Advice and Resources for the Mathematics Academic Job Market Written by Edna Jones on April 29, 2022 Updated on December 27, 2023

There are a lot of resources out there about applying to mathematics academic jobs. This document contains just a small sampling of resources that I found useful. Note: You will probably hear advice that directly contradicts other advice you may hear. When this happens, you need to figure out what works the best for you.

Please talk to people who have gotten jobs similar to the ones that you want. I primarily applied to research postdocs in the United States. I also applied to a few tenure-track positions at small liberal arts colleges in the United States. Therefore, much of my advice is geared towards applying to academic jobs in the United States with some research expectation.

Many math academic job applications require a research statement, a teaching statement, a CV, and a cover letter. Diversity statements are becoming more common.

Please try to get at least a draft of your application materials (namely your CV, your research statement, your teaching statement, and your diversity statement) done by the end of the summer before you plan to go on the job market. I say this regardless of how your research is going or if you are hoping that you can get a paper out before you apply. Research can be unpredictable, and that result that you were hoping to get might not come in time for job applications. (I learned this lesson the hard way...) Editing a draft is often much easier than creating a completely new document. Thus, if you come up with a new result after you drafted your research statement, you can tweak your research statement to include the new research. This is probably easier than trying to write an entire research statement in a couple of weeks (or less).

Please have others review your application materials! This means that you probably should have your materials prepared significantly before you apply to jobs. Having others read your application materials is important for many reasons. First of all, someone else can probably spot red flags in your materials more easily than you can. This is why it's important to have multiple people with preferably different backgrounds look at your materials. Another reason to have others read your materials is that others may be able to suggest additional important things to include in your materials, especially if they know enough about you. (This happened to me with my diversity statement.)

The <u>Early Career collection of the Notices of the American Mathematical Society</u> contains a lot of articles about being on the math academic job market. (In general, the Early Career collection has a bunch of articles and advice for early-career mathematicians.) I will highlight some of the wonderful articles in this collection, but I'm by no means listing every useful article in this collection that pertains to job applications.

The next page contains some resources that I found useful when applying to jobs.

More or less general advice about applying to math academic jobs:

- Kim Klinger-Logan's blag on "Q & A: Academic job market out of grad school" (https://sites.google.com/view/kklingerlogan/blag?authuser=0#h.y77p6ikust1r) I do not necessarily agree with Kim's opinion of the first draft of a teaching statement is trash, but I agree that it can be hard to write teaching statements. (See the last bullet point on the last page of this document to see how I went about writing my first drafts of statements.)
- "Advice for the Virtual Job Market" by Kristin DeVleming
 (https://www.ams.org/journals/notices/202108/rnoti-p1315.pdf?adat=September%202021&trk=2325&cat=career&galt=career)

Advice about how to write a teaching statement:

• "Writing a Teaching Philosophy Statement" by Helen Grundman (https://www.ams.org/notices/200611/comm-grundman.pdf)

Advice about applying for research postdocs:

- "Applying for a Postdoctoral Research Assistant Professorship" by Dick Canary (https://www.ams.org/journals/notices/202108/rnoti-p1317.pdf?adat=September%202021&trk=2324&cat=career&galt=career)
- Dan Margalit on cover letters for research postdocs (https://margalit.droppages.net/tsr/CoverLetter.pdf)

Advice about applying for applying to a liberal arts position:

- "Interested in Applying to a Liberal Arts Institution?: Perspectives from Reva Kasman, Julie Rana, and Chad Topaz" written by Linda Chen
 (https://www.ams.org/journals/notices/201906/rnoti-p855.pdf?adat=June/July%202019&trk=1899&cat=career&galt=career)
- "How to Craft a Research Statement for a Position at a Liberal Arts College" by Jennifer Schaefer (https://www.ams.org/journals/notices/202108/rnoti-p1321.pdf?adat=September%202021&trk=2328&cat=career&galt=career)
- "Letters of Recommendation for a Liberal Arts Position" by Peter McNamara (https://www.ams.org/journals/notices/202108/rnoti-p1319.pdf?adat=September%202021&trk=2327&cat=career&galt=career)

Advice about diversity statements:

- "Developing and Writing a Diversity Statement" by Sara L. Beck (https://cft.vanderbilt.edu/guides-sub-pages/developing-and-writing-a-diversity-statement/)
- Rubric for Assessing Candidate Contributions to Diversity, Equity, Inclusion, and Belonging at UC Berkeley (https://ofew.berkeley.edu/recruitment/contributions-diversity-rubric-assessing-candidate-contributions-diversity-equity)
- Remember that a diversity statement is about diversity, equity, and inclusion (DEI). Therefore, if you have been involved in mentoring or building a sense of community at your institution, please feel free to include that in your diversity statement. (I say this because I didn't realize that mentoring and community building not specifically tailored to an underrepresented group could be mentioned in a diversity statement. My diversity

statement became so much better after I included more of my mentoring and community building efforts.)

Miscellaneous advice:

- A lot of math academic jobs are posted on <u>MathJobs.Org</u>. You may also want to look at <u>HigherEdJobs</u> or The Chronicle of Higher Education's job posting site (https://jobs.chronicle.com/). Warning: Not all institutions post on job posting sites, so you might need to look at the websites of specific institutions for certain job postings.
- I suggest creating a spreadsheet to keep track of job postings and application deadlines.
- Be aware that postdocs go by a variety of names such as Postdoctoral Fellow, [Name of some person] Assistant Professor, Visiting Assistant Professor, etc. Often, you'll need to read the job description to figure out the exact job type.
- Application deadlines listed on MathJobs.Org might not actually be the deadlines for applications. Read the job description to determine the actual application deadline for a job.
- If you want to have a research postdoc and are a U.S. citizen, U.S. national, or a legally admitted permanent resident alien of the United States, I would recommend applying to the NSF Mathematical Sciences Postdoctoral Research Fellowship (MSPRF) (https://new.nsf.gov/funding/opportunities/mathematical-sciences-postdoctoral-research). If you also have an interest in "broadening the participation of groups that are underrepresented in the mathematical and physical sciences," I would ask you to consider applying for the Mathematical and Physical Sciences Ascending Postdoctoral Research Fellowships (MPS-Ascend) (https://new.nsf.gov/funding/opportunities/mathematical-physical-sciences-ascending). (From what I understand, the gender, racial, ethnic, etc., identity of the MPS-Ascend applicant should not be a significant deterrent from receiving the fellowship.) Applications for the NSF MSPRF and the NSF MPS-Ascend are due the third Wednesday of October, which is before most postdoc application deadlines.
- There is a debate on how many jobs you should apply to. My advice is to apply to what makes sense for you. If you have firm geographic constraints, don't apply outside of those constraints. If you would rather not have a job than have a 4-4 teaching load, don't apply to a job that has a 4-4 teaching load. In general, apply to jobs that work towards your goals in life. If you just want to have a job in academia, please feel free to apply to everything you can, but just be aware that not everyone does this.
- The primary research interest listed as part of your application can determine who looks at your application. Therefore, you might want to put some thought into listing your research interests.
- Recommendations for the page lengths of various documents vary quite a bit. Based on my observations, the most acceptable lengths are about 5 pages (without references) for research statements, about 2 pages for teaching statements, and 1-2 pages for diversity statements. Cover letters are usually one page but can go onto a second page for a tenure-track position at a small liberal arts college. The actual page lengths for documents depend highly on the institution and the job description. (Any page limits stated in a job description supersede the page length recommendations I mentioned.)
- Try to write your research statement so that it can be easily skimmed. (Headings and theorem environments help with this.)

• When writing the first drafts of my application materials, I wrote down almost everything that I thought would be relevant to the statement I was writing. (The first draft of my teaching statement was 3.5 pages. The first draft of my research statement was 6.5 pages.) I then edited a first draft until it was an appropriate length and was coherent.