

Tips for Pursuing Academic Careers

This tool is designed for early career STEM education researchers and developers to offer tips for pursuing careers in academia. The advice largely comes from National Science Foundation-funded awardees who have graciously shared information about their own career pathways, work experiences, and perspectives.

Paths into Academia

Scholars traverse a variety of paths into academia. Some take a direct route from being a student in higher education to holding a faculty position; others come into positions later in their careers after working as educators at the district or state level, or in the private sector or the nonprofit world of research and development. Still others enter the profession of STEM education after a career in one of the STEM disciplines. All agree that it is hard to know early in your career exactly what you want to do, and it is challenging to plan very specifically in advance. Often it is a matter of being in the right place at the right time and having different experiences to determine what fits with your knowledge base, skill set, and personality. Education is a large and diverse field with many possibilities. For most scholars, it is about defining your goals and (if appropriate) your research agenda, deciding how best to develop yourself professionally, and pursuing different opportunities that align with your goals. While academics acknowledge frustrations, such as heavy service load, institutional politics, and the pressure of the tenure clock, many value the independence, autonomy, and flexibility that they have in the academy. They like balancing research and teaching and appreciate having the freedom to define their own research agendas. Early career researchers need to understand what type of professional environment they need to thrive and whether the culture of academia is right for them.



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Funded through NSF grant #1650648 and 1813076. Any opinions, findings, and conclusions or recommendations expressed in these materials are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

Preparing for a Career in Academia

There are numerous things doctoral students can do to prepare for a career in academia. The more insight you have into what being a faculty member entails, the easier it will be to decide whether academia is the right path for you.

Start doing research as early as possible so that you know whether it is something you want to do in the future.

By joining a research team early, you can experience the process of developing research questions, collecting and analyzing data, writing, presenting, and publishing. You will have support with this while you work on your dissertation, but once you begin your first job, you will be replicating this on your own. The more practice you have, the easier the transition to independent research will be.

More and more, it is becoming critical for you to have publications on your CV before you begin applying for jobs. In addition to collaborating with your advisor or PI, ask colleagues if they have projects or publications that they need help with. They might find ways for you to make a contribution, which will give you relevant experience and help strengthen your applications when you go on the job market.

Try to gain experience with grant writing and project management. It will benefit you to know about the administrative and management side of funded research.

If possible, serve on a hiring committee. You will read applications, participate in phone and in-person interviews, and observe job talks and teaching demonstrations. Through this experience, you will get a sense for the application process, what committees like and do not like to see in the materials, what types of questions are asked, etc. This insight will give you an advantage when you begin the process yourself. If you do not have this opportunity available to you, try finding other students who do and learn from their experience.

Start developing good professional habits. Develop a system for managing your time and prioritizing tasks. For example, work on your dissertation for at least 15 minutes every day. Read at least one article a day. Build this time into your schedule. Producing work becomes more natural if you have routines in place.

Postdoctoral Fellowships

After you earn your doctorate, consider a postdoctoral fellowship. A postdoctoral fellowship is

not essential, but it is valuable. You can use your time as a postdoctoral researcher to begin publishing from your dissertation and gain additional research, proposal development, and project management experience, which can position you to be very strong on the job market. If your research agenda is not as well-defined as you would like, or if you want to explore other areas or broaden the scope of your research, a postdoctoral position can be a good opportunity for further exploration and professional growth. Also, the first year at an institution is often challenging, and postdoctoral fellowships can help ease the transition. NSF awardees who completed postdoctoral work reported being better prepared to hit the ground running in their first faculty positions than had they gone directly into those positions after graduation.

There are a variety of ways to find postdoctoral positions. Many are advertised through popular e-lists such as [AERA](#), [SIG](#), [ISLS](#), or e-lists that intersect with a particular area of research. Doctoral students often learn about postdoctoral opportunities through people in their professional network.

Other resources include:

- [Postdocjobs](#)
- [Findapostdoc](#)

There are important things to consider before accepting a postdoc position. Make sure the position will allow you to maintain a balance between teaching, publishing, and project work. It is important to remain productive on the scholarship side while further developing your own research agenda and setting yourself up for future work.

It is possible that some institutions will value postdoctoral fellowships more than others. For example, a fellowship can be especially valuable if you plan to pursue a career at a research 1 university. Be sure your experience as a postdoctoral researcher is setting you up for the work you want to do at the type of institution you want to be a part of.

Finding a Faculty Position

STARTING THE JOB SEARCH

Use the job search as an opportunity to think about who you are as a scholar, your future plans, and what contributions you want to make in your field. If you have not already, engage in self-reflection to begin to identify a long-term research agenda. Ask advisors, mentors, fellow students, and colleagues for advice. Take time to connect the dots on your educational and/or professional path. Figure out how your varied experiences connect with one another. Figuring this out early will help with your professional decision-making.

You can begin the job search and application process before defending your dissertation, but make sure to strike a balance between the two. It is recommended that you begin searching for positions and developing your application materials the summer before you graduate and start applying in the fall. If you apply for jobs while you are still a student, make sure that you are prepared to finish your dissertation if you are offered a position. Most institutions will not allow you to start until your dissertation is complete.

Check for faculty positions on the websites of the institutions you are interested in. Smaller institutions in particular might not always advertise jobs nationally. You can also find job listings through scholarly associations, through discipline-specific e-lists, or on other sites such as:

- [Higher Ed Jobs](#)
- [Academic 360](#)
- [The PhD Project: Academic Jobs Sites](#)
- [Vitae](#)
- [Academic Keys](#)

Leverage your professional network to learn about job opportunities. Let your contacts know that you are on the job market and what types of positions you are looking for; they might know of open positions or be able to make recommendations. Conferences, particularly smaller conferences, can be a great place to network and learn about job opportunities.

Once you identify institutions or positions of interest, consider contacting faculty for informational interviews to learn more about the institutions and their experiences there. The goal is not to sell yourself to a potential employer, but you can be honest about being on the job market.

If you are truly interested in a position, submit an application even if you do not have all of the required qualifications. In your cover letter, highlight all of the preferred qualifications you have and indicate that you are willing to grow into the position. You may have experience in your background that makes you an even more desirable candidate than someone who meets all of the required criteria.

DEVELOPING YOUR APPLICATION

Know your audience. Do your homework. Look at course listings. Demonstrate knowledge about the institution, the department, and the program. Know what the institution values. To the extent possible, learn about the people on the search committee and what they care about. Be clear about how your identity and goals fit with the job you are applying for, what you will need to be successful, and where you can be most successful.

What search committees look for varies by institution. Some want to see publications in top-tier journals, whereas others prefer publications in journals with high-volume readership. It is assumed that you are a good teacher, but some institutions focus more heavily on teaching experience than others. Experience with funded projects is also a plus. Have a clear understanding of these expectations before you apply. Networking can help you gain this information. You can also look at the profiles and portfolios of recent hires. What does their work look like? This can provide insight into what is expected at a particular institution. *Note: Be cautious of institutions whose expectations are shifting rapidly. Expectations might be shifting faster than the infrastructure to support them.* Understand what supports are in place to help you meet those expectations, particularly in terms of grant writing and publishing.

Search committees examine your career trajectory to understand who you are, what you have accomplished to date, and what goals you have set. Use the application process as an opportunity to tell your story. Committees also want to see evidence that you are well connected to and engaged with your field of study through publications, conferences, and membership in professional associations. As much as they are thinking about what you can offer the institution, they are also thinking about how well they can support you as a scholar. They are considering whether they have the resources necessary to help you succeed or whether another institution would be better able to support you. In addition, there are considerations related to balancing the experiences, backgrounds, and research interests of their department's faculty.

Devote time to carefully developing your application materials in advance. Having a CV, cover letter, and adaptable research/teaching/diversity statement will make it easier to tailor each for specific applications and speed up your process.

CURRICULUM VITAE (CV)

Include as much relevant detail as possible on your CV. A CV is not the same as a resume; there is no need to keep it brief. A five-to-seven-page CV is reasonable for someone early in their career. Key information includes:

- ✓ **Education**
- ✓ **Publications**

Include manuscript submissions, articles “in review,” and accepted publications. Do not list all publications together in one section; separate them by peer-reviewed journals, top-tier journals, conference papers, practitioner journals, etc.
- ✓ **Research experience and productivity**
- ✓ **Methodological skill sets**
- ✓ **Proposal writing and/or grant management experience**

Search committees will want to see that you can bring money into the institution.
- ✓ **Teaching experience**

Provide evidence of strong teaching, even if it

is not asked for explicitly. Include courses taught or developed.

- ✓ **Conference presentations and papers**
- ✓ **Administrative experience**

Administrative work is relevant for managing projects.
- ✓ **Technical skills**

Having certain skill sets such as software experience can set you apart from other applicants.
- ✓ **Languages spoken**
- ✗ **Do not include personal information on your CV, such as marital status, children, or activities in nonprofessional organizations.**

Make sure that everything you include is relevant to your professional life.

Research how best to structure your CV. Ask yourself, “What do I want the search committee to see first? How do I want to communicate my priorities to them? How do my priorities align with those of the institution?” Think about listing information on your CV so that it aligns with the priorities of the institution. For instance, if an institution prioritizes publications, consider listing your publications first; if it prioritizes teaching, consider listing that experience first.

Have multiple readers review your CV. Choose reviewers who are in different positions and at different levels in their career trajectories; their input will offer you diverse perspectives.

COVER LETTER

Use your cover letter to communicate everything you want the search committee to know about you. Highlight your strengths, and let them use your CV and statements to learn more. Your cover letter is arguably the most important part of your application. If you do not capture their attention in the letter, committee members are not likely to read further.

In your cover letter, directly address the position for which you are applying. Do not just recycle the same cover letter for every application. Convey your interest in

the institution, and align your letter with the missions of both the institution and the department. Let them know why you are interested in them, what **you can** contribute, and what you can learn. Speak to all qualifications (minimum and preferred) listed in the job posting. Be specific and targeted; do not use generic language. It is obvious to search committees when applicants have recycled application materials and have not taken the time to tailor the application to each position.

Use your cover letter to connect the dots. If you have worked in a variety of fields, your CV might not easily convey that you are a good fit. Use your cover letter to complete the story, fill in any gaps, and demonstrate how your past experiences build on one another. This will make it easier for committee members to advocate for you.

RESEARCH, TEACHING, AND DIVERSITY STATEMENTS

Start developing these statements early. Consider working on them iteratively. Write early drafts, set them aside for a few days, and keep returning to them until they are polished. Ask colleagues and others in your network to review them and offer feedback. Consider developing your statements simultaneously to help you communicate how your research, teaching, and commitment to equity inform and build off of each other.

Many institutions require a diversity or equity statement. Take time to think about how your work addresses issues of access, diversity, or equity in education. If you do not address issues of equity in your research, you might use this opportunity to think about how you can.

LETTERS OF REFERENCE

Part of applying for jobs is managing the people who are writing your reference letters. One technique is to provide them with your CV and your statements in advance and alert them to job postings as you come across them. Keep a shared, up-to-date list of the positions you are applying for that includes the name of the institution, department, and program; name and address of the contact at the institution; a brief description of the job; a link to the posting; and the application deadline. Your references may be writing letters for multiple students, so be organized and thorough in the information you provide; help them help you.

PREPARING FOR A CAMPUS VISIT AND IN-PERSON INTERVIEW

The interview process generally begins with a phone or virtual interview to narrow the applicant pool. These interviews are brief, about 30 minutes on average, so you need to be able to respond to questions succinctly. Research common phone interview questions, develop concise answers in advance, and practice, practice, practice.

If the search committee invites you for an in-person interview and campus visit, this generally means that you meet the basic qualifications for the position. Now, they are looking for the best fit.

If accepting a position will require relocation, now is the time to explore the possibility of your spouse or partner working at the same institution. A good time to introduce the idea of a dual hire to the search committee chair is between the phone interview and the in-person interview. Share your spouse or partner's CV information with the chair so the committee can begin a conversation with other departments to see what opportunities might exist for them. Do not wait until you are offered the job to mention this; it won't be impossible, but may be more difficult, to accommodate your spouse or partner later in the process.

When you arrive on campus, recognize that you are always being interviewed, not just during the formal interview but also during other meetings, group meals, and informal social time. In addition to assessing your scholarship, research agenda, eligibility for promotion and tenure, and potential to become a leader in your field, the search committee is also determining how well you would fit in with existing faculty and staff. They want to get a well-rounded picture of who you are.

Be prepared for long days. The campus visit and interview is a grueling process. In addition to the formal interview, you will be expected to give a job talk, meet with other faculty, tour the campus, and possibly teach all or part of a class. Ask the search committee about these expectations before your visit. While the days are likely to feel overwhelming, if these activities excite and energize you, it might be a sign that the institution is a good fit.

Before your formal interview, consider developing a list of common interview questions and writing out your

responses to them. Review this list again and again in preparation. You know the answers, and you know how to talk about your research, but it can be easy to forget important details in the moment.

Come with questions. Not asking questions is a red flag. Questions will likely arise naturally during the visit, but prepare a few in advance as well. You should know who you will be meeting with during your visit before you arrive; research those people—read their bios and some of their articles and mentally prepare for your conversations with them, especially if your personality is more introverted. Consider asking several faculty members similar questions about the department or program so you can gain multiple perspectives.

If your research involves work in schools, examine the relationships between local schools, nonprofits, community organizations, and the university. Check out their respective websites for lists of community partners. Ask to visit schools and organizations and talk with university partners as part of your campus visit. Communicate to the search committee the importance of these relationships to your work. This will help both you and the search committee better understand what you need in order to be successful and whether your scholarship is a good fit with the institution.

Remember that you are interviewing them, too. If it has not already been communicated, ask explicitly for a breakdown of responsibilities, the department's expectations for scholarship in the first year, and criteria for tenure (number and types of publications, grant funding, etc.). If you feel comfortable, state your mission as an early career researcher, and ask how they're going to help you grow as a scholar. Ask about what supports they have in place to help junior faculty be successful researchers (e.g., pre-tenure sabbatical, early course release, good start-up package to support your research, mentorship). Having answers to these questions lets you know that even if expectations are high, they are trying to help you succeed.

JOB TALK

The job talk, or research talk, is your main research presentation during the interview. For early career scholars, the substance of your job talk often comes from your dissertation work. If during graduate school you

worked on projects that do not align closely with your research interests, identify experience or knowledge gain that is transferrable and how it contributes to your future research agenda. The main goal of the job talk is to communicate your research agenda and describe how it builds on the work you have done previously, how it relates to your professional goals, and how it contributes to broader themes in your field.

Practice your job talk ahead of your campus visit. Practice, whether virtually or in person, with a range of people in your network (peers, advisors/mentors, people at different institutions, and people with varying levels of familiarity with your work). Use their feedback to inform your final presentation.

Demonstrate how your research agenda connects to the position for which you are applying. The search committee is trying to hire a particular type of scholar for the position and wants to learn more about you, your work, and the kinds of theoretical and conceptual frameworks that ground your research.

Think of the job talk as a conference presentation. Job talks vary by institution, so ask the search committee about the format for the job talk before your campus visit. Expect to be presenting to faculty from various departments, and be prepared for tough questions. Use your time wisely. Speak passionately about your research interests. Explain why you want to study these particular research questions, what impact you think this work will have, and how it fits into broader themes you care about. Be succinct and focused, but not too narrow. Do not focus on just one aspect of your work; rather, speak to the broader parameters of your work. Give general descriptions of your methodology, the types of studies you want to propose, and the kinds of participants with whom you want to work. Keep the language general and invite follow-up questions.

You will likely be required to give a teaching talk or demonstration in addition to your research talk. Get as much information as you can from the committee so that you can design your presentation to meet their specifications. If it is a teaching demonstration, ask about the audience (undergraduate, graduate), the content area, specifics about what they need to do or learn, and

how many people will attend. Make your talk or demonstration interactive; if you plan to use technology, have a plan B in case something goes wrong. If you are required to teach a course you are not as experienced with, ask colleagues or others in your network to help you with the content and design.

Overall, highlight your accomplishments and show that your research program has promise during your campus visit. Although your scholarly accomplishments are likely comparatively small, that is okay and expected at this stage of your career. Demonstrate what your research program offers and how you are going to work with others; mention publication or proposal ideas, even if they're in the early stages; and describe your potential to be a leader in your field. Paint them a picture of what you would be like working in their department.

WAITING TO HEAR FROM THE COMMITTEE

Following your campus visit, follow up with everyone you met and thank them for their time.

Know that hiring is a slow and bureaucratic process. Stay in contact with the search committee, and try not to get discouraged. If after the campus visit and in-person interview the institution does not offer you a position, try not to take it personally. There are many variables in terms of what committees are looking for in a new hire. Someplace else is a better fit for you. It is hard to know exactly why an institution did not hire you, but try to get as much information as possible so you can use that information to strengthen your candidacy.

Considering a Job Offer

If the university offers you a position, negotiate for the things that matter to you. Be serious about your interests; you are the only one who is representing them.

Negotiation is an expected part of the process. While the process is unique to each institution, it is likely you will be contacted via phone or email with an offer. Thank them, and let them know you will get back to them. Consult with colleagues to find out what you can ask for

and how to do so successfully. (This is something you can ask faculty about during your campus visit.) Make a list of all the things you need/want and then prioritize them. Know what you are willing to compromise on and what is non-negotiable. When an institution cannot meet every ask, sometimes they will counter with things they can offer you instead.

Know ahead of time whether the offered salary is appropriate for your level of experience. Salary information for public universities is usually available online. It might not always be easy to find, but it is publicly available. Do research to see what others at your level are earning. If you will be relocating for the job, factor in differences in cost of living, including differences in income tax by state. Ask for what you need and what you think you deserve, but understand that when it comes to salary, not everything is within the search committee's control.

Negotiate for non-salary benefits. Salary is important, but it is not the only factor. Determine beforehand what you need to be successful. Will you need graduate students or other research assistance? course release? start-up money or discretionary funds? equipment? professional organization dues? travel funds? Your arguments are stronger if you present these requests in the context of the work you want to do in the first few years. Make a case for needing those things for you to be productive. Do not forget to compare other benefits such as healthcare or retirement/pension plans among different institutions. If you have to relocate, ask whether the institution is able to cover the associated costs.

Be strategic in your negotiations. Think about what you need in the short and long terms. When might you benefit most from having a graduate teaching or research assistant? Does it make sense to have one in the first year when you are just getting settled or will you have a more productive relationship in year two or three? When might you need a reduced course load to do your research? Make sure you are meeting your immediate needs and setting yourself up for future work.

Think about how important work-life balance is to you when choosing an institution. During your campus visit, ask about your colleagues' work-life balance. Know that balance is easier to achieve at some institutions than others.

Consider the broader community beyond the institution. Does the location offer what you need to be personally as well as professionally fulfilled?

After You Are Hired

Work to build relationships with people inside and outside of your department. Faculty in your department have been where you are and can share their experiences. You can also learn about how they are conducting research. Administrative staff know the ins and outs of your department and can help you learn the ropes. Gaining perspectives from other disciplines can help strengthen your research. For instance, STEM education researchers can benefit from establishing partnerships with content area experts. Building relationships with colleagues in the research office and communications office at your institution will help you when it comes time to apply for grant funding and disseminate your work.

Develop a detailed timeline for getting started. Plan what you want to accomplish in your first five years, and then begin to break it down by year, month, and week to identify concrete tasks and realistic benchmarks. This will help you monitor your progress. Get advice from trusted colleagues about how to manage your time during your first few years.

Know that it will take time to get into a routine, and be patient with yourself. You will spend a lot of time developing your courses and teaching, which may take focus away from your research. Once you become more comfortable in the classroom and know what to expect from students, eventually you will be able to plan ahead and find a rhythm in your teaching. This will make balancing teaching with your research and other responsibilities easier.

TENURE

Make a conscious decision to choose the tenure track or not. Understand what it entails and make sure it aligns with your goals. Know that with or without tenure, you will land on your feet. There are always other options—in industry, at nonprofits, or at other institutions with different foci.

Ask about tenure expectations upfront. They hired you because they thought you could be successful, so make sure you understand the tenure promotion process. Talk about tenure requirements because they can change. Ask people, especially newer faculty, how the process worked for them. Some of them might even be willing to share their tenure materials with you to help demystify the process.

Continue ongoing conversations about tenure with those in your department and beyond. If you remain engaged with the process, you will know in advance how likely it is that you will get tenure. If it looks unlikely or questionable, you will have time to plan. But you have to know whether you are on track; feedback from formal and informal mentors can help with this. If you are not on track for tenure, it is likely you are not at the right place to be able to do your work successfully.

Consider creating a document or electronic file to record everything you do that can count toward tenure. This is especially useful for items that are difficult to document on your CV.

WORK-LIFE BALANCE

Achieving balance between your professional and personal lives involves continuous attention, negotiation, and creativity. Figure out your processes. Find ways to remain organized; it will save you time in the long run. For example, update your CV on a regular basis or keep track of references using a system that works for you.

CHANGING JOBS

New opportunities may arise at other institutions. You can learn something valuable at each institution you work and make connections with new colleagues. Moving around to different institutions can give you a sense of how different universities operate, expose you to new people and new ideas, and offer insights into how ideas play out in different contexts. Do not overlook opportunities for growth within the same institution. You can work with new colleagues, begin new projects, take classes, develop new research interests, and teach new courses.

Know that institutions take notice if a potential hire has moved around a lot. Search committees are looking for long-term investments in faculty, so they may wonder how

long you will stay with them and whether you are too risky an investment. Make sure you can explain your decisions, and be upfront about the changes that led to those decisions.

Remember that you are part of a larger research community. When considering future opportunities, think about how you can contribute to those broader networks. Figure out what you need in order to make the impact you want to have.

It is possible to balance your academic work with consultancy work. These opportunities often arise through your connections in the field (professional development opportunities, speaking engagements, etc.). If you are able to carve out a niche for yourself by having a unique set of skills or expertise, it can open doors for consultancy work or even future research collaborations.

If you decide to leave academia for another opportunity but think you might want to return someday, make sure you continue publishing and presenting at conferences. It is important to keep your name and work present in the field.

Additional Resources

- [Academic Job Search—The Hiring Process from the Other Side](#)
- [Becoming a Job Candidate: The Timetable for Your Search](#)
- [From PhD to Professor: Advice for Landing Your First Academic Position](#)
- [Graduate Student Resource for Choosing a Postdoc](#)
- [Maximize Your Chances of Landing a Faculty Job](#)
- [Preparing for Academic Interviews: Screening, Conference, and On-Campus](#)
- [You are Not Prepared: Some Advice I've Received on How to be a Professor](#)

[Additional resources](#) available at cadrek12.org.