MIAH A BOYLE, MLS, MPH

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Education

University of Michigan- Ann Arbor, MI
Graduation Date: May 2021 ▪ Masters in Public Health ▪ Certificate in Analyzing Health Data

Mayo Clinic School of Health Sciences- Rochester, MN
Graduation Date: May 2017 ▪ Certificate in Medical Laboratory Science

Iowa State University- Ames, IA
Graduation Date: August 2015 ▪ Bachelor of Science in Microbiology and Genetics

Work Experience

Medical Laboratory Scientist ▪ January 2020 – July 2022
University of Iowa Hospitals and Clinics, Medical Microbiology Laboratory

- Processed patient samples and manually read patient gram stains.
- Observed patient microbiology culture growth and reviewed antimicrobial susceptibility results.
- Operated and performed maintenance on the Copan Diagnostics WASP instrument.
- Performed antimicrobial susceptibility testing using the Biomerieux Vitek 2, the Thermo Fisher Sensititre Trek system, and manual E-test and Kirby Bauer disk methodologies.
- Prepared samples for identification using the MALDI (Matrix-Assisted Laser Desorption/Ionization) instrument.
- Performed molecular PCR testing using the Biofire Filmarray system, the Cepheid GeneXpert Infinity system, and Genmark ePlex panels.
- Trained additional staff members on laboratory procedures.
- Assisted in developing a procedure for monitoring blood culture bottle volumes and analyzed resulting data in RStudio for quarterly reports.

Medical Laboratory Scientist ▪ June 2017 – December 2019
Unity Point Trinity Health Systems, Rock Island IL

- Performed antibody identification, direct and indirect anti-globulin testing, compatibility testing, antigen typing, the Kleihauer-Betke stain, and automatic testing on the Ortho Vision.
- Performed manual white blood cell differentials, body fluid analysis and differentials, rapid virology testing on the Quidel Sofia Fluorescent Immunoassay analyzer.
- Performed clinical laboratory testing, quality control, and calibrations on the Stago Compact Max analyzer, the Sysmex XN-3000 and XN-1000, the Clinitek Auwi system, and the Siemens Dimension Vista 500 and EXL.

Undergraduate Laboratory Assistant ▪ September 2013 – July 2015
Dr. Michael Cho's Laboratory at Iowa State University College of Veterinary Medicine

- Extracted DNA and performed successful site directed mutagenesis PCR.
- Performed ligations and transformations using competent *E. coli* cells.
- Assisted with pseudovirus production, neutralization assays, RNA extractions, and enzyme-linked immunosorbent assays (ELISA).
- Participated in and presented a research project and the Iowa State Undergraduate Research Symposium concerning the production of chimera viruses of HIV-1 strains MN.3 (tier 1) and 6535 (tier 2) and observing changes in sensitivity or resistance to MPER broadly neutralizing antibodies.

Knowledge, Skills, and Abilities

- Knowledge in epidemiological study sampling design, collecting and analyzing qualitative and quantitative clinical and publicly available public health data.
- Proficient in utilizing R packages such as "Tidyverse" and "GGplot" to organize and visualize data.
- Proficient in multiple linear regression, longitudinal analysis, and generalized linear regression modeling using R.
- Proficient in producing visual maps of spatial health data using R, and knowledge in analyzing health data using cluster analysis, generalized linear modeling, multilevel hierarchical modeling, and kernel density analysis.