



CAREER PATHWAYS

in Public Health Laboratory Science

An APHL-CDC Initiative

Focus on Fellows

COHORTS 2021-2023



Focus on Fellows is an APHL publication that provides an opportunity to see the faces and learn a little more about the Public Health Laboratory Fellowship Program participant who have been working, learning and developing laboratory and professional skills alongside you. This publication is a collection of all fellows who participated in, or graduated from the fellowship program between 2021-2023.



BIOINFORMATICS

COHORTS 2021-2023



CAREER PATHWAYS

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BIOINFORMATICS

Saymon Akther



Degree:	Doctorate
Graduated:	June 2022
School:	The Graduate Center, City University of New York
Host Lab:	New York City Public Health Laboratory

Project(s): A systematic genomic analysis of the mpox outbreak in New York City compared to the global mpox outbreak in 2022. Assess and compare the performance of different whole-genome sequencing (WGS) technologies for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) genome sequences. A proof-of-concept study to develop, validate and implement

Mycobacterium tuberculosis (MTB) antimicrobial resistance (AMR) bioinformatics pipeline at New York City Public Health Laboratory. **Goal(s):** Aiming to apply for a Public Health Bioinformatics Research Scientist position in the future.

BIOINFORMATICS

Candace Cole

Degree:	Doctorate
Graduated:	Aug. 2022
School:	University of California, Merced
Host Lab:	Enteric Diseases Laboratory Branch



Project(s): Curate list of known diarrheal pathogen reference genomes for highly multiplexed amplicon sequencing (HMAS) panel. Collaborate with contracted company and wet lab staff to fine tune HMAS panel. Participate in collaboration with state public health labs and epidemiologist to perform HMAS pilot study on clinical samples. Work with metagenomic binning pipelines and analyze shotgun metagenomics data generated by pilot study. Evaluate existing Hi-C sequencing datasets

for quality. Identify appropriate methods. **Goal(s):** Pursue a career in public health bioinformatics. I hope that I can continue to work with the CDC to help create tools and pipelines to easily detect a variety of microbial pathogens.

BIOINFORMATICS

Rakin Ahmed Choudhury



Degree:	Bachelor's
Graduated:	Aug. 2020
School:	Rutgers University
Host Lab:	CDC - National Wastewater Surveillance System

Project(s): NWSS's SARS-CoV-2 pipeline to help clarify input and function locations and the generation of outputs and end-user tables for team members and potential collaborators. Update analytics reporting following infrastructure reorganization later this year intended to make the platform agnostic for seamless integration with the different informatics platforms used by public health jurisdictions. Help onboard other public health pathogens into the

wastewater bioinformatics pipeline. **Goal(s):** I have applied to PhD programs in Bioinformatics for the Fall 2023 and am hopeful to gain admission. Otherwise, I aim to continue the fellowship into a second year.

BIOINFORMATICS

Siddra Dar

Degree:	Master's
Graduated:	May 2021
School:	University of Maryland
Host Lab:	Maryland Department of Health



Project(s): Determine the relationship between phenotypic antimicrobial resistance and its genetic determinants in *Carbapenem-resistant Enterobacteriaceae* (CRE) in clinical and surveillance samples received using bioinformatics analysis. Develop a pipeline that can be used in a clinical setting for a timely detection of antimicrobial resistant strains.

Goal(s): I will participate in the ongoing bioinformatics analysis of CRE organisms. Additionally, I would focus on expanding the bioinformatics capacity of the site by including bioinformatics analysis of organisms in addition to CRE.

BIOINFORMATICS

Cristina Delgado

Degree:	Master's
Graduated:	Dec. 2021
School:	University of Edinburgh
Host Lab:	Enteric Diseases Laboratory Branch



Project(s): DFWED/ NCEZID/CDC PulseNet Next Generation Subtyping Methods Unit

Goal(s): To develop bioinformatic approaches to exploit nanopore sequencing for genome and transcriptome research, including but not limited to genome assembly, outbreak surveillance and full-length transcript. I would like to continue being a fellow another year. However I also plan to pursue a PhD that offers clinical and translational computational-oriented projects involving stem cells.

BIOINFORMATICS

Jared Johnson



Degree:	Doctorate
Graduated:	Dec. 2021
School:	Oregon State University
Host Lab:	Michigan Department of Health and Human Services

Project(s): Develop a hybrid genome assembly pipeline, using Illumina and Oxford Nanopore sequencing technologies, for the generation of high quality bacterial reference genomes for outbreak investigations. Develop a variant discovery pipeline for newborn screening of cystic fibrosis using NGS.

Goal(s): My long-term goal is to improve public health by advancing applications in NGS and bioinformatics for disease surveillance and diagnostic testing.

BIOINFORMATICS

Sidarth Lingatlu

Degree:	Bachelor's
Graduated:	Aug. 2022
School:	University of Georgia
Host Lab:	CDC Biotechnology Core Facility Branch



Project(s): Develop an integrated approach for single-cell multi-omics analysis to compare the effectiveness of influenza vaccines in the context of humoral and cell-mediated immune responses among different demographic groups.

Goal(s): After the APHL fellowship program, I look forward to continuing my education by pursuing an MD or an MD/PhD dual-degree program. I plan to use a multidisciplinary approach to provide clinical care while pursuing opportunities in the public health field.

BIOINFORMATICS

Anoch Mohan

Degree:	Bachelor's
Graduated:	Dec. 2021
School:	University of North Texas
Host Lab:	CDC Virology, Surveillance and Diagnostic Branch



Project(s): Develop an application into maintainable and configurable software, hosted on CDC's GitLab repository for public consumption. This development will include the full stack, from choosing and building the backend database to handling the analytical flow and interactive visualizations. Analysis performed will consist of genome assembly (ie. IRMA, bwa-mem, minimap, quality control (ie. FastQC, pycoQC), phylogenetics

(ie. Nextstrain, Blast) and variant comparisons to candidate vaccine viruses.

Goal(s): To attain a job as Bioinformatician within the Infectious Disease community. I also plan on pursuing a Master's degree in Bioinformatics to further my theoretical knowledge.



BIOINFORMATICS

Gabriela Alejandra Nine

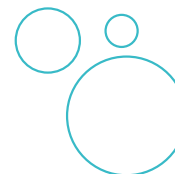
Degree:	Master's
Graduated:	Dec. 2019
School:	University of Cincinnati
Host Lab:	Parasitic Diseases Branch



Project(s): Establish custom standalone basic local alignment search tool (BLAST) databases for identifying and extracting whole mitochondrial genome sequences from assembled unpublished genomes that Dr. Barratt's laboratory has generated for numerous strains of the protozoan pathogen, *Leishmania*. Annotate these mitochondrial genome sequences by identifying gene content, position of genes, coding and non-coding regions, etc. From the annotations, I

will perform phylogenetic analyses on the genomes.

Goal(s): Renew my contract with Dr. Barratt's laboratory or find a full-time position within the CDC. I have a background in insect physiology, so medical parasitology is a great branch to continue my vector-borne diseases studies. I plan to start exploring PhD opportunities as well in order to research more!



BIOINFORMATICS

Elizabeth Proctor

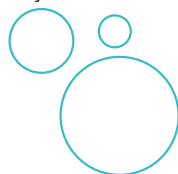


Degree:	Bachelor's
Graduated:	May 2022
School:	Trinity University
Host Lab:	CDC - Waterborne Disease and Pathogens Department

Project(s): Conduct metagenomic sequencing on diverse environmental waters collected during outbreak investigations and waters not associated with known disease. Design and implement a dynamic, living bioinformatics database containing genomic sequences from organisms associated with irrigation water. Design and implement a bioinformatics workflow to classify and potentially characterize pathogens from

metagenomics datasets using k-mer based and/or a distance association calculation.

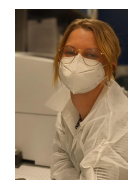
Goal(s): I will pursue advanced degree(s) in Bioinformatics, Computational Biology, or Genetics. To use my knowledge of biology and computer science to improve the lives of individuals through work with industry leaders.



BIOINFORMATICS

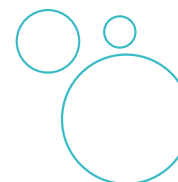
Sarah Scott

Degree:	Master's
Graduated:	May 2022
School:	George Mason University
Host Lab:	Minnesota Public Health Laboratory



Project(s): Conduct SARS-CoV-2 third generation sequencing, SARS-CoV-2 analysis, food-borne pathogen investigation and analysis, Mpox genomic epidemiology.

Goal(s): I am hoping that this fellowship will provide me with the tools to continue my work in public health. I am looking to find a full-time position assisting a public health laboratory with its bioinformatic analysis. This process will contribute to the visualization of sequencing data and other bioinformatics needs, as well as future troubleshooting.



BIOINFORMATICS

Elizabeth Shedroff



Degree:	Master's
Graduated:	May 2022
School:	University of Toledo
Host Lab:	CDC - Viral Special Pathogens Branch

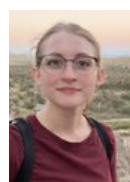
Project(s): Run established Biolinux pipelines to analyze NGS data from Crimean-Congo hemorrhagic fever (CCHF) and Rift Valley fever virus (RVFV) outbreaks in Uganda. Investigate the discovery of a novel arenavirus and develop a pan-arenavirus screening panel for pathogen discovery. Aid genome assembly and data visualization to support VHF outbreak response and surveillance.

Goal(s): I plan to pursue medical school following this fellowship. This experience will help me decide if an MD/PhD or MD/MPH program would be a good fit for me. My background in bioinformatics, research, and public health will undoubtedly make me a better physician and give me a unique perspective in the practice of medicine.



BIOINFORMATICS

Arianna Smith



Degree:	Master's
Graduated:	Dec. 2019
School:	University of Texas at Dallas
Host Lab:	Colorado Department of Public Health and Environment

Project(s): Workflow/algorithm development for novel mutations in complex wastewater samples. Improving data analysis and visualization resources for pathogens of public health concern. Finding ways to use wastewater for variant detection prior to pathogen of public health concern being an outbreak- early warning health response

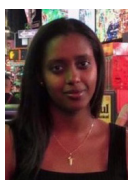
Goal(s): hope to continue working in public health and focus on developing pipelines for data analysis. I would like to develop further methods of utilizing wastewater to better our understanding of the local environment, and to use that information to make positive changes for a healthier community.



BIOINFORMATICS

Sarah Solomon

Degree:	Bachelor's
Graduated:	May 2022
School:	Howard University
Host Lab:	California Department of Public Health



Project(s): My plan of action includes designing and optimizing high throughput, next generation sequencing/molecular assays to detect spinal muscular atrophy (SMA)-causing mutations. I will write protocols for SMA NGS laboratory workflow and develop and standardize bioinformatics data analysis pipeline. I additionally plan to attend conferences and symposiums to further my professional development.

Goal(s): I plan to attain an MD/MPH in order to further my career in public health and integrate my passion of medicine along the way. I then hope to take my skills to my homeland of Tigray, which has recently been plagued by war.



BIOINFORMATICS

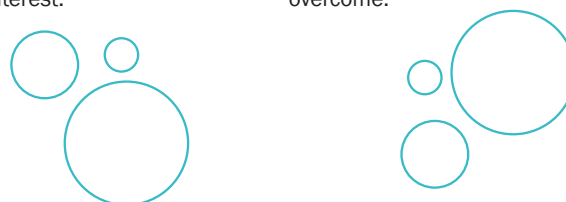
Joel Steyer



Degree:	Doctorate
Graduated:	Aug. 2022
School:	Kansas State University
Host Lab:	DC Public Health Laboratory

Project(s): My project will consist of assessing and executing a waste water analysis pipeline for SARS-CoV-2 genetic variants in the DC area. I will also be assisting in sequence library prep and analysis of submitted samples for various pathogens of interest.

Goal(s): I plan to stay within the public health sector, ideally working on continued surveillance and discovery of new pathogens and genetic variants of interest. I am excited to see how my skills are strengthened during the fellowship and what challenges I can overcome.



BIORISK MANAGEMENT COHORTS 2021-2023



CAREER PATHWAYS
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BIORISK MANAGEMENT

Syadatun Ahana



Degree:	Master's
Graduated:	Aug. 2020
School:	George Washington University
Host Lab:	Wadsworth Center, N.Y. State Public Health Laboratory

Project(s): Integrate applicable biorisk management requirements into existing SOP-specific training and competency assessment methods. Assess environmental and occupational exposure in the ABSL-3 facility following aerosol exposure of mice to *Mycobacterium abscessus*. Conduct a risk assessment and regulatory gap analysis of diagnostic testing activities directly or indirectly affected by the poliovirus outbreak in New York State.

Goal(s): To leverage my experience from this fellowship and my background to solve problems in the safe implementation of novel biomedical research.

BIORISK MANAGEMENT

Aisha Liane Cook

Degree:	Master's
Graduated:	May 2022
School:	Louisiana State University
Host Lab:	Bureau of Public Health Laboratories - Tampa



Project(s): Complete lab rotations within the bureau to assess risks in areas such as retrovirology, bacteriology, parasitology, arbovirology, sequencing, newborn screening, and molecular virology. Collaborate with laboratory safety officer to assist with spill drills, continuing education courses, and annual safety trainings. Create a powered air purifying respirator donning and doffing how-to video for new BPHL employees working in the BSL-2+

laboratory.
Goal(s): I plan to use my chemistry background and knowledge acquired from this fellowship to pursue an industry position in pharmaceuticals or biomedical sciences. My long-term goal is to work for an organization that provides STEM outreach and engagement opportunities to students from underrepresented communities.

BIORISK MANAGEMENT

James Zumhagen



Degree:	Bachelor's
Graduated:	May 2021
School:	Governor's State University
Host Lab:	Missouri State Public Health Laboratory (MSPHL)

Project(s): Learning the roles, function and capabilities of the MSPHL. Becoming proficient in using the Laboratory Safety Manual. Learning the process of biological risk assessment and mitigation based on the risk assessment protocol of the MSPHL. Performing root/cause analysis and mitigation of accidents.

Goal(s): I will be applying to MD/PhD programs and specializing in public health and pathology.

ENVIRONMENTAL HEALTH COHORTS 2021-2023



CAREER PATHWAYS in Public Health Laboratory Science

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ENVIRONMENTAL HEALTH

Hosen Arman



Degree: Bachelor's

Graduated: May 2021

School: Rutgers
University

Host Lab: New Jersey
Department
of Health (NJDOH)

Project(s): At NJDOH, I am working on a variety of projects that investigate presence of toxic metals in blood and urine, especially in the population from underserved communities. Currently, I am working on Prenatal Screening Project for Lead and Mercury and NJHANES (New Jersey Health and Nutrition Examination) Project for Lead, Cadmium, Mercury, Selenium and Manganese screening.

Goal(s): After the fellowship, I plan to pursue MD-MPH to investigate environmental impacts on health while providing care to underserved communities.

ENVIRONMENTAL HEALTH

Devon Baird

Degree: Bachelor's

Graduated: May 2022

School: Xavier
University

Host Lab: New Jersey
Department
of Health



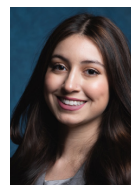
Project(s): The primary objective of my fellowship is to assist with the optimization and validation of a method utilizing solid-phase extraction (SPE) and liquid chromatography- with tandem mass spectrometry (LC-MS/MS) to extract and measure 40 common per- and polyfluoroalkyl substances (PFAS) analytes in river water samples, which is based on EPA Method 1633. Once the method completes the validation process, we will

publish the SOP for water testing and safety programs in New Jersey.

Goal(s): After a year with NJDOH, I hope to start medical school in the fall and graduate with an MD before going on to specialize. As a physician, I want to stay involved with research that contributes to public health and disease prevention initiatives or clinical trials that advance treatment options.

ENVIRONMENTAL HEALTH

Isabel Bayas



Degree: Bachelor's

Graduated: June 2021

School: St. Peter's
University

Host Lab: New Jersey
Environmental and
Public Health
Laboratory

Project(s): Develop a terpene method for medical marijuana utilizing headspace solid phase micro extraction gas chromatography mass spectrometer (HS-SPME GC/MS). Under this analysis, gain knowledge of operating, maintaining, and troubleshooting of the instrument. Learn the validation process to complete her method. Report her findings to the NJ Department of Health, APHL, and any Cannabis

related associations.

Goal(s): Apply for a chemist position in a laboratory that provides tuition reimbursement as it will only benefit me to continue academically. I plan on receiving a Master's degree in either toxicology, medicinal chemistry, or forensic science.

ENVIRONMENTAL HEALTH

Burabari Bornu

Degree:	Bachelor's
Graduated:	Dec. 2021
School:	Georgia State University
Host Lab:	North Carolina State Laboratory of Public Health (NCSLPH)



Project(s): I will help the NCSLPH's Environmental Sciences Unit to evaluate, validate, and implement a dPCR procedure for rapid identification and enumeration of *Legionella pneumophila* serogroups 1-15 and other non-pneumophila species. Following my primary project, I will be training on the VITEK MALDI-TOF system and developing a custom NC *Legionella* spp. database. Also, I will be

pursuing the use of whole genome sequencing (WGS) to characterize *Legionella* isolates at the molecular level.

Goal(s): I'm extending my fellowship to see through my current project. After my fellowship I plan to expand my career in the public health department and pursue an MPH program.



ENVIRONMENTAL HEALTH

Ashley Noel Burditt

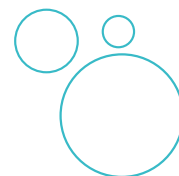


Degree:	Master's
Graduated:	May 2022
School:	Emory University
Host Lab:	Texas State Department of Health Services

Project(s): Participate and lead in collaboration efforts to establish and validate the analytical testing method for opioid polysubstances, including fentanyl and fentanyl analogs. Examining levels of PFAS in the newborn population, referencing dried blood spots collect within the first 21-22 days of life. Methods include pre-analytical, post-analytical, analytical, and sample preparation utilizing tandem mass spectrometry, ultra-high pressure liquid chromatography, and

laboratory automation.

Goal(s): To become an environmental epidemiologist/scientist by obtaining an MPH, and eventually a PhD. I want to utilize my science skills, along with my own research, to influence policy that protects vulnerable populations from the effects of environmental degradation and white supremacy.



ENVIRONMENTAL HEALTH

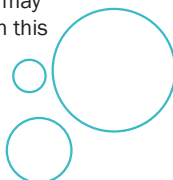
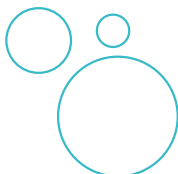
John Chisholm

Degree:	Bachelor's
Graduated:	May 2019
School:	Young Harris College
Host Lab:	Indianapolis Department of Health



Project(s): A project for Indiana Department of Environmental Management (IDEM) samples to determine the feasibility of replacing EPA 365.1 with EPA 200.7 for analysis of total phosphorous. The project will focus on the analysis of ortho-phosphorous using speciation on an LC-ICP/MS.

Goal(s): To apply to Mercer University in their Biomedical Sciences program and pursue a career into medical research, particularly in neurology. However, I am still keeping my options open if there may be a different path that I may want to take through this fellowship.



ENVIRONMENTAL HEALTH

Colleen Donohoe



Degree:	Bachelor's
Graduated:	May 2022
School:	Elon University
Host Lab:	New Jersey Department of Health

Project(s): My involvement in NJHANES, an ongoing biomonitoring program to assess the impact of environmental and chemical exposures among NJ residents, will expand my knowledge on population study design and implementation, especially on the probability-based sampling and post-sampling adjustment approaches. My responsibilities include assisting with project coordination while writing/testing statistical analysis software (SAS and R) scripts for data management,

manipulation and visualization to increase the accessibility and scope of information available to the biomonitoring team and greater community.

Goal(s): Apply the skills and knowledge to my future as a public health professional. I will be pursuing my MPH in epidemiology and biostatistics while in my second year as a fellow. I look forward to taking the lessons learned and relationships established during this fellowship into my career.



ENVIRONMENTAL HEALTH

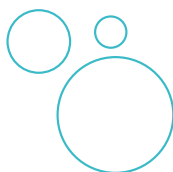
Kailene Richbow Dozier

Degree:	Master's
Graduated:	May 2022
School:	Mercer University
Host Lab:	Delaware Public Health Laboratory



Project(s): Focus on developing and implementing a molecular method for detection of *Candida auris* in wastewater from long-term care facilities. Collaborate with Delaware Natural Resources and Environmental Crew to assist with the collection of wastewater. Method developed and research findings will be published and presented at the APHL 2023.

Goal(s): Continue doing research within a public health laboratory focused on either environmental health or health/nutrition to further study direct correlation to disease occurrences in the human body.



ENVIRONMENTAL HEALTH

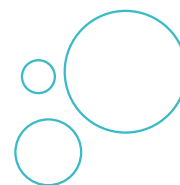
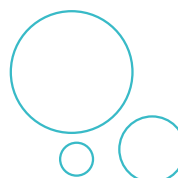
Alexia Duncan

Degree:	Bachelor's
Graduated:	Dec. 2021
School:	University of South Florida
Host Lab:	Wisconsin State Hygiene Laboratory



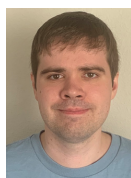
Project(s): I have been working on combustion ion chromatography (CIC) method development, and I am about to begin one of four projects involving CIC: Shredded Paper, GroundWater drilling, Precipitation or Wastewater.

Goal(s): My goal would be to obtain a position at my host lab as a chemist, and potentially begin graduate school.



ENVIRONMENTAL HEALTH

John Fennessey

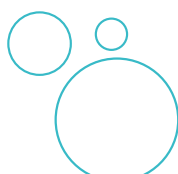


Degree:	Master's
Graduated:	Aug. 21
School:	University of Michigan, Dearborn
Host Lab:	Colorado Department of Public Health and Environment

Project(s): I will work on the method extension of the CDPHE's current PFAS in drinking water analysis. To do so I will learn to run and understand a LC MS/MS. I will also study EPA methods 533, 537, and draft method 1633. During method development, I will list needed supplies, study under a senior chemist, assist with method development, draft a validation plan, participate in validation, and give a

presentation on the new method.

Goal(s): After completing my fellowship I hope to apply the skills I learned towards animal conservation. I may also pursue a Doctorate to both further my education and skill set. Whatever path I pursue, I intend to protect both humans and animals from threats to their wellbeing.



ENVIRONMENTAL HEALTH

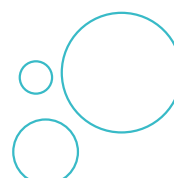
Dorothy Foulkes

Degree:	Master's
Graduated:	Dec. 2022
School:	University of Illinois Chicago
Host Lab:	Wadsworth Center, New York Department of Health



Project(s): Microbial source tracking using EPA method 1696 Characterization of Human Fecal Pollution in Water by HF183/BacR287. The development of quality control and quality assurance for reportable data, verification, and validation.

Goal(s): I want to pursue a public sector public health career. I aim to work for the US Centers for Disease Control and Prevention, U.S. Environmental Protection Agency, World Health Organization, or a federal/state/local public health department. I intend to pursue a PhD program in Environmental Epidemiology or Industrial/Occupational Epidemiology in the long term.



ENVIRONMENTAL HEALTH

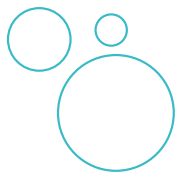
Jonathan D. Gallardo



Degree:	Bachelor's
Graduated:	May 2022
School:	San Francisco State University
Host Lab:	California Department of Public Health

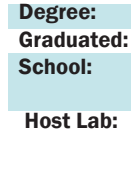
Project(s): Assisting with the method development of an LC MS/MS analysis of several volatile organic carbon (VOC) urinary metabolites in a biomonitoring project at the California Department of Public Health. I am excited to develop practical skills in tandem mass spectrometry instrumental analysis. In addition, I will learn how to validate an analytical method and participate in presenting our research locally or virtually.

Goal(s): Attending graduate school to attain a master's or doctorate in Civil and Environmental Engineering. I hope to become a leader in my field, and work to create systems that are healthier for the Earth and for its people. However, before that, once my fellowship ends I may choose to go on vacation first!



ENVIRONMENTAL HEALTH

Guinevere Ellison Giles

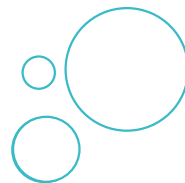


Degree:	Bachelor's
Graduated:	Dec. 2021
School:	University of South Florida
Host Lab:	Public Health Laboratory of East Texas

Project(s): Establish a wastewater surveillance project focusing on the detection of SARS-CoV-2. Identify and recruit wastewater treatment plants (WWTP) and other decentralized systems securing their cooperation and participation within the project and collect and coordinate delivery of the wastewater samples between the WWTPs, NET Health, PHLET. Assist with molecular testing workflow in PHLET of wastewater samples and the organization of

epidemiological data for dissemination to the public.

Goal(s): I am currently attending UNC-Chapel Hill and will graduate with a master's in public health after this fellowship. Eventually I plan to pursue a Doctorate. I am interested in expanding my knowledge and experience in this field while continuing to work with public health laboratories around the world, and hopefully in the future apply for the CDC's EIS program.



ENVIRONMENTAL HEALTH

Gemira S. Harris

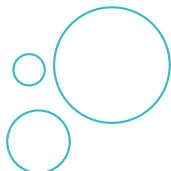
Degree:	Bachelor's
Graduated:	May 2019
School:	Georgia State University
Host Lab:	Minnesota Department of Public Health



Project(s): Assisting with the method validation of new laboratory-development test method based on EPA Draft 1633 for PFAS levels in rainbow trout sourced from the EPA. The fish is extracted by performing a liquid-liquid extraction and solid-phase extraction (LLE, SPE) and then analyzed using liquid chromatography with mass spectrometry (LC-MS/MS). The fellow will also assist with training local schools for sample collections for Healthy Kids Minnesota (HKMN)

and splitting samples for analysis; scheduling courier pickups for each site.

Goal(s): I plan to earn my MPH in Infection Control and get into a career that has more hands-on experience in the field as well as the laboratory setting. I plan on maybe earning toxicology or environmental technology certifications.



ENVIRONMENTAL HEALTH

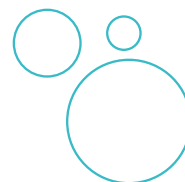
Kaitlin King



Degree:	Master's
Graduated:	May 2022
School:	University of North Carolina
Host Lab:	DC Department of Forensic Sciences

Project(s): Increase general working knowledge of gas chromatography-mass spectrometry (GC/MS), liquid chromatography with tandem mass spectrometry LC MS/MS, and inductively coupled plasma mass spectrometry (ICP/MS). Quality Assurance (QA) work. Method development and verification for identifying different opioids using GC/MS.

Goal(s): I hope to leverage the laboratory-based skills that I have learned during my fellowship to pursue a career as an environmental health scientist / environmental chemist. I would love to work in a public health laboratory or a similar setting.



ENVIRONMENTAL HEALTH

Ilaria Lentricchia

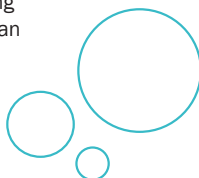


Degree:	Master's
Graduated:	May 2022
School:	University of San Francisco
Host Lab:	Department of Toxic Substances Control Biomonitoring and Environmental Chemistry Laboratory

Project(s): Participate in National Biomonitoring studies investigating the associations of PFAS exposure with various cancer risks and hormone disruptions. I will use the online solid phase extraction, ultra-performance liquid spectrometry, mass spectrometry (SPE-UPLC-MS) and work closely with senior staff in the development and application of advanced methods in

measuring human serum PFAS levels. I will support research projects studying the effects of legacy and newer/replacement PFAS on human health outcomes.

Goal(s): I will further my education and earn a doctorate degree in environmental science. My ultimate goal is working as a senior analyst in an environmental health laboratory.



ENVIRONMENTAL HEALTH

Zhan Quan Li

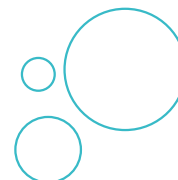
Degree:	Master's
Graduated:	May 2021
School:	Long Island University
Host Lab:	New Jersey Department of Health (NJDOH)



Project(s): Work in the Chemical Terrorism Lab under the NJDOH Environmental and Chemical Laboratory Services. The primary project is automating the pre-sample preparation for methods used to measure chemical threat agents. Assist in the sample preparation of fish to analyze persistent organic pollutants. In addition, Participate in teleconferences, seminars, APHL conferences,

equipment training, etc. related to work.

Goal(s): After I finish this fellowship program, I hope to continue to work in a public health laboratory. I want to use my knowledge and experience to service people and protect them from any chemical/biological threat.



ENVIRONMENTAL HEALTH

Janet Lynch



Degree:	Doctorate
Graduated:	May 2021
School:	State University of New York
Host Lab:	Wadsworth Center, NY State Department of Health

Project(s): Utilizing the protocols established by the Wadsworth Center for measuring the amounts of 11 PFAS compounds in blood serum. I plan to measure 18 PFAS compounds in serum and plasma. There is evidence that hemolysis in serum and plasma affects the measurement of many different analytes. I will investigate the effect of different levels of hemolysis on the measurement of 18 PFAS compounds

to evaluate a criterion for sample rejection or acceptance.

Goal(s): After this fellowship, I hope to continue to work at the Wadsworth Center in public health. The area of environmental biomonitoring is expanding and I hope to lead some projects in this field, contributing to the understanding of how novel environmental contaminants are affecting the health of the public.



ENVIRONMENTAL HEALTH

Edith Mercado

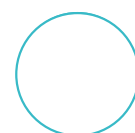
Degree:	Bachelor's
Graduated:	May 2022
School:	Elmhurst University
Host Lab:	New Hampshire Public Health Laboratories



Project(s): To develop and pilot a new Public Health Specimen Bank policy and procedure for de-identification, tracking, storage, and disposal of donated specimens. This procedure and policy will help NH Public Health Laboratories to properly store specimens from past studies for future new studies. The method validation of volatile organic compounds (VOCs) by gaschromatography mass-spectrometry and solid-phase micro-extraction in whole blood. Improving

the understanding of the distribution of toxic forms of arsenic and Polycyclic Aromatic Hydrocarbons (PAHs) among past participants of the 2019 Tracking and Assessment of Chemical Exposures (TrACE) study.

Goal(s): I hope to gain an insight of how public health laboratories work at the governmental level and enhance my professional development skills. I plan to pursue my PhD degree in Environmental Health & Toxicology at the University of Michigan fall 2023.



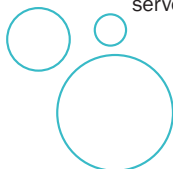
ENVIRONMENTAL HEALTH

Shania Mohammed

Degree:	Bachelor's
Graduated:	Dec. 2022
School:	College of Saint Rose
Host Lab:	Wadsworth Center, NY State Department of Health

Project(s): Identification and quantification of two unknown radioactive solutions for disposal. Determination on the effects of the physiochemical form of Cs-137, Am-241, Sr-90 and the quantity of radionuclides that is taken up by green leaf plants, through phytoremediation studies.

Goal(s): I hope to continue developing and utilizing my analytical skills that contribute to the routine detection of radionuclides in public water supplies and other public areas that are heavily exposed to radioactivity/radiochemical. Post fellowship, I would hope to remain in the public health path and to best serve my community.



ENVIRONMENTAL HEALTH

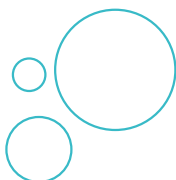
Calla Reed



Degree:	Bachelor's
Graduated:	May 2022
School:	Vanderbilt University
Host Lab:	Rhode Island Department of Health

Project(s): Assist in the establishment and validation of a PFAS in drinking water surveillance program to begin testing for six PFAS in drinking water in accordance with the recently passed PFAS In Drinking Water, Groundwater, and Surface Water Rhode Island state law utilizing EPA methods 533 and 537.1. Optimize the recently established wastewater surveillance program for the detection of COVID-19 in the prison population of the Rhode Island Department of Corrections.

Goal(s): I would like to continue working in various sectors of environmental health research, with a focus on serving vulnerable and underserved populations. In the future, I plan on pursuing an MPH in Environmental Health or Epidemiology in order to further strengthen my skill set in environmental public health.



ENVIRONMENTAL HEALTH

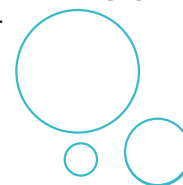
Akinyele Oni

Degree:	Doctorate
Graduated:	May 2016
School:	Morgan State University
Host Lab:	Arkansas Public Health Laboratory



Project(s): Gain experience in environmental and public health surveillance using spectrometry instrumentation and sample preparation techniques. Participate in the development and implementation of synthetic opiate public health bio surveillance project. Participate in the development of COVID-19 detection methods. Present research findings and results at local and national meetings. Publish research findings and results in peer-reviewed journals.

Goal(s): Continue as a public health laboratory scientist serving in capacities that facilitate probity in public and environmental health using interdisciplinary and systems-thinking approaches. Continue engagement with academia, providing innovations to standards of practice, laboratory methods and protocols, and overall operational procedures to combat and mitigate emerging or re-emerging diseases.



ENVIRONMENTAL HEALTH

Laura Ruberg

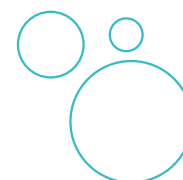
Degree:	Master's
Graduated:	Dec. 1991
School:	Indiana University
Host Lab:	Arizona Department of Health



Project(s): Research and development for various radiochemistry methods, including total radiostrontium in food matrices, and subsequent lab validation. Perform sampling activities, assist in improving safety practices, and train in current established methods by Radiation Measurements Laboratory, including the creation of radioactive standards, control charts, and method efficiency calibrations. Participate in Food Emergency Response Network (FERN) exercises

and proficiency tests.

Goal(s): APHL has given me an opportunity for immersive environmental health training. I plan to continue developing my laboratory and analytical skills to pursue a career in health physics.



ENVIRONMENTAL HEALTH

Grace Santos



Degree:	Bachelor's
Graduated:	May 2022
School:	University of California, Berkeley
Host Lab:	New Hampshire Public Health Laboratories (NH PHL)

Project(s): Utilizing the CDC Method 6705.05 "Polycyclic Aromatic Hydrocarbon (PAH) Metabolites in Urine by Liquid Chromatography Tandem Mass Spectrometry" to create and validate a new method specific to NH PHL instrumentation.

Goal(s): Post fellowship, I hope to work towards getting a PhD in Environmental Health Sciences. I hope to use my invaluable experience in this fellowship to pursue a career in research where I can have hands-on lab experience and contribute to helping improve the safety and welfare of my community.

ENVIRONMENTAL HEALTH

Samantha A. Siomko

Degree:	Master's
Graduated:	May 2022
School:	University of Alabama
Host Lab:	City of Milwaukee Health Department Laboratory

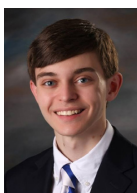


Project(s): Developing quicker, more accurate methods to identify fecal indicators and source tracking fecal indicators to better understand water quality for public health protection. Monitoring SARS-CoV-2 and other respiratory infections in congregate spaces to help mitigate the spread of infections, prevent local outbreaks, and inform public health actions. Optimizing wastewater surveillance of SARS-CoV-2 and developing new workflows for the

detection of other emerging pathogens (e.g. mpox)
Goal(s): After my fellowship, I plan to pursue a PhD focusing on research that explores the interface between environmental and human health, particularly implications for infectious diseases. I would like a career where I can use my skills to identify, monitor, and mitigate emerging diseases from environmental or ecological sources.

ENVIRONMENTAL HEALTH

Liam Staab



Degree:	Bachelor's
Graduated:	May 2021
School:	Davidson College
Host Lab:	Indiana Department of Health (IDH)

Project(s): PFAS method development using EPA method 1633. Train in organic analysis and extraction techniques to be used in PFAS method. Develop chromatography and mass spectrometry knowledge using GC-MS (including GC-MS theory). PFAS LC MS/MS analysis of aqueous, sediment, and tissue samples. Present work at Indiana Environmental Health Association April Conference by poster or brief presentation. Seek other

opportunities depending on work accomplished.

Goal(s): I plan to continue to develop my skills in a public health laboratory setting, either continuing to work at the IDH or taking my experience back home to Chattanooga, TN. I'm heavily considering continuing an additional year at IDH through APHL. I hope to take what I've learned to better general public health and meet people's needs.

ENVIRONMENTAL HEALTH

Margaret Wills

Degree:	Bachelor's
Graduated:	May 2021
School:	University of Wisconsin - Madison
Host Lab:	Maryland Department of Health Laboratories



Project(s): Test Maryland's drinking water for PFAS analytes. Additionally, analyze drinking water samples under 533 for UCMR-5. Optimize 1633 for quantifying PFAS in matrices other than drinking water-including aqueous, biosolid, and tissue samples. Assist the EPA with their research into high resolution mass spectrometry (HRMS). Develop and standardize accurate non-targeted analysis of drinking water extracts using data independent and data

dependent acquisition scans (DIA, DDA).

Goal(s): In the future I want to bring the experience and skills I have gained with me into my future careers in research and public health. I hope to pursue an advanced degree to continue exploring my interest in environmental science and justice.

ENVIRONMENTAL HEALTH

Lionel R. Wilson



Degree:	Bachelor's
Graduated:	May 2016
School:	University of Maryland - College Park
Host Lab:	New Jersey Department of Health

Project(s): Lead and copper drinking water testing at all NJ Childcare Centers. The program is supported by the Department of Children and Families and the Metals Laboratory of Environmental Chemistry Laboratory Services. Analyze drinking water samples using the Turbidity Meter instrument which measures the turbidity of each sample and an inductively coupled plasma mass spectrometer which analyzes trace metal contaminants.

Goal(s): My ultimate goal is to travel throughout the US and internationally providing environmental education and solving water quality issues in vulnerable populations.

ENVIRONMENTAL HEALTH

Sarah Zekovich

Degree:	Bachelor's
Graduated:	May 2022
School:	University of Wyoming
Host Lab:	Indiana Department of Health



Project(s): Test water for the presence of total coliform bacteria, heterotrophic bacteria and *Escherichia coli* and quantify results. Utilize qPCR to detect *Cyanobacteria* 16S and toxin gene concentrations in water. Use dead-end ultrafiltration to detect *Enterohemorrhagic Escherichia coli* and *Salmonella* in agricultural waters. Utilize digital PCR to detect and enumerate COVID in wastewater. Assist

with the development of using NGS on these results. Develop, validate, and implement a *Legionella* testing method.

Goal(s): I want to continue developing my interests in environmental public health to better help communities. I'm planning on applying to graduate programs.

FOOD SAFETY

COHORTS 2021-2023



CAREER PATHWAYS

in Public Health Laboratory Science

An APHL-CDC Initiative

FOOD SAFETY

Julia Dickie



Degree:	Master's
Graduated:	Dec. 2021
School:	University of Wyoming
Host Lab:	Michigan State University Veterinary Diagnostic Laboratory

Project(s): Monitoring pesticide residues in agricultural commodities, focusing on neonicotinoids as they are toxic to bees and other pollinators. The neonicotinoid content of samples will be compared to tolerated federal standards. To accomplish this, a Market Basket Survey of commodities produced in Michigan will be conducted, and pesticides will be extracted using previously defined techniques. The resulting extracts will be

analyzed using LC-MS and GC-MS.

Goal(s): I want to apply my engineering experience in a public health, environmental conservation, or food science context. This fellowship is a great opportunity to explore new experiences, and I am excited to see where it takes me!

FOOD SAFETY

Makayla Enchill

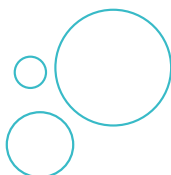
Degree:	Master's
Graduated:	May 2022
School:	Cornell University
Host Lab:	Maryland Department of Health Laboratories Administration



Project(s): Worked on several projects to Validate *Listeria Monocytogenes* and *Salmonella* enumeration methods to FDA specifications. Conduct food-borne illness surveillance testing regarding outbreak detection and investigation. Receive and label regulatory food items through the chain of custody, while following FDA BAM methods for laboratory procedures and microbiological analyses of food. Perform work for Dairy Microbiology in a

developmental scientist capacity to validate methods surrounding *Enterobacter/Staphylococcus* in flavored milks, *Listeria* in ice cream, and yeast & mold in dry dairy milk.

Goal(s): I want to obtain my DrPH degree in Environmental Health, with a focus on Health Security. In addition, I want to obtain a position working for the FDA in the Emerging Threats division.



FOOD SAFETY

Samorya Evans

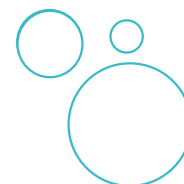
Degree:	Master's
Graduated:	May 2016
School:	North Carolina A&T State University
Host Lab:	Florida Department of Agriculture and Consumer Services



Project(s): Perform extensive verifications needed for the lab to move from a cultural screen to the molecular biology-based screen to determine which samples are reported as *Listeria monocytogenes* not detected and which samples are forwarded for cultural confirmation and enumeration. Adopt the FDA BAM MPN enumeration procedure to each food matrix and perform a validation of the enumeration process to add the newly validated

methods to the FDACS FS lab ISO 17025 scope of accreditation.

Goal(s): I plan to pursue a PhD in Food Microbiology/ Food Safety or begin a new rewarding career within the same field of study that aligns with my goals and passions, while continuing to be an active advocate for STEM and agriculture.



FOOD SAFETY

Anna Sophia Gray

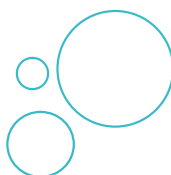
Degree:	Bachelor's
Graduated:	May 2022
School:	University of New Hampshire
Host Lab:	NY State Department of Health/NY State Agriculture and Markets



Project(s): Utilize new technologies such as real-time PCR, matrix-assisted laser desorption/ionization time-of-flight mass spectrometry, and loop mediated isothermal amplification for analysis of pathogens in pet food. Assess accuracy of loop mediated isothermal amplification methods for *Salmonella* screening of retail meats through comparison to real-time PCR data. Participate in investigation of *Vibrio*/

Yersinia false positive results from CIDT.

Goal(s): By participating in the APHL Food Safety Fellowship, I have gained experience and knowledge of the many aspects of food safety in public health laboratories. I hope that after the fellowship, I will pursue higher education to continue to foster that knowledge and better serve the public health community.



FOOD SAFETY

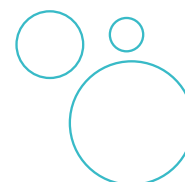
Boone Harris

Degree:	Master's
Graduated:	Dec. 2016
School:	Louisiana State University
Host Lab:	New Hampshire Public Health Laboratory



Project(s): Analytical chemistry techniques and instrumentation for food testing. Improve food testing techniques and validation of laboratory data processing. Quality assurance for food sample collection, chemistry testing, and data analysis. Quality assurance training in accordance to New Hampshire standards. Proficiency testing for quantitative analysis. This training will include research on the toxicity of human food surveillance and defense.

Goal(s): I may engage in a toxicology study to enhance food safety. I may initiate a wellness program for food contaminants in production, post harvest technology, and preparation. I might seek a job with the state or federal agencies.



FOOD SAFETY

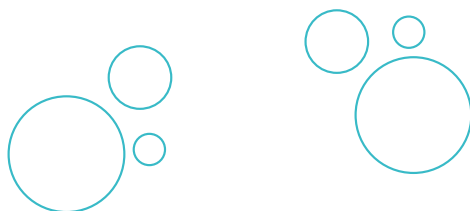
Alexandria (Ali) Lo

Degree:	Bachelor's
Graduated:	June 2022
School:	University of Washington
Host Lab:	Colorado Department of Public Health and Environment



Project(s): Work with the Genomic Surveillance team on WGS of enteric pathogens, supporting the normal cluster detection of enteric pathogens via the PulseNet program. Compare some of those *Salmonella* isolates with highly multiplexed amplicon sequencing with the JUNO project.

Goal(s): My experience has bolstered my practical laboratory experience and furthered my understanding of the function of a state public health laboratory. Next year, I will be returning to the University of Washington for my master's in Information Management with an emphasis on Data Science.



FOOD SAFETY

Preeti Pawar

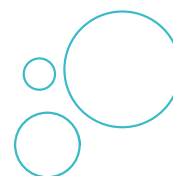
Degree:	Doctorate
Graduated:	Jan. 2014
School:	Maharana Pratap University of Agriculture & Technology
Host Lab:	Kentucky Department of Public Health



Project(s): Assist in the investigation of a food-related disease and research on prevention measures. Gain proficiency in water testing to detect concentration levels of coliform. Obtain Master in food testing procedures like IMS Dynabeads, Qiacube, Gram Stain, Maldi biotypes, Biochemical Screen, API Rapid 20E, WGS, broth microdilution susceptibility testing, and media quality control. Participate in management

training courses, including the distance-based core competency webinars

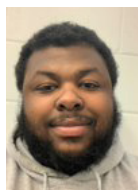
Goal(s): My goal would be to continue research on outbreak investigations and participate in food disease surveillance programs. I plan to focus on food microbiology and chemistry to gain insights into the factors influencing food-borne microorganisms and ways to prevent them.



FOOD SAFETY

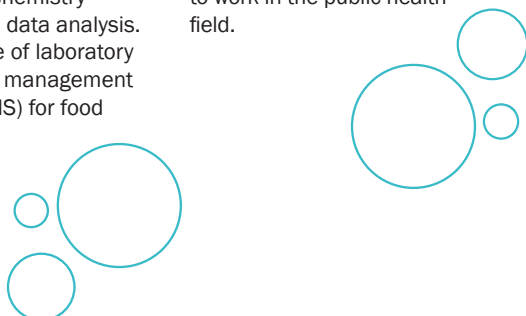
Desmond J. Robinson

Degree:	Bachelor's
Graduated:	Dec. 2021
School:	Morgan State University
Host Lab:	New Hampshire Public Laboratories



Project(s): Analytical chemistry techniques and instrumentation for food chemistry testing. Quality assurance for food sample collection, chemistry testing, and data analysis. Improve use of laboratory information management system (LIMS) for food chemistry.

Goal(s): Upon completing the fellowship, I plan to attend graduate school to obtain a PhD in Analytical Chemistry. I plan to continue to work in the public health field.



FOOD SAFETY

Emily Verbrugge

Degree:	Bachelor's
Graduated:	May 2019
School:	Bowling Green State University
Host Lab:	Minnesota Department of Health



Project(s): Improve the efficiency and accuracy of current methods for Enterotoxigenic and Enterotoxigenic *E. coli*. Development and validation of multiplex real-time PCR for different pathotypes of *E. coli*. Collaborate on the Highly Multiplexed Amplicon Sequencing (HMAS) Pilot with CDC for sequencing *Salmonella* from primary stool samples. Optimize targeted DNA NGS.

Goal(s): I aim to stay in the realm of the public health laboratory with an emphasis on One Health ideologies, as well as performing research to foster the successful collaboration between the laboratory and Epidemiology.



FOOD SAFETY

Faith Weber

Degree:	Master's
Graduated:	Aug. 2022
School:	Georgia Washington University
Host Lab:	Division of Consolidated Laboratory Services - Richmond, VA



Project(s): The Food and Drug Administration (FDA) has begun requiring state laboratories performing surveillance under the Laboratory Flexible Funding Model (LFFM) to have the capability of quantifying any samples positive for *Listeria monocytogenes*. This project will explore the potential for using quantitative molecular methods to screen and quantify levels of *Listeria monocytogenes* in contaminated food products and will involve performing a

single lab validation on the method chosen.

Goal(s): I am still figuring out the next steps God has for me post fellowship, but am currently working towards joining the United States Air Force as a Public Health Officer.

INFECTIOUS DISEASE

COHORTS 2021-2023



CAREER PATHWAYS

in Public Health Laboratory Science

An APHL-CDC Initiative

INFECTIOUS DISEASE

Gloria N. Adjapong



Degree:	Doctorate
Graduated:	July 2015
School:	University of Canterbury
Host Lab:	University of Maine Veterinary Diagnostic Laboratory

Project(s): Hazard and biosafety Training. Cross train VDL labs and molecular labs. Participate in an ongoing *Streptococcus aureus* project and a CDC working group online. Visit the new Health and Environmental Testing Laboratory (HETL) and the New Hampshire VDL for MALDI-TOF experience Management training course/core competency 6. Presentation on *S. aureus* at a conference.

Goal(s): Due to the diverse nature of cases from poultry to small ruminants to wildlife, I will have rich experiential learning about zoonotic pathogens. I will gain skills in veterinary laboratory setting, processing samples from herd farmers, management techniques to reduce incidence of common pathogens. My career goal is to direct a Public Health Microbiology Lab.

INFECTIOUS DISEASE

Kanwal S. Alvarez

Degree:	Doctorate
Graduated:	June 2010
School:	University of California, Riverside
Host Lab:	State Hygienic Laboratory



Project(s): Validate SeqStudio Genetic analyzer instrumentation for bacterial and fungal sequencing in lab. Complete validation using MALDI-TOF for *Mycobacterium tuberculosis*. Complete training in parasitology, mycobacteriology, and ARLN.

Goal(s): I would like to work in a public health laboratory as a research investigator, focusing on infectious disease. In particular, continue to standardize and optimize molecular protocols used for identifying clinical pathogens with antimicrobial resistance. Eventually, I would like to move into a supervisory role and be a director of a public health lab in the next 15 years.

INFECTIOUS DISEASE

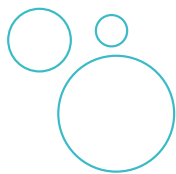
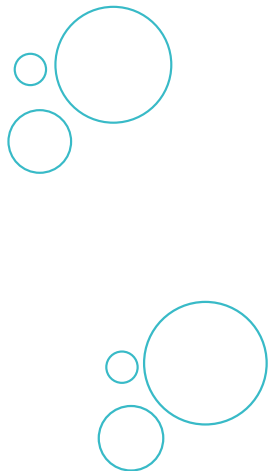
Kaona Ayres



Degree:	Master's
Graduated:	May 2021
School:	George Mason University
Host Lab:	Utah Public Health Laboratory

Project(s): Tick and tick-borne disease surveillance. Rabies testing, rabies PCR validation, Mosquito pool testing, various side projects ranging from *Clostridioides difficile* to mpox. Overall, learning everything possible with an emphasis on specific interests!

Goal(s): Veterinary school to focus on zoonotic disease surveillance and public health.



INFECTIOUS DISEASE

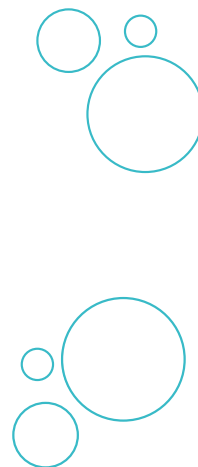
Jade Balkema



Degree:	Bachelor's
Graduated:	May 2022
School:	Michigan State University
Host Lab:	Missouri State Public Health Laboratory

Project(s): Detection of Acid-Fast *Bacilli* in sputum specimens. Prepare respiratory and contaminated clinical specimens for acid-fast smear and mycobacterial culture. Confirm the presence of *Mycobacterium tuberculosis* through pyrosequencing, probes, MALDI-TOF, and drug susceptibility testing. Aid in the implementation of pyrosequencing using the new technology of the Pyromark Q48.

Goal(s): Receive ASCP certification and continue my career in the public health field.



INFECTIOUS DISEASE

Cherrelle Barnes

Degree:	Doctorate
Graduated:	Aug. 2022
School:	Old Dominion University
Host Lab:	New Jersey Public Health and Environmental Laboratories (NJ PHEL)



Project(s): Improve respiratory virus sequencing capabilities by the addition of rhinovirus/enterovirus, adenovirus and influenza surveillance. Perform sequencing on arboviruses to generate both individual pathogen sequences for West Nile virus and Eastern Equine Encephalitis (WNV and EEEV) and develop mosquito pool sequencing metagenomics. Assist microbiology department in additional sequencing projects such as drug-

resistant bacteria, *candida auris*, *legionella* and tuberculosis.

Goal(s): Find a permanent career position at NJ PHEL or another state/local laboratory or CDC to continue my career in public health field.



INFECTIOUS DISEASE

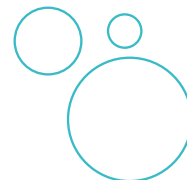
Claire Bilyeu



Degree:	Bachelor's
Graduated:	May 2022
School:	University of Missouri
Host Lab:	New Jersey Public Health and Environmental Laboratories

Project(s): Implementation of measles testing at the New Jersey Public Health and Environmental Laboratories. I will implement measles testing from the ground up, including acquiring the protocol, validation testing, verification testing, risk assessment of the measles test, quality assurance testing, and implementing the test.

Goal(s): After this fellowship I hope to go to graduate school to get my master's in Public Health and Epidemiology.



INFECTIOUS DISEASE

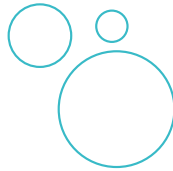
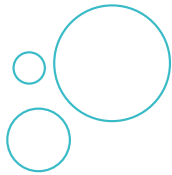
Rand Bourne

Degree:	Master's
Graduated:	May 2021
School:	University of Nevada, Reno
Host Lab:	Minnesota Department of Health



Project(s): To learn the different lab procedures that a public health lab undertakes and participate in developing new testing methods for the lab.

Goal(s): I am hoping to continue onto a second year of the APHL fellowship program or continue working in the field of public health full time after my fellowship ends.



INFECTIOUS DISEASE

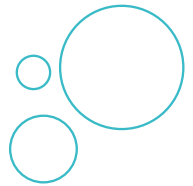
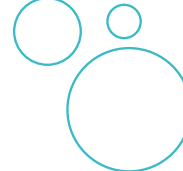
Chena Donnalee Bryan



Degree:	Master's
Graduated:	May 2004
School:	University of Hawaii
Host Lab:	Wadsworth Center, New York Department of Health

Project(s): Deciphering heterogeneous B cell receptors (BCR) and their antibodies in response to influenza antigens. Analysis of novel T cell receptors (TCR) generated during influenza vaccination for viral clearance.

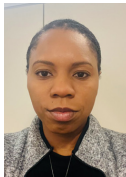
Goal(s): I would like to find an infection disease laboratory that specializes in monitoring and preventing communicable disease outbreaks.



INFECTIOUS DISEASE

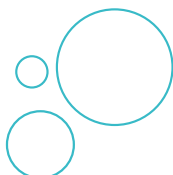
Leanna Sealey-Brunner

Degree:	Doctorate
Graduated:	May 2023
School:	George Mason University
Host Lab:	DC Department of Forensics Sciences, Public Health Laboratory



Project(s): Design, evaluate and transfer a new, real time-time PCR assay for screening suspected *Candida auris*. A standard operating procedure and risk assessment should also be completed. All required trainings will also be completed according to the stipulated time limit and progress made will be presented at internal office meetings.

Goal(s): My professional goal is to be a leading scientist in a public laboratory or an industry-based institution in the field of molecular and cellular biology. I plan to continue learning and training to acquire extensive experience in design and execution of timely reliable diagnostic techniques. Personally, I also aim to encourage and mentor others interested in STEM fields.



INFECTIOUS DISEASE

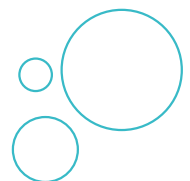
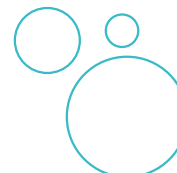
Eagle Viet Bui



Degree:	Master's
Graduated:	May 2022
School:	University of Central Florida
Host Lab:	New Jersey Public Health and Environmental Laboratories

Project(s): I will be working on *Vibrio* bacteria qPCR optimization/validation for the duration of my fellowship, in addition I will be rotating out of several labs including client services, virology, bacteriology, and newborn screenings.

Goal(s): I either want to apply to medical school or apply to a PhD program.



INFECTIOUS DISEASE

Jessica Cardenas

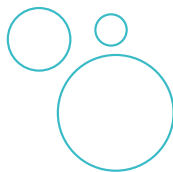
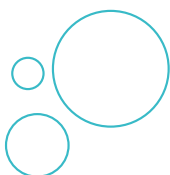
Degree:	Bachelor's
Graduated:	June 2020
School:	University of California, San Diego
Host Lab:	McDonough Lab



Project(s): Study the additional regulatory functions of a class III phosphodiesterase (encoded by RV0805 gene) in *Mycobacterium tuberculosis* (Mtb). Former lab members generated an RV0805 knockout in *Mycobacterium bovis* *Bacillus Calmette-Guerin* (BCG) and showed the KO has lower gene expression of DosR regulon members

at the mRNA level in known inducing conditions. Use microscopy to monitor the expression of regulon member TGS1 at the protein level.

Goal(s): After my fellowship I hope to be studying infectious diseases in a graduate program.



INFECTIOUS DISEASE

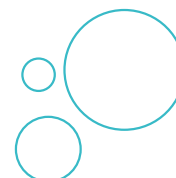
Joanna Colovas

Degree:	Master's
Graduated:	May 2022
School:	Michigan State University
Host Lab:	Wisconsin Veterinary Diagnostic Laboratory



Project(s): Investigation of the virome of white tailed deer known to be infected with SARS-CoV-2. Improving next generation sequencing techniques to investigate antimicrobial resistance genes in bacterial isolates derived from animals. 3. Investigation of multiple Canine Distemper Virus (CDV) strains.

Goal(s): I aspire to continue to be involved in microbiological research, with an emphasis on industrial product development.



INFECTIOUS DISEASE

Jessica Domphe

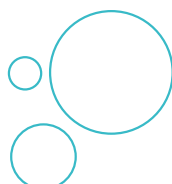


Degree:	Master's
Graduated:	May 2022
School:	Meharry Medical College
Host Lab:	Connecticut Department of Public Health

Project(s): Establish performance specifications for clinical whole-genome sequencing (WGS) applications according to Clinical Laboratory Improvements Act (CLIA) guidelines and requirements for laboratory-developed tests (LDTs). The Connecticut State Laboratory is currently working on the design of modular templates for validation of the next generation sequencing platforms and applications, developing quality assurance and quality control measures, and finalizing a

user-friendly report format.

Goal(s): My future plans are to pursue a PhD in Infectious Disease. Another goal of mine is to use the clinical laboratory skills I have gained from the Connecticut Department of Public Health to pursue a career conducting research on Infectious Diseases at the National Institute of Health (NIH) or FDA.



INFECTIOUS DISEASE

Amna Abdelhameed Elbadawi



Degree:	Bachelor's
Graduated:	Dec. 2021
School:	Long Island University
Host Lab:	Public Health Laboratory of East Texas

Project(s): Analysis of SARS-CoV-2 data from collected wastewater samples through extraction, RT-PCR, library preparation, and sequencing. Develop capabilities along with lab personnel to identify, track, and sequence SARS-CoV-2 strains using COVID-19 sequence assay technology. Utilize epidemiology, bioinformatics techniques, and Illumina software to conduct data analysis to inform public health measures through various phases of the pandemic.

Assist PHLET as an LRN with response to various eminent disease outbreaks.

Goal(s): I hope to make a decision whether I want to solely focus on public health research geared towards infectious diseases, bioinformatics, and epidemiology by pursuing higher education; or apply to a DO/MPH, or MD/MPH program with a focus on population and community health. But whatever I do, I want public health to be the center of my work.



INFECTIOUS DISEASE

Maggie Gearhart

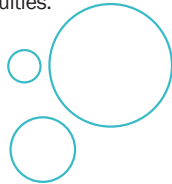
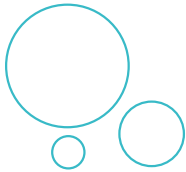
Degree:	Bachelor's
Graduated:	May 2022
School:	University of Pittsburgh
Host Lab:	Dallas County Health and Human Services



Project(s): Validate the use of culture isolates on the Cepheid GeneXpert MTB/RIF system as a new culture identification method for *Mycobacterium tuberculosis* complex. Conduct a prevalence study of an emerging STI, *Mycoplasma genitalium*, among Dallas County Sexual Health Clinic attendees. Perform a verification of the Hologic Aptima *M. genitalium* NAAT Assay, onboarding patient testing for use in a comprehensive STI panel. Assist in the implementation

of a laboratory information system (LIS) in the lab.

Goal(s): I plan to finish my Master's of public health degree and go on to pursue a Ph.D. In continuing my education, I hope to look at the intersection of health, behavior, and society. Ultimately, I aspire to hold a leadership position in public health where I can work to identify and prevent disease outbreaks, improve health outcomes, and eliminate inequities.



INFECTIOUS DISEASE

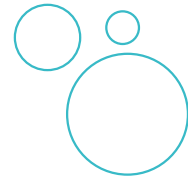
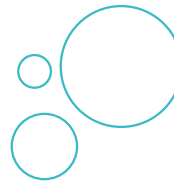
Kirsti Rahkel Gilmore



Degree:	Master's
Graduated:	May 2016
School:	University of Illinois at Chicago
Host Lab:	South Carolina Department of Health and Environmental Control

Project(s): Wastewater COVID-19 Surveillance. Genome Sequencing.

Goal(s): I plan to graduate with my PhD in epidemiology and continue my public health career in infectious diseases globally. I intend to have my own lab one day and lead public health departments.



INFECTIOUS DISEASE

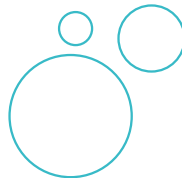
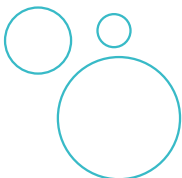
Mohamed Gomaa

Degree:	Master's
Graduated:	Feb. 2020
School:	Alexandria University
Host Lab:	Washington State Public Health Laboratory (WA PHL)



Project(s): Expand quality management activities for molecular pathology and WGS. Create automated QA dashboard templates for the microbiology office. Develop a cost-effectiveness analysis model for WA PHL and statewide courier services.

Goal(s): I plan on pursuing opportunities at the CDC or global health agencies. I will also work on finalizing my PhD in Epidemiology and growing a global health perspective.



INFECTIOUS DISEASE

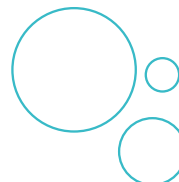
Emma Gordon



Degree:	Bachelor's
Graduated:	May 2022
School:	Pennsylvania State University
Host Lab:	Wadsworth Center, New York State Department of Health

Project(s): Investigate the role of the transcription factor WhiB6 in the biology of the model organism *Mycobacterium smegmatis* to gain new insights into mycobacterial pathogenesis.

Goal(s): With the knowledge, experience, and confidence I build through my fellowship, I hope to pursue a graduate degree in cell and molecular biology, exploring the genetic dynamics of human disease and immunity.



INFECTIOUS DISEASE

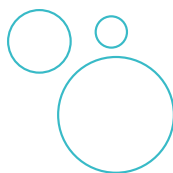
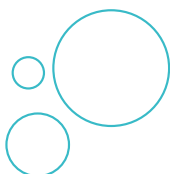
Kayla Griffith

Degree:	Bachelor's
Graduated:	May 2022
School:	University of Wyoming
Host Lab:	Center for Disease Control and Prevention



Project(s): I will investigate the changes in the microbiome, virome, and host transcriptome profiles of nasal swabs of children, adolescents, and adults between the ages of 4-22 years who have received live attenuated Flumist influenza vaccine intranasally or cell-derived Flucelvax influenza vaccine.

Goal(s): I hope to attend medical school after the completion of my fellowship.



INFECTIOUS DISEASE

Camy Guenther

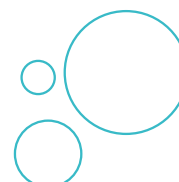


Degree:	Bachelor's
Graduated:	May 2022
School:	Colorado State University
Host Lab:	Centers for Disease Control and Prevention

Project(s): Examining the therapeutic potential of extracellular vesicular nanoparticle (EV) technology in treating influenza. The EV technology will be tested in in vitro and in vivo models, and both the host immune response and the antiviral properties will be examined. Examining the impact of obesity on the host's susceptibility to infection and on the host's immune response after vaccination with influenza vaccine. This will be investigated in both

mouse and human models.

Goal(s): I hope to attend a graduate program with a focus on virology and receive my PhD. Afterwards, I hope to continue helping people through the study of viruses and therapeutics/vaccines.



INFECTIOUS DISEASE

Luc Gwom



Degree:	Doctorate
Graduated:	Feb. 2015
School:	University of Yaounde
Host Lab:	Alabama Bureau of Clinical Laboratories

Project(s): Establishment of *Mycobacterium tuberculosis* complex (MTBC) WGS to detect circulating drug resistant strains and continued assessment of genetic variation. Gain skills pertaining to automated susceptibility testing, MALDI-TOF, GeneXpert RT-PCR, whole MTB genome sequencing on illumina platforms. Assist in the establishment of a bioinformatic pipeline for cluster detection analysis and to analyze data for obtaining genotypes and

resistance mutations.

Goal(s): This fellowship opportunity allowed me to check the realities of a public health laboratory operations in the US. I intend to use these skills to lead infectious diseases control and prevention from the laboratory perspective. As such, working towards becoming a public health laboratory director or a laboratory director in a global health institution is a goal worth pursuing.



INFECTIOUS DISEASE

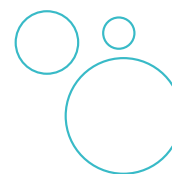
Whitney Heard

Degree:	Master's
Graduated:	Aug. 2022
School:	Western Kentucky University
Host Lab:	Alabama Bureau of Clinical Laboratories



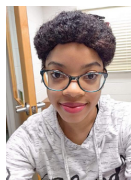
Project(s): The plan for my fellowship is to develop a protocol to detect patterns of Rifampin-resistant *Mycobacterium tuberculosis* and other local strains present in the population through whole genome sequencing as an alternative to conventional probe-based methods for detection.

Goal(s): I hope to continue my education in a MD/PhD program that can build on my experience gained from this fellowship. My interest in public health will help shape my path as I navigate the different choices that pertain to Infectious Diseases.



INFECTIOUS DISEASE

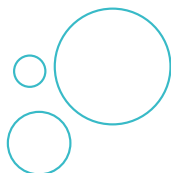
Carol Hollis



Degree:	Master's
Graduated:	Dec. 2021
School:	University of Florida
Host Lab:	Tifton Veterinary Diagnostic & Investigational Laboratory

Project(s): Optimize assays to detect and differentiate multiple diseases in swine and in avian testing using multiplex Taqman real-time PCR and isothermal/LAMP PCR methodologies. Develop point-of-care testing using isothermal HDA assays for rapid detection of foot-and-mouth disease (FMD), classical swine fever (CSF), and African swine fever (ASF).

Goal(s): From this fellowship and experience, I aim to work as a research scientist or lab professional in a clinical or public state laboratory. I will likely pursue a PhD in a microbiology-related area. I aim to become a leader in public health and contribute greatly to the field.



INFECTIOUS DISEASE

Leandra B. Jones

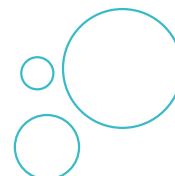


Degree:	Doctorate
Graduated:	May 2020
School:	Alabama State University
Host Lab:	Tennessee Department of Public Health Laboratory Services

Project(s): Increase the testing capacity utilizing whole genome sequencing (WGS) for *Candida auris*, Influenza, COVID-19 and Hepatitis C at the Tennessee Department of Health. Perform WGS validation studies and comparative analysis on the Illumina MiSeq, Illumina iSeq and Oxford Nanopore MinION instrumentations. Assist in streamlining the SARS-CoV-2 workflow by validating and implementing protocol for the Clear Labs

DX™, a fully automated and NGS platform.

Goal(s): I plan to continue my career in public health with the hopes of making progress in the field by making essential decisions to improve quality safety/management, diagnostic testing, and surveillance measures.



INFECTIOUS DISEASE

Liz Knorr

Degree:	Doctorate
Graduated:	Sep. 2022
School:	Oregon State University
Host Lab:	Wadsworth Center, New York State Department of Health



Project(s): My research is focused on understanding quorum sensing in *Pseudomonas aeruginosa* infections from patients with cystic fibrosis. Specifically, understanding the pathways that induce pathogenesis by characterizing the role of PqsE and RhlR interaction through methods such as transcriptional analysis and whole genome sequencing.

Goal(s): I hope to keep working in public health or infectious disease research



INFECTIOUS DISEASE

Angela Lovett

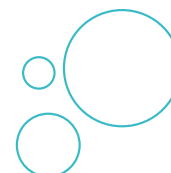


Degree:	Doctorate
Graduated:	Dec. 2021
School:	University of North Carolina
Host Lab:	Centers for Disease Control and Prevention, Clinical and Microbiology Branch

Project(s): Broaden my knowledge of various antimicrobial resistance (AR) detection methods utilized within the Clinical and Environmental Microbiology Branch. This includes developing a better understanding of the Antimicrobial Resistance Laboratory Network and its various functions. My project will focus on building a public database of AR genes using standardized methods that links the

genotype of emerging AR threats to their phenotypic activity for the rapid assessment of clinical isolates.

Goal(s): Upon completion of the fellowship, I hope to use the knowledge and skills I have gained to continue to address challenges with a public health focus.



INFECTIOUS DISEASE

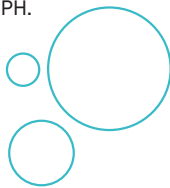
Jesus R. Mendoza



Degree:	Bachelor's
Graduated:	Dec. 2020
School:	Washington State University
Host Lab:	Missouri State Public Health Laboratory

Project(s): I learned various extraction techniques for diagnosing respiratory and enteric pathogens, including SARS CoV-2, Influenza A/B, and foodborne pathogens (Salmonella, Listeria, Campylobacter, Klebsiella, Pseudomonas, etc.). Along with the extraction and detection using qPCR. Learn and execute entire WGS workflow for foodborne illnesses. This process presented the most valuable learning opportunity due to the nature of its cost as well as its broad applicability in

surveillance and research. The chemistry behind this technique has motivated me to continue searching for WGS learning opportunities. **Goal(s):** I am studying for my MCAT and have started the medical school application process for the upcoming cycle. My long-term goal is to specialize in emergency medicine and practice in rural or largely minority-based communities. At some point, I would also like to supplement my skillset with an MPH.



INFECTIOUS DISEASE

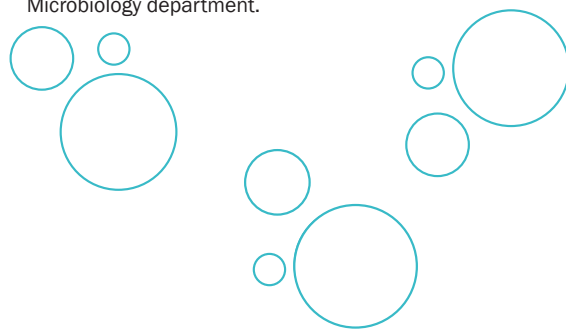
Gisselle Mora



Degree:	Bachelor's
Graduated:	Dec. 2021
School:	Dalton State College
Host Lab:	Philadelphia Public Health Laboratory

Project(s): During my time at this public health laboratory I will rotate through the different departments and observe how things are done. I will be learning the different procedures and protocols that take place in the Microbiology department.

Goal(s): Post fellowship I plan to further my education and pursue my Master's in Microbiology or Biotechnology. I plan to continue my education and hopefully receive my PhD in the biology field.



INFECTIOUS DISEASE

Jennifer Morris



Degree:	Bachelor's
Graduated:	Dec. 2022
School:	University of New Hampshire - Durham
Host Lab:	New Hampshire Public Health Laboratory (NH PHL)

Project(s): Isolate and perform WGS on decades old bacterial isolates using identified, suspected, or already confirmed disease outbreaks previously tested by pulsed field gel electrophoresis (PFGE). These isolates will also include less common or unusual serotypes that were previously identified using conventional methods. Implement the use of LIMS in the NH PHL Molecular Diagnostics sequencing laboratory

for the management of laboratory samples and the associated data, as well as standardize the operations by maintaining reporting procedures, testing, and workflows. **Goal(s):** I plan on continuing to learn and expand my scientific knowledge by undergoing various scientific endeavors to further my career and life experiences. I hope to take on opportunities specifically in the Biomedical field.



INFECTIOUS DISEASE

Athulaprabha Murthi



Degree:	Doctorate
Graduated:	Dec. 2006
School:	Penn State University
Host Lab:	DC Public Health Laboratory

Project(s): Design and develop a workflow for Carbapenem Resistant Organisms (CRO) colonization screening Design and develop a workflow for Antimicrobial susceptibility testing (AST) testing using Sensititre Instruments Completion of verification of *Neisseria gonorrhoeae* (GC) AST by Estest.

Goal(s): I would like to move to a CPEP or CDC fellowship, ultimately leading to a leadership position either in a public health laboratory or clinical laboratory.



INFECTIOUS DISEASE

Nicholas Olivarez



Degree:	Doctorate
Graduated:	May 2022
School:	University of Missouri
Host Lab:	Washington State Public Health Laboratories

Project(s): Validate RT-PCR-based method to allow for detection of antimicrobial resistant (AR) variants of Enteric bacteria not covered by Cepheid-based methods to increase capacity and improve result turnaround times in analyzing clinical isolates. Validate whole genome sequencing methods for detection and identification of AR variants in patient *Candida auris* isolates. Collaborate with the Washington state and Western Regional AR Lab Network coordinators to develop strategies

for the improvement and enhancement of relationships with **Goal(s):** I will pursue career opportunities in local or tribal public health communities to deepen my understanding of current public needs. Additionally, I hope to foster stronger networks with surveillance labs and develop adaptable and scalable screening and diagnostic assays to meet unexpected public health challenges facing local and regional communities.



INFECTIOUS DISEASE

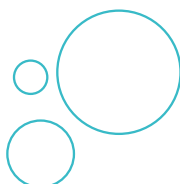
Erica Palise



Degree:	Bachelor's
Graduated:	Apr. 2022
School:	Oakland University
Host Lab:	Montana Veterinary Diagnostic Laboratory

Project(s): Compiling a literature review on Chronic Wasting Disease (CWD) including pathophysiology, transmission, etiology, detection, and potential future treatments and prevention. Testing the retropharyngeal lymph nodes of cervids submitted for CWD testing to establish a list of abscess-causing pathogens and detect any patterns in these findings to provide surveillance data to wildlife health managers.

Goal(s): I plan to attend medical school to become either an Infectious Disease Specialist or work for Doctors Without Borders.



INFECTIOUS DISEASE

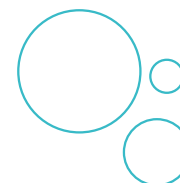
Giulia Orazi



Degree:	Doctorate
Graduated:	June 2019
School:	Dartmouth University
Host Lab:	Centers for Disease Control and Prevention

Project(s): Describe the frequency of detection of Acinetobacter-associated class D carbapenemase genes in *Enterobacteriales* genera. Perform molecular characterization of *Clostridioides difficile* isolates to investigate genetic factors impacting toxin regulation. Compare specimen sources for colonization screening of carbapenem-resistant organisms. Develop guidance to assess and prioritize emerging antimicrobial resistance threats.

Goal(s): This fellowship has solidified my interest in pursuing a long-term career in public health. In the future, I hope to continue working within interdisciplinary teams to improve the detection and control of infectious diseases, and in particular, antimicrobial resistance threats.



INFECTIOUS DISEASE

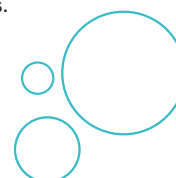
Desiree Reding



Degree:	Master's
Graduated:	Dec. 2019
School:	George Mason University
Host Lab:	Utah Public Health Laboratory

Project(s): Proving the concept of a multiplex PCR assay for subtyping of bacterial meningitis, as well as optimization and validation of the new multiplexed protocol; participation in mpox outbreak response performing extraction and PCR; installation of MDH's first dPCR instrument.

Goal(s): I have always had an interest in public health and hope to pursue a lifelong career working in a public health lab with infectious disease. My post-fellowship aspirations are continued advancement of my skills in molecular diagnostics, including developing and implementing testing for viral/bacterial pathogens with the ultimate goal of positively impacting public health outcomes.



INFECTIOUS DISEASE

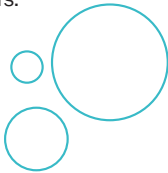
Karina I. Rivas

Degree:	Master's
Graduated:	May 2022
School:	Georgie Washington University
Host Lab:	Florida Department of Health



Project(s): Currently, I am rotating within the bureau to expand my knowledge in areas such as retrovirology, bacteriology, parasitology, arbovirology, sequencing, newborn screening, and molecular virology. Once I have completed my rotations, I will choose an area of expertise and design my own project with the help of my mentors.

Goal(s): I hope to continue my work in arbovirus or parasitology while also incorporating my passion for next-generation sequencing. Post fellowship, I would like to work for the federal government and aid in creating solutions for low-income countries where many of the diseases pertaining to my area of interest are endemic, such as Dengue and Malaria.



INFECTIOUS DISEASE

Helen Risser

Degree:	Master's
Graduated:	Dec. 2021
School:	University of Minnesota
Host Lab:	Alaska State Virology Laboratory

Project(s): Not provided.

Goal(s): I would like to continue working in public health and developing my skills as a public health microbiologist. I enjoy learning about viruses and new ways to detect and treat them. I hope to work on more projects that combine cutting edge technology with public service.



INFECTIOUS DISEASE

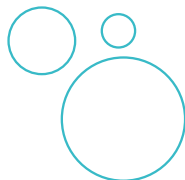
Erika Roloff



Degree:	Master's
Graduated:	May 2022
School:	George Washington University
Host Lab:	DC Department of Forensic Sciences

Project(s): Verify and implement molecular-based laboratory developed test (LDTs) for testing non-influenza respiratory viruses using Panther Fusion System. The respiratory viral pathogens that will be tested for include Parechovirus, Rhinovirus, Enterovirus-D68, and adenovirus (AdV) type 14.

Goal(s): Still looking into the specifics, but I hope to find a position that utilizes my passion for teaching to help strengthen our public health laboratory network!



INFECTIOUS DISEASE

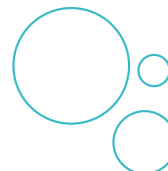
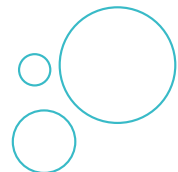
Matthew Rosman

Degree:	Bachelor's
Graduated:	May 2015
School:	Carroll College
Host Lab:	Tulare County Public Health Laboratory



Project(s): Complete the training courses provided by APHL. Participate in identifying Valley Fever via NAAT. Continue responsibilities in SARS-CoV2 gene sequencing.

Goal(s): I am considering working in genomic epidemiology after I have finished my fellowship.



INFECTIOUS DISEASE

Danielle S.

Degree:	Bachelor's
Graduated:	May 2020
School:	George Washington University
Host Lab:	Nevada State Public Health Laboratory

Project(s): *Candida auris* screening validation and whole genome sequencing.

Goal(s): Short term goal is to become a CLS. Long term goal is to go back to school to study environmental microbial ecology and emerging diseases.

INFECTIOUS DISEASE

Lynsey Schoultz



Degree:	Bachelor's
Graduated:	June 2015
School:	Eastern Washington University
Host Lab:	Wadsworth Center, New York State Department of Health

Project(s): Translate current Hepatitis A real-time PCR assay to a digital PCR format. Optimize the parameters and chemistry and validating the assay for wastewater samples. Assist with development and validation of new sequencing methods for Hepatitis A for positive wastewater samples from New York State.

Goal(s): Post fellowship I would like to continue learning and working in public health. I also hope to be putting my data analytics skills to good use.

INFECTIOUS DISEASE

Hannah Schrader

Degree:	Bachelor's
Graduated:	May 2019
School:	Roger Williams University
Host Lab:	New Jersey Department of Health, Public Health and Environmental Laboratories



Project(s): Implement a protocol to sequence samples positive for influenza A/B and assist my mentor with wastewater surveillance to monitor community infection rates across the state of New Jersey. Rotate in a variety of labs throughout my fellowship and gain experience in public health outreach.

Goal(s): After I gain experience working in a public health laboratory, I hope to be able to pursue a master's degree. Eventually, I would like to work full-time doing infectious disease research with either a state or federal laboratory.

INFECTIOUS DISEASE

Michael Shipley



Degree:	Master's
Graduated:	Aug. 22
School:	University of Florida
Host Lab:	Centers for Disease Control and Prevention

Project(s): Contribute to completing CDC's side of the Cooperative Research and Development Agreement (CRADA) project on the effects of exosomes on immunity to influenza and work on the project focused on defining immunity to influenza in an obese population.

Goal(s): Continue to work in public health infectious disease research.

INFECTIOUS DISEASE

Teddy R. Spikes Jr.

Degree:	Bachelor's
Graduated:	July 2020
School:	Gordon State College
Host Lab:	Tifton Veterinary Diagnostic and Investigational Lab



Project(s): Assisting in the development and optimization of a novel assay using nanotechnology and machine learning based diagnostics for SARS-CoV-2 and possibly other infectious diseases. Assisting in the development of a canine respiratory panel that will include SARS-CoV-2.

Goal(s): I hope to further my career and education in the field of biological sciences by using this fellowship as an opportunity to gain professional experience and growth.



INFECTIOUS DISEASE

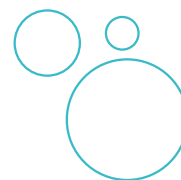
Jessica Spring



Degree:	Doctorate
Graduated:	June 2022
School:	University of Chicago
Host Lab:	Centers for Disease Control and Prevention

Project(s): Develop CRISPR based molecular detection assays for Jamestown canyon virus, La Crosse virus, West Nile virus, and yellow fever virus. Evaluate arbovirus RNA detection from alternative sample types using an animal model. Participate in a surveillance project to identify circulating arboviruses within a population.

Goal(s): After my fellowship ends I hope to either continue working at the CDC or work toward becoming a director of a public health laboratory.



INFECTIOUS DISEASE

Maria Steadmon

Degree:	Bachelor's
Graduated:	May 2019
School:	University of Hawaii - Hilo
Host Lab:	Hawaii State Laboratories



Project(s): Perform wastewater surveillance of pathogens such as SARS-CoV-2, Influenza A, Influenza B, and mpox across the state of Hawaii. Continue to develop novel assays to detect pathogens of concern, and expand surveillance past testing only wastewater treatment facilities to testing nursing homes, airports, and correctional facilities. *Candida auris* rapid response and detection. Earlier identification of

Angiostrongylus cantonensis (Rat Lungworm) infections by verifying a more sensitive PCR assay.

Goal(s): Once I graduate with my PhD and complete the fellowship in 2024, I would like to continue working in public health while focusing on detecting and investigating pathogens in recreational waters and wastewater.



INFECTIOUS DISEASE

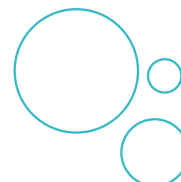
Taylor Stephens



Degree:	Master's
Graduated:	July 2022
School:	Fort Valley State University
Host Lab:	Tifton Veterinary Diagnostic and Investigational Lab

Project(s): Rapid and accurate microbial detection and antibiotic resistance monitoring by IR Spec and MALDI-TOF. Develop and implement an accurate and rapid microbial detection protocol using MALDI-TOF as well as develop and establish IR Biotyper database for strain typing to aid in epidemiological tracking/ source tracking.

Goal(s): I hope to continue expanding my research career in infectious disease while transitioning into a leadership role with institutions such as the CDC or NIH.



INFECTIOUS DISEASE

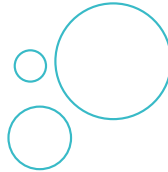
Lydia Sweet

Degree:	Doctorate
Graduated:	May 2022
School:	University of Colorado - Anschutz
Host Lab:	Centers for Disease Control and Prevention



Project(s): Participate in domestic capacity building efforts for fungal testing including *Candida auris* colonization screening and *Aspergillus fumigatus* antifungal susceptibility testing.

Goal(s): My career goal is to continue working in public health at a state or federal level.



INFECTIOUS DISEASE

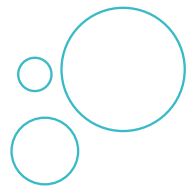
Lunide P. Sylne

Degree:	Master's
Graduated:	Aug. 2022
School:	University of North Carolina
Host Lab:	Hawaii State Laboratories Division



Project(s): I will assist with the continuous development of wastewater surveillance project by participating in the detection of SARS-CoV-2 via digital PCR. I will participate in *Legionella* detection and method validation training. I will participate in the detection of *Candida auris* while validating a PCR detection method. I will assist with the validation of a sensitive PCR detection method for *Angiostrongylus cantonensis* early detection.

Goal(s): After completing the fellowship, I hope to continue working in the public health field as an environmental/infectious disease prevention professional/consultant or lab analyst.



INFECTIOUS DISEASE

Bonnie Sze

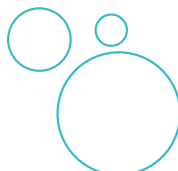


Degree:	Master's
Graduated:	May 2022
School:	Johns Hopkins Bloomberg School of Public Health
Host Lab:	Hawaii State Laboratories Division

Project(s): Wastewater surveillance in Hawaii for the detection of SARS-CoV-2. Further expanding with the use of Cepheid GeneXpert, detecting SARS-CoV-2, Flu A, Flu B, and RSV. *Legionella* outbreak. Training and verification of current processing and detection methods of environmental water samples for *Legionella* species. Involves DNA extraction for PCR and culturing from different types of water samples. Clinical training in methods

for determining antimicrobial resistance.

Goal(s): I hope to continue working in areas of public health and microbiology. I would like to be part of a laboratory that controls and prevents massive spread of current health threatening infectious diseases, while also monitoring for potential threats. I would also like to help with developing or improving current methods or techniques being used.



INFECTIOUS DISEASE

Lucie Taylor

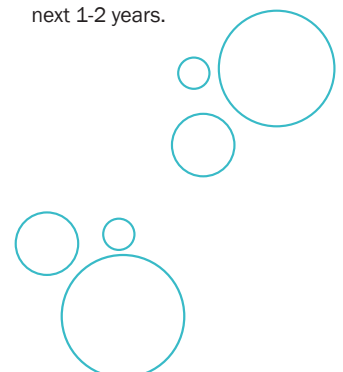


Degree:	Bachelor's
Graduated:	May 2021
School:	Fordham University
Host Lab:	Tennessee Department of Health Vector-Borne Disease Department

Project(s): Preparing and testing 1400+ tick specimens collected in 2021 for a variety of pathogens using real-time PCR. Results will be shared with local and regional partners and uploaded to the national database ArboNET. Using digital PCR application, test certain tick samples for *Rickettsia rickettsii*, the causative agent of Rocky Mountain Spotted Fever, which has historically not been

detected in Tennessee field samples.

Goal(s): I hope to travel, continue learning about public and global health, and pursue an MPH in the next 1-2 years.



INFECTIOUS DISEASE

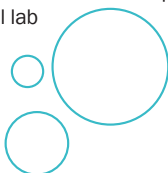
Sydney Tracey

Degree:	Bachelor's
Graduated:	May 2022
School:	University of Wisconsin - La Crosse
Host Lab:	Minnesota Department of Health Public Health Laboratory



Project(s): Achieve a high degree of competency in routine laboratory bench work in the Minnesota Department of Health Microbiology Lab. Additionally, gain a high level of understanding of public health in general and gain a working understanding of antibiotic resistance from an AR Lab Network regional lab perspective.

Goal(s): At the conclusion of my fellowship, I hope to continue conducting bench work in a microbiology lab. I want to continue building my skill set by taking on new benches and projects and would love to assist in the investigation of a disease outbreak or environmental health response.



INFECTIOUS DISEASE

Bailee Troutman

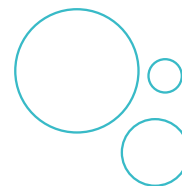
Degree:	Master's
Graduated:	Aug. 2022
School:	University of Colorado - Colorado Springs
Host Lab:	Utah Public Health Laboratory



Project(s): Develop a MALDI-TOF-based method for the typing of carbapenemase enzymes in Carbapenem Resistant Organisms (CRO) isolates. Validate the E-test AST for *Neisseria gonorrhoeae*, and an automated analysis of agar dilution testing plates. Train in the AR Lab Network test menu and support the bacteriology team.

Goal(s): While I do not have specific goals in mind following my fellowship, I hope to continue working in

public health and infectious disease, studying emerging diseases and outbreak prevention. I am also considering pursuing a PhD in public health, infectious disease, immunology, or molecular biology.



INFECTIOUS DISEASE

Kevin Tsai

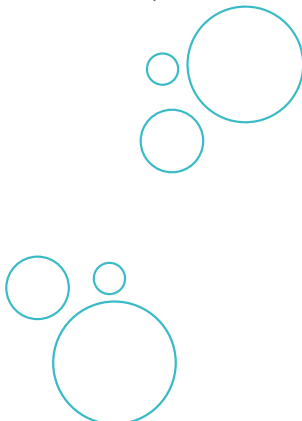
Degree:	Doctorate
Graduated:	May 2022
School:	University of Iowa
Host Lab:	Wisconsin State Laboratory of Hygiene



Project(s): Responsible for optimizing and validating *Cryptosporidium* NGS protocol for surveillance of local *Cryptosporidium* outbreaks. Develop validation plans, cost analysis, biosafety risk assessment, and an SOP as part of the validation process. Engage in state-wide public health outreach programs to increase the awareness of *Cryptosporidium* among clinical and public health communities. Receive general training in all areas

of the Communicable Disease Division.

Goal(s): I would like to obtain a leadership/management position and hopefully obtain a CDC or CPEP fellowship.



INFECTIOUS DISEASE

Damaris E. Perez Vicaria

Degree:	Bachelor's
Graduated:	Dec. 2020
School:	University of Utah
Host Lab:	Bureau of Public Health Laboratories - Tampa



Project(s): Develop an extraction protocol to isolate viral rabies RNA in the rabies suite. Develop and implement real-time RT-PCR protocol for the detection of *pan-Lyssavirus* (Rabies virus) from animal brain tissue. Test direct fluorescent antibody (DFA) unsatisfactory and inconclusive animal heads from all three Florida Public Health Labs. 4) Sequence positive Rabies isolates to generate a database of local circulating strains in Florida.

Goal(s): Post fellowship, I will

have my MS in Individualized Genomics and Health from Johns Hopkins (2024). With the experience and network built through this fellowship, I plan to pursue a research and development role in the biotech industry as a molecular biologist with expertise in NGS, genetics, genomics, and bioinformatics. My long-term career goal is to enhance our knowledge of genetic medications by researching novel therapeutics for treating genetic diseases and disorders.



INFECTIOUS DISEASE

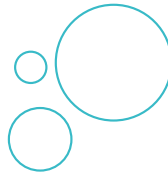
Rebecca Villa

Degree:	Master's
Graduated:	Aug. 2022
School:	University of Iowa
Host Lab:	State Hygienic Laboratory at the University of Iowa



Project(s): Develop, optimize, and validate a multiplexed PCR lab-developed assay for clade II, mpox and RNase P using the automated Panther Fusion platform and Open Access software. This assay will aid public health efforts in the mpox outbreak by dramatically improving the efficiency and capacity to test samples, thus enhancing epidemiological efforts to track, limit, and prevent the spread of the disease.

Goal(s): I will be pursuing a PhD in Pathobiology at the University of Washington where I hope to gain the skills and knowledge necessary to perform infectious disease research for my future career.



INFECTIOUS DISEASE

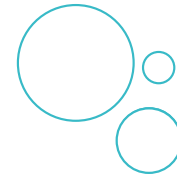
Ved Vyas



Degree:	Bachelor's
Graduated:	May 2022
School:	University of Georgia
Host Lab:	Immunology Laboratory Team/IPB/ ID/ NCIRD

Project(s): Investigate serological and cellular immune profiles of vaccines in individuals who received live attenuated vaccine (LAIV), Flumist in year 1 and cell derived influenza vaccine, Flucelvax in year 2 versus the individuals who received Flumist during both years. We also want to understand the impact of circulating flu on the immune response as influenza was circulating in year 1 but disappeared in year 2 due to SARS CoV-2 pandemic.

Goal(s): My interest in immunology and previous undergraduate research experience with influenza virus was one of the main reasons why I decided to pursue this fellowship. This opportunity will provide me with an invaluable experience and help me decide if I want to pursue MD/PhD degree. I plan to attend medical school after the fellowship.



INFECTIOUS DISEASE

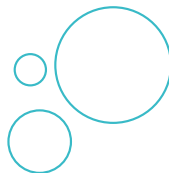
Dahlia Walters

Degree:	Bachelor's
Graduated:	May 2021
School:	University of Chicago
Host Lab:	Washington State Public Health Laboratories



Project(s): I will be expand the current targeted surveillance methodology to be inclusive of patient samples obtained from various anatomical sites such as wound and tracheal. This will involve going through a clinical validation process to optimize and define methods for new sample types.

Goal(s): After completing my fellowship, I hope to continue my education and pursue an MPH with a focus on Epidemiology.



INFECTIOUS DISEASE

Michael Welle

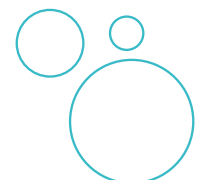


Degree:	Bachelor's
Graduated:	May 2013
School:	University of Kansas
Host Lab:	Kansas State University Veterinary Diagnostic Laboratory

Project(s): Collect 700 paired blood and serum samples (same individual animals) from beef-cattle operations in Kansas, and test them using IDEXX Q-Fever (*Coxiella burnetii*) Antibody Test Kit and a fully validated LDT PCR assay to identify positive rates. Study seroprevalence of the 700 animals in response to *C. burnetii* infection; bacterial positive rate and prevalence by PCR detection; and relationship between

serological and molecular tests

Goal(s): Current plans are to obtain a position within a public health laboratory to work on emerging zoonotic diseases.



INFECTIOUS DISEASE

Al-Mounawara Yaya

Highest Degree:	MD
Graduated:	June 2018
School:	Caribbean Medical University School of Medicine
Host Lab:	North Carolina State Laboratory of Public Health



Project: Validation of a Whole Genome Sequencing (WGS) protocol for identification and prediction of antimicrobial resistance in *Mycobacterium tuberculosis* complex (MTBC). Optimization, validation, and implementation of a real-time PCR assay for identification of MTBC and MAC.

Goals: I plan on continuing my work in population health with a focus on preventive medicine, public health policy and addressing disparities in public health education and health equity.

INFORMATICS COHORTS 2021-2023



CAREER PATHWAYS in Public Health Laboratory Science

An APHL-CDC Initiative

INFORMATICS

Dene' L Hall



Degree:	Bachelor's
Graduated:	Apr. 2022
School:	Western Governors University
Host Lab:	Missouri State Public Health Laboratory

Project(s): Primary project for fellowship term is the implementation of the Quality Control functionality in OpenELIS. This project is in conjunction with standing up the Inventory Management module. Secondary project involves updating the LIMS data flow diagrams and building a SOP Manual.

Goal(s): I decided to concurrently pursue an accelerated MS in Health Sciences with a concentration in Healthcare Informatics with the support of my fellowship mentor. This will better position me, post fellowship, to pursue possible opportunities related to laboratory informatics or possibly the education vertical.

INFORMATICS

Fatima Gowher

Degree:	Bachelor's
Graduated:	May 2021
School:	California State University, East Bay
Host Lab:	Maryland Department of Health



Project(s): Developing a novel computational pipeline for PFAS forensics. Building and integrating a state-of-the-art public health LIMS for the 21st century

Goal(s): After this fellowship, I hope to continue working in the public health and bioinformatics sector and continue to contribute to meaningful projects that bridge the gap between health science and computer science.

INFORMATICS

Venessa Olanrewaju



Degree:	Master's
Graduated:	Sept. 2022
School:	Grand Canyon University
Host Lab:	D.C. Department of Forensic Sciences

Project(s): Facilitate connectivity for secure and reliable data transport between DC Public Health Laboratory and the respective EMR from the list of approved and supported data exchange mechanisms. Work with the integration team to set up message mappings for data exchange starting with the outbound results portion followed by inbound test orders. Facilitate and participate in the design, implementation, and setup of the LIMS (Lab Inventory Management System),

enhanced oil recovery (EOR) interface on the outbound and inbound ends. Facilitate instrumentation integration for Hologic Panther, ABI 7500dx, and Cepheid.

Goal(s): Continue working in the public health field and start my own non-profit for students who need medical care and assistance while attending school.

NEWBORN SCREENING COHORTS 2021-2023



CAREER PATHWAYS in Public Health Laboratory Science

An APHL-CDC Initiative

NEWBORN SCREENING

Christian Alcorta



Degree:	Master's
Graduated:	Aug. 2020
School:	Virginia Commonwealth University
Host Lab:	Virginia Division of Consolidated Laboratory Services (DCLS)

Project(s): Investigate, build and validate a second or third-tier assay for cystic fibrosis newborn screening in Virginia that utilizes NGS. Part of this will involve adapting the current bioinformatics pipeline to accommodate NGS data, simplifying the transition for future NGS newborn screening assays. Assist with current newborn screening bioinformatics procedures and help maintain current Sanger sequencing variant analysis

pipeline.

Goal(s): I hope to continue utilizing my bioinformatics skills in support of public health for at least the next few years. My time at DCLS thus far has been eye-opening and invaluable. I am excited to continue the kind of work that I've been able to assist with here.

NEWBORN SCREENING

Joey Chavez



Degree:	Master's
Graduated:	May 2022
School:	University of Virginia School of Medicine
Host Lab:	Virginia Division of Consolidated Laboratory Services (DCLS)

Project(s): Improve the effectiveness and equity of the Virginia Cystic Fibrosis Newborn Screening Program by expanding DCLS second-tier genetic panel. This will be done by implementing and validating a custom next-generation sequencing (NGS) assay that will target all mutations to the CFTR gene listed in the CFTR2 database. Secondary research objectives will include analyzing the consequences that NGS implementation will have on

cystic fibrosis diagnosis.

Goal(s): I hope to attend medical school and work in emergency medicine. From there, I wish to further pursue public health equity and community health interventions by working with state, national, or global health organizations.

NEWBORN SCREENING

Daniel Fang

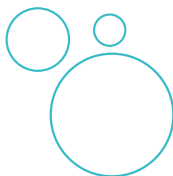
Degree:	Bachelor's
Graduated:	May 2021
School:	Willamette University
Host Lab:	Alabama Department of Public Health Bureau of Clinical Laboratories



Project(s): Perform a verification study of the laboratory's new QSight 225MD Mass Spectrometer using the NeoBase 2 kit. This will be in preparation for continued screening of the conditions found on the Recommended Uniform Screening Panel (RUSP), as well as to onboard the screening of two new conditions in the state of Alabama: X-linked Adrenoleukodystrophy (X-ALD) and Adenosine Deaminase Severe

Combined Immunodeficiency (ADA-SCID).

Goal(s): I plan to apply for MD/MPH or MD/PhD programs. My ultimate goal is to spend time getting to engage patients in clinic as a practicing physician and then either directly translate or simply apply those experiences to a role in the public health sphere. This would hopefully be as either a researcher/laboratorian or still as a physician.



NEWBORN SCREENING

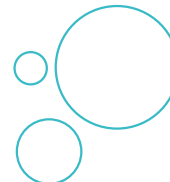
Marie-Line Kam

Degree:	Master's
Graduated:	May 2022
School:	Tulane University School of Medicine
Host Lab:	New Jersey Department of Health and Environment



Project(s): Analyze how many specimens screened for cystic fibrosis have an initial IRT value ≥ 70 ng/mL, how many of those have retest IRT values ≥ 70 ng/mL and ≥ 130 ng/mL, and how many of those have a variant from the NGS Illumina-139 panel. Results of this project will determine the impact of switching from a set IRT cutoff to a daily floating cutoff, reflexing only the top 4% specimen to the second-tier test.

Goal(s): I plan to obtain my DrPH. I would like to continue to work in the field of genetics/genomics and ultimately newborn screening, with an emphasis on bridging the gap for minorities, in order to improve their health outcomes. My ultimate goal is to become a director at the CDC, working on various public health initiatives, both locally and nationally related to maternal and child health.



NEWBORN SCREENING

Cullan Kirwan

Degree:	Bachelor's
Graduated:	Dec. 2022
School:	University of Wyoming
Host Lab:	Colorado Department of Public Health and Environment



Project(s): Performed the verification of X-linked adrenoleukodystrophy for population-based testing on the mass spectrometer and validated a new QSight Mass Spectrometer. These methods performed are to keep Colorado Newborn Screening Program in line with the Recommended Newborn Screening Panel (RUSP) for all babies born in Colorado and Wyoming. Secondary project is to determine avenues towards developing laboratory testing methods for T cell receptor excision circles (TREC) and

smooth muscle antibodies (SMA) on digital PCR and achieve an understanding of genetics, hematological disorders, and testing methodologies.

Goal(s): My professional goals are to achieve experience in all aspects of the public health laboratory, shifting into a microbiology position at the state laboratory and a university vector-borne research position to achieve a better encompassing role of blood, genetics, and microbes in One Health.



NEWBORN SCREENING

Charles Lechner

Degree:	Master's
Graduated:	May 2021
School:	Johns Hopkins University
Host Lab:	Tennessee Department of Health - Newborn Screening Laboratory



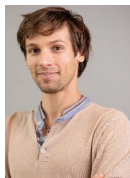
Project(s): Develop an interactive dashboard to visualize and analyze data that is produced and utilized by the Tennessee Newborn Screening program. This data includes but is not limited to screening rate, unsatisfactory blood spot specimen rate, specimen timeliness, and reporting timeliness. This dashboard will supplement the monthly reports the state currently releases and will be available internally and externally.

Goal(s): I hope to take the skills and experience I've gained from this fellowship and apply them to a career that can contribute towards bettering the collective public's health. I am particularly interested in contributing towards efforts made to better understand the role of genetics and epigenetics in neurodevelopmental disorders.



NEWBORN SCREENING

Paul G. Millet

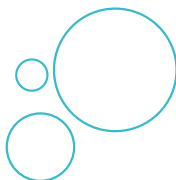


Degree:	Master's
Graduated:	Apr. 2022
School:	Rush University
Host Lab:	Texas Department of State Health Services

Project(s): Assist in automating the Biotinidase Deficiency Assay by evaluating the classic Wolf method for use on a TECAN Spark spectrophotometer. An improved method will then be proposed for integration into the LIMS for further testing & validation. Expand Newborn Screening in the state of Texas to include Lysosomal Storage Disease screening. Specifically, validation of a lab developed test for the second-tier

screening of MPS-Type 2 on the QSight LC MS/MS.

Goal(s): I will use my new-found skills in Mass Spectrometry to pursue a PhD in chemotherapy and rare disease management. I hope to identify potential biomarkers for therapeutic monitoring, as well as contribute to the isolation and characterization of novel small molecules for chemotherapy.



NEWBORN SCREENING

Lawrence E. Pastor

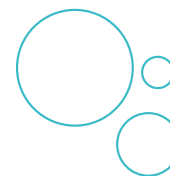
Degree:	Doctorate
Graduated:	Dec. 2007
School:	St. Luke's College of Medicine
Host Lab:	Washington State Newborn Screening Laboratory



Project(s): Validate multiplex assay that screens for X-linked adrenoleukodystrophy (XALD), lysosomal storage disorders (Pompe Disease and mucopolysaccharidosis type 1 galactosemia (GALT)), and biotinidase deficiency (BIOT) simultaneously with tandem mass spectrometry. Validate a second tier multiplex test for amino acids and acylcarnitines involved in Maple Syrup Urine Disease (allosioleucine, homocysteine, and methylmalonic acid)

reducing number of false positive rates using tandem mass spectrometry.

Goal(s): I have now worked at the Tennessee, Massachusetts, and the Washington State Newborn Screening Programs. I plan to stay in the newborn screening sector of public health. It's a fulfilling endeavor helping newborn babies. I love the work.



NEWBORN SCREENING

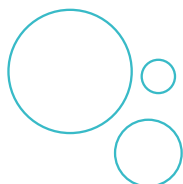
Erika Ruskie



Degree:	Bachelor's
Graduated:	May 2022
School:	North Carolina State University
Host Lab:	North Carolina State Laboratory of Public Health

Project(s): Develop a multiplexed LC MS/MS second tier screening assay for X-Linked Adrenoleukodystrophy, Homocystinuria, Methylmalonic Acidemia, Propionic Acidemia, and Short-Chain Acyl-CoA Dehydrogenase Deficiency.

Goal(s): Build LC MS/MS method with efficient timing while also maintaining optimal separation of each disorder-specific biomarker. Assist in the validation process for the screening assay. Present a poster about the project at a conference.



NEWBORN SCREENING

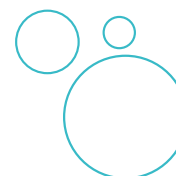
Irina St. Louis

Degree:	Doctorate
Graduated:	May 2023
School:	Johns Hopkins University
Host Lab:	Texas Department of State Health Services, Molecular Branch



Project(s): Investigate, evaluate, and compare commercial methods for DNA extraction from dry blood spots. Implement and assess the feasibility of NGS as a second-tier test, for newborn screening disorders. Develop LDT validation protocol as per CLIA and CAP regulatory submissions. 4) Validate and verify the utility of existing bioinformatic workflows, for the analysis of RUSP.

Goal(s): Obtain a position within the Department of Public Health newborn screening laboratory and work on expanding the genomic newborn screening portfolio. My long-term plans are to assume increased responsibilities and eventually lead a team of laboratory staff.



QUALITY MANAGEMENT

COHORTS 2021-2023

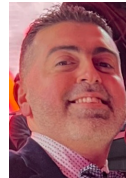


CAREER PATHWAYS in Public Health Laboratory Science

An APHL-CDC Initiative

QUALITY MANAGEMENT

Hyder Aljanabi



Degree:	Master's
Graduated:	Dec. 2020
School:	Wright State University
Host Lab:	Florida Department of Agriculture and Consumer Services

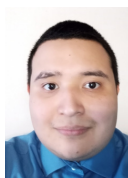
Project(s): Get familiarized with FL Department of Agriculture and Consumer Services QA System. Perform training and receive a tour and learn about all lab sections. Assess the current Corrective Action Reports. Evaluate QMS risk assessment and implement changes as needed. Participate in biannual assess by A2LA to build more ISO 17025 experience. Participate in internal audit to reflect if there is any actions needed for improvement.

Goal(s): Apply my public health, ISO 17025/ CLIA experience along with bilingual proficiency and work with state laboratory or Accreditation body such as FDA, USDA, CMS or APHL. Also, coming from local government and state public health laboratory, coupled with my MPH, could prove to be a good combination to serve our communities.

QUALITY MANAGEMENT

David Lee Gonzalez

Degree:	Master's
Graduated:	Aug. 2021
School:	University of North Texas
Host Lab:	State Hygienic Lab - University of Iowa



Project(s): Gain knowledge of the twelve Quality System Essentials (QSE) and role in regulatory compliance and best practices in a public health laboratory. Attend Internal Audit Task Force, Quality Management Committee, and Safety Committee Meetings. Complete a testing personnel onboarding process to the COVID-19 molecular lab. Contribute to a project team related to one of the QSEs Primary and secondary QSE research. Work to maintain and improve QSE functions.

Goal(s): After gaining experience and practical knowledge of quality management, I hope to work at a state lab, public health department, or similar facility. I want to use the insight I have gained about the quality system essentials to improve the implementation of public health policies. I would want to join these facilities in a leadership or project manager position.

QUALITY MANAGEMENT

Valentina K. Onwumelu



Degree:	Doctorate
Graduated:	Aug. 2003
School:	Abia State University
Host Lab:	Georgia Public Health Laboratory

Project(s): Work to prepare the laboratory for the L-SIP assessment in Q1 or Q2 of 2023. Additionally, participate in in-person training, webinars from various vendors for our new document control system (MediaLab), future inventory systems and LIMS. Also, internal and external CLIA surveys, CLIA workgroup and other developmental-on-the job activities and exposure to other clinical professionals for professional development.

that gives exposure to other clinical professionals for professional development. **Goal(s):** The addition of the experiences from fellowship in quality improvement, and recent ASQ Six Sigma certification, it will be a joy to have the opportunity to implement all my abilities at a governmental regulatory and public management agency.

QUALITY MANAGEMENT

Sami Snider

Degree:	Bachelor's
Graduated:	May 2022
School:	University of Georgia
Host Lab:	Colorado Department of Public Health and Environment



Project(s): Develop unit-specific, electronic training plans that track the completion of training requirements for new laboratory staff. Build training assessments in iPassport for the quality management system SOPs.

Goal(s): My goals for after the fellowship are to go back to school for my MPH and pursue a career as an epidemiologist.

QUALITY MANAGEMENT

Kayla Wright



Degree:	Bachelor's
Graduated:	Dec. 2019
School:	Savannah State University
Host Lab:	Bureau of Public Health Laboratories

Project(s): Work on Labware project. Help departments become aware of any discrepancies before CLIA inspection. Work on Testing Menu.

Goal(s): Obtain my master's degree and continue to use my knowledge to help healthcare/laboratory facilities learn and utilize resources provided to them to obtain maximum productivity in a happy, healthy workspace.

QUALITY MANAGEMENT

Christabel Yeboah

Degree:	Master's
Graduated:	May 2022
School:	University of Massachusetts - Lowell
Host Lab:	Wisconsin State Laboratory of Hygiene



Project(s): Lab-wide Assessment and Implementation of a New Electronic non-conformance Management System

Goal(s): Earn a PhD in Epidemiology

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