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Finding a job

The process of applying for a first job shouldn't be either difficult nor time-consuming. Most of you already have some idea of what is involved. I thought it might be useful, however, to have a brief written guide to the process; hence the following. Note that this description applies primarily to jobs in the U.S.; procedures may be quite different elsewhere.

Briefly, there are three steps in finding a job.

A. Have a talk with your advisor. There are a number of things to be settled: first of all, that you are in fact likely to graduate; what will be in your thesis; where you might want to get a job and where you are going to apply.

On all these issues (and others mentioned below) it's important to make sure there is clear communication between you and your advisor. Once you've made up the list of schools to which you intend to apply, make sure Irene Minder has a copy.

B. Make up an application. This in general consists of four or five things:

1. A cover letter
2. A thesis abstract and/or research plans
3. A curriculum vitae
4. Letters of recommendation; and possibly
5. An interview and/or job talk.

The first three you write and send to the various institutions to which you're applying; they should go out by mid to late November (though some places, and some Fellowships, may have early deadlines). The fourth you request from various people and are sent out by Irene; and the last (which is relatively rare, but does occur) comes later, at the request of the institution. I'll describe each of these in turn.

1. A cover letter. This is a very simple thing: basically, it goes:

Dear Blank,

I am currently a graduate student in Mathematics at Harvard, and expect to receive a Ph.D. in June of 2003. I am interested in any entry-level positions you may be offering this year.

My research interests lie primarily in the field of blank. My thesis, Blankety blank, was written under the supervision of Blank. In addition, during the period I have been at

Harvard, I have taught several courses, including blank and blank.

Enclosed is my Curriculum vit, a thesis abstract and a summary of my research plans. In addition, you should be receiving letters of recommendation on my behalf from Blank(1), Blank(2), . . . , Blank(n). I would be happy to supply any further materials you require.

Thank you,

Blank.

Clearly there are many variations: for example, you may want to leave out the sentence about courses taught (its primary purpose is to convey your awareness that teaching is part of an academic job), or to mention other circumstances such as citizenship, etc. The basic rule is: don't lose any sleep over it; cover letters are seldom actually read.

2. A thesis abstract and/or research plans. These are short summaries of what you've done and would like to do, respectively; they're sometimes combined into one document. The total length is usually on the order of 2-4 pages. The basic rule here is to keep it straightforward. Bear in mind that this will probably be read by someone who's not an expert in your particular field, and who has a hundred of the things to get through. It's thus more important to indicate clearly how what you have done/plan to do fits into the broad scheme of things than to give all the technical details. Have your advisor look this over before you send it out.

3. A curriculum vitae. This is standard. The basic information is your name, addresses, telephone numbers, age, degrees (with year conferred), citizenship and papers written, if any. Stick to practical, relevant information; mentioning that you were captain of your high school debating team is probably not called for.

4. Letters. You will need letters of recommendation, both about your research and (except in very rare cases) about your teaching. Generally, people have between 3 and 5 letters, consisting of two or three research letters and one or two teaching letters. Of course your advisor will write the main letter about your research. In addition, you should ask one or two people to write auxiliary letters.

There is always a question of whom to ask for letters. This is something that you should discuss with your advisor. Clearly, it's better to ask people who are already familiar with your work, but it's also OK to approach someone in the department whose interests lie in the area of your thesis and ask them to read your work so far and write a letter based on it. (It's also OK to ask someone from outside the department to do this, but naturally they are under less obligation to say yes.) You should have something in writing to give them, and also be prepared to spend some time explaining it to them in person.

Your letters of recommendation will be handled by Irene, who will collect the individual letters, reproduce them and mail out to each school a packet consisting of all your letters. You must provide Irene with

- a. the list of people writing letters for you;
- b. the list of school you're applying to, with addresses;
- c. a set of addressed envelopes

(we may have some pre-existing computer formats for thesis and application materials). All letters should be sent out by the end of the (calendar) year, which means Irene should have them by Christmas; Irene will remind your letter-writers as the deadline approaches but you should also check with them to make sure the letters get written on time. As a procedural matter, Irene will send out in December whatever materials she's received at that point; letters she receives later will have to be sent out separately.

It is very important that you provide all these things to Irene, and that there is no misunderstanding in the process.

One further action you might take to insure that there are no slip-ups is to call up the Math Department offices at the three or four of the schools on your list to make sure that your application has arrived and is complete. Just call up the number listed for the relevant Math Department in the A.M.S. Professional Directory, say that you are applying for a job (try to specify the particular job as well as possible—if the school is hiring at two different levels they'll have separate files for the two searches), and ask them to check your files. There's no need to be nervous about making such a call: we receive calls like this all the time, and in any case the people you talk to won't be the ones who are making the hiring decisions.

Having taken care of 1-4 above, you now have nothing to do until you hear from individual schools. Usually, some of the schools will have special application forms that you must fill out; they send them, you fill them out and send them back. Nothing substantive happens until mid-January, when offers start being made. At that point, you may be invited to give a job talk at one or more places; there are a few guidelines for giving such talks on the attached sheet. In any event, matters are effectively out of your hands once you have mailed off the application materials, so the main thing you have to do at this point is relax.

This starts getting difficult for some people around February. This is because the system whereby jobs are given out in this country is extremely erratic: School A may offer a job to student X, who doesn't answer them right away because he is waiting to hear from School B, who hasn't gotten in touch with X because they have an offer out to Y who is stalling in the hopes of getting an offer from C, etc. The end result is that many people are still waiting around well into the Spring, as the system sorts itself out. Obviously, this can be a trying time. Keep in touch with your advisor, who can try to find out how things are going; and stay relaxed.

C. Responding to offers. Presumably the final thing you will have to do is to respond to an offer or offers of a job. The routine is this: if school A offers you a job, it is generally considered acceptable to take between one and two weeks to respond. (In special cases, schools may require that you respond more quickly.) During this time, you make a list of the schools you prefer to A and call each in turn, informing them that you have an offer

and trying to find out if there is any likelihood of your being offered a job there within the time you have before you have to respond to A. If such a possibility exists, explain your circumstances and hope that they can do something in time. Also, during the period of time you are considering an offer you may want to raise some questions, such as whether you can take a leave of absence to accept a Fellowship, whether the leave will count against the number of years in the job, etc. Once you've accepted a job, however, you should under no circumstances try to change your mind and decline.

Job talks

Sometime, possibly more than once in the process of finding a job, you will be asked to travel to some institution and give a talk. This should be a pleasant experience on the whole: you get to see them and how they live; they get to see you and hear about the work you're doing. Both you and the institution should get something out of the contact, whether or not they wind up offering you a job. Here are some suggestions for the talk itself.

1. Unless otherwise specified, the talk is to be a colloquium talk. Some teaching-oriented places will have you give a talk at the junior undergraduate level; research-oriented places may have you give a talk in an ongoing seminar. Except for these circumstances, the talk should be at about the level of colloquium talks. In particular, a reasonable formula for setting the level of the talk is this: the first 15-20 minutes or so should be accessible to anyone in the audience; the next 15-20 minutes or so to most faculty members and/or advanced graduate students, and the remaining 15-20 minutes or so to people working in your area.
2. Accept from the outset the fact that you cannot possibly convey to them in 50 minutes just how clever you are. You will notice that the formula above leaves only 15-20 minutes or so for discussion of your own contribution to the field in question, hardly enough time to give an account of your result that does justice to its marvelously intricate logic. So be it.
3. Give details sparingly. You will have observed from your own attendance at talks that there is a limit on how much detailed information a person can, with the best will in the world, absorb in an hour. Talks that try to cover more almost invariably wind up conveying less. This is not to say you should, for example, introduce objects and then omit their precise definitions—that can be very frustrating to an audience—but rather that you should limit the number of objects introduced that require a technical definition.
4. Try to get across your point of view. When you come right down to it, what most of us have to contribute to mathematics is not so much our technical strength as our point of view. If we can do a problem that our ancestors couldn't, it's probably not because we're smarter, but because we see it a little differently from them. In the end, it seems to me, this difference is the most important thing to communicate: what is of interest is not so much how you solved the problem, but rather what led you to it, and what caused you to see it the way you do.
5. When your time is up, stop. Timing a talk can be tricky. You don't want to rush the talk early on - if you lose everybody in the first half, it won't matter what you do or don't

get to in the second half - but this may mean not covering everything you had planned. It's important, therefore, to plan the talk flexibly: avoid, for example, leaving to the end ideas that were necessary to make sense out of the previous material (and, conversely, have some extra material prepared in case you're way ahead of time). In any event, the basic rule is: if you're supposed to be giving a fifty minute talk and you've talked for fifty minutes, stop.