

Job Searching Tips

This is a compilation of advice that I hope will help you in your job search. It is just a guide. Everyone's job search experience will be different.*

General Advice:

- Customize your application to the particular department.
- Looking for jobs is a 2-3 year process, so start **NETWORKING** early!!!
- Be honest. Don't apply for a job you wouldn't want (consider geography). You'll be wasting your time and theirs. But also keep your options open.
- If they say they're looking for a person in a specific research area, they mean it.
- Try not to apply to your top-choice universities first. Make sure you iron out the kinks and typos in your application first.
- Create a personal webpage so employers can find more information if desired.

Timeline:

- Application deadlines are mostly October through January. Some are in September, February, and even after.
- Submit your materials on time! Aim in advance of the deadline date.

Section 1: CV/Resume

This is a chance to detail your career history in full.

A CV should have three main components:

1. Research
 - Grants – don't forget travel grants
 - Talks – distinguish between the different types
 - Invited, plenary, contributed, seminars
 - Publications
 - Refereed, Non-refereed (proceedings), Technical reports, Manuscripts in preparation, Number of citations
 - Software- say what package you worked on and # of downloads
2. Teaching
3. Administration

General Comments:

- Regularly update your CV. You can ALWAYS improve your CV. Get others to edit.
- Have different versions (e.g. 2 or 4 page versions with highlights)
- Consider restructuring your CV with main achievements at top.

* Much of the advice presented here comes from my own personal experience, as well as notes from a professional development evening at the 2008 SIAM Annual Meeting. I have also incorporated some advice that Lisa Perrone compiled upon finishing graduate school.

Section 2: Cover Letters

Write a GOOD cover letter! This is your first impression.

Cover Letters:

- Make it specific to the job you are applying for.
- Have different cover letters, each emphasizing your different strengths (e.g. research, teaching). **What stands out about you? What is different about you?**
- Tailor your letter to each department:
 - Mention personal contacts in the organization/school that either asked you to apply or told you about the position.
 - Make a connection to the department by addressing how you would work with and relate to those already in the department.
- Go online for examples and advice, but anyone can spot a letter copied from a form.
- Indicate if you will be at the joint meetings (if going) for any ad that mentions it.
- If applying somewhere in a far-away place, write something to indicate that you are willing and eager to move there.

Section 3: Research and Teaching Statements

These are perhaps the hardest things to write. Start early!

Some variations that might be requested in a job listing are:

- brief (one-page) research statement
- statement on research accomplishments and future work
- teaching philosophy
- teaching goals and philosophy
- special teaching experiences and philosophy
- statement on teaching in a liberal arts setting
- statement on how you would meet the needs of a diverse student population

Research Statement:

- Show that you are good at what you do and that you have future ideas
- Write to non-experts in the area, write to a more general audience
- Clearly discuss what you do, what you are planning to do, and what you will do in 5 years (future planning). Show that you see the bigger picture.
- Discuss the work you completed, any works in progress, and any future plans.
- Mention possible interdisciplinary collaborations

Teaching Statement:

- Make it personal. Tell about your experiences.
- Describe how you organize a typical course – homework, examples, etc.

- For example: if you want to mention your homework policy, don't just write how often you assign homework; tell *why* you assign as often/infrequently as you do.
- What are your particular interests? What courses would you like to teach?
- Describe any special teaching experiences -- this will distinguish you from the crowd.
- Consider NOT reading other people's essays because you might find yourself influenced by them.
- Ask friends and your research advisor to read and critique your essay.
- Take plenty of time to think about your teaching statement. The more you've defined and delineated your teaching style, goals, and philosophies for yourself, the better your essay will be, and the more prepared you'll be for your interviews.

Section 4: Reference Letters

Who you know and what they think of you is very important.

Reference Letters:

- Plan ahead.
- Ask 4 reliable people to write and send letters of recommendation, even though many departments only request 3 (some ask for 5)
- You need different groups to talk about your teaching and your research.
 - Ask a faculty who watched you teach to give a detailed letter.
- Your letter-writers are doing you a *favor*, so be *grateful*.
 - Be organized for them
 - Let them know what type of position(s) you are seeking
 - Tell them your favorites
 - Make a list of names and addresses and application deadlines
 - For snail mail, offer to prepare the envelopes.
- Give writers some information about yourself and some possible points to emphasize.
- Ask if they would like for you to provide them with a couple of paragraphs.

Section 5: Interviews

This is a chance for you and the employer to see if you are a good fit. Be prepared!

Prepare for Interviews:

- Do your research before going to the interview:
 - Who are you meeting with?
 - Who is in that department?
 - What is the structure of that program?
 - Study their website!
 - Prepare questions beforehand (see Section 7)

Joint AMS/MAA Meetings:

- Schedule your top-choice universities' interviews for the last day(s) of the meetings. Save the earlier days as practice interviews, and leave some time slots open for computer-scheduled interviews (if using the computer-scheduling system).
- Let your excitement and enthusiasm for your favorite place(s) bubble through during their interview(s). Make a great impression with a positive attitude and professional but relaxed demeanor.
- Have constant email access right before the meetings so you can make interview arrangements-- some places may contact you just a few days before the meetings.
- There is no limit to the types of questions they may ask you. There's limited time for depth, but you'll be surprised at the variety. It's here that you'll be grateful for having spent so much time thinking about your teaching.
- Don't be afraid, intimidated, or nervous. These people are just other math people (some hired last year) trying to get a feel for what it would be like to have you around their workplace.
- Use some of their open-ended questions to help them get to know you. Be quick, though. You are short on time.
- Dress well. With such a short interview time (usually 15-25 minutes), appearance and first impressions matter a lot. Don't be late.
- Be familiar enough with your goals and needs, including number and type of courses you'd prefer to teach, courses you might like to design (hot topic: undergraduate involvement in your research area), and computational requirements to help you carry out your research.
- If inclined, look into project NEXT. A funding commitment will be required from your host institution, so ask whether or not they'll support it.
- If you're interested in where you stand (in general) compared to the hundreds of other applicants, find the catalog that lists everyone's vitals (institution, area of study, awards, experience, etc.).

Phone Interviews:

- Practice for telephone interviews.
- You may not get one until after the Joint Meeting interviews, but you may get some calls earlier.
- Try to use a private office, if possible, and relax.
- Some professors, especially international ones, may prefer Skype.
- These interviews tend to be 30-45 minutes.
- Sometimes the phone interview is just another round, from which they will select a few people to come for an on-site interview.

On-Site/Campus Interviews:

- Relax. If they have invited you, then they like you enough to (possibly) hire you.
- Interviews go both ways: they are still assessing you, but you should be trying to find out as much information about them as possible.
- Campus interviews tend to be friendly affairs where you'll get to meet some nice, interesting people. So, even though you're concentrating on putting forth your

- best, try to enjoy yourself, too. It'll help everyone relax.
- If you have to teach a class, just do it however you'd do it if the class were truly yours. You should get a copy of their textbook beforehand.
- Provosts /VPs/Deans can't accurately answer all your questions involving the math department. However ask them about their guidelines/requirements for tenure (if you want tenure), because they typically give the final say. If there's a marked discrepancy between what the math department tells you and what the administration tells you, get to the bottom of it.
- Ask for a tour of the city or area. You may end up living there.
- You may get some job offers on the spot, say at the end of the day (or on the second day, if it's a 2-day interview). Please consider NOT accepting immediately. You never know what else might come up, or how you might feel the next day. At the very least, you'll need to take time to consider the terms of the offer (salary, start-up funds, etc.), and in the mean time you might get an interview or offer from some other place that's even better for you.
- Take the interview experience as another networking opportunity!! You will meet a lot of people!

Job Talk:

- Find out beforehand the type of talk you should give, how long it should be and who is the audience.
- Practice it with others and get feedback
 - Include an outline, the goal of your work, some motivation (why is it important), give some context
 - Emphasize **YOUR** Work!! Make clear your OWN results and be selfish about your own results.
- Prepare for questions. This is where the interviewers can tell a lot about you.
 - Practice answering questions under pressure.
 - If you don't know the answer, don't try to make it up on the spot. Just say you don't know and ask to take it off line.
 - Don't get caught with a simple question
 - Don't make side remarks about other people's research, especially if they are in the audience
- **NEVER go over the time allotted!**
- Always have a back-up plan.

Negotiation:

- Wait until after an offer is made before you negotiate
- Plan ahead about what are you going to ask for.
- Ask about ALL policies:
 - travel money
 - startup funds
 - teaching load
 - family leave- stopping of tenure clock
 - retirement

Section 6: Random Things to Consider

Some things to jog your thoughts... (some remarks are specific to computational science)

Employers want to know: **Is this someone who could be part of our family?**

Top 3 Skills for a Computational Scientist: (especially if you want a job at a national lab)

1. Computational Skills
 - Fortran, C, C++, Python
 - Parallel Processing, e.g. MPI
2. Writing Skills/ Verbal Skills
 - This is evident in your research statement! Be coherent and to the point.
3. Teamwork Abilities
 - Multidisciplinary research needs many researchers
 - How will you fit in our group and affect the (pre-existing) team?

Additional important skills include

- Leadership Skills
- Initiative/Self-starter
- Interpersonal Skills

What are your tangible accomplishments?

- What are your skills? Tell me about things not on your CV.
 - What are the software packages you've written? Who is using your software? Do you have a manual/documentation? What problems have you solved using the software which may not have been solved otherwise?
- Employers want to know that you finished something!
 - This is evident in published papers, reports, and your research statement.
 - What special projects/REUs/internships were you involved in?

Section 7: Questions

Be prepared to receive and ask LOTS of questions.

Questions they may ask you:

- What would you need for us to provide you with, so that you can do your job?
- What kind of work/life balance do you have?
- Why are you interested in our company/lab? Why do you want to come here?
- What's your teaching style?
- Which of your publications are you most proud of and why?
- What are your long term goals? Where do you want to be in 5 or 10 years?
- Which is most important to you: numerical algorithms, computing implementation, or teaching?
- How do you balance independent research and working with others?

- How did you find working with application scientists, those outside of your field?
- What are your “ah-ha” moments?
- Which piece of work/publication are you most proud of and why?
- Do you have any experience of leadership in research? Mentoring?
- Are you interested in working on other applications?
- Please talk about your experience with high performance computing.
- How would you describe a good mentor? What qualities do you look for?
- If offered multiple positions, what factors would be most influential in where you decide to go?
- How did you hear about this fellowship? Why did you apply for this fellowship?

Possible questions to ask:

- What are the expectations for new faculty?
- What kinds of activities are available in the city? (Ask at dinner)
- Ask about activities going on in the department, about frequency of visitors, about regular seminars and colloquiums, etc.
- Don’t just talk about yourself, ask them about their interests
- What is the role of the fellow, and how does he/she fit in the larger organization?
- What are the expectations of the fellowship in terms of the number and kinds of projects that one is expected to work on?
- What about travel opportunities, availability and difficulty in obtaining travel funds?
- Are there opportunities for mentorship? Leadership opportunities? Promoting diversity in the mathematical sciences?
- How difficult/easy is it to establish collaboration with researchers in different divisions or department?
- Do you have collaborations with university researchers? Industry researchers?
- Where are the previous fellows now?
- Is there an expectation/hope that the postdoc would continue with a staff position?
- What is a typical workday like?
- What is the best thing about working at ...?
- Is the workplace “women-friendly”?
- Do you have the independence to select your own projects?
- Where do you see the future of your field going?
- How does the math department fit into the rest of the university?

Section 8: Resources for Finding Jobs

- Mathjobs website: <http://www.mathjobs.org>
- Check the AMS and Chronicle lists often
- Look at specific university or math department websites
- If interested in a particular US state, check if that state has a website that lists its public/private universities and job vacancy information.
- For scientific computing, NA-digest sends weekly emails with postdoc openings and research fellowship announcements.