

Letters of Recommendation

These two similar but not identical letters of recommendation will be given out separately over lunch on the second day of Boot Camp and then the participants will briefly discuss the subtle differences between the two. These letters were first used at the 2005 BSF/HHMI Laboratory Scientific Management Course and were part of a presentation on Gender Issues in Mentoring by Jo Handelsman of the University of Wisconsin-Madison.

Search and Screen Committee
Department of Bacteriology
University of Cambridge
Boston, MA 01237

Dear Members of the Search Committee,

It is my pleasure to recommend Dr. Stephen Hoffmann for the position of Assistant Professor in your department. Stephen completed his Ph.D. in my lab and is one of the most outstanding researchers to emerge from my lab. I recommend him to you highly.

In my lab Dr. Hoffmann cloned and characterized the *gliD* gene from *Cytophaga johnsoniae*. He made the intriguing discovery that the GliD protein is required for gliding behavior in *Cytophaga* and its human homologue is associated with a highly metastatic form of breast cancer. This observation suggests that there may be common features in bacterial gliding motility and mobility of human tumor cells. Dr. Hoffmann initiated a highly productive collaboration with Professor David Whitely that led to the crystallization and high resolution structure of the GliD protein. Dr. Hoffmann brought that work to fruition in a PNAS paper, on which he is the senior author. In addition to the PNAS paper, Dr. Hoffmann published three other papers from his thesis, which attest to his hard work, biological insight, and outstanding writing skills. Dr. Hoffmann proved himself an outstanding researcher and valued colleague.

Dr. Hoffmann continued to produce original research as a postdoc in Jim Wooley's lab working on *Bacillus subtilis* development. Once again, Dr. Hoffmann discovered a gene that is found in both prokaryotes and eukaryotes, this time in a search for sporulation genes in *B. subtilis*. He identified a new sporulation gene, designated *spoW*, which has a mammalian homologue that appears to be associated with lymphocyte differentiation and maturation. Although that work is not yet published, it has a bright future. The project was technically challenging, but Dr. Hoffmann has surmounted all of the obstacles and a genetic and biochemical analysis of the *spoW* allele and its product will be ready for publication soon. Given Dr. Hoffmann's past record in publishing research, I have no doubt that this work will be published in a top-tier journal.

Dr. Hoffmann proved himself to be a capable mentor and teacher. He supervised three undergraduate researchers. He is clearly able to transmit his passion and talent for research to young scientists. Similarly, his classroom teaching was met with rave reviews. Dr. Hoffmann is one of my few colleagues to whom I will entrust my class when I travel. Dr. Hoffmann was also a terrific citizen and a leader in my lab. He handled responsibility well, was resourceful, and took initiative to maintain equipment and ensure that safety standards were met. He took on many of the responsibilities of a faculty member and excelled in everything he did.

In short, I give Stephen my highest recommendation. He is one of my finest colleagues – an outstanding researcher and talented teacher. He has demonstrated an uncanny ability to unmask genes that play parallel roles in bacteria and mammals, and I expect him to be one of the leading researchers in his field. He would be a good catch for any department and I urge you to consider his candidacy seriously.

Sincerely,

Theodore Corvallis
Distinguished University Professor

Rating

- 1 = not interested in this one
- 2 = keep this one in the pool, but I expect better candidates in the pool
- 3 = very strong candidate, but have a few concerns
- 4 = outstanding candidate; definitely move to next stage
- 5 = superlative candidate; better snatch this one before Stanford does!

Search and Screen Committee
Department of Bacteriology
University of Cambridge
Boston, MA 01237

Dear Members of the Search Committee,

It is my pleasure to recommend Dr. Susan Hoffmann for the position of Assistant Professor in your department. Susan was my graduate student and ranks among my very best students. I recommend her to you highly.

As a student, Susan cloned and characterized the *gliD* gene from *Cytophaga johnsoniae*. She made the intriguing discovery that the GliD protein is required for gliding behavior in *Cytophaga* and its human homologue is associated with a highly metastatic form of breast cancer. This observation suggests that there may be features in common between bacterial gliding motility and mobility of human tumor cells. A highly productive collaboration with Professor David Whitely led to the crystallization and high resolution structure of the GliD protein. That work was published in a PNAS paper, on which Susan is a co-author. In addition to the PNAS paper, Susan published three other papers from her thesis, which attest to her hard work, biological insight, and outstanding writing skills. Her high productivity as a graduate student is particularly remarkable because she had two children while in graduate school and her husband is a resident in emergency room medicine.

Susan continued her record of excellent work as a postdoctoral student in Jim Wooley's lab working on *Bacillus subtilis* development. Once again, Susan discovered a gene that is found in both prokaryotes and eukaryotes, this time in a search for sporulation genes in *B. subtilis*. She identified a new sporulation gene, designated *spoW*, which has a mammalian homologue that appears to be associated with lymphocyte differentiation and maturation. Susan has been slow to publish this work and therefore has no publications from her three-year postdoctoral study. No doubt her family responsibilities have contributed to this delay.

Susan proved herself an able mentor and a sterling classroom teacher. Her three undergraduate researchers all co-authored publications, which is indicative of the excellent mentorship they received from Susan. Similarly, her classroom teaching was met with rave reviews. Of all of my students, I felt the most comfortable asking Susan to cover my classes for me when I was out of town because I knew she would do a great job. Susan was also a cooperative and reliable lab citizen. She handled responsibility well and conscientiously followed through on all that was asked of her to maintain equipment and ensure that safety standards were met.

In short, I give Susan my highest recommendation. She is one of the best students I have seen and is a talented teacher and mentor. She has an uncanny ability to unmask genes that play parallel roles in bacteria and mammals, and I expect her to continue to be as productive and creative as she was as a student in my lab. She would be a good catch for any department and I urge you to consider her candidacy seriously.

Sincerely,

Theodore Corvallis
Distinguished University Professor

Rating

- 1 = not interested in this one
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REVIEWING APPLICANTS: *Research on Bias and Assumptions*

We all like to think that we are objective scholars who judge people based entirely on their experience and achievements, but copious research shows that every one of us brings a lifetime of experience and cultural history that shapes the review process.

*“To evaluate other people more accurately
we need to challenge our implicit hypotheses . . .
we need to become explicitly aware of them . . .*

The results from controlled studies in which people were asked to make judgments about subjects demonstrate the potentially prejudicial nature of the many implicit or unconscious assumptions we can make. Examples range from physical and social expectations or assumptions to those that have a clear connection to hiring, even for faculty positions.

It is important to note that in most of these studies, **the gender of the evaluator was not significant, indicating that both men and women share and apply the same assumptions about gender.**

Recognizing biases and other influences not related to the quality of candidates can help reduce their impact on your search and review of candidates. Spending sufficient time on evaluation (15-20 minutes per application) can also reduce the influence of assumptions.

Examples of common social assumptions or expectations:

- When shown photographs of people of the same height, evaluators overestimated the heights of male subjects and underestimated the heights of female subjects, even though a reference point, such as a doorway, was provided (Biernat et al.).
- When shown photographs of men with similar athletic abilities, evaluators rated the athletic ability of African American men higher than that of white men (Biernat et al.).
- Students asked to choose counselors from among a group of applicants of marginal qualifications more often chose white candidates than African American candidates with identical qualifications (Dovidio and Gaertner).

These studies show how generalizations that may or may not be valid can be applied to the evaluation of individuals (Bielby and Baron). In the study on height, evaluators applied the statistically accurate generalization that men are usually taller than women to their estimates of the height of individuals who did not necessarily conform to the generalization. If we can inaccurately apply generalizations to characteristics as objective and easily measured as height, what happens when the qualities we are evaluating are not as objective or as easily measured? What happens when the generalizations are not accurate?

*. . . as we become aware of our hypotheses,
we replace our belief in a just world
with a view of the world in which bias plays a role.
Since this is a state of affairs we wish were otherwise,
we prefer not to acknowledge it. But we can learn.*

Virginia Valian

Examples of assumptions or biases that can influence the evaluation of applications:

- When rating the quality of verbal skills as indicated by vocabulary definitions, evaluators rated the skills lower if they were told an African American provided the definitions than if they were told that a white person provided them (Biernat et al.).
- When asked to assess the contribution of skill and luck to successful performance of a task, evaluators more frequently attributed success to skill for males and to luck for females, even though males and females succeeded equally. (Deaux and Emswiller).
- Evaluators who were busy, distracted by other tasks, and under time pressure gave women lower ratings than men for the same written evaluation of job performance. Sex bias decreased when they were able to give all their time and attention to their judgments, which rarely occurs in actual work settings. This study indicates that evaluators are more likely to rely upon underlying assumptions and biases when they cannot/do not give sufficient time and attention to their evaluations (Martell).
- Evidence shows that perceived incongruities between the female gender role and leadership roles cause two types of disadvantage for women: (1) ideas about the female gender role cause women to be perceived as having less leadership ability than men and consequently diminish women's rise to leadership positions, and (2) women in leadership positions receive less favorable evaluations because they are perceived to be violating gender norms. These perceived incongruities lead to attitudes that are less positive toward female than male leaders (Eagly and Karau; Ridgeway).

Examples of assumptions or biases in academic job-related contexts:

- A study of over 300 recommendation letters for medical faculty at a large American medical school in the 1990s found that letters for female applicants differed systematically from those for males. Letters written for women were shorter, provided “minimal assurance” rather than solid recommendation, raised more doubts, and portrayed women as students and teachers while portraying men as researchers and professionals. While such differences were readily apparent, it is important to note that all letters studied were for successful candidates only (Trix and Psenka).
- In a national study, 238 academic psychologists (118 male, 120 female) evaluated a résumé randomly assigned a male or a female name. Both male and female participants gave the male applicant better evaluations for teaching, research, and service experience and both were more likely to hire the male than the female applicant. (Steinpreis, et.al.) Another study showed that the preference for males was greater when women represented a small proportion of the pool of candidates, as is typical in many academic fields (Heilman).
- A study of postdoctoral fellowships awarded by the Medical Research Council in Sweden, found that women candidates needed substantially more publications (the equivalent of 3 more papers in *Nature* or *Science*, or 20 more papers in specialty journals such as *Infection and Immunity* or *Neuroscience*) to achieve the same rating as men, unless they personally knew someone on the panel (Wenneras and Wold).

When assumptions “that cultural, racial, ethnic, and gender biases are simply nonexistent [in] screening and evaluation processes, there is grave danger that minority and female candidates will be rejected.”

Caroline S.V. Turner

Biases and assumptions can influence your search in the following ways:

- Women and minority candidates may be subject to different expectations in areas such as numbers of publications, name recognition, or personal acquaintance with a committee member. (*Recall the example of the Swedish Medical Research Council.*)
- Candidates from institutions other than the major research universities that have trained most of our faculty may be under-valued. (*Qualified candidates from institutions such as historically black universities, four-year colleges, government, or industry, might offer innovative, diverse, and valuable perspectives on research and teaching.*)
- The work, ideas, and findings of women or minorities may be undervalued or unfairly attributed to a research director or collaborators despite contrary evidence in publications or letters of reference. (*Recall the biases seen in evaluations of written descriptions of job performance, and the attribution of success to luck rather than skill.*)

- The ability of females or minorities to run a research group, raise funds, and supervise students and staff of different gender or ethnicity may be underestimated. (*Recall social assumptions about leadership abilities.*)
- Assumptions about possible family responsibilities and their effect on the candidate's career path may negatively influence evaluation of a candidate's merit, despite evidence of productivity. (*Recall studies of the influence of generalizations on evaluation.*)
- Negative assumptions about whether female or minority candidates will "fit in" to the existing environment can influence evaluation. (*Recall students' choice of counselor.*)

Tips for Reviewing Applicants:

- Learn about research on biases and assumptions
- Discuss research on biases and assumptions and consciously strive to minimize their influence on your evaluation of candidates.
- Develop criteria for evaluating candidates and apply them consistently to all applicants.
- Spend sufficient time (15-20 minutes) evaluating each applicant.
- Evaluate each candidate's entire application; don't depend too heavily on only one element such as the letters of recommendation, or the prestige of the degree-granting institution or post-doctoral program.
- Be able to defend every decision for rejecting or retaining a candidate.
- Periodically evaluate your decisions and consider whether qualified women and underrepresented minorities are included. If not, consider whether evaluation biases and assumptions are influencing your decisions.

*Diversity of experience, age, physical ability, religion,
ethnicity, race, and gender contributes to the
richness of the environment for teaching and research.*
