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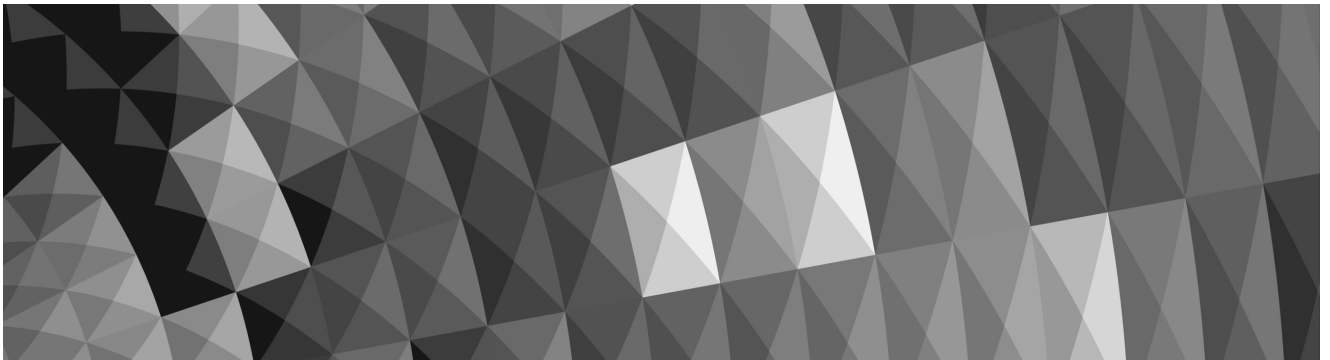
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Preparing for a Research Career

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INTRODUCTION

Research is central to academic careers. Part of being a successful academic[1] is being a successful researcher. Being a successful researcher means, among other things, acquiring the ability to secure funding to support research. In an ever more competitive funding environment this has become increasingly difficult. As a result investigators, and the institutions they serve, are looking for every possible advantage in that competition. For many, this means focusing intently on the art, the practice, of proposal writing. Writing well-crafted grant proposals in response to funding agency calls or foundation requests for submissions is clearly an important element in becoming a successful investigator. However, as this chapter will make clear, grant writing is the end of a process, not the beginning. Furthermore, good grant writing is necessary but insufficient for securing external funding. Long before an academic makes the decision to write a grant proposal seeking external support for their research (see Chapter 4, Getting Funded for the First Time) there are a number of concrete steps they can take to position themselves to be successful in that effort. Investigators who take these steps, who ensure that they are well-positioned before they seek funding, are more successful than those who do not. This is true whether the investigator is a junior member of the faculty coming to a prestigious institution from a successful post-doctoral programme, a seasoned academic looking to change their area of research, or a new investigator without a post-doc coming to a mid-level university that emphasizes teaching. For each of these individuals, the questions are the same: how well-positioned are they as a scholar, a researcher, and a grant writer?

This chapter proceeds from the premise that these aspects of positioning are insufficiently addressed in graduate and post-doctoral training, but are then assumed by senior-level investigators, university administrators, and funding agency staff to be universally understood among investigators. Indeed, it was over years of service as a Director of an Office of

Sponsored Projects and then as an Associate Vice President for Research that one of the authors (Stone) identified this state of affairs and developed the concept of positioning[2] to assist his research development staff in working with junior investigators to address it. While these deficits have been more systematically addressed in some countries, many institutions still offer little formal support for early and mid-career faculty to think about their long-term professional goals and to develop strategies for achieving them. In what follows, we will explicate each of the three dimensions of investigator positioning. The chapter will then build on the experience of Gutierrez, as senior/key personnel on foundation, non-governmental organization (NGO) and federal grants and as a senior-level research administrator in university and international non-profit organizations, to detail a number of aspects of funding proposals that are often neglected in the grant writing process, but which are critical to obtaining competitive external funding.

POSITIONING

So what does it mean for an academic to be well-positioned to write a proposal? Most basically, it means that they have prepared themselves as a scholar, a researcher, and a grant writer in ways that will strengthen the ideas behind their proposal, demonstrate to reviewers that they have the wherewithal to carry out the project, and enhance their ability to communicate what reviewers are looking for. The suggestions made here are formal and as such ought to apply in general terms to researchers in any discipline and at any stage of their career.

Positioning as a scholar

The first step for an academic in becoming well-positioned as a scholar is strengthening their standing in the literature. Standing can

mean a number of things. From the perspective of reviewers, disciplines are literatures. Literatures are characterized by waves, factions, debates, competing theories and schools of thought. It is rare that a literature can be characterized as a pyramid with someone universally recognized as being at the top. But even if it is a complex mountain range, reviewers who know well their literature's topography, and who can often lay claim to a peak with their name on it, will have a sense of where any given individual stands in that literature and how their ideas can be plotted on the map. What they are looking for in a grant proposal are the people best positioned to advance those literatures: those who publish regularly in the prominent journals and at the cutting edge of the evidence or the debate. It is rare for someone to parachute into a discipline in which they have not already published and nonetheless obtain funding.

In the simplest terms, understanding how well-positioned an investigator is as a scholar means looking at their raw presence in the literature. For example, an investigator may be just post-dissertation, one or two third-author pieces from graduate school, one or two publications lead author as a young member of the faculty, a long history of publishing in other areas, but very little in your new chosen area, or somewhere in the middle of the pack. No matter where someone is in terms of their presence, it is important for academics to be seen as moving up the ladder as their new ideas are gestating and they are pondering that next grant proposal. In terms of presence, for the most part, first author is better than second, co-author is better than no-author, etc.; the point is they need to be seen as an active part of the conversation in their discipline.

In more sophisticated terms, academics must understand for themselves where they – and more importantly their ideas – are in the complex topography of their literature. For them this means assessing with whom and with what ideas, trends, waves, and factions they are aligned and what dynamics are in play in

those terms. This is an exercise in which academics may seek additional perspective from colleagues. But however they do it, they need to understand where they stand, how they are likely to be perceived in these terms by reviewers, and how their forthcoming publications will strengthen their positioning.

The process of developing a strong presence in the literature has benefits in terms of positioning that go beyond standing. This is especially true for junior investigators or those who are striking out in a new direction. That is, this process also gets academics and their work read and known by both readers and reviewers; the process of peer review for articles and books itself introduces the investigator to senior people in the field who serve as editors and reviewers and helps them strengthen their ideas and sharpen its presentation. The peer review process allows academics to learn how they are understood by their colleagues and allows them to strengthen their material and their arguments for their ideas through the process of revision and resubmission.

A third benefit of academics strengthening their positioning in the literature is that papers and chapters are a great source of raw material, and sometimes polished gems, for future funding proposals. At the end of the day, grant proposals are being evaluated on their ability to advance the literature. Proposals from academics whose standing can be recognized, appreciated, and articulated are more likely to be appraised as capable of advancing the literature. In times marked by the need for accountability among governments, foundations, and other funding sources, positioning in the literature is essential.

In addition to being well-positioned in the literature, being well-positioned as a scholar means that an academic is also well-positioned in the field. Being well-positioned in the field means that the academic actively contributes to their disciplinary community. The most basic way for an academic to do this is by presenting at local, regional, and national professional meetings. Presentations get investigators seen and known. First, through

the application process they are introduced to both conference programme committee members and reviewers. Second, conference presentations offer opportunities for feedback on their own work, allowing them to test their ideas among peers. The process of presenting and taking questions exposes investigators and their work to critique and to competing ideas and approaches. Third, they often serve as the basis for published papers.

Beyond presentations, there are any number of ways academics can get involved with professional societies that can assist them in becoming better known and more deeply immersed in their field. These include holding office, reviewing proposed presentations and papers, chairing sessions, and other volunteer opportunities.

Perhaps the most valuable way for academics to enhance their position in the field – because it also serves to strengthen their ability as a grant writer – is to serve on a grant review panel. Whether it is for a national funding agency, a state committee, or even an internal university grant competition, this experience furthers their reputation in the community, introduces them to other reviewers and agency staff, and provides them with the invaluable experience of looking at the grant process from the perspective of the reviewer. Doing so directly in their own area of work also reveals to them where the cutting edge in their field lies and where their own work stands relative to the work that becomes funded through that process. All of these activities improve their positioning in the field, and each provides benefits beyond positioning. Nonetheless, the better positioned they are, the better their chances are of being able to network with successful collaborators, and the more their ideas can be exposed to and refined by colleagues in their field.

A longer-term mechanism for faculty members to become well-positioned as a scholar, as an academic interested in research, is to ensure from the beginning that they integrate research, publishing and teaching. If their days and weeks are scheduled as zero-sum games playing-off time for writing, time for class

preparation, and time in the lab or the field, it is not uncommon that the academic will come to resent the competing demands of all three. To address this, wherever possible, academics interested in research must seek to align their work so that research, publishing, and teaching activities feed into each other. (As we noted above, for example, papers and lectures can provide usable text for grant proposals, and literature reviews for papers and grant proposals can often serve multiple purposes.) Teaching in one area and doing research in another, at least in the long term, is unlikely to position faculty for success in either.

Positioning as a researcher

The first step for an academic in becoming well-positioned as a researcher is establishing a long-term research agenda. In the current funding climate, funding agencies feel the need to be accountable to tax payers and donors by being able to point to the advances produced by the work they fund. The urgency of contemporary problems reinforces the drive for accountability and produces funders who seek more than the incremental advances that were once the hallmark of successful science. Today, funders are seeking transformative ideas rather than incremental advances; they support the building of evidence bases that can serve advances in practice and interventions into difficult problems. This means they are seeking researchers who have identified important, long-term research goals and who are working toward them individually and as a community. A long-term research agenda has a number of advantages relative to effective positioning. First, a well thought out and well-presented long-term research agenda allows academics to position their current work within a larger, more meaningful, and potentially more impactful framework. It gives context to their present work and a trajectory to their current and future plans; it provides a roadmap from their current study to the next study, and to the studies that will need to follow.

However, a long-term agenda should not become a straitjacket because it leaves a researcher very vulnerable to shifts in fashion among funders and may have the result of diverting them away from new opportunities. Successful researchers are also skilled entrepreneurs who can look for ways of spinning their skills and interests into whatever calls are currently open. A researcher who is interested in the study of organizations, for example, may be able to transfer their expertise from one institutional setting, say healthcare, to another, say criminal justice, by framing their response to a call in ways that demonstrate a match at a scientific level, even if this is not immediately apparent from their previous CV. It is also worth remembering that funders looking to open new research areas will not necessarily have a pool of researchers at hand. The recent rise of topics like food and animals as concerns for social scientists has presented opportunities for researchers to move sideways, pursuing core theoretical interests or using generic skills in unfamiliar settings.

One of the truths about funding success that is often lost in the data is the extent to which it is easier to get funded a second time by a given funder than it is to get funded the first time. Funding agencies are inherently risk-averse. They are obligated to show that they are good stewards of the funds they use to support research activities. That means being able to show that projects were successfully completed, that the dissemination of results was effective (numerous publications in high-impact journals and high-impact conferences), and that the project made a difference in the area within which the work was done. Naturally, therefore, they are more likely to trust investigators who have been good stewards of their funds in the past, who have conducted successful projects, who have disseminated in high-impact journals and at high-impact conferences, and whose work is recognized as making a difference in the field. Funders are also inclined to continue making investments in labs and programmes that they have already invested in. (The question of whether a programme, if it is not

worth investing in now, was worth investing in before, is not one funders are in a hurry to answer.) For these reasons and more, the 10 per cent success rate touted in the funders' literature is usually made up of some ratio (often around 50:50) of investigators who had been previously funded by that agency and investigators who are newly funded. However, what this means for those academics applying to that agency who have not previously received funding from them is that their chance of being funded is more realistically 5 per cent than the advertised 10 per cent. Staying on a research path that is aligned with a given funding agency's mission is the best way to ensure continued long-term funding.

The second step in positioning as a researcher is to develop solid working relationships with populations or partners that the research requires or, in the case of lab-based research, access to and working familiarity with the instruments and facilities that the research requires. Researchers who wait to establish these connections until they are in the process of writing a proposal invariably lose out to those who can show ongoing access and a strong history of collaboration. Both field and laboratory-based research are difficult, complex endeavours. And so, again, with funding agencies being risk-averse, the ability to demonstrate established long-term relationships with partners, populations, equipment and other such resources required to successfully complete projects is essential to getting funded. And whether the resource is a lab, a piece of scientific equipment, a population, a community agency, or a school, there are ways of gaining experience or developing a relationship with that resource that can be done long before a research grant is under consideration. Investigators who plan ahead in these ways are far better positioned than those who do not.

Additionally, just as funders are unlikely to trust that an academic can work closely with a hospital team that they just met, they are also less likely to fund investigators who have yet to establish a track record of doing funded research, or if they have failed to

back up their research ideas with evidence. There are many aspects to a track record. At a bare minimum, reviewers want to know that investigators have a track record of doing research in the area at all: even having been a lab assistant or a graduate research assistant helps, as does having served as a consultant, key personnel or co-investigator on someone else's project. Beyond that, because the role of principal investigator also involves elements of fiscal and personnel management, supervision, time management, as well as scientific expertise, reviewers look for evidence of these as well. In this regard, having served as a co-investigator may allow an academic to demonstrate that they have had first-hand experience with the range of issues and problems that arise in the course of a funded research project and that they have participated in identifying and implementing solutions. Further, though, reviewers expect to see some level of evidence (qualitative or quantitative), even if it is only pilot or proof of concept data, which suggests that the research project that is being proposed has some merit based in evidence. The more data, and the closer the nature of those data are to the project being proposed, the better. This does not mean that academics have to be funded to get funded. Reviewers are aware of this problem and most seek to be supportive of young investigators or researchers who are new to a field, but they do need to see some evidence that the ideas being put forth have merit.

Finally, in positioning as a researcher, it is important to know who the competition is. If the academic has positioned her/him self well as a scholar, they know their literature and they know their field, and so they should already know who their likely competition is. They still need to know, though, who is likely to be competing for this money from this agency at this time. Networking helps here. The process of searching for potential collaborators can lead the investigator to discover who among the key players is available and who is not. Most funding bodies publish lists of past recipients, and it is often helpful to see who is just coming off funding and how

they might be trying to follow up. Knowing the competition can help academics craft their project and their proposals in ways that help them stand out from what they are likely to be doing and to address lacunae in others' approaches. It can also provide for them a better sense of where the cutting edge is and how to make sure they are on it.

Positioning as a grant writer

The last element of positioning is being well-positioned as a grant writer. This process relies on positioning as both a scholar and researcher. The first step in successful proposal development is to craft an effective literature review. This is best accomplished when the academic both knows their literature and is an important part of it. An effective literature review locates the problem at hand within the extant literature and frames a case for advancing that literature in some way. Often this is done by identifying a gap in the literature that needs to be filled; alternatively, it can suggest ways in which the current literature is based on a flawed premise, shaky theory, or dubious evidence, and proposes another approach. In either case, the goal of a literature review is to lead the reader to the inescapable conclusion that the project being proposed asks the next necessary question in the field.

Once it has been established that the discipline can only advance if the proposed research question is both asked and answered, the next necessary step is to assemble the right players. Review panels want to see the projects they fund succeed. In large part, then, they rely on the quality and make-up of the research team to ensure this happens. This means not only having all of the appropriate roles represented on the team – subject experts, statisticians, technical experts – but also making sure that each player has a strong track record. Reviewers are not always content experts – often they are methodological or technical experts – but in all cases they are experienced in the process of carrying out large, complex projects within the confines of sponsor rules

and requirements. To retain their confidence, any player on the team with whom they might identify, or whom they know from experience to be critical to the proper functioning of the project, needs to have the requisite experience. Beyond that, having the right players means having a workable management plan to guide and coordinate everyone's work on the project. In some cases, academics might consider developing an advisory committee comprised of senior scholars with the range of expertise necessary to cover all of the elements of a project. The committee works with the principal investigator and the leadership team to guide the project and provide advice and support during both the formative stage of the project and again during the dissemination phase.

The next essential step in positioning as a grant writer is understanding what the funder wants. As with all understanding, obtaining this knowledge involves a hermeneutic process of tacking back and forth between the big picture context and the devilish details, in this case, between the specific solicitation being responded to and the larger contexts within which that solicitation exists. When funding agencies release solicitations, the announcement of the kinds of projects they are looking for is almost always the result of a long (and often public) process. Funders, like researchers, have research agendas, large problems they are trying to address by funding incremental steps toward solutions – while continually hoping to fund that transformational project that turns the staircase into an elevator. Documentation of this process is almost always available and should be read in tandem with the solicitation. Solicitations often, in fact, include citations to documents the funder wants read in order for respondents to better understand what they are looking for in their solicitation. Sponsored programmes offices (sometimes known as research or business development offices) are often another source of guidance on how to understand what the funder is seeking to fund. Staff in these offices have read hundreds of proposals and spend time talking to funding agencies and so tend to

be fairly good interpreters of funders' jargon and funders' intentions.

Finally, to be well-positioned as a grant writer, academics need to understand the specific agency guidelines that accompany the solicitation. These are the rules under which the proposal needs to be submitted. These rules can run the gamut from things like font size and margins to rules about sub-contracting and publication rights. They need to be understood and conformed to or the proposal risks being rejected before it is ever reviewed or having to be withdrawn in cases where commitments have been made that the researcher's home institution cannot honour. Again, the Sponsored Programmes Office is the place to look for guidance in understanding the guidelines. The next step may be a conversation with the programme officer at the funding agency for further clarification. At the end of the day, though, to be a competitive grant writer, academics need to have a solid understanding of the rules of the game.

FINDING FUNDING FOR RESEARCH

Being well-positioned is one of the first key steps of applying for external funding, whether that funding pays for a short-term project or comes in the form of a large-scale multi-year grant involving collaborators and research teams across institutions. On either end of this funding scale spectrum, it is important to explore the full range of funding opportunities academics have at their disposal, some more apparent than others. The ability to find and identify relevant opportunities and get into the habit of (frequently) applying and submitting proposals goes hand-in-hand with becoming a successful researcher.

Knowing where to go and how to look

Typically, a good first place for faculty to turn to is the sponsored programmes or central research or business development office. While these offices at different types of institutions can be structured in a number of ways, most higher education institutions have created such an organizational space to provide funding support and research administrative services to academics and professionals engaged in sponsored programmes and research. These staff frequently field questions from academics about potential funders[3] to which researchers (as principal investigators, project directors, or key personnel) can apply through their home institution or in partnership with other institutions via sub-contract and consortia arrangements.

These university offices can serve as good resources for academics to get acquainted with early on in their careers, as staff can help investigators identify potential programmes that may align with their longer-term research focus. Having provided direct support on previous proposals with other investigators and research staff across campus is another value-added benefit of talking with them early on. In most cases, these offices, whether large or small, should be well-versed in sifting through sponsor guidelines, compliance issues and regulations, programme priorities and myriad number of details related to formal proposal submissions (which tend to have many institutional I's to dot and T's to cross) in addition to project budgeting, covering salaries, fringe rates, indirect costs, and cost share considerations.

These offices will also have information and useful data on proposals submitted and awards received from a variety of funding organizations supporting other research and projects at the home institution. Having a sense of current institutional funders and which departments or research centres and institutes are receiving grants can help academics in their search for available and relevant funding programmes. It can also help them position their project in the context of the competition (internally within the same university, and externally) to gain a thorough understanding of who is doing what and where. Funder websites more often than not

also list recent grantees along with project titles and proposal abstracts or summaries, so mining this information can be advantageous in the initial stages of funding searches.

With a bit of patience and discipline with regard to digging through lists of funding programmes, academics can also take advantage of any number of electronic resources, including agency-specific listervs and emails, and even in-house or institutional subscriptions to advanced funding opportunity databases and search tools. Most institutions tend to implement or subscribe to a variety of these grants search tools and resources housing them in a central research office or even in the development office. While it is a good habit to get into regularly scanning these resources, academics also tend to feel bombarded by too much information, especially if it is not targeted or relevant. Staff in the institutional offices can assist with targeting and narrowing down possible results, while academics can also subscribe directly to various sites, email lists, and sponsor agency grant newsletters.

Collaborating (or competing) with peers

Talking to department chairs or other researchers who have received grants in a similar discipline or research area is another approach that can lead academics to grant programmes to explore. Even if an institution may not have a formal mentoring programme for junior or senior faculty, establishing these types of informal relationships can be beneficial in the area of research funding. Faculty can also benefit from asking their peers and administrators within the department about who has applied for grants and who has been successful, and even go one step further in discussing with other principal investigators their own funded projects and whether they are willing to share proposal narratives or other application components with them for reference.

The networking that happens at conferences and professional meetings also presents opportunities to learn about funded research from panel presenters and discussants, and for academics to discuss their own research projects, goals and outcomes in this broader community context. This also plays an important role in one of the principal outcomes or goals of conducting funded research. In nearly all programme solicitations and guidelines, funders will request that a proposal provide some description of a plan for disseminating research results or project outcomes. While there are only a finite number of ways of conveying that results will be published in journals and shared at scholarly and academic conferences, there is real value in actively positioning the research project and promising to get it in front of the relevant audiences, which will be critical for the dissemination of the results in addition to longer-term sustainability and scalability of the research. Early on in the proposal writing stages, academics need to keep in mind specific beneficiaries, depending on the funder's goals or stipulated guidance in the solicitation, when planning on how best to disseminate outcomes to peers. Important as 'broader impacts' are (if using the National Science Foundation-specific key evaluation criterion), investigators also need to consider how the proposed research offers potential positive outcomes to other relevant beneficiaries, including educators and students, policy makers, the public, and how that information will be shared, published and disseminated widely. Chapter 32, Planning for Publications, suggests that this needs to be thought through at the proposal development stage and implemented throughout the project, not simply as an afterthought.

Success tends to beget success in the grants world. Knowing the active players in this space places academics in a better position to not only identify relevant funding programmes to pursue, but also to frame their proposed project into the broader academic context, debate and discussion. These networks also make it more likely that an academic will be invited to join a team bidding for a grant or even to be approached by a funding body looking for potential candidates for funding.

ALIGNING RESEARCH WITH FUNDERS

As we have discussed, good positioning applies to an individual's own readiness, expertise, experience, and publications (or product) record to build a credible case to a funder for leading out a new project or area of inquiry. In addition to the researcher being well-positioned, the research itself must be positioned well. In other words, the proposed project – framed in the context of a grant proposal bounded by a period of performance (timeline or at least start and end date), a scope of work, a detailed budget outlining specific costs, and anticipated outcomes and measurable objectives (preferably framed within some sort of logic model) – needs to be positioned in line with the funder's goals, mission, programme priorities or any combination of these. Understanding the motivation behind a funder's remit to award grants for research (whether it is for the advancement of knowledge and scientific innovation, or altruistic reasons, largesse and for the benefit of populations), these motivations, which are driven by organizational missions should be carefully reviewed and understood as this ultimately helps shape any proposal's overall goal in communicating or 'hitting on' salient points important to the funder. Successful proposal writing hinges on perceived or actual matchmaking. This is done strategically by positioning proposed research (what the researcher wants to do) in line with key objectives (needs, interests or priorities of the funder). This concept of matchmaking underlies many aspects of proposal writing for a variety of funders.

At a fundamental level of matching research to the funder's goals, the best advice to academics is to closely follow the directions and guidelines. While this may seem fairly basic, those who have developed and crafted strong and successful proposals pay close attention to how the proposal itself addresses not only the programme guidelines, but a specific programme priority or priorities, and the evaluation criteria in which the proposal will be scored against.

Through a number of proposal writing strategies and techniques (organization and proportionality, the use of headings and subheadings, bulleted or numbered lists, charts or visuals, jargon-free action-oriented writing, etc.), effective proposals will guide the reader logically through the narrative while also emphasizing how the proposal specifically addresses the key requirements and priorities of the funding programme.

In the same way that academics should frame their research with a funder's goals in mind, it is advantageous also to be mindful of the proposal reviewer, so it is important for any grant writer to first know, and then write, to their audience. Most proposal guidelines and advice from programme officers will convey the same messages around writing clearly, succinctly and without the use of jargon (especially if a peer-reviewed panel is comprised of reviewers coming from various disciplines and fields). Knowing one's audience (in this case, proposal reviewers) also means knowing how they are being asked to evaluate the proposal. In discussing potential proposals with programme officers, which is another recommended strategy well ahead of a submission deadline, investigators can tease out the key evaluation criteria and important goals in these type of interactions. These conversations can sometimes provide more nuanced guidance and insight than what is officially published in a standard request for proposals (RFP) or programme solicitation.

Unsolicited proposals

It is important to note that some funders may not specify programme or organizational goals surrounding their grant programmes, but rather, prefer to cast a wide net into the research and scholarly community in terms of accepting for review *unsolicited* or *investigator-led* proposals and initiatives. While all proposals are inherently investigator-led, in that an academic is proposing to do some work at a specified budget over a certain period of time, investigator-led grant programmes tend to not have the same expectations around addressing

specific programme priorities, objectives or goals as articulated by the funder in programme solicitations. Somewhat reflecting a more bottom-up (versus top-down, funder to researcher) approach in how research is proposed, the funder is effectively asking the applicant:

- What do you think is most important right now to the field and why?
- Does this present high-risk research, but with significant potential and broad outcomes?
- Why should we be interested and why should we fund it?

The answers to those questions will vary widely, though the overall goal is to persuade the reviewer or programme officer of the argument for funding in a particular research area. Effective proposals will convey this message objectively with ample evidence and clear language, making the job easier for a reviewer to understand and summarize the argument for funding (its purpose and significance), and to be able to evaluate the proposal components against the established funding programme criteria.

Positioning the lab, department or organization

Investigator positioning carries a significant amount of weight in terms of how a proposal is ultimately reviewed by programme officers and panels comprised of peers. An academic must not only make a convincing argument that funding will allow them to lead projects with important benefits or outcomes, but also convey that they have the organizational resources, capacity and wherewithal to do so. Examined this way, strong positioning goes beyond the individual and extends to the parent organization, broadly understood as one's lab, department/college, centre or institute, or even the university.

The role of the unit, centre or organization comes into play in most proposals and is an important area to consider during the proposal development phase. Often overlooked

until the final stages of rewriting or relegated to grants or other research staff who may assist with providing pro forma 'boilerplate' sections of a proposal, the description of resources (in the form of facilities, equipment or other resources) available to the investigator can strengthen a proposal in terms of its perceived feasibility and likelihood of success.

Scientific and knowledge resources

Describing resources well relies on a certain level of creativity and a realistic assessment of available resources. Most funders request this description in a proposal narrative allowing the investigator to make the case that they have the necessary resources to carry out a project should it be funded. In certain disciplines, the need and use for expensive equipment and instrumentation is not a major factor in order to carry out a research project. For instance, in the arts and humanities, there are other resources that are just as critical to supporting new research projects, including available knowledge resources, personnel including consultants, experts and advisory boards, and access to off-site facilities or archives, to name a few. Listing these type of resources, in addition to office space, computer labs and other facilities and resources on campus that can support the proposed work in some meaningful way, can strengthen the standard 'resources' sections in proposals.

Organizational resources

'Big' research, by its nature (i.e. project teams comprised of multiple personnel or institutions partly or wholly funded by an award), needs big grants and contracts to support and facilitate it. These type of awards go to organizations such as higher education institutions, private entities and non-profits – it is important to remember that while a principal investigator or project director is in the best position to articulate the vision and capacity for being able to carry out the research and the actual work if a proposal is funded, the organization is also reviewed in terms of its capacity to support the academic in leading and managing a project while

assuming the fiscal and stewardship responsibilities of an award.

There are certain aspects of proposal narrative development – particularly around stating organizational capacities – that are important to reviewers even if not of direct concern to the investigator. Demonstrating a parent organization's capacity and capability to facilitate or support the project and investigator further supports the argument towards funding. There are a number of ways for investigators to illustrate this organizational capacity and support: citing departmental or college infrastructure (research and grants administration staff), quantifying a successful track record in terms of similar awards or funded research carried out in the department or college, describing the overall goals and mission of a parent organization and how those align with the proposed project, detailing required compliance monitoring mechanisms such as effort reporting, documenting of cost-share, and matching funds in proposal budgets, including letters of support from academic or institutional officials. These are just a few ways to demonstrate organizational resources and evidence of support behind a proposal. Which the proposal writer determines are most critical to explain in the proposal will depend on the requirements of the funding agency.

In addition to project-specific and organizational resources, investigators may also want to describe any additional support they have for research, or policies and programmes that facilitate or provide incentives to conduct research (i.e. internal seed grant support, allocations for research assistants or other expenses they have covered by their home institution), and in terms of their valuable time allowed to focus on research in addition to their teaching load and service commitments.

CONCLUSION

In spite of all good and worthwhile efforts, the intellectual significance of proposed research may not always be rewarded with research dollars, so it is important for academics to recognize (and remember!) that good positioning can certainly help in getting funded. What is required of investigators throughout the grant writing process in their academic and research careers is an entrepreneurial spirit, the ability to develop a thick skin for rejection (one does not get funded without applying *repeatedly*), a deep passion for the research topic, and an understanding of what funding can help achieve in one's lab, department or broadly among external stakeholders.

We would like to recap and leave you with a few key takeaways from this chapter.

Position yourself as a scholar

This is primarily about context and the relative position of your work alongside other scholarly contributions to and debates in your research area. Where does your work fit in among the crowd and what do you bring to the table? How does it complement what has already been done, how does it move it forward, or perhaps how may it alter its direction? A good research grant proposal will identify that context and situate it within the current literature to give enough evidence to reviewers that your proposal recognizes and understands that context, while a good curriculum vitae or résumé will illustrate a track record in publishing and presenting on a particular topic, two ways of demonstrating active involvement in an academic discussion.

Position yourself as a researcher

It can be advantageous to develop a long-term research agenda that helps answer a question that others (in particular, funding agencies in the context of this chapter) find important enough to care about and support. How does that long-term research agenda help solve an important problem or answer a debated question? Have you as an investigator established relationships with other organizations and

individuals to make the case that you are well-positioned to carry out a research project or study? Within certain disciplines, scholarly work can often follow a very individual and isolated path that can still lead to new ideas and the production of knowledge, yet in the world of grant seeking and research funding, relationships and collaborations matter, especially when a project can reap greater benefits from multiple perspectives and input from co-investigators or key project personnel. Creating those working relationships with individuals and organizations that have other expertise, resources or facilities can prove enormously helpful in the academic's career.

Position yourself as a grant writer

One must craft an effective literature review in any good research grant proposal to position the project or problem–hypothesis solution in the appropriate scholarly context or debate. Assembling an appropriate team with the requisite skills (and hopefully, other grant experience) also conveys for reviewers that the research or project being proposed has a good management structure behind it. The investigator must also understand the priorities, mission and rules of the funder, addressing each of these in a proposal. Know where to look, how to look, whom to talk to and how the rules of the game work, which includes everything from keeping abreast of grant

programme solicitations and submission deadlines to the mechanics of conforming to funder's proposal guidelines and priorities.

The grant writing process has always been a competitive venture, and being well-positioned has always helped. But as the competition grows ever more acute, and as funding agencies find themselves under increasing pressure to demonstrate results from every dollar spent, strong positioning is more important than ever. The steps outlined here are just that – steps. They can be taken slowly or quickly, they can be big or small as time and energy permit. But for academics who intend to 'walk-the-walk' of a successful principal investigator, they need to start by putting one foot in front of the other.

NOTES

1   We use the broad terms 'investigator' and 'academic' interchangeably. In the United States, they are also referred to as faculty members.
2   In developing the concept of positioning, Stone has refined it over the course of numerous presentations, web-based seminars, and in two articles in the *Chronicle of Higher Education* (*How Your Grant Compares* and *Becoming a Successful Investigator*).
3   We will refer to most external funding entities as 'funders' or 'sponsors' interchangeably, and use the term to broadly describe federal agencies and local and private organizations such as foundations that award grants and contracts for research and programmes at universities.