**Candidate’s Background**

I have nearly 10 years of research experience leveraging quantitative/computational science to further our understanding of complex biological and biophysical phenomena, from the systems biology level to an atomic scale.

My interest in computational research, and ultimately a lifelong dedication to it, began as an undergraduate at the University of Texas at Austin while pursuing a Bachelor’s of Science in Biomedical Engineering. As a research assistant for three years under the mentorship of Dr. Orly Alter (Genomic Signal Processing Lab), I was motivated by being able to use engineering principles, mathematics, physics, computing, and scientific visualization to study signatures of RNA expression in normal and cancerous brain tissue. Specifically, using matrix decomposition and computational biology methods to uncover patterns in genome-wide distributions of mRNA lengths, we discovered relationships between cellular metabolism, tumorigenesis, and mRNA length that led us to propose an unrecognized mode of metabolic regulation tied to mRNA length. Our work was published in PLoS ONE in 20131.

Our work was published in PLoS ONE in 2013.

I was afforded the opportunity to present my research internationally in India and China as well as local in the United States.

I received x awards for my research and acemdic successes

* Breadth of knowledge with regards to other life sciences domain – a working knowledge of human physiology, genomics,
  + Through my undergraduate research experience, and didactic courses taken in undergraduate and graduate school
* Career transition down the translational science spectrum to applied biomedicine
  + I want to inform clinical practice from evidence – wealth of untapped data that can be used to transition away from a one size fits all model of health care delivery
  + Long term career goal: become an expert in computational health
  + One study found that only 18% of clinical recommendations are founded in high quality evidence
  + Conceive of and design approaches to lines of scientific inquiry

**Career Goals and Objectives**

**Candidate’s Plan for Career Development/Training Activities During Award Development**

Pregnancy and Perinatology Branch (PPB)

Overview/Mission

PPB supports research to:

-Improve the health of women before, during, and after pregnancy

-Reduce the number of preterm births and other birth complications

-Increase infant survival free, from disease and disability

-Ensure the long-term health of mothers and their children

The branch supports grants, cooperative agreements, and contracts for research ranging from basic science to clinical trials. Some topics of interest include exploring how healthy babies develop and what can go wrong in the process and **identifying better ways to diagnose, treat, and prevent diseases in pregnant women and newborns, particularly those approaches that use safe, effective, non- or minimally invasive devices and instruments**. PPB also supports training grants for medical researchers in maternal-fetal medicine, neonatology, and related fields.