**Statement by co-mentor:**

**Research qualifications:**

I am a Professor of Computer Science at the Courant Institute of Mathematical Sciences at New York University. My primary research interest is to mine large datasets with pattern matching or machine learning. My research projects cover computational biology and biomedicine, time series analysis and pattern matching in trees and graphs. During my 30+ years of research, I have published 79 peer-reviewed articles in multiple journals, 74 refereed conference papers and 5 invited conference papers. I have also authored 16 books and was further invited to write a chapter for 7 other books. I am the co-editor in chief of Information Systems. I have also served as a reviewer for multiple funding agencies including NSF, and various journals including Genome research and Plant cell. In addition, over the past 20 years, I have periodically worked as a consultant for Wall Street investment banks, Internet gaming and biotechnology industries, providing expertise on database tuning and design. I also serve as one of the 20 distinguished science advisors, including James D Watson and Rosalyn Sussman Yalow, to the New York hall of science. These varied roles have honed my skills in designing, executing, overseeing and communicating top-grade research and in rigorously training new scientists that are well suited to address the most pressing problems in science and society.

**Experience as a research supervisor:**

I have mentored 26 PhD students since 1989. Seven of them have gone on to become PIs in various universities in the US, Canada, Israel, Korea and Italy. In addition, many are entrepreneurs, research scientists or managers in various research labs and software or financial industry. In addition, I have extensive experience mentoring Masters and Undergraduate students in the Computer Science program at NYU. I also enjoy an ongoing responsibility of collaborating and co-mentoring Post-doctoral fellows from the Department of Biology, including Gloria Coruzzi’s lab. For example, from 2003-2006 I worked extensively with Rodrigo Gutierrez, a postdoc in the Coruzzi lab, to develop the bioinformatics tools Sungear and GraphClust. Dr. Gutierrez is now the Chair of the Department of Molecular Genetics and Microbiology at the Catholic University of Chile in Santiago, Chile, and was recently chosen for the HHMI international early career award. Another postdoc I mentored from Coruzzi lab is Gabriel Krouk (2007-2010), who applied a machine learning approach to reconstruct a regulatory gene network from time series data. Gabriel is currently a PI in the National Center for Scientific Research in France. The most recent Coruzzi lab alumni I worked with is Amy Marshall-Colon (2010-2014), who recently started as an Assistant Professor in the University of Illinois, applying systems biology approaches to study plant metabolism.

**Mentoring Plan:** During the mentored phase of Dr. Ying Li’s K99 award, I will work with her primary mentor Dr. Gloria Coruzzi to supervise Ying’s research activity and career development. I will specifically oversee her development of skills in using machine learning approaches to tackle systems biology questions. My mentoring will include the following activities: I will direct Ying towards the proper literature and coursework, offered by NYU, on Machine learning (for example, “Introduction to machine learning” [Class number CSCI-UA.0480-002]) that fits her background and furthers her research interests. I will, along with Dr. Coruzzi, meet with Ying weekly to discuss the materials and progress and supervise her research activities in applying machine learning approaches to build causal gene networks from time series data using tools developed in my lab or other labs. In addition, I will include Ying in my research group meetings, where she will be exposed to various research projects that use machine learning to solve biological or financial problems. Such a wide exposure should help Ying gain a better understanding of the research method, as well as develop her ability to communicate and collaborate with computer scientists. It is very important for a researcher, like Ying, working to bridge these two fields to be able to effectively communicate with both Biologists and Computer scientists. Based on my prior experiences mentoring Post-docs in Biology, I believe this training curriculum will provide Ying the unique ability to function as an independent researcher at the cutting edge of computational biology.

I will be happy to assist Ying in her eventual job search for an independent faculty position. When Ying becomes a independent researcher, I would be happy to support her interest on applying the machine learning tools developed in my lab to the question she is specifically interested in: integrating transcriptional control with epigenetic control.

I am willing to provide annual evaluations, together with primary mentor Dr. Gloria Coruzzi, of the candidate’s progress for the initial mentored phase.