AC 2008-1626: DEMYSTIFYING THE FACULTY SEARCH PROCESS: INCREASING WOMEN'S PURSUIT OF ACADEMIC CAREERS THROUGH KNOWLEDGE AND NETWORKING

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Demystifying the Faculty Search Process: Increasing Women's Pursuit of Academic Careers through Knowledge and Networking

Abstract

The under-representation of women and U.S. ethnic minorities in science, technology, mathematics, and engineering (STEM) is a well established fact. There are numerous studies that disclose reasons for this under-representation at all steps along the academic process. In response to this research and in the interest of bridging the Ph.D. and postdoctoral scholar steps into an academic career, the Cockrell School of Engineering at the University of Texas at Austin, the George R. Brown School of Engineering at Rice University, and the Wiess School of Natural Sciences at Rice University in Houston, Texas have designed and hosted workshops since October 2004 entitled, *Negotiating the Ideal Faculty Position*. The workshops at Rice University are funded through a National Science Foundation (NSF) ADVANCE institutional transformation grant. At each of these workshops, a national invitation was extended and 350-730 women responded with applications. This level of response clearly demonstrates the interest in the topic and, at the same time, the lack of information available to women in their local institutions.

One to three follow-up surveys have been completed by the workshop participants. The longitudinal data show that these workshops have had a strong impact on the participants' career paths, with a high percentage pursuing (and succeeding in) academic careers.

The workshops have three goals:

1. To provide critical information to female postdoctoral scholars and Ph.D. students about the academic career application process.
2. To provide information to women in STEM about academic careers and encourage them to pursue this career.
3. To give the departmental faculty an "early" look at women in their departmental fields so they have a chance to recruit highly qualified women to faculty positions.

The third goal provides one of the most interesting questions for universities interested in diversifying their faculty. What models of recruiting are most effective and how can we change our "search committees" from "envelope opening" to true "search" committees? Can workshops provide a model and not just be seen as another workshop to "fix" the women? Can a nationally accessible database of female postdoctoral scholars and Ph.D. students provide search committees with quality applicants? Will search committees use such a source to search for faculty candidates?

Negotiating the Ideal Faculty Position Workshop

The Cockrell School of Engineering at the University of Texas at Austin (UT Austin) developed a three-day, interactive workshop called, *Negotiating the Ideal Faculty Position* (NIFP), for female Ph.D. students (within two years of degree completion) and postdoctoral scholars interested in academic careers in engineering. This workshop was first offered in Fall 2004. The

workshop was offered in 2006 and 2007 at Rice University, where it was broadened to include both engineers and scientists. Participants from across the U.S. were invited to submit applications to attend, and travel funds were provided for those selected. The primary workshop goal was to inform participants about the key factors in finding and successfully negotiating for the faculty position that best matched their long-term career goals; secondary goals were to identify a pool of excellent female graduate students and post-docs interested in future faculty positions and to develop a positive relationship between these candidates and faculty within a potential hiring department.

The workshop was advertised by mailing a flyer to engineering and science deans in the U.S. and by sending a notice through listserves that target the female engineering and science academic communities. At the UT Austin, 351 applications were received from engineers for the 40 available spaces; the number of applicants was greater than one third of the entire national pool of female engineering Ph.D. recipients in the U.S. in 2003.[1] Similar advertisement strategies were used at Rice University; 712 applications were received in 2006 and 735 applications were received in 2007 from engineers and scientists. Given that publicity costs were minimal (less than $60 was spent on the first workshop for advertising), this response demonstrates a significant interest in and a lack of information about obtaining academic positions**.** Attendees in each area were selected by a committee composed of male and female faculty members from relevant departments. Many departments circulated applications in their area to broad groups of their faculty to select candidates, ensuring that potential search committee members had access to resumes of a significant pool of potential future female faculty candidates.

At both the UT Austin and Rice University, the workshop content (Table 1) was designed with major input from faculty across the relevant disciplines, including department chairs and search committee members. Workshop activities were designed to be highly interactive. For example, attendees presented the first 10 minutes of their interview seminars to an audience of faculty members and attendees; participants were then provided critical feedback on how to improve the presentation. Candidates were also given an opportunity to practice answering potentially difficult questions that might be posed during an interview or seminar. To help structure workshop sessions, candidates were asked to anonymously submit their biggest concern regarding their job search (Table 2) and various panels of faculty members were organized to discuss and respond with potential solutions. These concerns are consistent with other research findings for female candidates; for example, graduate students in the life sciences cited concerns related to finding a job, balancing personal and professional responsibilities and

Table 1: Topics Covered in Negotiating the Ideal Faculty Position Workshop

- Finding the right institutional fit for you
- What is a search committee looking for?
- Putting together a successful faculty application
- How to stand out in the interview
- How to maximize the impact of your interview seminar
- How and when to negotiate a good start up package
- How to safely find out about the culture of the department & college
- Choosing good collaborators
- How to obtain funding
- Building your lab
- Time management
- Understanding the tenure process
- Balancing work and family

Presentation materials can be found at:
http://cnx.org/content/col10442/latest/

Table 2: Concerns Expressed Regarding Academic Job Search:

- Lack of Self-Confidence:
  - Not getting any offers
  - Getting an offer and finding that you are incapable of doing the job
  - Appearing too eager or too aggressive in an interview
  - How to project confidence when you are very nervous
  - Fears regarding inability to obtain funding
  - Concern about ability to get tenure
- Work-life Balance:
  - Fear that my job will consume my life
  - Coordinating searches for two career couples
- Workplace Environment:
  - Fear that environment will be unsupportive of women
  - Concern about cultural differences (for international students)
- Information Regarding Job Search and Job Skills:
  - Concerns about presenting seminar and answering difficult questions
  - Concern regarding accurately estimating start up needs
  - Concerns regarding teaching a first class
  - Concern about how to differentiate your own work from that of your advisor
  - Fear of not being an effective mentor
  - How to decide between multiple offers

these outstanding candidates had in terms of considering a future academic career. Many institutions, including top ranked Research 1 schools, find that women consistently turn down academic job offers at a far higher rate than male candidates.[3] Understanding the concerns of under-represented graduate students and postdoctoral scholars will help department chairs develop the elements of a job offer that can enhance successful recruiting.

Workshop Success Indicators

Participants were surveyed prior to, immediately following, at six months, and at one year following the workshop to assess the potential benefits of attendance (Figure 1). Immediately following the workshop, participants rated the overall value of the 2004 UT Austin workshop as 4.72 on a 5-point scale (5 = Extremely Valuable); in 2006, a similar rating of 4.62 was reported by the Rice participants; and in 2007, Rice participants rated the workshop value as 4.25. On post workshop surveys, 59 percent of the 2004 UT Austin participants indicated greater confidence that a faculty position was a good match for their career interests. Similarly, 53 percent of the 2006 Rice participants and 56 percent of the 2007 Rice participants indicated greater confidence that a faculty position was a good match for their career interests. Sixty-eight percent of the 2004 UT Austin participants indicated greater interest in pursuing a faculty position at a Research 1 institution as a result of the workshop. Similarly, 53 percent of the 2006 Rice participants indicated greater confidence and 56 percent of the 2007 Rice participants indicated greater confidence that a faculty position was a good match for their career interests. Eighty-two percent of the 2006 Rice participants indicated greater interest in pursuing a faculty position at a Research 1 institution as a result of the workshop. Many attendees have concluded their first job searches and have written to describe the impact the workshop made on their search.

academic and professional development as the most pressing concerns regarding pursuing an academic career.[2]

During one Rice session, participants wrote down what they "feared" about an academic career. The partial list of those fears is in Table 3. This further demonstrates the need to understand the concerns of under-represented groups going into academic careers.

Faculty who participated in the workshops were directly exposed to the concerns that

Table 3: Fears about Academic Career

- Balancing work and family
- Writing grants and getting funding
- Getting tenure
- Failing
- Getting the right offer
- Making an impact on students
- Isolation in the male dominated workplace
- Not able to have a life
- Not creative enough

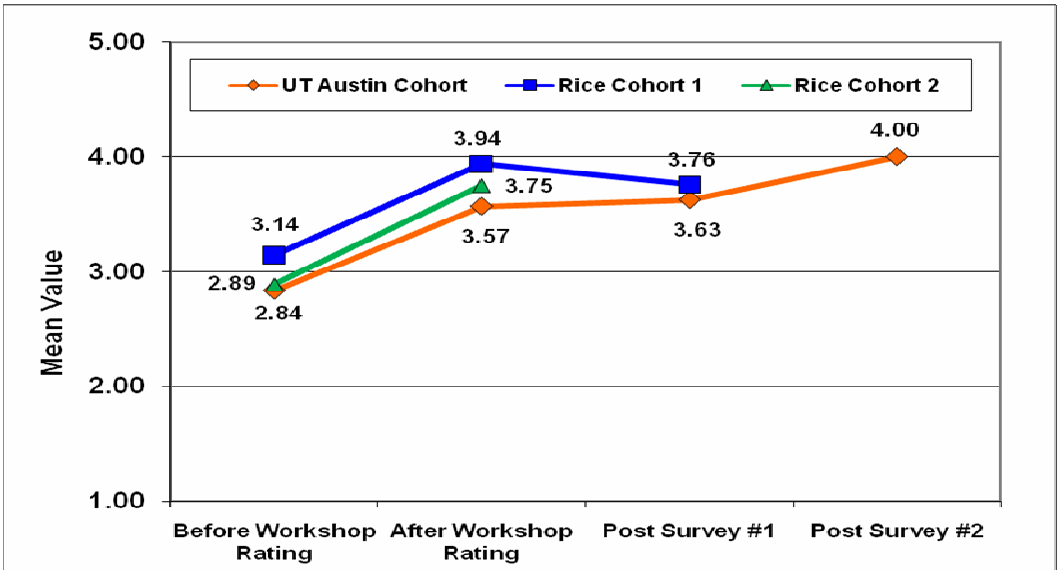

Figure 1: Mean participant rating for participants in response to the question: **"How confident are you that a faculty position is the right match for your career?"** Responses are shown on a 5-point scale (1-Not at All Valuable, 2-Somewhat Valuable, 3-Valuable, 4-Very Valuable, 5-Extremely Valuable.

"I looked through the workshop materials numerous times during the search process, and took the folder with me to the first few interviews. The information on evaluating the "goodness of fit" was the most valuable to me personally. That information enabled me to determine what I needed to be successful and happy. It also helped me notice potential issues at each university and evaluate where or not the issues were things I could overcome or accept. Most importantly, it helped me make my decision based on what university was best for me, not what was the best ranked, or what my top choices were at the beginning of the process. I hope that your workshop will continue and that other universities will start holding similar workshops." ***2004 workshop participant***

"I still feel that the most important thing I gained from the workshop was confidence. It was inspirational to meet so many successful scientists who had families, were very happy with the decision they had made to stick with academia. It was also great to meet other fabulous women in my situation." ***2006 workshop participant***

The workshop provided candidates with formal access to information and valuable skill building opportunities, which are usually only transmitted through informal mentoring relationships. Bringing together a large group of female attendees also helped to develop a network of peers, many of whom share similar concerns. The large number of female faculty presenters offered an introduction to women who had negotiated these issues in their own careers. The participation of male faculty expanded the mentoring network and demonstrated broad-based support for diversifying the academic ranks. Several other institutions have recently hosted workshops with similar goals, including the University of Maryland at Baltimore County, Virginia Tech, and George Washington University.

The workshop planners did not anticipate the extent to which planning and executing the workshop would initiate new conversation and actions among a diverse group of faculty. These interactions focused on improving mentoring of students interested in academic careers,

diversifying the candidate pool, and developing strategies to help candidates succeed. Over 60 faculty from UT Austin (approximately 25% of the total engineering faculty) and 78 faculty from Rice (36% of the total faculty in science and engineering) participated in the inaugural workshop at each institution. Many of them, including those who serve on search committees, were able to meet a large number of outstanding female students and postdoctoral scholars interested in pursuing an academic career. Following the 2006 workshop, Rice department chairs were surveyed to determine if workshop participants were being considered for faculty positions. Five out of 14 department chairs responded; one participant was interviewed; one was invited for a seminar; and six were being targeted for future consideration.

National Database of Women in STEM fields

In addition to the workshop, the Rice ADVANCE Program established a database of CV's from applicants who wished to share their materials with institutions searching for science and engineering faculty. To date, 1368 out of 1447 (95%) applicants and participants have chosen to include their materials in the database. The database was advertised by mailing a postcard to over 600 institutional contacts and putting the information on multiple listserves. The ADVANCE office and bioengineering staff worked with Rice web services to develop an interactive website for the database. The site is searchable by field, name, research area, and school. The search results are down-loadable into an excel spreadsheet.

The Rice ADVANCE Program received multiple requests from faculty about opening the database to additional women. A "contributor" designation was created in response to this request. The database continues to be open to those who want to apply for the NIFP workshop and to those who just want to contribute their CV information.

In 2007, to increase the diversity of the database and workshop participants, the ADVANCE staff created a mailing list of over 450 faculty members who are U.S. ethnic minorities and/or who participate in an ethnic minority network through programs such as AGEP, Sloan Fellows, AMP, and/or GEM. We also used a list of minority-focused listserves to post NIFP information and faculty positions.

Database Indicators of Success

The database website went live in November 2006. It was updated with 2007 applicants in September 2007. Updating the database in the early fall proved to be a much better time frame for search committees to make use of the resource, as evidenced from the usage data. (Administrative hits by Rice staff are taken out of these numbers):

November 2006 through August 2007: 130 logons
September 2007 through November 2007: 253 logons

To date, there have been over 700 visitors representing 98 different universities. Sixty-two percent report they are part of a faculty search committee. This demonstrates a national interest in diversifying the faculty as well as the need for a national candidate database. (The database can be found at http://www.advance.rice.edu/database/.) Table 4 shows the wide range

departments that have used the database from its inception in 2006.

Table 4: Rice ADVANCE Database Usage by Department 2006-07

	Engineering									
Dept	*AE*	*ApplMath*	*BIOE*	*Civ/Env*	*ChemE*	*CS*	*ENGR*	*ECE*	*ME/MatS*	*Stat*
Non Rice	2	9	9	21	14	54	30	31	24	3
Rice	4	4	12	23	23	13	8	16	11	7
Total	6	13	21	44	37	67	38	47	35	10

	Sciences								Non-STEM	
Dept	*Biol*	*Biochem*	*Chem*	*Earth Sci*	*Ecol/Evol Bio*	*Math*	*Phys*	*Sci*	*Arts&Sci*	*PSYC*
Non Rice	20	1	26	9	1	26	28	6	20	6
Rice	5	5	17	16	4	18	39	3	3	2
Total	25	6	43	25	5	44	67	9	23	8

Where Do We Go From Here?

To encourage faculty committees to search "actively" versus "passively" for candidates, search committees must explore underlying assumptions about the search process itself. Passive search committees reflect the attitude of: "We are a top university. The best candidates will naturally apply." On the other hand, active search committees understand the challenges in recruiting the best candidates, especially women and minorities. They approach searches with the assumption that: "The best candidates are highly recruited. We must seek them out." Figure 2 displays this search continuum.

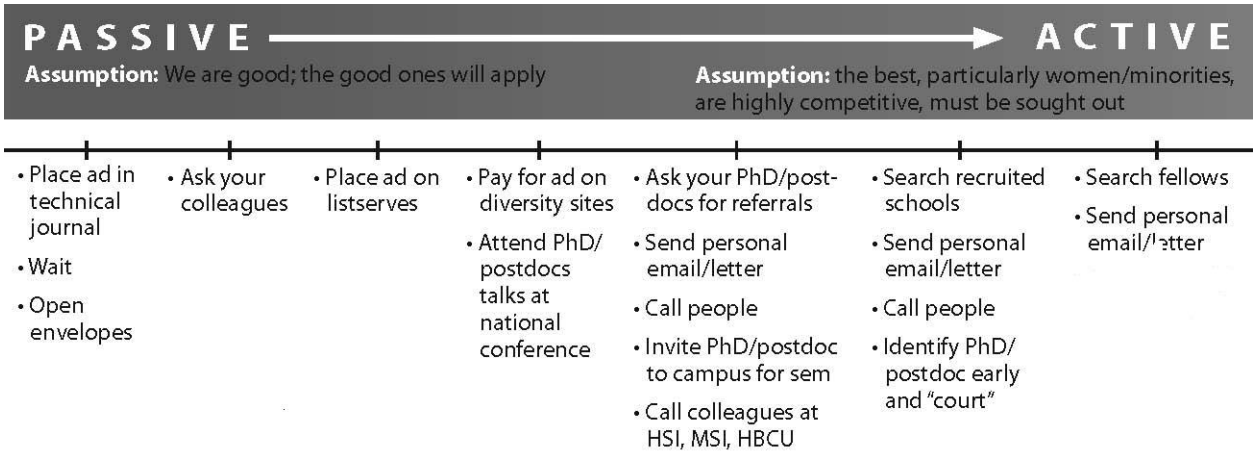

Figure 2: Search Committee Continuum

In addition, there needs to be a simple and easy-to-use source of information. Faculty members naturally network as part of their professional lives. But women and ethnic minorities are often missed in these established faculty networks. An "active" search would involve many different

avenues for identifying under-represented scholars. The Rice ADVANCE database is just one of these many avenues.

The traditional faculty search committee process is fairly straight-forward and involves posting the job in the major technical journal and asking colleagues for recommendations. To enrich the candidate pool and to change the search committee process, a centralized database of possible faculty candidates would be highly useful. The current ADVANCE database provides the early beginnings of such a resource. But there is still work to be done. With the NIFP workshop as an incentive, it entices people to put their information into the database. So the question remains, can this database become an integral part of most national searches? If so, Ph.D. and postdoctoral scholars will continue to enter their information regardless of workshop participation. Without their information, the database's value will become limited.

Given the overwhelming number of applications submitted for the UT Austin and Rice workshops, it is clear that NIFP workshops are addressing an unmet need to provide female Ph.D. and postdoctoral candidates with relevant and timely information about pursuing academic careers. This need can be met by offering similar NIFP workshops on an annual basis at multiple institutions. Yet, the real message behind the overwhelming number of applications points to change needed at the institutional level. With proactive and intentional mentoring, faculty can serve as a powerful and positive influence in increasing the number and quality of Ph.D. and postdoctoral candidates choosing academic careers. But being a proactive role model requires more than simply doing one's job and assuming Ph.D. and postdoctoral candidates will learn through observation.

In terms of the search process, relying primarily on recommendations from colleagues has not produced a diverse faculty pool. Utilizing candidate databases, such as the one created by the Rice ADVANCE program, will help change the culture of the faculty search process. This change is desperately needed to promote institutional practices that truly celebrate and demand diversity within faculty ranks.

NOTE: The Rice NIFP presentation materials can be found on the web at: http://www.advance.rice.edu/negotiatingtheidealfacultyposition/resources.html. These materials can also be found on the open source Connexions website at: http://cnx.org/content/col10442/latest/

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