

# New faculty members and postdoctoral fellows spill the beans

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## ABSTRACT

Applying for an academic position can be a daunting task. In this panel, we talk with a few new faculty members in the field of visualization and find out more about the process. We share some insights into how does one go about finding an academic position, what kind of material is required for the application packet, how do you prepare the material, how does one apply for the faculty position, what happens on the day of the job interview, what would new faculty members have wished they had known before they applied and much more.

With many universities facing budget cuts in this economy, the likelihood of new faculty positions opening up may be slim. We discuss the wonderful alternative of taking up a postdoctoral position. Postdoctoral fellows on the panel will share their experiences and discuss what the position entails.

## 1 INTRODUCTION

For graduate students and postdoctoral fellows, academic careers always seem to be a challenging proposition. Other than your advisor, one can get very little advice regarding the process of applying for a faculty position, getting an interview and negotiating with the hiring department and university once you get an offer.

In this panel, we will discuss the process of obtaining an academic position. The panelists will address issues such as what is the application process, how does one go about preparing for the interview, the chalk talk, meetings with faculty members and students at the prospective department. The new faculty members on the panel will talk about what they wish they had known before they interviewed or accepted the position. In the current economic situation with most universities facing budget cuts, new academic positions are harder to come by. We discuss the option of a postdoctoral position which allows one to gain some valuable experience before taking on more responsibilities as a faculty member. The postdoctoral fellows on the panel will share their experiences of getting a postdoctoral position, the job talk and what the job entails. Since the panelists come from a wide range of backgrounds including information visualization, scientific visualization, medical visualization and human-computer interaction, they will be able to touch on issues pertaining to those fields.

## 2 JEFFREY HEER, STANFORD UNIVERSITY

### *Position Statement*

I will share my experiences navigating the academic and industrial research job circuit, variably describing and speculating on topics such as:

- Why engaging application materials matter
- The ups and downs of letters of recommendation

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- Strategically scheduling your interviews
- Cultivating internal champions
- Planning and practicing ones job talk
- Remembering to have fun with the interview process
- Framing negotiation as enabling research success
- Deciding whats right for you - An exercise in multi-objective optimization (?)
- And a good problem to have: the pain of rejecting offers

### *Biosketch:*

Jeffrey Heer is a newly minted Assistant Professor of Computer Science at Stanford University, where he works on human-computer interaction, visualization, and social computing. Heer's research has produced novel visualization techniques for exploring data, software tools that simplify visualization creation and customization, and collaborative analysis systems that leverage the insights of multiple analysts. He has also led the design of the Prefuse, Flare, and Protovis open-source visualization toolkits, which have been downloaded over 100,000 times and used by the visualization research community, numerous companies, and thousands of data enthusiasts. Heer is the recipient of the ACM CHI Best Paper Award, a PARC Outstanding Performance Award, an IBM Faculty Award, and UC Berkeley's C.V. Ramamoorthy Distinguished Research Award. Heer received his B.S., M.S., and Ph.D. degrees in Computer Science from the University of California, Berkeley. Over the years, he has also worked at a number of research laboratories and corporations, including Xerox PARC, IBM Research, Microsoft Research, and Tableau Software. The connections forged at each proved indispensable to Heer's landing a job elsewhere.

## 3 GORDON KINDLMANN, UNIVERSITY OF CHICAGO

*Position Statement:* Finding a faculty job requires planning, self-definition, and self-confidence. At the earliest stages, one has to research different institutions that may have openings, and learn as much as possible about the work environments, so that you can make an informed decision about whether you want to apply. At an early stage, one has to determine which peers and advisors will be in a position to write letters of recommendation, so that they can be given sufficient notice prior to the application deadline. The central piece of self-definition is writing the Research Statement which gives a coherent high-level statement of your research context, significance, accomplishments, and goals. It is useful to give a nearly finished research statement to those from whom you are requesting letters of recommendation, which means work on the research statement should start very early. The work of self-definition continues into the interview process, which also taxes one's self-confidence. During all conversations, interviews, and the main job talk itself, a faculty candidate must be able to describe their work and its impact with extremely concise and palatable terms, which are ideally oriented with respect to the research areas of that department.

My path to a faculty job took a meandering route from a BA in Mathematics (Cornell 1995), to an MS in Computer Graphics (Cornell 1999), a PhD in Computer Science (University of Utah 2004),

and a post-doc in Radiology (Brigham and Women's Hospital, Harvard Medical School). While I suspected that I wanted to pursue a faculty job in Computer Science, the post-doc played the valuable role of helping to ground my research in a clinical and biomedical research context. My job search began with perusing the CRA job postings, and learning about the institutions that could provide a helpful context for the kind of collaborative research I would pursue. My PhD advisor Chris Johnson was ultimately the one who put me in contact with Ian Foster in the Computation Institute at University of Chicago, where my appointment is shared with the Department of Computer Science.

Writing the two-page Research Statement took about three months of solid work. For each of the applications, I wrote a cover letter that demonstrated my understanding of how my work will complement the directions of ongoing research at that university. After submitting all application materials, only one university offered me an interview. I prepared for the interview by learning as much as possible about the different faculty members, and thinking about concise ways of describing my work that would make sense to them, as well as thinking of questions that demonstrated my interest in their work. If the university offers a position, the ensuing negotiation process is very different for everyone, depending on their offers and needs, but some basic advice holds. Prepare for the negotiation (prior to the offers) by calculating what you will need in order to become a successful self-sufficient researcher, taking into account variables such as startup money, teaching reductions, office space, and access to computational facilities. What the university describes in the initial offer may be significantly different from what are actually able to accommodate, so it is important to actually ask for what you need, and document that need.

#### 4 MIRIAH MEYER, HARVARD UNIVERSITY

##### *Position Statement:*

Sometime in the last six months of my PhD work it struck me how much I loved doing research, but also that there were research directions I was interested in and had not yet explored. A postdoctoral position seemed like a great opportunity to try something new while staying involved with academics and the research community. To find positions, I took two approaches: first, I contacted professors and senior researchers that I had met over the years at conferences and from visits to my lab; and second, I asked professors in my lab to inquire about opportunities with their colleagues at other institutions and to make introductions. The talks I gave were painstakingly put together to tell the most clear and concise version of my research story. I ultimately selected a post doc position with a researcher I had known for years, someone I knew would be supportive and encouraging. The position was very open-ended, which gave me lots of room to explore and choose a new research path for myself. This freedom and support, coupled with amazing collaboration opportunities at my host university, makes for what I would consider an ideal postdoctoral position.

The Do List, for finding and landing a postdoc:

1. Do take initiative and contact people you've met, and ask others to contact people for you.
2. Do make arrangements to visit labs and give talks whenever you travel away from home.
3. Do talk about your work with every researcher that visits your lab.
4. Do spend significant time putting together your talk slides and figuring out your research story.
5. Do consider the resources you will need, for both equipment and collaborations.

The Don't List, for enjoying and succeeding in your postdoc:

1. Don't start your postdoc (or any job) until you have completed your graduation requirements.
2. Don't hesitate to leave your PhD institution for a postdoctoral position with new research and new collaborators at a new institution.
3. Don't miss any opportunities to mix and mingle with researchers both inside and outside of your field.
4. Don't forget to celebrate your hard earned degree and exciting new job!

##### *Biosketch:*

Miriah Meyer is a postdoctoral research fellow in the School of Engineering and Applied Sciences at Harvard University. She obtained her bachelors degree in astronomy at Penn State University, and earned a PhD in computer science from the University of Utah where she worked in the Scientific Computing and Imaging Institute. Miriah has published at the Visualization and Shape Modeling conferences as well as in TVCG, and she has also written stories for the Chicago Tribune newspaper.

#### 5 ALARK JOSHI, YALE UNIVERSITY

##### *Position Statement:*

Postdoctoral positions are a great way to gain experience in a slightly different application domain. Very rarely would a graduate student get the opportunity to continue working on the exact same topic that s/he focused on during their graduate career. I will make the case for considering a postdoctoral position and my experience so far which touches on the following :

- Find someone you would like to work for. Be proactive at conferences and make new connections.
- Application process for a Postdoctoral position - cover letter, curriculum vitae, reference letters.
- The Postdoctoral fellow hiring process
- Co-teaching a course with your mentor and helping create class notes
- Working on research project and obtain own funding through postdoctoral fellowships
- Help with writing grants - Get a close look at the entire grant writing process (writing, submission, review, progress reports)
- Mentoring high-school students, undergraduates and graduate students.
- Giving invited talks at your university (in other labs/departments) and other universities. This can help your future career prospects significantly.
- Strengthening your faculty application by gaining vital teaching and research experience.

##### *Biosketch:*

Alark Joshi is a Postdoctoral Associate in the Diagnostic Radiology Department at Yale University. His research is focused on developing novel visualization tools for neurosurgical applications. Previously, he worked on applying illustration-inspired principles for providing temporal context to time-varying data visualizations. He received his Ph.D from the University of Maryland Baltimore County, his M.S. in Computer Science from the Stony Brook University and his B.S. degree from the University of Pune, India. He owes his interest in medical visualization to his stints at VitalImages Inc. and Siemens Research.