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So you want to HIRE A PROFESSOR!

Matthew E. Anderson

The process for finding a new educator can be daunting, yet nearly every university goes through the same procedural steps. Here's a practical guide from the faculty side.

It's hard to believe that 20 years have passed since I wrote "So you want to be a professor!" (see PHYSICS TODAY, April 2001, page 50). I laid out the procedural steps that one goes through on the way to landing a tenure-track assistant professor position—from reading the ad to signing the offer letter. Much has changed since then, particularly with the shrinking number of tenure-track faculty slots, the rise of video interviews, and the global pandemic of 2020. Nonetheless, I'm still on the physics faculty at San Diego State University. Figure 1 marks the achievement: I'm standing on campus at the same spot I was on 20 years ago in figure 1 of my previous PHYSICS TODAY feature.

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In the article on page 30 of this issue, Omar Magaña-Loaiza provides a compelling upgrade to my original essay, focusing on the hiring process from the applicant's viewpoint. I'm now on the opposite side of the table; here I explain the tenure-track hiring process from the university's perspective. Although it can be extremely varied at different institutions, particularly public and private ones, some threads are common. In most cases, the pressure is not just on the applicant but on the university as well.

Getting approved

When I joined San Diego State, I was surprised to learn that physics departments around the world are trying to hire new professors every year. In the 2017–18 academic year, for instance, 47% of physics departments in the US hired more than 500 new faculty members. And 45% were planning to hire more faculty members during the next academic year.[1] Even in departments of modest size, a tremendous amount of turnover occurs, driven by retirements, deaths, transfers to other universities, moves to administration, and departures to private industry—often to startups that spring from the professor's research.

FIGURE 1. THE AUTHOR stands in front of Hepner Hall at San Diego State University, his academic home for the past 20 years.

If your department wants to hire someone, what steps need to be taken? At the most fundamental level, the chair should get approval from the university, designate a search committee, advertise the position, interview candidates, and make an offer. *Voila*, simple as that. I think not. Each step is vastly challenging and requires effort and commitment.

It's also incredibly time consuming. Hiring a new professor typically takes well over a year and a half—easily stretching from the spring of one year to the autumn of the next, as figure 2 outlines. Getting approval for the hiring is one of the more difficult tasks in the process. The first problem is money. Add up the costs and you quickly reach a few million dollars—enough for startup costs and the likely salary for at least 10 years. Despite record numbers of enrollment, budgets seem to magically shrink each year. What's more, some universities have begun replacing tenure-track instructors and administrators with part-time ones.[2–4]

Nonetheless, several avenues are available for securing the capital. Endowed professorships are one option, but they're atypical. Targeted hires—usually from elite universities—are another; funded by already designated money, they are made simply to bring in the best person for a specific research area. But they also are rare. Here I focus on the much more common process: open search.

Assuming that the budget is intact and the highest levels of administration are motivated to hire, who has the final say? The provost's office typically gives the official approval. It usually announces a fiscal budget or projection that includes a limited number of slots for tenure-track lines and might allocate a certain number to each college in the university. College deans are in charge of how they earmark their allotment. A request for proposal is sent to department chairs when a dean is ready to accept requests for new hires.

The departments submit their best arguments for each position, including the area and level—usually an assistant professor. For physics departments, they should also note whether they want an experimentalist or a theorist. The proposal often sets off a vigorous discussion among faculty members about the wants and needs of the department as a whole. They tend to unite, realizing that getting approved for a position is critical to their success and requires their combined best effort.

So how do you convince the dean that your department deserves a hire? Critical need is one argument. But that usually carries little weight. Departments generally undertake a review every five years, and it includes statements from outside observers—usually professors from other universities—brought in to evaluate the structure and inner workings. As one dean relayed to me, such reviews almost always contain the phrase, "Aggressive and strategic hiring in this department over the next five years is the only way to avoid imminent implosion." Apparently, the statement is true for every single department. And it effectively puts everyone on a level playing field.

Retirement replacement is not usually the most convincing argument. If a professor is approaching retirement, so the reasoning goes, their research is winding down—an indication that it is no longer as fruitful as it once was and the professor is now teaching more classes than their colleagues. You cannot hire a tenure-track professor to replace the retiree who was teaching multiple classes; in recent years administrations have pushed to manage those classes with part-time instructors.

Much more persuasive is to adopt a plan of excellence for the department. To that end, you will need to demonstrate to the dean how the new hire will complement the department's existing research strengths and expand its capabilities. Hot research areas are key. The dean wants to see how quickly the new hire can contribute to the department's research stature by bringing in large grants and publishing influential papers. A

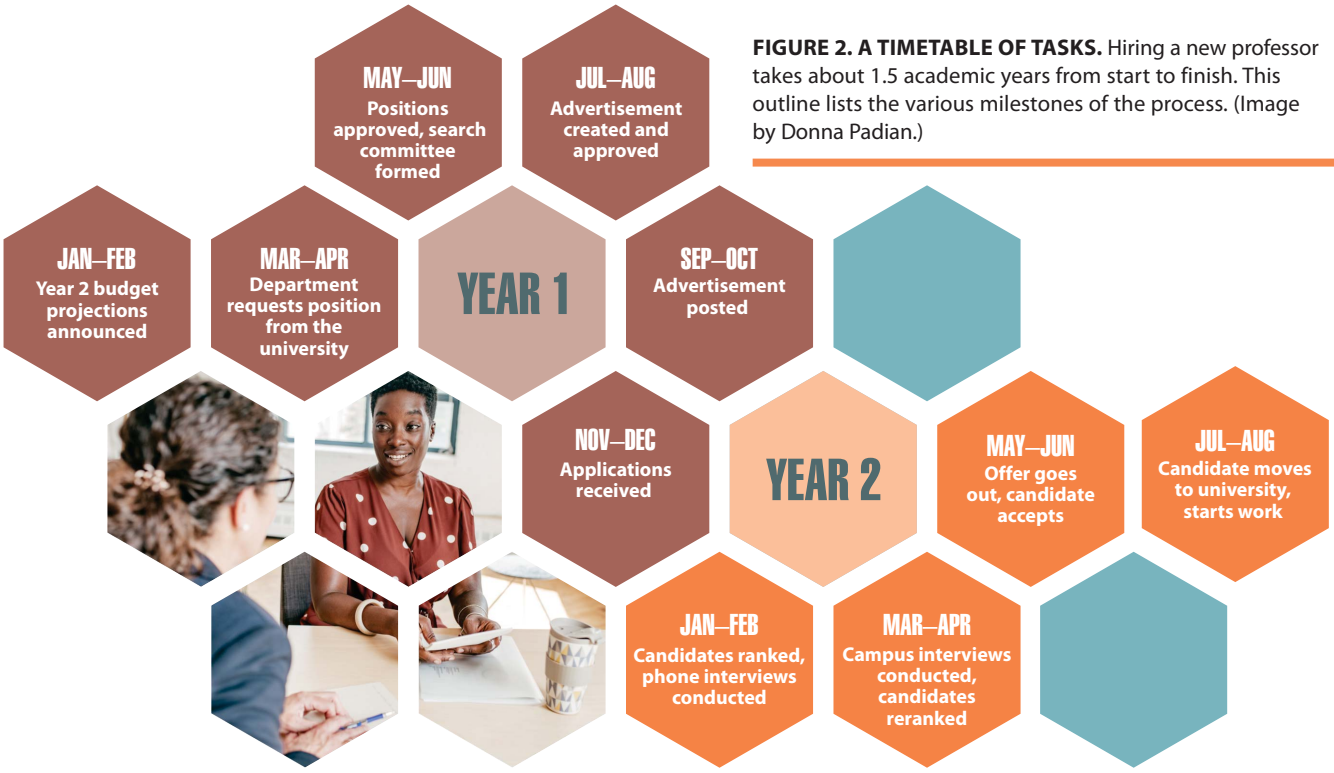

FIGURE 2. A TIMETABLE OF TASKS. Hiring a new professor takes about 1.5 academic years from start to finish. This outline lists the various milestones of the process. (Image by Donna Padian.)

new hire's ability to work within an existing framework and leverage existing equipment and faculty talent are also important arguments.

If a department proposes instead to expand into research areas not currently studied by any of its faculty, solid reasoning must support it. You might argue, for instance, that the rapid increase in scientific discovery and funding in the new research area necessitates that your university get in the game quickly. Then demonstrate how the new hire would complement the research of other principal investigators inside and outside the department.

Whichever approach you pursue, the dean will need answers to other questions. Is there a lab and office space available for a new hire? How much startup money is required? Who will help mentor the new hire on the road to tenure? Interacting with the dean's office on such issues, particularly startup costs, can drag on for a while, so be patient. If you do receive approval, congratulations! The first critical hurdle is over. Take some time to celebrate—like 30 seconds—because now the real work begins.

The search

The first task, usually designated by the department chair, is to form a search committee. It consists of three to five usually tenured professors; some may be from other departments, depending on the nature of the search. The department chair will also designate a committee chair, who will be responsible for setting meeting dates, overseeing production of the advertisement, addressing political bias in the committee, and specifying target dates for the application deadlines, phone interviews, campus visits, and voting decisions. The designated person will serve as a liaison between the committee, the department, and the dean. The committee chair holds incredible power and responsibility, so the department chair should choose wisely.

One surprisingly difficult task is putting together the advertisement. Although the general language—the position, research field, experience, and start date—may be straightforward, the ad itself typically needs to follow strict rules, both in the construction of the language and in its placement. For instance, at many state institutions, stringent guidelines ensure that diversity, equity, and equal opportunity goals are met. The language in the ad must be routed through a specific unit in the university for approval, a process that can sometimes take a long time. Where the ad is placed could also matter; some institutions require that it be published in an international journal.

The nature of the position will have already received approval from the dean. Although departments do hire senior personnel regularly, the most common hire is for a tenure-track assistant professor. For that level, the ad will state what the candidate's experience should include, such as a PhD, which is always required; a postdoc position, which is almost always required; and a second postdoc position, which nowadays is quite common. It will ask for a full curriculum vitae, statements about research and teaching, and three letters of recommendation.

The ad should include a date for when the evaluation of candidates will begin—candidates should read that as a due date. It will also include instructions for how applications should be submitted, typically by email or through a website, so be sure to specify the email or URL address. It is a good idea to inform candidates that they are not to contact members of the department directly, as that usually violates the university's protocol. Faculty will still receive inquiries from candidates directly, and those should be forwarded to the search committee chair, who will likely not reply.

An important logistic aspect of running a search is dealing with the applications themselves. In the olden days, applications were hard-copy printouts mailed to the department. An administrative assistant stored them in a large filing cabinet,

and search committee members would review them by checking out files. It was, in retrospect, a bit ridiculous. Nowadays, fortunately, everything is electronic. In fact, your university most likely has a service, such as Interfolio, for receiving applications. It alleviates the burden of organizing them. And if your campus is not using such a service, I highly recommend it.

Weeding people out

After the due date, the committee begins to review the applications. That is a cumbersome task, as the number is routinely 200 or more. The committee's goal is to whittle that down to a number that could be discussed in depth. The first step is to triage the group. The chair will usually assign a subset to each committee member to narrow down the total. Obvious disqualifications help: no PhD, PhD in the wrong field—which happens more than you would think—few publications, and insufficient experience. Those deficiencies remove some 20% of the applicants.

A dividing line to remove others typically centers around number of publications. In search committees I have been a part of, the line is often around 10. Below that number, applicants are rejected. Above it, they stay in the pool. That cut removes the bulk, perhaps another 60%. So, if we started with 200 candidates, we're left with 40 still viable. That's a decent target number for the committee to discuss.

At this stage of the search, the goal changes. Whereas the previous step was designed to weed people out, this next step is to weed them in. The committee wants to identify the strongest candidates. Each member therefore reviews the 40 in depth. They will be using some obvious metrics: publications, grants or grant experience, the strength of the research plan, and teaching philosophy.

But as I stated in my 2001 PHYSICS TODAY article, postdoctoral experience is the key stepping-stone to landing a tenure-track position, and committees will be swayed by candidates coming from the best research environments. Less obvious metrics include their publication consistency, journal impact factors, and revealing statements—"This person is something special," for instance—found in recommendation letters. After independently reviewing the candidates, committee members reconvene to discuss them collectively. The goal is to identify top contenders, 12 max, who will be asked to give remote interviews either by phone or videoconference. That step can be somewhat contentious, as committee members start to favor certain candidates who don't always make the cut. It is frequently easy to identify the top six candidates; the next six are tougher to find. It may be tempting to interview more than a dozen, but that is ill-advised; each interview takes an hour and is thoroughly exhausting for all parties involved.

Yet the remote interviews are extremely telling. Suddenly the person that you have been evaluating on paper is a real face, a real voice, with real ideas and real drive. Your impressions of the candidates will change after the remote interview, sometimes in dramatic ways. More than once, some of my favorite candidates have fallen out of contention, while others have risen dramatically. The remote interview allows you to dig into their real interests and the clever ideas they might have tucked away for future grant proposals. It also provides the first real glimpse of their personality and allows the committee to consider more personal concerns. Is this someone with whom I could collaborate? Is this someone I would feel comfortable putting in front of students or running a research lab? Does this person convey a sense of enthusiasm so critical for the profession?

It is vital that committee members be aware of and resist their own implicit bias—the notion that we treat others differently on a subconscious level.[5] That behavior, of course, is present in all areas of hiring, but particularly so in the physical sciences,[6] where the historical maleness and whiteness of the academic population are apparent. Scientists tend to think that they can be purely objective and evaluate candidates on their merits alone and that they are not swayed by intangible qualities such as gender, race, or socioeconomic standing. Yet study after study has shown that is not the case.[7]

Intentional or not, the tendency of people is to hire those who look like themselves, a practice that produces homogeneous viewpoints and stifles creative dialog. It is morally imperative, and often legally required, to properly train committee members in how to avoid the pitfalls of implicit bias. Your university undoubtedly has a human resources department that can provide that training. Diversity, equity, and equal representation in hiring is fundamentally important to the future of science. If you want to attract the best minds to our profession, both in the student population and in the professors you hire, you need to expand your phase space to find them. Figure 3 shows Lyuba Kuznetsova, an assistant professor who joined the San Diego State physics department seven years ago.

Campus interviews

Almost always, some candidates check all the boxes, rise well above the competition, and inspire the committee. More than once, I have left a meeting thinking, "We have to get this person." Hopefully, more than one candidate makes you feel that way, because the next step is campus interviews, and the typical number that you can bring in is four—usually a hard limit imposed by the dean.

The top four contenders from the committee's list are invited to campus for a visit, and a series of difficult calendar gymnastics begins. Once everything is set, each candidate performs for two days straight, meeting every faculty member, the committee, the chair, and the dean. They give a colloquium, deliver a closed-door research talk, interact with students, have lunches and dinners with faculty, and wonder whether the university has good coffee. (It does!)

From the committee side of the table, the campus visit is everything. Candidates are invited because they looked good on paper and were great during the remote interview, and the committee suspects that they would be a good fit. But members are not really sure until the campus visit. No single particular aspect of the visit is critical; rather, they all are. Every moment conveys important information, and it is often in the more relaxed downtime that elements of truth emerge. I remember interviewing one candidate, and casually over coffee I asked about a specific lab experience they had mentioned on their CV. The candidate revealed that, in fact, they had only been in charge of running BNC cables from one room to another. Uh, thanks but no. Yet another candidate, whom I had in my mind ranked fourth, suddenly hit it off incredibly well with the students, and I changed my mind and ranked them first.

It's difficult to convey exactly what departments look for during those visits. But if one overarching question pervades

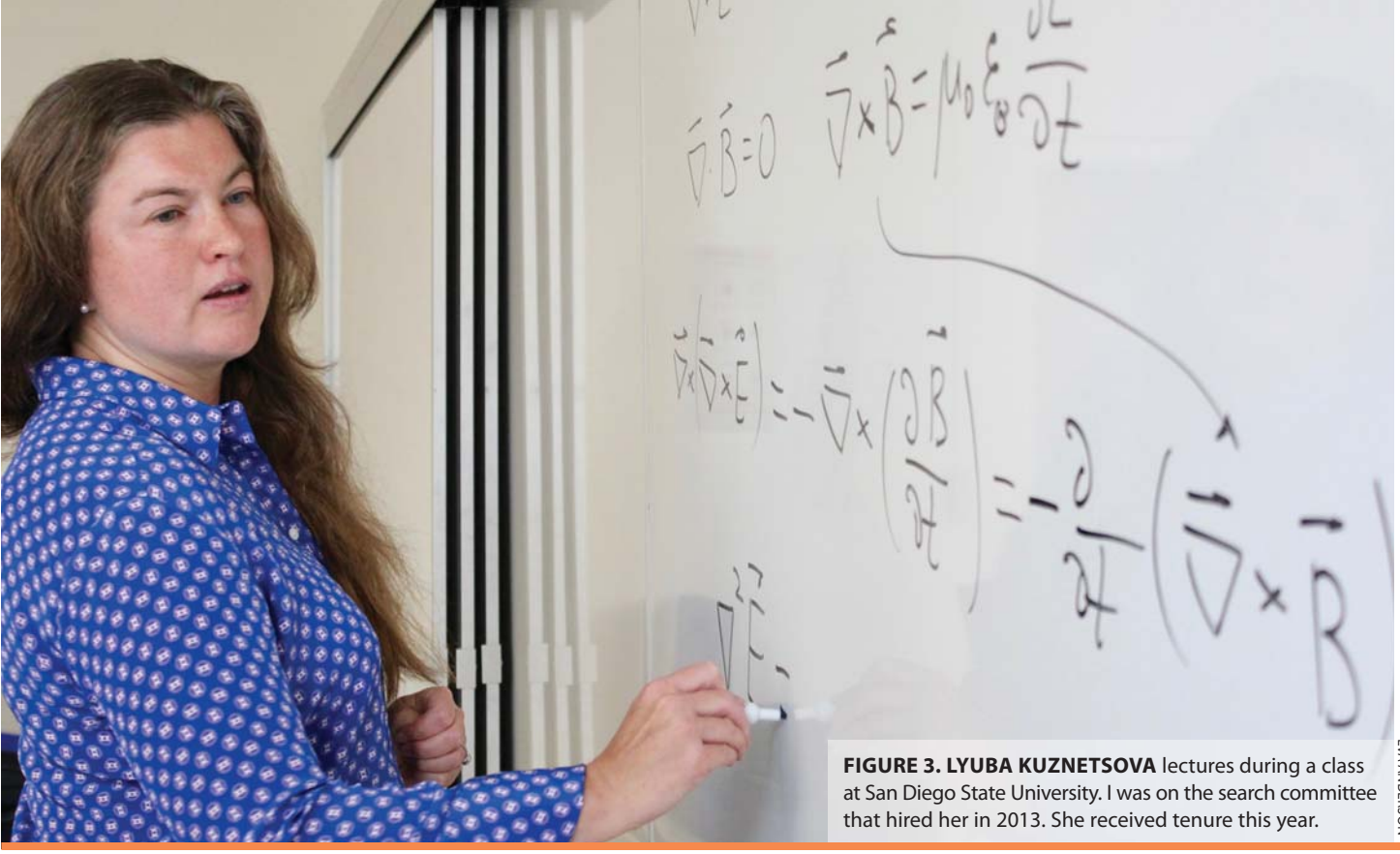

FIGURE 3. LYUBA KUZNETSOVA lectures during a class at San Diego State University. I was on the search committee that hired her in 2013. She received tenure this year.

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the interview process, it would be this: Which of our candidates is most likely to get tenure? We don't want to waste anyone's time going through the selection process if they are not going to get tenure. Indeed, if any doubt about one of the candidates arises, they will be removed from contention.

Universities are critically interested in two things: money and prestige. Will this candidate be able to bring in grant money? Check. Will they elevate the prestige of the university through publications, invited talks, and scholarship? Check. Will they be able to teach classes reasonably well? Check. Will they be a good colleague? Check.

Making an offer

Once all the check marks are in place, the committee reconvenes and ranks the top four candidates. They then present their findings to the chair and the entire department. The process of negotiating with candidate number one ensues. The chair or someone from the dean's office usually reaches out with an acceptance offer by phone. They will mention the salary, startup funds, lab space, and teaching load. Although all of that could be considered negotiable, in practice little of it actually is. Usually, especially at state institutions, the dean's hands are tied on salary. And the space is already designated.

The most wiggle room probably exists within the startup funds and teaching load. The dean will want to know what a new professor really needs to start a research program and whether they could survive when those funds are spread over two years. Most universities will try hard to keep the teaching load light in the first few years because the new hire will be building a lab and launching a research program. Remember, the dean also wants the new person to get tenure, and they know that a high teaching load can impede one's progress.

The chair will need to pressure the dean's office to get the offer to candidate number one as quickly as possible because, unfortunately, there is a high probability they will say no. Often, that's because they are being wooed by other universities. I have been in many search committee meetings in which we recognize that our top candidate may accept another institution's offer. If they do turn us down, we move on to candidate number two as quickly as possible, and the offer process starts all over. All the while, the clock keeps ticking, and people weigh offers from other universities, sometimes getting snatched up before the dean can get to them. It can be an exasperating experience. And sometimes searches simply fail. Convincing the dean to keep the search open for yet another year is, shall we say, challenging.

But more often than not, the process reaches a cathartic conclusion. The university is still interested in a candidate, and the candidate is still interested in the university. It feels right. The dean makes an offer, and the candidate accepts. Now it really is time to celebrate.

After months of wild oscillations, the hiring process finally settles down into a stable equilibrium. The candidate joins the department, and after a few months you don't even remember the other candidates who applied. The person you were looking for all along is exactly the person you found. What was all the fuss about anyway?

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