The in-person scholarly talk
The in-person research or teaching talk may feel like the most stressful aspect of the academic job interview. Perhaps we can suggest a different and useful perspective on this, that one of us learned from a mentor. The hour during which you are giving your talk is actually the time when you are most in control. During that time, you are guiding others along your mathematical journey and through research results and scholarship that you are an expert in. Therefore, it is a time to enjoy and to show your enthusiasm for your work.

Finally, we must acknowledge that everything we suggest above takes a long time to prepare for. In our experience, it is very reasonable to expect that your research productivity will stagnate, as you make time to practice and research your potential future department. It is very useful to frame this work as making an investment in your professional development and network, which will pay off in the long run. In addition, we have found that having to present our research to mathematicians and students outside of our research areas during interviews and job talks really forced us to think about how to broadly present our work. Being ready to present your research in an accessible way and networking with colleagues at different institutions are skills that you will benefit from throughout the rest of your career.

Preparing for a Tenure-Track Job at an Urban Public College

Heidi Goodson and Diana Hubbard

There are many types of institutions that you may be considering when preparing for the academic job market. In this article, we aim to provide some insight into applying for a tenure-track position at an urban public college. Additionally, we hope to highlight some aspects of working at this type of college that may be different from other institutions in order to help you decide if this is the right type of academic environment for you.

We are both assistant professors at Brooklyn College, one of the four-year colleges in the City University of New York (CUNY) system. Brooklyn College has approximately 16,000 undergraduates and 2,500 graduate students, but despite this, in the mathematics department our classes are all relatively small. Like many other urban public colleges, our students primarily live off-campus. We mostly teach undergraduates, but we also support MA programs in education. Additionally, we are affiliated with the PhD-granting Graduate Center at CUNY, and we have the opportunity to work with graduate students. For us, Brooklyn College is the best of two academic worlds: we get both a liberal arts college experience on our campus and an R1 research community through our affiliation with the Graduate Center.

In many ways Brooklyn College is unique, but we will feature some aspects of working here that are generalizable to other urban public colleges. While we discuss some other ways that you can make your application stand out at a school like ours, your primary focus during graduate school and your postdoc should be on your research program and your teaching and these will be the most important things to highlight in your application materials.

Supporting the Needs of the Student Body

When applying to a job at any school, you will want to show that you have thought about how to teach, mentor, and support students. But different student bodies have different needs, and your application should reflect this. At Brooklyn College, for example, many of our students come from backgrounds that are underrepresented in higher education: many students are not native English speakers, come from low-income households, are first-generation college students, or are adult learners. Many commute to
campus, and juggle additional responsibilities like full- or part-time jobs, or family and caregiving responsibilities. Our students are wonderful to work with; in fact, they are one of the best parts of our jobs. The diversity of their life experiences enrich the classroom, and they are bright, ambitious, and hard-working people. Many of our students are brilliant and would fit right in at any elite, expensive private institution. But often, they need instructors who understand and appreciate their life circumstances in order to provide appropriate support and mentoring. Demonstrating that you understand this can go a long way in showing that you’re a good fit as an instructor at a public university.

Supporting these students can include using pedagogical techniques that foster a sense of community in the classroom, developing courses that teach marketable skills such as coding alongside mathematics, choosing low-cost course materials, and searching out and directing students to research or other opportunities that will suit their needs. It is important to use teaching and mentoring strategies that engage students who have a wide variation in their mathematical preparation. You will want to demonstrate that you have thought about your future students’ strengths and needs in your teaching statement, diversity statement, and cover letter. But what to write? If such an opportunity arises, having meaningful experience teaching or mentoring students from communities that have been historically underrepresented and marginalized in higher education will help your application and will give you concrete, substantive ideas of what to say. However, if these sorts of experiences are not available to you, you can still engage thoughtfully with issues relating to diversity and equity in your mathematical life and in your application. There are a lot of great resources out there that can help you put in the work to learn and reflect on ways to support a diverse student body (see, for example, [GH3]).

Gaining some experience outside of academia is also a valuable way to support your future students and will help your application stand out. At Brooklyn College (and at most colleges), most students do not plan to pursue graduate work in mathematics. Experience outside of the standard academic track can be a real asset to your future department since you’ll be better able to talk to students about jobs in the “real world.” Departments are looking to hire faculty with broad experiences who can help mentor students or create connections between mathematics and other programs. These experiences include working at a non-academic job or doing an internship, completing actuarial exams, or participating in coding bootcamps and competitions. We recommend highlighting these experiences in your application materials.

**Describing and Maintaining an Independent Research Program**

At any institution, the search committee will include faculty members who are not in your area of research. At a school like ours it may be the case that no one in the department is an expert in your field, and you’ll want to approach your research statement and job talk with this in mind. In your research statement, make it clear how your research fits into the overarching goals of your field, what your contributions are, and that you have ideas for what to work on next. It will be good to have a mixture of specific projects with clear outcomes and more general work that pushes the direction of the field. Additionally, your job talk is a chance to demonstrate that you can enthusiastically explain something difficult to a broad audience, which will give the committee a glimpse of what you will be like as an instructor.

You’ll want to be able to demonstrate that you are a part of a larger research community so that the search committee will feel confident that you will be able to maintain your research program while on the tenure track. Between the two of us, before arriving at Brooklyn College, we had published research articles with collaborators and presented our work in a variety of venues. We co-organized seminars and special sessions at conferences, and mentored undergraduates on research projects. How can you gain these experiences as a graduate student or postdoc? The most important thing to do is to talk to people at and outside of your institution. Ask people in your field what opportunities are coming up that you should be aware of, and also check the websites of math institutes such as ICERM, MSRI, and PCMI regularly. Go to seminars, lunches, conferences, workshops, and summer schools, and make an effort to meet new people while you are there. Some conferences and workshops have opportunities for junior mathematicians to apply to speak or present a poster and many have funding that you can apply for.

An important part of an independent research program is applying for and being awarded grants. Grants support your research by funding your travel to conferences or to work with collaborators; helping you buy a computer, tablet, or other equipment; and allowing you to invite collaborators and seminar speakers to your campus. Some grants can be used to fund a course release, which would allow you to spend more focused time on your research. Large grants, like those awarded by the NSF, are great, but smaller grants also provide evidence that you are pursuing and successfully obtaining funding for your research. Small grants may be funded by external agencies and organizations, such as the AMS, the Simons Foundation, the AWM, and the AAUW. There may also be internal grants available at your current institution.

Writing a grant proposal can be challenging! Recent issues of the Notices have included articles with great advice on how to approach this type of writing (see, for example, [GH2, GH4]). We also recommend seeking advice from mentors and peers on this process.
Being Flexible and Wearing Many Hats

In our department there are a large number of part-time adjunct lecturers supporting our ability to offer the courses that our students need. Because of this, our full-time faculty members take on many additional roles to keep things running smoothly and to make improvements to better serve our students and community. Some of this work looks like what you may traditionally think of as “service,” but not all. For example, a wide variety of courses have to be taught (within and outside of faculty members’ areas of expertise), new courses must be developed to meet student demand, decisions need to be made about the curriculum, students must be selected for awards, departmental events need to be organized, the website must be kept up to date, job openings must be filled, and so on and so forth. Outside the department other work needs to be done as well, for instance in college-wide committees or in the faculty union if the institution has one.

It is important to protect research time, but it is also important to be willing to be flexible, wear several different hats, and contribute to the common effort of the department. We have found that much of this work is enjoyable and interesting: it can be a way to pursue intellectual interests outside of your research, collaborate with colleagues on a shared project, and contribute positively to the departmental atmosphere.

It will benefit your application if you can demonstrate that you would be willing and able to contribute to the department and the college in these various ways. Of course, as a grad student or postdoc, your primary focus should be on developing your research and teaching. However, you may want to take on some small, manageable responsibilities that show your ability to contribute to the community when the opportunity arises. For example, you could co-organize departmental activities such as colloquia and graduate student seminars, coordinate TAs and common final exam grading, or advise undergraduate students in a mathematical modeling competition. You can also seek opportunities outside of your department by, for example, serving as a judge at undergraduate research poster sessions or on panels for prospective graduate students.

Some Final Thoughts

We were both on the job market before the COVID-19 pandemic, and our experiences involved a lot of in-person opportunities and networking. We understand that the pandemic has made seeking out these sorts of opportunities much more challenging. We recommend reading other articles in addition to ours to get tips on how to navigate the job market in a more virtual world (see, for example, [GH1]).

Good luck in your job search!

References


Credits

Photo of Heidi Goodson is courtesy of Heidi Goodson.
Photo of Diana Hubbard is courtesy of Nicholas Vlamis.

This Is What Success Feels Like: What I Learned from Applying for the NSF Postdoc Twice

Kim Klinger-Logan

Early one morning in January 2020 I was lying in bed trying to summon the will to exit my warm sheets and go downstairs. I usually check my email and the news to muster the energy to handle the chaos that results from juggling two dogs, a 9 month old, and oatmeal. There it was. The email. The NSF. But I had to be misreading something. “Congratulations” … since when do they congratulate you for applying … ? in January … ? I needed a rational, fully conscious and caffeinated person to read these words. I leapt from bed, calling my partner’s name, and as I was rushing down to the stairs, my foot slipped out from under me and I slid down the entire flight. My partner was sure that I was holding the baby and it took a good 10 minutes before he could comprehend that nothing was wrong and...