

Essay on personal statement for grant application

[Science](#), [Biology](#)



My name, Zhiyuan, mean ambitious in Chinese. My ambition is to be one of prominent individuals who bridge physics and biology by investigating how collective behaviors emerge from the systematic interactions between physical and biological components of the environment.

Academically, I am versatile, a trait that is complemented with my ability to analyze things and situations with excellence. I boast of a social personality punctuated with excellent communication skills, which puts me at a position to communicate effectively with virtually everyone. I posses exemplary leadership attributes. Turning from physics to experimental biology was not smooth. When I started my rotation in Hao Li's Lab to study the yeast aging, I did not know how to perform even the most basic of experimental tasks like pipetting. I was undertaking a project on Polymerase Chain Reaction (PCR). One month had passed, and the PCR had not produced any tangible results. This caused me a lot of frustration, and I can admittedly say that I was at the verge of quitting. However, I never gave up. I extended the rotation for one more month, communicated with every person with experience in experimental biology I knew of and kept on giving the experiment different approaches. I persevered through all these and today, I am able to design and implement cell experiments independently, and i have since set out on another project, summing up to two projects. These two projects approach cell fates decision computationally and experimentally, and I know that working on the two projects provides me with an avenue to practice my ability to manipulate theory and experiment simultaneously. I have a strong conviction that one day I will be able to merge the two projects together. The HHMI fellowship would be an immense help to me, as I could have more

freedom in distributing time more between labs and realizing creative ideas in investigation.

My level of motivation knows no boundaries. Motivation and the desire to succeed are the driving forces that underlie my pursuit for knowledge. I entirely consider these two to be the reason as to why a graduated with an outstanding Grade Point Average (GPA) that enabled me to enroll for a PHD program in the University of California, San Francisco from Peking University. I devote myself to understanding of the world's fundamental laws, this being a pertinent step into the empirical investigation of such laws. With this in mind, I found it inevitable to join the group of Qi Ouyang in the Center for Theoretical Biology for undergraduate research with a project to investigate the life-death decision of p53 network and the role of p53 oscillation, using ODE modeling as the tool. After one and a half years of unremitting efforts to obtain results, a full picture ultimately emerged. It is during the process of undertaking the project research, that I developed a scintillating interest in the study of the cell, an interest that eventually ushered me into the study of system biology. Due to my passion for experimental Biology and Physics, I once organized a workshop whose principal purpose was to examine the importance of Biophysics and other career disciplines. Also, worth mentioning is my participation in the organization of the Wiser-U Chinese branch to promote scientific research among students.

Every individual must have compendious career goals that govern all that the individual does during the process of pursuing the career. Because of my adept inclination to research, intend to set up a study lab, which will majorly focus on Biophysics. Again, due to the fact that most students from my

society, the Yi ethnic minority in the Southwest of China, do not know the value of scientific research, I plan to initiate a project whose foremost concern will be to campaign for scientific research. The project will have an extended duty of sourcing for scholarships and grants to help students who have impeccable aptitudes for scientific research.