Research Job Interviews: The Unwritten Rules

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Short history

- I worked at Exxon Production Research for 5 years, Sandia National Labs for 15 years, and Lawrence Berkeley National Lab for 5 years
- Interview on average of 20-25 people/year
- My current department has ~150 staff, approximately 70-80 PhDs

WARNING

The stories you are about to hear are true; only the names have been changed to protect the innocent

Act I – Finding a Position

Finding a research position

- You should think of finding a research position as a 3-4 year process - NOT something you do in your final semester
- Concentrate on what you like to do - not how much money you'll make
- Find a mentor who can guide you through this process

Getting your foot in the door

- The MYTH of job postings
  - Most posted jobs are already taken
  - Many jobs are never posted
  - Good candidates make their own job postings

- Getting your CV looked at
  - Use your network for introductions – no, it's not cheating!
  - Go to conferences/seminars
  - Write letters – to the right people
  - Use email – correctly

15 Seconds per CV

- READ you're CV; double check spelling and grammer
- Tailor your CV to the position you are applying for (see reading a job posting)
- List your accomplishments
- Try to be specific rather than general - but don't go overboard

Reading a job posting

Postdoctoral Researcher
XXXX

KEY SKILLS DESIRED: Scientific computing, Applied Mathematics, C++, Fortran
POSITION SUMMARY

The XXXX has a number of openings for postdoctoral researchers to work on the development of numerical algorithms for partial differential equations and their application to a variety of problem areas of interest to DOE. For more information about the XXXX, please visit http://www.lbl.gov/great/research/.

DUTIES
Required -- The development of numerical methods and adaptive algorithms and the application of such methods to the investigation of fundamental physical phenomena arising in a variety of areas. Particular application areas of interest include astrophysics, combustion, flow in porous media, multiphase flow and nanoscience.

QUALIFICATIONS
Required -- Ph.D. in Applied Mathematics, the physical sciences or Engineering within the last 5 years, with a strong research background in computational methods and scientific computing. Preference will be given to an applicant with research experience in the development of high-resolution numerical methods for partial differential equations.
Desired -- Programming experience in C++ and Fortran is highly desirable.

POSTING DATE: February 15, 2007

CLOSING DATE: Open until filled.

Research statement of interest

- More and more companies are asking for one
- Think in terms of a 3 page mini-proposal
- Motivate your proposed research
- Be clear, concise, and give one or two options

Act II – In The Door

I'd like you to give a presentation

- Who's the audience?
  - You have to know the audience
  - Be flexible – you don't know who will actually be in the audience until the day of the talk
- What's the purpose of the talk?
  - High level overview
  - Technical project description
- How long should it be?
  - Different length talks have different purposes

Excerpted from http://hpcrd.lbl.gov/~meza/talks/GivingTalks.pdf

What should you include in your talk?

- Why is this problem important?
  - Why should I care?
- What was the outcome/product/….
  - Did you actually finish something?
- What was *your* contribution?
  - OK to use words like “we”, “the group”, “my advisor”, but they must be offset by words like “This is my main result”

How long should your talk last?

- 1 hour
- 50 minutes
- As long as people keep asking questions
- As long as it takes

The single most important point is that you MUST finish on time.

Probably the most important aspect of the entire interview is your presentation

- The interview talk can make or break the interview
- You need to be able to convey:
  - Technical competence
  - Critical thinking/analytical skills
  - Self-confidence
- Practice your talk ahead of time
- Prepare for questions, especially the really obvious ones, n=1

What do we look for and why …

- Mainly looking for accomplishments and technical competence
  - Papers published, software written, etc.
- Communication skills
- Signs of leadership and initiative
- Teamwork and multidisciplinary projects

What do we look for (cont.)

- High level of creativity/curiosity
  - Much sought after - and very rare
  - Critical thinking skills and follow-through
- High level of enthusiasm
  - More important than you might think
  - Team dynamics increasingly important

Act III
What We Don't Want To Hear

Easy Ways to Not Get a Job Offer

What do you want to work on?

- I'm very flexible
  - I don't know what I want to do
- Anything you want me to work on
  - I don't know what I want to do
- I don't know
  - I don't know what I want to do,
  - But you have to respect his/her honesty

Why did you work on this problem?

- Because my advisor told me to
  - I need to be told exactly what to do
- It looked kind of interesting
  - I can’t prioritize tasks, or
  - I don’t get out much
- I wanted to graduate
  - I ran out of funding

How would you measure a successful postdoc term?

- I published papers
  - Quality is just as important as quantity
- I learned something new
  - It's not all about you - what did you accomplish for the grant that you worked on

Where do you see yourself 5/10 years from now?

- I want to be doing research
  - Duh!!!
- That's such a long time from now
  - Short-attention span
- I would like to be in a leadership position
  - Can he/she work with others? Leadership is earned not given

Do you have any questions?

- I can't think of any right now
  - I came unprepared for this interview
- No, you've covered everything so well already
  - I wasn't paying any attention
- Tell me some more about your group
  - I know I should ask questions and I'm buying time until I can think of one

Dinner conversation

- So now you can relax, right ?
  - Think again, you're still on an interview
  - Follow your host/hostess lead
  - Again, act excited
- Is there life after work?
  - Now is a good time to ask those questions
  - Try to find out how you'll fit into the group
- Stay away from hot-button issues
  - Politics, religion, American Idol

Act IV – Closing the Interview

Closing the interview

- Thank you!
- Convey excitement
- Explain what you would contribute
- Follow up with a handwritten note – not email

Summary

- Be assertive in all aspects of the job search
- Demonstrate follow through and professionalism
- Show enthusiasm
- Have a game plan for what you want to say and practice it

Thank you

Extra Material

Discussion

Typical Interview Questions

Telephone Interviews

Discussion after AGEP presentation

Special Thanks

Dr. Bonnie Bartel

Dr.Illya Hicks

Mr. Josef Sifuentes

Applying to Graduate School

- Most of the advice in this talk applies to graduate school applications.
- Most probably you won't have to give an interview talk.
- Professors will want to know what you would like to work on.
- Don't say you don't know.
- Write a research statement of interest.
- Look up publications on the faculty.

More Interview Tips

- Look up pictures of people that you might be interviewing with so that you can recognize them.
- Be nice to everybody - you don’t know who will be giving feedback on your interview.
- All faculty have a vote, not just the search committee.
- Taxi/limo drivers see many candidates and could report back to the committee/other faculty.
- HR and administrative assistants are especially important as many people want to see how you behave with respect to non-technical people.

Handling Illegal Questions

- Sometimes you may get asked an inappropriate or illegal question. Thankfully this is becoming more and more uncommon
- Decide if you really want the job. If yes:
  - Answer concisely and move to the next topic
  - You can be non-committal or say you're not sure, etc.
- If you don't want the job, you may respond by asking how the answer is related to the job position, or point out that you feel uncomfortable with the question.
- Be professional in however you choose to react. Usually it's just one or two people within a group and it may be well-known that it's a problem, so how you react is more important than what your answer is

Typical Interview Questions

Typical questions

1. Tell me about yourself.
2. Where do you want to be in five years?
3. Why should I hire you?
4. What have you learned on your own?
5. What would you like to know about us?
6. How do you work under pressure?
7. What do you expect to accomplish here?
8. What kind of decisions do you find most difficult to make?
9. Give me an example of ….

Off-the wall questions

- If you were an animal, what would you be?
- If you are a part of a salad, what part are you?
- If you were on an 8-hour transatlantic flight, who would you want to sit next to you and what would you talk about?

60 Seconds & You're Hired!, Robin Ryan, Penguin, 2000

Questions you might ask

1. What would a normal working day be like?
2. Can you explain the position and the type of candidate you would like to hire?
3. What do you expect from the successful candidate in the first three months?
4. Who will the new employee report to?
5. Do you see any major changes within the company that will affect this position?
6. How often are performance reviews given?
7. Does the company provide any training or other educational opportunities for staff?

Telephone Interviews

The initial phone call

- Preparing for the interview
  - Read up on the company
  - Read up on the department
  - Read up on your new boss
- Asking questions
  - Be ready with questions
- Act excited !
  - Do you really want the job?
- Warn your roommates, spouse, children, …

If you have any comments, suggestions, or personal interview stories that you would like to share I would be delighted to hear from you.

You can contact me at JCMeza@lbl.gov

The End