and to respond to major spills throughout the laboratory. Performing Quality Assurance Tasks: Review of SOPs for analytical methods performed, Monitoring of equipment temperatures (BOD incubators, refrigerators, freezers, TDS/TSS ovens, etc.).

Water Operator/ Township Secretary *West Lebanon Township* **October 2016-Present**

Supervisor: John Brenner

- Maintaining website, managing budgets and expense reports, keeping of all official records for the township, and minutes for township meetings.
- Zoning Officer

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- Collection of samples and perform laboratory tests to determine the quality of the water being produced. Laboratory testing includes pH, chlorine, phosphate, and alkalinity. Read meters and gauges to make sure that the plant equipment was working properly. Operated and maintained the pumps that mover water through the filtration system.

Research Intern *Lebanon Valley College Chemistry Department* May 2015-May 2016

Research Advisor: Dr. Anderson Marsh

- NMR monitoring of the kinetics of the methylation of vegetable oils to form biodiesel under varied physical conditions. Characterization of Palladium Nanoparticles using FAAS. Research advisor: Dr. Anderson Marsh.
- Formulate a recipe and distill the 2015 edition of the Flying Dutchman Ale for Lebanon Valley College's Homecoming. Snitz Creek Brewery teams up with Lebanon Valley College, Fall 2015. Dr. Marc Harris coordinator.

Sustainability Intern *West Lebanon Township in Coordination with Lebanon Valley College Sustainability Department* May2015-May 2016 Supervisor: John Brenner and Karen Feather

- Analyzed drinking water for chloride, phosphate and pH, and mapped various results on the geographic information system (GIS). Updating website, sign inventory management, and Swift911 emergency program for the township.

Certifications

- Drinking Water Treatment Operator. Class A certified with subclasses 7 (Corrosion Control and Sequestering), 8 (Chemical Addition), 10 (Aeration and Activated Carbon Adsorption), 12 (Non-Gaseous Chlorine Disinfection), 15 (Laboratory Supervisor). Received December 2017.
- Wastewater Treatment Operator. Class E certified with subclass 4 (Single Entity Collection System).
- First Aid/CPR Certified, The American Red Cross. January 2018.
- Respirator Trained, ALS Global, August 2018.
- Spill Response Team. Hazmat Training, ALS Global, 2018.

Presentations

“Determination of the Kinetics of Biodiesel using Proton NMR.” Issis, A.H., *Marsh, A.L.* Presented at the 6th Disappearing Boundaries Summer Research Meeting, Lebanon Valley College, Annville, PA, July 16, 2015. (Poster Session and Oral Presentation)

“Determination of the Kinetics of Biodiesel Formation using ¹H NMR.” Issis, A.H, *Marsh, A.L.* Presented at the 18th annual Undergraduate Research Symposium in the Chemical and Biological Sciences, University of Maryland Baltimore County, Baltimore, MD, October 3, 2015. (Poster Session)

Relevant Skills

- FT-NMR
- Titrations
- FAAS
- LC-MS and GC-MS
- Astoria-Pacific (segmented flow analyzer)
- Computer Skills (typing, word processing, spreadsheets, email management)
- CETAC (cold vapor atomic absorption spectrometry)
- UV-Vis Spectroscopy
- Titrations
- Fluorescence Spectrophotometer
- Attention to details
- CETAC Hydra Technology (Cold Vapor Fluorescence Spectrometry)

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- Microsoft Office
- Ability to work under pressure
- Dexterity and good hand eye coordination
- Teamwork
- Numeracy skills
- Attention to safety
- Arabic (conversational speaking)
- Self-motivation
- Communication skills
- Technical Skills
- Literature Research- Scifinder- Chemical Abstracts
- Environmental Regulatory Compliance

Non-Science Experience

- **Multicultural Fellowship.** Multicultural Fellowship is awarded to students who rank in the top 30% of their high school class and identify as African American, Asian-American, and Native American. Students commit to work, service and scholarly achievement.
- Social Justice Institute LVC Office of Multicultural Affairs - explored how oppression impacts true equality. Internship involved field trip to service agencies that are dedicated to improving social justice. 4-day workshops
Winter 2013, 2014, 2015
- Short Term Study Abroad in London- explored various religious events in London as an optional part of the class Encountering World Religions. Spring Break 2016
- Lebanon Valley College Chemistry Club Member Fall 2012-Spring 2016
- Pride of the Valley Marching Band Member Fall 2012-Fall 2015
- Symphonic Band Member Spring 2015- Spring 2016
- Wind Ensemble Member Spring 2016
- Cashier, Giant Food Stores, Harrisburg, PA December 2010-October 2016
- National Youth Leadership Forum on Medicine- high school students are nominated by teachers to attend the forum to explore careers in medicine. Students discuss global epidemics, cures for life-threatening diseases, life as a resident, medical specialties and primary care with current physicians and patients. Attended at Villanova University Summer 2012