

I am excited to apply for the Postbaccalaureate IRTA program as a graduating senior at the University of Rhode Island majoring in Cell and Molecular Biology. As I plan on applying to graduate school to pursue a Ph.D. I would like to spend a year or two pursuing my research interests at the NIH. Many professors and advisors have mentioned that I would be a strong candidate for the program, and one even said that this program is the “Gold Standard” of postbaccalaureate programs. Additionally, I have talked with a few alumni and current students of the NIH-IRTA program, and all have spoken highly of what the program has to offer. With my two years of intense research in Dr. Kathryn Ramsey’s laboratory at URI, I am enthusiastic to continue in growing as a research scientist. Given the opportunity to join the NIH community, I know I would thrive and make strong contributions towards the innovative field of microbial molecular research.

My prior research and undergraduate coursework have thoroughly prepared me to be a successful Postbaccalaureate IRTA trainee. For the past three semesters and one summer, I have conducted research in Dr. Kathryn Ramsey’s lab. The focus in her laboratory is mechanisms of gene regulation at the transcriptional and translational levels within the model organism, *Francisella tularensis*. During my time in her lab, I completed two projects, one titled, “*Investigating ribosomal protein (bS21-2) in a pathogenic bacterium*” and another, “*Discovery of Genes Involved in F. tularensis Survival in Freshwater*”. Currently, I am continuing to work on the latter project, and writing a manuscript to be published in the future.

Two major takeaways outside of the science that these projects taught me were how crucial project and time management are as well as how failure plays a role in the scientific process. For one semester, I had to split my time between two different projects. This required that I plan my week ahead of time and ensure that all the materials needed for each experiment be ready in advance. As a hardworking student, I was not fully prepared for the ups and downs that are a part of a scientific project. I learned that each failure would open up a learning opportunity or pointing us in a different direction on the next steps of a project. I would work through some problems by myself and asked my graduate student and professor for help troubleshooting numerous times. These two skills are transferable to this course and program, so I will be a successful trainee.

With a strong foundation in molecular biology, I would like to continue learning more techniques and knowledge surrounding this topic. I am particularly interested in mechanisms of pathogenesis in all microbes, and learning techniques such as flow cytometry, immunoblotting, CRISPR, and other fundamental techniques of the field that will strengthen my skillset as an early stage scientist. I would also enjoy learning more about bacteriophage interactions with bacteria as that has been of great interest to me since my high school senior project. Additionally, I would enjoy working in a laboratory that focuses on fungi, sRNAs, secretion systems, and metal sequestration systems. This program would allow me to pursue skillsets, knowledge, and assist me become a better scientist as I enter graduate school to pursue a Ph.D. I would be happy to talk about the possibility of joining your lab and can be reached by phone or email.