Sample NSF Fellowship Recommendation

MYTHIC UNIVERSITY
123 Ivy Road, Mythic CA 99999 555-123-4567

December xx, 20xx

To the Fellowship Selection Committee:

I am writing in support of Janet Lerner's application for an NSF Fellowship. Janet is genuinely a gifted student with great potential as a research scientist. I encourage you to give her your most careful consideration.

Janet has been conducting an independent honor's research project in my laboratory for the past year. Without a doubt, Janet is one of those rare individuals that comes along only once every few years; she is highly intelligent (her transcript is blemished by a single "B"), inquisitive, motivated, and creative. Janet has just the right combination of assertiveness and respect to make her a joy to work with in the lab. She takes directions very well, but she is not timid about questioning experimental details or rationale. This is a student that I will enjoy watching develop into a highly productive research scientist.

For her honor's thesis I have given Janet a demanding project that I would normally reserve for my graduate students. Even before entering my lab, she had read a large number of articles that described recent advances with the virus that we study in the lab—JC virus (JCV). Expecting that I would need to explain many of the techniques used in these studies and to discuss the rationale behind the experiments, I was surprised to discover that she already had a firm grasp of these concepts and was ready to discuss the science on a much higher level. Together we decided that her project would entail a mutational analysis of a specific functional domain of the major regulatory protein of JCV, the multifunctional T protein.

To emphasize the scope and importance of Janet's work, a summary of the relevant science follows. JCV is an important opportunistic pathogen; it has infected >70% of the world's population and it remains latent in the kidneys and brains of most of us. In severely immunocompromised individuals, JCV may cause the fatal demyelinating brain disease progressive multifocal leukoencephalopathy (PML); PML is now the cause of death in up to 7% of AIDS patients. An important question related to the pathogenesis of PML revolves around the mechanisms of latency and reactivation of JCV in the body. Many of our earlier studies have pointed to the T protein as a major player in these phenomena. We now believe that this protein contributes to the restricted host specificity and inefficient DNA replicating activity of the virus.

Based upon work with the related monkey virus SV40, we have lately begun to focus our attention on a zinc finger domain of the JCV T protein. This domain is thought to play a role in forming a double hexameric structure of T that facilitates appropriate interaction with viral DNA sequences at the replication origin. We believe that differences in the consensus sequence of the JCV T protein zinc finger affects its ability to efficiently replicate the viral genome and to establish latency.

To investigate this possibility, Janet is using a modified Kunkel method of site-specific mutagenesis to convert the JCV T protein to an SV40-like protein within the finger region. Once constructed, these mutants will be tested in cell culture for viability, promotion of DNA replication, and oligomerization. Janet has made excellent progress on her project. She has subcloned the appropriate fragment of JCV DNA into a phagemid, verified its structure, and successfully completed the mutagenesis reactions using control reagents.

During the latter set of experiments, a number of difficulties were encountered. Janet demonstrated impressive resourcefulness in overcoming these problems. She did not simply run to me for answers, but instead called a technical representative at the company from which the reagents for the mutagenesis reactions were obtained. She also went to a graduate student in the lab for further information. By the time she came to me to explain the problems, she was also ready to proffer solutions. Furthermore, Janet suggested additional controls to ensure that her ideas were viable. Although I offered some alternative approaches, Janet was able to convince me that her approach was better. She now has the mutagenesis procedure working smoothly, and she has attempted to produce her first mutants. This attempt yielded several potential mutants, but unfortunately sequence analysis (she got the dideoxy method to work beautifully the first time) indicated that they represented wild type clones. Undaunted, she has gone back to the bench, modified the annealing conditions for the mutagenic primer and template and is trying again. Her perseverance and mature attitude in the face of a scientific set-back are unusual for such a young researcher. I have no doubt that Janet will have a considerable influence upon our research program and that her efforts will result in the first authorship on an important manuscript.

It should be apparent that I think very highly of Janet Lerner's academic and research skills. I am not alone in this evaluation. She has fit in very well with my research group (10 people including research assistant, postdoc, and graduate and undergraduate students). The other undergraduates look up to her as a leader, and the graduate students and postdoc interact with her as an equal.

In closing, I don't believe that you could find a more qualified candidate for an NSF Fellowship than Janet Lerner. She has my strongest recommendation.

Sincerely,
John Teacher
John Teacher
Professor of Biochemistry and Molecular Biology

Sample NSF Fellowship Recommendation

MYTHIC UNIVERSITY
123 Ivy Road, Mythic CA 99999 555-123-4567

January xx, 20xx

Letter of Recommendation for Janet Lerner

My first contact with Janet Lerner was several years ago when she was deciding whether to attend Mythic University or to go to school at a private institution. The prestige of a Braddock Fellowship and other considerations convinced her and her parents that our best undergraduates at Mythic University can compete with anyone in the nation. She has proven herself truly exceptional in every way during her undergraduate career here. I was more than delighted to be her honors thesis advisor when she expressed an interest to work in my laboratory beginning in the Spring semester of this year. She also worked as a dishwasher in my lab for two summers. She has kept me well informed about her progress since her graduation from Mythic University last year.

Janet is a very bright and creative young woman with very high professional goals. She came from a family of exceptional academic achievements. Her brother received a Ph.D. in Economics at Harvard and her sister is a surgeon at the Memorial Sloan-Kettering Medical Center. While at Mythic University Janet did extremely well in mathematics up to differential equations and has the talent to continue on to learn more advanced mathematics. She is also an excellent and efficient writer. She has represented Mythic University many times in a variety of recruiting functions and has served extremely well. She has received a well-balanced education in liberal arts and in sciences, supplemented by many worthwhile extracurricular activities. She shared the senior prize in Biological Sciences given annually to the best student(s) of a graduating class every year by the Mythic University Alumni Association.

Among the group of outstanding undergraduate research students I had in my lab, Janet also ranks as the top overall. She is a joy in the lab. She is exceptionally well-organized, extremely quick to grasp new concepts, and always knows the objectives of a project. As a researcher, Janet Lerner has mastered the basic techniques for gene cloning and structure analysis. Her undergraduate research led to a co-authorship in a conference book chapter. She was definitely among the most highly recruited group when she was applying for graduate school. She was accepted by every major Ph.D. program to which she applied. She has applied for and was offered a graduate fellowship by several major funding agencies. Over the last two years I have clearly sensed the transition in our conversations from teacher/student to more like those with a colleague. It is just so delightful.

In summary, Janet Lerner is a truly exceptional student among many outstanding graduates from our Department during my fourteen years at Mythic University. Janet has been recognized with many awards and received many fellowships in the last four years, but most importantly, she remains a confident, cheerful, and helping person. She is always eager to pursue new knowledge and challenge. Given that she is a woman entering a field still dominated by men, in my opinion she is an especially good candidate for the NSF Women in Engineering program. I recommend her with my highest enthusiasm.

Sincerely,
John Teacher
John Teacher
Professor of Biochemistry and Molecular Biology