

FIONA L. BEZHANI

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Biotechnology graduate and published researcher with hands-on experience in molecular biology, microbiology, and cGMP pharmaceutical R&D. A proven ability to design, validate, and execute biological and analytical assays supporting both peer-reviewed research and regulated drug development. With a strong background in PCR/qPCR, nucleic acid workflows, and data analysis, as well as growing industry experience in translating laboratory insight into real-world products.

EXPERIENCE

Chemist I, Quality Control and Research & Development - Odin Pharmaceuticals, Somerset, NJ | Jun 2025 - Present

- Performed cGMP-compliant QC and R&D analytical testing supporting FDA ANDA submissions for ophthalmic generic drug products using quantitative and laser-based analytical systems
- Characterized drug delivery using laser-based assays (determining particle size, distribution, & spray morphology)
- Developed and performed QC validation (as both a primary and intermediate-precision analyst) on analytical assays and methods used to characterize drug product behavior and delivery performance for release testing
- Conducted excipient reverse-engineering studies to support formulation development
- Trained and onboarded new analysts in regulated laboratory workflows and documentation standards

Laboratory Assistant, Center for Vector Biology - Rutgers University, New Brunswick, NJ | Feb 2024 - May 2025

- Supported multiple molecular biology research projects, primarily focused on investigating the microbiome composition and species diversity of *Culicoides* midges collected in New Jersey
- Conducted RNA and DNA extractions, enzymatic treatments, sample processing, sample purification, and downstream data analysis to support metatranscriptomic screening
- Developed, validated, and executed PCR and qPCR (singleplex and multiplex) assays for pathogen detection
- Analyzed and interpreted qPCR data across multiple vector biology projects, supporting accurate result interpretation and protocol optimization
- Contributed to the preparation of peer-reviewed manuscripts, including one published study

Tick Laboratory Assistant - Monmouth County Mosquito Control Division, New Brunswick, NJ | Jun 2024 - Oct 2024

- Performed single-sample and plate-based DNA/RNA extractions, sequencing preparation, purification, and PCR/qPCR assays for the detection of bacterial and viral pathogens in tick and mosquito samples
- Supported annual tick surveillance and reporting through sample processing, analysis, and documentation

SKILLS

Molecular & Biological Techniques: PCR, qPCR (singleplex and multiplex), DNA/RNA extraction and purification, enzymatic treatments, gel electrophoresis, SDS-PAGE, metatranscriptomic sample preparation, pathogen detection and species identification, BSL-2 practices, aseptic techniques

Experimental Design & Research Execution: cGMP-compliant laboratory workflows, ANDA-supporting testing, analytical method development, validation, and documentation, assay development and validation, protocol optimization

Data Analysis and Professional Skills: statistical analysis (R, Python), high-throughput data interpretation, technical communication, cross-functional collaboration, training and onboarding, research-to-industry translation

Languages: English and Albanian (Fluent), Italian (Reading/Writing Proficiency), French and Spanish (Conversational)

SELECTED PUBLICATION

Egizi A., Bezhani F., Jordan R.A., Price D.C. (2025). *Parasitism of a U.S. traveler by a nymphal Amblyomma tapirellum* and review of exotic tick interceptions on humans in the United States. *Journal of Medical Entomology*.

EDUCATION

B.S. Biotechnology, Minors: Biochemistry, Italian – Rutgers University, New Brunswick, NJ | 2021 - 2025

A.S. Environmental Studies – Hudson County Community College, Jersey City, NJ | 2017 - 2021

CERTIFICATIONS AND HONORS

Professional Certificate: Data Analysis for the Life Sciences - edX and Harvard University

XSeries: Computational Thinking Using Python - edX and Massachusetts Institute of Technology