THE ULTIMATE GRANT WRITING GUIDE:

HOW TO FIND AND APPLY FOR GRANTS

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1. WHAT'S A GRANT PROPOSAL AND WHY DO YOU NEED ONE?

A grant proposal or application is a document (or set of documents) addressed to an organization or funding agency to get funding for a research project.

Grant proposals differ widely across the scientific disciplines, but there are general tips that work universally.

A successful grant proposal can be a key to achieving your research goals by getting money. But writing a grant application also offers many indirect benefits, such as:

- **If you're a researcher on a fixed-term contract, getting funding can extend your contract.**

- **You can use a successful grant proposal to take on a temporary position with another research group or institution.**

- **Receiving a research grant can mean that an expert review panel views your research ideas as better than others.**

2. WHAT ARE SOME TYPES OF RESEARCH FUNDING?

Some of the main categories for funding in research are outlined here with reference to both a common name and a specific National Institutes of Health (NIH) title:

Early career researchers
Referred to as Research training (T series) by the NIH: Provides individual training opportunities to researchers at the undergraduate, graduate, and postdoctoral levels.

Fellowships
NIH (F series): Another form of early career grant that focuses on developing the research skills of predoctoral students and postdoctoral candidates.

Project grants
Labeled Research grants (R series) by the NIH: Intended to support research projects of all scales and scopes.

Career development awards
NIH (K series): Designed for more experienced researchers working towards independent research positions.

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Research networking

Considered [Program project/ center grants (P series)](#) by the NIH: Supports various cooperative research efforts.

Resource grants

NIH (various series): Contributes support to research project infrastructure and to the dissemination of scientific discovery.

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3. WHERE TO FIND GRANT OPPORTUNITIES

Free-access funding databases

[Grants.gov](#)

Grants.gov provides a list of all discretionary funding opportunities from 26 US government agencies. Access is free, and the database of available grants is comprehensive with customizable search options. The grants offered by these government agencies cover a broad range of research fields. Eligibility for international applications varies from agency to agency.

[National Science Foundation (NSF)](#)

NSF is an independent federal agency that funds approximately 20% of all federally-supported research conducted at American colleges and universities. The [current percentage](#) of approval is approximately 28%. The NSF specifies that they rarely fund foreign organizations but that they do consider collaborative research between foreign and domestic institutions.

[CRDF Global](#)

Formerly known as Newton's List, CRDF Global funds research in civilian-oriented science, entrepreneurship, and the natural and social sciences. According to their site, CRDF Global facilitates international science cooperation by providing a forum for grant seekers and funders. This site is useful for individuals searching for funding opportunities internationally and for organizations marketing grants to an international audience.

[National Institutes of Health (NIH) - Office of Extramural Research](#)

The NIH is the largest funding source for biomedical research worldwide. The database includes a wide range of search options. However, due to limited budgets, funding opportunities with this agency are extremely competitive, with a [funding success rate of 18%](#) over the past five years.

Spencer Foundation

The Spencer Foundation offers funding opportunities for researchers in the education field. According to their website, the Spencer Foundation provides funding for education-focused research projects, research training fellowships, and additional field-building initiatives. The list of grants is freely accessible on the site, and each funding opportunity provides comprehensive information about the grant and how to apply.

Subscription/fee-based funding databases

Terra Viva Grant Directory

The Terra Viva Grant Directory lists grants for researchers in the agriculture, energy, environment, and natural resource fields. It is free to subscribe to the site; however, unlimited access to the grants database starts at $12/year.

Candid

Candid, formerly Guidestar and the Foundation Center, is an international network that connects philanthropists and grant providers with grant seekers. The Foundation Directory by Candid mostly lists funding opportunities for small businesses and nonprofits but also offers grants for scientists and researchers. The subscription pricing includes biennial, annual and monthly options, ranging from $119/month to $200/month.

The Grantsmanship Center

Researchers can learn how to search and compete for grants through numerous training programs and informational webinars that have varying prices for members and non-members. They also offer free conversation series and grant-related resources.

Amazon Web Services (AWS)

The AWS Cloud Credit for Research is a global program that supports finite projects for building cloud-hosted services, software, and tools or that migrates a research process or open data to the cloud. The site outlines proposal preparation and all pertinent instructions for submission.

Sponsored Programs Information Network (SPIN)

SPIN is a widely-used international funding database with over 10,000 funding organizations and database features that make searching for specific grant opportunities easier. An institutional subscription is required to gain access.

Pivot

Pivot, formerly known as Community of Science, is one of the largest, most comprehensive databases of available funding, which includes over 700 member institutions. Many universities provide institutional access for students and faculty. Check with your institution to see if you are eligible for access.

Grant Resource Center (GRC)

Operated by the American Association of State Colleges and Universities (AASCU), the Grant Resource Center includes a database that is customized for small institutions. According to their site, a subscription to GRC provides access to a comprehensive suite of tools, services, and expertise, which can increase success in securing funding from federal and private grants. Additionally, GRC database search results highlight viable funding sources because the database excludes region-specific solicitations, those with fewer than three awards per year, and those for which higher education institutions are not eligible to apply or partner. Contact GRC for membership information.

scientifyRESEARCH

Free trial and subscription models offered to both individuals and research offices. This database is accessible through tailored search filters that are used to create focused research funding lists and to set up alerts for grant timelines and new funding opportunities.

GrantSelect

Bringing together a wide variety of funding opportunities across all science, community, and business sectors, the GrantSelect database is straightforward and user-friendly. Both individual and institutional paid subscriptions are available.

GrantForward

Through an institutional subscription, researchers can search over 63,000 funding opportunities housed within this global database. They offer several enhanced features for grant management and personalized recommendations.

International funding agencies

1. [Campus France](#)
2. [CAPES (Brazilian Federal Agency for the Support and Evaluation of Graduate Education)](#)
3. [IIE: The Power of International Education](#)
4. [CNPq - National Council for Scientific and Technological Development](#)
5. [COST - European Cooperation in Science & Technology](#)
6. [DAAD - In-Country/In-Region Programme in Developing Countries](#)
7. [European Commission](#)
8. [European Outdoor Conservation Association](#)
9. [European Research Council](#)
10. [FAPESP - Sao Paulo Research Foundation](#)
11. [Finep](#)
12. [French National Research Agency](#)
13. [Government of Canada](#)
14. [Hes-so](#)
15. [Human Frontier Science Program](#)
16. [Illumina](#)
17. [Independent Research Fund Denmark](#)
18. [Inserm](#)
19. [Inter-American Foundation](#)
20. [International Brain Research Organization (IBRO)](#)
21. [Japan Society for the Promotion of Science](#)
22. [Kooperation International](#)
23. [Latin American Brain Mapping Network](#)
24. [National Human Genome Research Institute](#)
25. [Neotropical Bird Club](#)
26. [NIH Fogarty International Center](#)
27. [Non-NIH - Fogarty International Center](#)
28. [NSFC - National Natural Science Foundation of China](#)
29. [Office for Science & Technology of the Embassy of France in the United States](#)
30. [The African Academy of Sciences](#)
31. [The National Academies of Sciences, Engineering, Medicine](#)
32. [TWAS - The World Academy of Sciences for the Advancement of Science in Developing Countries](#)
33. [UNESCO/Keizo Obuchi Research Fellowships Programme](#)
34. [University of Queensland](#)
35. [U.S. Agency for International Development (USAID)](#)
36. [Waitt Foundation](#)

4. FINDING COLLABORATORS FOR YOUR GRANT PROPOSAL

Securing funding, such as grants, and publishing papers, are probably a researcher's two biggest ongoing challenges. They both become more manageable when you join up and work with others. Grant collaborators and research collaborators are (in)valuable for research quality and impact.

A collaborative project is when researchers from different fields work together to explore a complex question from different perspectives, or solve problems that venture into their respective areas. Collaborations can accelerate and expand your research career.

We'll take a deeper dive here into how you can make these happen.

WHY COLLABORATION IS IMPORTANT IN GRANT PROPOSALS

Scientific research these days involves increased collaboration across research specializations and national borders. This is especially true as remote communication is mainstreamed. Choosing the right grant collaborators can boost the robustness of your research project and increase your chances of getting funded.

To get funded

Research "multidisciplinarity" and "interdisciplinarity" have become central in granting agencies' interests. Grant evaluators are likely to look for these characteristics in your proposal.

Grant assessment criteria often include the research project's:

- **Practical applications**

- **Social distribution**

- **Ability to incorporate theories and methodologies from varied disciplines**

Your grant proposal needs to meet these indicators in the context of increasing competition for funding and shrinking research budgets. So, proposing an interdisciplinary research project will give you greater appeal in credibility and interdisciplinarity and, thus, get funded.

To increase the impact of your research

Especially if you're an early career researcher, collaborating with industry, international or community partners can:

- **Boost your research profile**

- **Help you translate your research into practice**

- **Maintain existing relationships and/or grow your scientific network**

These all apply to more accomplished researchers, as well. But they're a lower priority. It's more common that you'll be scouted out and approached.

HOW TO FIND COLLABORATORS

Finding collaborators is both a challenging and rewarding experience. It involves stepping out of your comfort zone, yet this often brings new ways of thinking and new connections.

A useful and less-intimidating start for finding collaborators is your peers and direct contacts. These are people with whom you've worked successfully in the past. These can also be contacts your research team, colleagues, and mentors can introduce you to.

Collaborating with others becomes easier as you expand your research network. This can happen at almost any time, such as:

- **Networking events at your institution**

- **Scientific seminars and conferences**

- **Scientific associations and societies**

When you meet other researchers, introduce yourself, chat, and see whom you get along with, who shares your energy, and who brings something to the table that you don't. These people are all great collaborator candidates.

Check if your institution has a research support office. People there can help you with your partner search and guide you in your next steps. Take a look at Duke University's extensive Office of Research Support services to get an idea of what's on offer at top schools. They have guides, checklists, mentoring, and many other tools to make your research a reality.

You can also identify potential collaborators by reading through previously funded projects in your field (see resources at the end). Then contact them in academic and professional social research networks, like:

- **Humanities Commons**

- **Mendeley**

- **Academia.edu**

- **ResearchGate**

Or on general social networks like LinkedIn (connect with a short message) and Twitter (DM them or comment on their posts).

HOW TO NOT BE IGNORED BY POTENTIAL COLLABORATORS

Some of your target collaborators may be very busy people. They may not have collaboration at the front of their mind. You have to refine your approach to appeal to them.

Be specific

To involve external collaborators, have a one- or two-page description of the proposed project idea. Share a concrete summary of what you have in mind and what the collaborator's expected to do. Being organized and upfront will save time and show you're serious about what you're doing.

You don't have to go into detail in the very first direct message, email, or Zoom. But it's good to share your initial thoughts about:

- **The products of the collaboration (articles, a book, book chapters)**

- **How the writing will be done and credited.**

- **When and how (or if) they'll be paid.**

- **How long the collaboration will last.**

Do your homework: Learn about your target collaborators

Are you about to send a cold-call email to a researcher you've never met before? Strive to be qualified, knowledgeable, and courteous. Speak their language. Don't try to be cool or overly confident.

- **Read the program description thoroughly.**

- **Identify the areas in which you need a collaborator's expertise to complement your knowledge.**

- **Research the potential collaborator's CV and publication record (and name drop a few in the email body). You can do this on any of the above social networks or by Googling them.**

- **Link their research agenda to the funding opportunity.**

- **Make a compelling case about why it is in their best interests to partner with you/ your team.**

Be persistent (but polite)

Researchers (especially senior ones) are usually busy people who often travel. Start with an email or direct message with a summary of your research project idea and ask to arrange a phone call. Give them at least a week to respond.If you don't hear back, try again. Don't be pushy, but do be persistent. Make it about them, not you.

Good: *Hi Dr. Wong. I didn't hear back about the proposal I sent you. I'm sure you're busy. This project aims to address x and y. These are areas your research has covered, so this seems like an excellent fit for your skills. Hope to hear from you.*

What if they still don't reply?

Senior researchers get many emails and messages each day. Yours may have gotten lost in the inbox. They may prefer to communicate through another platform. If they're on a social network, follow their activity, give it a like, share, and comment. Get on their radar. Don't lose hope. Try different communication routes.

WHO ARE THE BEST GRANT PROPOSAL COLLABORATORS

There's no single formula for successful collaboration in grant proposals. The best collaborators in your case will depend on a range of factors.

Funding opportunity requirements and collaborator's eligibility

Eligibility is different for each funding opportunity.

For example, the UK Research and Innovation (UKRI) requires the principal investigator to be based in the UK. But a researcher from a different country could be part of the bid as a co-investigator or another team member (e.g., consultant, collaborator).

Other sponsors demand that grant applicants collaborate with organizations or universities from developing countries or with minority-serving institutions to be considered for funding.

Your institutional regulations

You'll typically need to sign a written agreement to formalize your agreement. This will state the specific terms and conditions in line with your sponsors' and institutions' regulations.

What is your institution's current policy for assigning credit for jointly funded projects? What are the procedures for collaborating with researchers outside your department or institution? Universities, for instance, have regulations regarding the use of data, intellectual property, and financial issues (e.g., here's Harvard's Intellectual Property Policy).

It helps to learn these regulations. They're vital for budget calculations (e.g., how individuals and organizations share indirect costs). Contact your research supervisor or department chair for guidance.

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Prioritize trusted colleagues

Have you worked well with someone in the past? This could include:

- **Writing a research paper with someone (the publication is proof of your success)**

- **Conducting experiments together in the lab**

- **Being invited for a residency at a research center**

This researcher or research institute is a strong candidate partner for your project. From the grant reviewers' eyes, evidence of previous collaborations is a good sign that you can do the same thing again.

Consider cultural, organizational, disciplinary, or geographic boundaries

An article exploring the success of interdisciplinary scientific research teams showed that lasting collaborations reflect shared understandings of teamwork and disciplinary norms.

Some collaborations may look good on paper but prove unworkable. This is because of the different personalities and professional or cultural attitudes of those involved. Imagine arranging a meeting during the daytime with an exceptional scientist who's a night person. Although, if you're on opposite sides of the world, this may be a blessing!

Also, gender roles, religious holidays, and working customs in your country may differ vastly from those of other cultures. For example, it's rare for many Europeans to work on the weekend, though it's not rare among Japanese and hustle-oriented Americans.

Before choosing your grant proposal collaborators, set mutual expectations. If you're thinking of collaborating with industry, agree on how the data will be used and how the research will be disseminated.

An academic may want to publish findings immediately for their publication record. But a researcher in industry may first want to register a patent on the idea. (Data can't be patented if it's already published).

EXAMPLES OF HOW COLLABORATORS CAN HELP A PROPOSAL

There are all sorts of ways collaborators can help your cause, and you can help theirs. Here are a few.

Collaboration example 1: Collaboration as a funding requirement

The grant specifications may require that more than one type of institution takes part. For example, it might ask research institutions exploring lung cancer to team up with a business partner, like a lung cancer clinic, to create a proof-of-concept for a new type of treatment.

Other programs might ask for collaborations between researchers and institutions of higher education that serve minority populations. This can be a great opportunity for someone looking into the educational outcomes of Black, Asian, and minority ethnic learners to recruit participants and get valuable qualitative data.

Collaboration example 2: Young researchers

It's normal for early-career researchers to lack confidence if they're competing for funding with more senior researchers with extensive lists of publications.

How can you get funding without a track record? And how can you create a track record without funding? One way to get there is to team up with an established researcher as a co-principal investigator (PI) on a grant.

Senior scientists tend to have more extensive networks and access to resources or even connections with funding bodies. Their knowledge, experience, and reputation might impact funding decisions.

Collaboration example 3: Complementary skills

A study using data from 6 years of publications across different fields at The University of Florida (a high-volume research institution) found that successful collaborations rest on a delicate balance between similarities and differences.
On the one hand, too little similarity between individuals' research agendas can complicate communication and agreement. On the other, too much overlap of research interests can increase competition.

Depending on your field and team composition, look for collaborators whose expertise complements and offsets your own. They might:

- **Bring a different skill set or perspective to the table (e.g., chemists, biologists, and statisticians specializing in epidemiology working together to explore how chemical compounds affect human and animal tissues).**

- **Know different technologies or software (e.g., a statistician or developer).**

- **Have access to expensive and specialized equipment or the latest resources and facilities.**

- **Provide sensitive or otherwise hard-to-find data or access to research participants. (e.g., an NGO can give access to vulnerable or remote populations)**

RESOURCES FOR FINDING GRANT COLLABORATORS

- **Pivot** is a searchable database providing global funding information across disciplines and tools for finding collaborators.

- **SciVal** gives access to the research performance of 21,500+ research institutions and their associated researchers worldwide.

- **CORDIS – Projects** is the main source for finding EU-funded projects. You can browse funded European projects and check the involved partners and organizations.

- **Konfer** is a UK-focused database for finding experts in a specific research field or business and universities for partnering on funding opportunities.

- **RePorter** is an electronic tool for searching a repository of NIH-funded research projects since 2000.

- **Researchmap** is a Japanese researcher database launched by the **National Institute of Informatics (NII)** in 2009.

- In this **library**, you can access projects funded by the Health Research Council of New Zealand over the past 10 years.

- This **database** provides details on the recipients of grants by Australia's National Health and Medical Research Council (NHMRC).

*Note that some of these require you to subscribe (unless you have access via your institution).

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5. HOW TO WRITE A SUCCESSFUL GRANT PROPOSAL

Research budgets have become more stressed, while funding agencies enforce strict guidelines and restrictions. At the same time, few researchers receive formal training on how to write effective grant applications. Writing better grant proposals will hugely improve your career prospects as a researcher.

Grant writing is especially challenging if you're an early-career researcher and/or English isn't your first language. However, it's not rocket science (unless it's a grant for researching rocket science). You can get what you want if you know how to get it.

CONDUCTING PRE-PROPOSAL RESEARCH

The efforts you put in before you send your proposal can improve your chances of acceptance a great deal. You'll hone in on what you really need and you'll see ways of successfully getting it. Think ahead and you'll benefit.

Tough competition

Competition for grants has never been tougher.

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Look at the European Commission's Horizon 2020 program. Horizon is the EU's most extensive research and innovation program. [Nearly 80 billion euros](#) (~US$84 billion) in funding was set aside in 2014–2020.

A [Nature article](#) shows that EU Horizon 2020 reported a 14% success rate for its first 100 calls for proposals—submissions to some categories had lower success rates.

Don't play the short game, think longer-term

Considering those odds, it's critical to start the process early. Give yourself at least 4–6 months to put your proposal together.

To increase your chances of success, before you begin drafting your grant proposal, you need to develop a SMART (Specific, Measurable, Achievable, Realistic, and anchored within a Timeframe) plan for what you want to do and why you want to do it.

View samples of successful grant proposals

Look at what's worked (and what hasn't) and you'll save yourself time repeating other people's mistakes. Look for previous proposals you can get from your:

- **University library**

- **Trusted peers**

- **Supervisor or mentor**

- **Past or prospective funding body**

- **Online sites and databases**

For example, on Open Grants, you can [read 250+ grant proposals](#), both successful and unsuccessful, for free.

Focus on samples of successful proposals in your discipline or applications that have obtained the grant you're applying for. But don't overlook the failures. Read them critically and think how you can do better.

IDENTIFYING A GRANT OPPORTUNITY AND PITCHING YOUR PROPOSAL

Just like choosing the right school, scientific niche, and journal to publish your research, you're seeking the right grant for your future work.

Search grant databases

The easiest way to find grant opportunities is via a database. Although some require a subscription, they can do in seconds what could take days of Googling. This is also a much easier way to organize and keep track of grant opportunities. Refer to the list provided above.

Evaluate requirements in the solicitation

Finding the right funding body takes more than researching available grants. It takes a critical eye.

If you're unclear about what they're looking for, then writing that grant application may not be worth your time. And knowing that will save you time.

Once you decide to apply for funding, read the grant guidelines carefully. Stick to the suggested structure (e.g., subheadings), format (e.g., font), and language (terminology used).

While reading the instructions, make a list of everything needed for submission, and who on your side will be responsible for gathering this information.

Understand the sponsor's scoring system

Find out how the grant will be evaluated. This will ensure your proposal is tailored to the assessment criteria. For example, the UK Research and Innovation scoring matrix is based on

- **Scientific quality and impact**

- **Scientific leadership**

- **Justification of resources**

- **Other: ethical and governance issues**

The deadline is also a critical factor, not just in terms of being on time. If it's in three weeks, it might not be worth your time trying to prepare a proposal. As noted above, it's more realistic to think in months rather than weeks. You'll save yourself wasted time, not to mention stress.

Identify the funder's mission

Granting agencies don't exist solely to give out money. Their priorities vary based on their foundations' missions. Research the organization to see if its mission statement closely aligns with your project and target your request to their mission.

Among others, the Economic and Social Research Council funding priorities now include understanding the impact of the COVID-19 pandemic on individuals, groups, and institutions in society. So, a medical researcher studying the impact of COVID-19 on neonatal mortality is better off targeting a different funder.

For example, the UK's National Institute for Health and Care Research focuses on health and social care research.

Make friends with the program manager

Directly contact the granting source if you've read the grant instructions and you're still not sure if your project is eligible. Making a human connection is generally a good thing, unless they specifically indicate they don't want to be contacted. In this regard, it's quite like a job application and networking.

They'll have a dedicated grants officer (maybe called a program manager or director) helping applicants like you. Beyond clearing up what's eligible and what's not, developing a relationship with them can help build their confidence in you and your work.

Note that the role of the program manager varies greatly among granting agencies. The U.S. National Institutes of Health (NIH), for example, encourages young researchers to contact program managers. It offers step-by-step instructions on whom you should contact and how.

In some smaller foundations, however, program officers are very busy and might discourage you from getting in touch. To figure this out, you need to research the sponsor's culture on a case-by-case basis.

Make friends with your research support office

Writing a grant proposal doesn't have to be a solo journey. Your institution will likely have a research support office/department (also called a sponsored research office).

These valuable folks can give administrative help with the grant submission process. They'll be able to help fill out relevant forms and double-check that the proposal meets the granting agency's guidelines.

WRITING THE MAIN BODY OF YOUR GRANT PROPOSAL

All the agencies, people, and processes of grant writing are crucial. But the fundamental part of any grant application remains the written proposal itself.

To get your grant, you need to make a strong case for the importance of your research, particularly regarding community benefit and social impact.

Prove your research will solve real-world problems

Many researchers don't put much thought into the real-world relevance of their work. Yet, most funders want to finance proposals that promise to solve society's biggest challenges.

Before you draft your proposal, you need to consider how your research will confer value to society.

You want to be able to argue that it might save lives or money, improve people's well-being, or have another tangible impact.

Team up with project partners

Involving suitable research collaborators can also increase your chance of success.

If you're conducting cancer research, you could liaise with hospital clinicians or an association against a particular type of cancer. You could team up with a museum or heritage foundation if you're a history researcher. This will help translate your research into practice.

You don't have to go far to find collaborators. Start from your peers and direct contacts or links that your institution or research group might have.

Networking with fellow researchers or industry representatives in your field in conferences and seminars will also help you identify suitable grant collaborators. You can also look for them when you go through previously funded research projects.

Involve peers from relevant disciplines

Interdisciplinary research is seen as innovative because insights from each field contribute to the others. This extends the impact across different scientific specialties and across society.

For example, if you're a social psychologist studying drivers' perceptions of speeding risks. Involving researchers in transport studies, engineering, and related disciplines, not to mention community organizations and law enforcement, will make your proposal look more robust. And it'll actually be more robust.

ADOPT RESEARCH STORYTELLING

Grant proposals can all start to sound the same for those who read and assess them. They're like job applications. As the applicant, you need to set yourself apart and inspire the reader. You can do this by marketing yourself and your science in an engaging story. Spend less time formulating complex research questions and more time stressing how your research will benefit society. Providing an effective solution will give the reviewers positive emotions. It's like storytelling.

Getting some science communication training will help with this. Try using free science-storytelling tools, like Message Box. This easy-to-use solution lets you convey the information in your head about your work in ways that resonate with your audience. Start by reading real Message Boxes.

Set realistic research questions

A common mix-up among first-time applicants is that promising lots of work will make your proposal look better. It might be tempting to argue that you can solve these big, challenging problems in a single project. But, realistically, that's not often feasible.

Visit us online at www.aje.com

For a 2–3-year project, have no more than four research questions. Even after you have proposed these, you'll have just enough space to provide a literature review, a research plan, and a list of expected impacts for each question.

GATHER SUPPLEMENTARY DOCUMENTS

The proposal itself is the core document, but it's the product of many supporting documents.

Describe the research environment

Other than your expertise, the funders will also want to confirm if you (or your research team) have the capacity to deliver the proposed project successfully.

Do you have access to the necessary facilities to complete the project? This might include access to a university library, to laboratory resources and equipment, or to your study population.

Your proposal needs to prove that you have everything required to start and complete the proposed research project successfully (within time and budget). You cannot be too thorough here.

Create biosketches for the research team

Most funding agencies and institutions ask for a biographical sketch (biosketch): a simplified version of the research team members' CVs. Biosketches stress team members' expertise and experience related to the research project.

Agencies like the National Institutes of Health (NIH) and the National Science Foundation both use standard biosketch formats that are regularly updated. They even provide tools to help you create your biosketch and format it according to NIH requirements.

We can't reprint them here, but you can view NIH sample biosketches here.

However, foundations and industry sponsors also set specific requirements for your CV/Biosketches. Follow these precisely.

Create a project timeline

Explain the timeframe for the research project in some detail. When will you begin and complete each step? Presenting a visual version of your timeline makes it easier to understand.

For complex multi-year research proposals, a timeline diagram can clarify the study's feasibility and planning (see below).

Here's a sample timeline to give you a general idea.

Activity	Research Project Year 1				Research Project Year 2			
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
Literature review and research methodology								
Conduct literature review	■							
Develop research design		■						
Purposeful samples selection		■						
Recruitment of participants		■						
Data collection								
Conduct interviews			■	■				
Conduct Focus groups			■	■				
Document selection for triangulation				■				
Data analysis and interpretation								
Thematic analysis of interviews					■	■		
Content analysis of focus group dicussions					■	■		
Data synthesis and interpretation						■	■	
Reporting of research findings							■	■

Gather supporting documentation

The supporting documents you'll need entirely depend on the sponsors' requirements. Most often, these include a cover letter, letters of support, and CVs.

WRITE THE EXECUTIVE SUMMARY

Every successful grant proposal starts with an executive summary. The executive summary presents the key elements of your application in a condensed and engaging form. It's also sometimes called a project description, abstract, or summary.

A grant proposal's executive summary introduces your research project goals, preliminary findings, and the personnel involved. It stresses the significance of the proposed research. It makes a compelling case for your grant request in a short and readable passage.

This article explains the value of the executive summary and what should (and should not) go into it if you want to get your funding.

Why is an executive summary important for a grant proposal?

Grant proposals are organized into distinct sections. The executive summary is often the most important section because it's the first thing reviewers will read, just like an abstract is often what readers read first when searching for useful research.

Some granting agency reviewers may base their opinion on the abstract alone. "The abstract must sell the grant," says a US-based grant evaluator. "If I don't get interested by the first page, the proposal is lost," says another.

Even when evaluators read the entire proposal, those first impressions are critical. If these decision-makers come across a poorly written executive summary, they might start reading the following pages with a negative bias—this may be difficult to overcome. Or they might stop right there. However, if the executive summary is well written, evaluators will likely approach your proposal with a more welcoming attitude.

There are also administrative reasons why the executive summary matters. Some granting agencies, like the U.S. National Institutes of Health (NIH), use the grant proposal title and executive summary to assign proposals to a specialist review panel. Your executive summary should reflect the key elements of your proposal so it ends at the hands of those who will see its value.

Strictly follow the granting agency's requirements

Before you start drafting the executive summary, learn everything there is about the sponsoring agency.

Start by perusing funded grant applications. How is their summary structured? How much did they score in this section?

Requirements differ across granting agencies. Many have a word limit for the executive summary (~500). Others ask for a more comprehensive description of the project (2–3 pages).

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Some ask you to mention the type and amount of funding or other support you're after. And yet others want the budget to be submitted separately from the technical proposal. Picky picky, but they make the rules you have to play by.

Let the sponsor's mission and funding proprieties shape your executive summary.

What should you include in the executive summary?

Certainly, the granting agency's funding priorities, mission, and specific guidelines will inform the content of your executive summary. There are also general best practices that work across different fields.

General concept

Try to structure your executive summary like an abstract—only with more emphasis on your (and your research project team's) ability to do the research.
Regardless of the summary length—ranging from one paragraph up to two full pages—you need to answer the following questions:

- **What is the broader context in which your research is situated?**

- **What is the gap in the knowledge base that your research project will address?**

- **Why are you ideally suited to deliver this project?**

- **What do you intend to do (project objectives) and how (methodology)?**

- **Why is this research project worthy of funding?**

Executive summary structure

This is the typical order you might follow, though it's not always as strictly defined as a research abstract.

Background and problem/need assessment

At the start of your executive summary, briefly contextualize your proposed research in the overall landscape of existing scholarly work. Then mention the unmet need(s) or knowledge gap(s) creating the need for your research. To make these points, you can use phrases like "It is still unclear how…", "…has not been determined", or "there is currently limited research on…"

Research project team's abilities and experience

Next, mention who you and the rest of the research project staff are, including any external collaborators. Describing your competencies and previous research record can convince the evaluators that you deserve this funding.

Your executive summary should stress your unique capacity to get work done and meet the sponsor's needs. If you have a website for your project, link to it in a footnote or with an embedded link.

Goal and objectives

Present your project's overall goal and particular. For policy-related research, this may also cover the aim to develop interventions that solve the real-world problem you are researching. You can make these points with phrases like "Our overarching aim is…", "We propose to explore…", or "We will investigate the…"

Strategy/methodology

After stating the purpose of your research project, briefly describe your research design or methods used to conduct the work. This includes possible barriers or shortcomings. To do so, use phrases like "We will show this, drawing on X/Y theories" or "We will achieve this goal by…"

Preliminary results/outcomes

It's good to refer to the initial or expected findings of your research. This builds the reviewers' confidence in the feasibility of your work.

Research project significance/impact

Conclude by addressing the (positive) impact of your proposed research.

Why does the problem you're trying to solve matter?

How will the expected outcomes benefit society and/or serve the funder's mission? Useful phrases here include: "has important implications for …", "will shed critical light into…", and "These results will contribute greatly/play a key role in…"

Sample executive summary

Background: The cumulative intensity of human stressors has led to degradation of marine ecosystems and the deterioration of biodiversity in the Mediterranean Sea.

Gap in the field, need for this research: Practical conservation measures are required to shield threatened marine ecosystems from intrusive human activity. Conservation must involve social views supported by human values that differ significantly between Mediterranean countries. Social, financial, and political differences increase the challenge of balancing sea conservation with sustainable use. Extensive cross-regional cooperation is urgently needed to secure adequate protection of this region's marine ecosystems and biodiversity.

Research project goals: This research project aims to promote collaborative research to support marine management and conservation design and influence policymaking.

Methodology, team's abilities: We will devise innovative approaches and mechanisms to reduce knowledge gaps and promote marine conservation science.

This project involves collaboration between the Marine Conservation Department of Big Fish University and the G. W. Sharque Center for Applied Research. The project team comprises a multidisciplinary group of internationally renowned experts in marine biodiversity conservation. These members have collaborated successfully in the past on two funded projects.

Expected project activities and outcomes: This partnership is uniquely positioned to support the development of cross-regional and national policies through four key activities:

- **Develop analytical tools to explore cumulative human impacts on the Mediterranean marine ecosystem**

- **Determine key scientific and technical gaps in existing conservation actions.**

- **Coordinate marine conservation policy across national borders in the Mediterranean.**

- **Identify adequate governance procedures to establish and manage marine protected areas.**

Practical applications, research impact: Meeting these research aims will have important practical applications. It will enable integration of marine conservation policy into cross-regional maritime planning agendas for the Mediterranean seas. In this way, it will help counter the loss of biodiversity and ecosystem services in this region.

What should the tone be?

Grant evaluators read dozens, even hundreds, of grant proposals every week. The executive summary should capture their interest to convince them to read the entire application. To achieve this:

- **Give a clear and concise account of who you are, what you need the money for, and how you'll use them. The executive summary should be a clear road map for your proposal.**

- **Write in an instructive manner to explain your topic and be understood by people working in the same or related fields. The executive summary should stand in its own right.**

- **Be convincing (but also pragmatic) about your research project team's ability to carry out the research. As noted, you can do this by mentioning your research record of accomplishment.**

What to avoid when writing an executive summary

Naturally, as there are best practices, there are things to avoid. These are the main ones when writing your executive summary.

- **Don't address the funder directly.** Only do this in the cover letter (if requested).

- **Don't give out too much.** Don't go too deep into what your project will accomplish or how you'll manage it. And don't use too many citations; about five is enough. You'll have space for this later.

- **Don't write in the first person.** Aim to sound objective and persuasive. But note that a different tone may be needed for grants in areas like the arts and philosophy, where the researcher's subjectivity is often a key factor.

- **Don't give any confidential information.** Funding agencies might publish parts of the executive summary of the funded project on their website. You don't want your competitors to read any sensitive information.

- **Don't focus more on problems than the proposed solutions.** This might make reviewers think your project isn't feasible.

Expert insider tips

An executive summary is all about quality over quantity. A precise and specific summary beats a wordy and redundant one. So how can you use the limited space provided to the greatest effect? We'd like to offer a few experience-based tips.

- **While the summary is the first section in the proposal document, it's often best to write it at the end.** It will be easier to outline the most critical points in a condensed form when you have a complete picture of your project. (Double hint: take the same approach for writing your manuscript abstracts.)

- **If your executive summary is longer than one page, use subheadings for each section to make it easier to read (just like we did in this article).** You can also include bulleted lists where possible. Avoid "walls of text."

- **The executive summary should follow the logical flow of the main points in your proposal.** It should only reference topics and information explained in detail in the main body of your submission.

- **If the call for grant proposals includes evaluation criteria, keep these in mind as you write the executive summary.** For example, it might state that the project impact subsection carries more weight than the personnel. In this case, you could dedicate more attention to the significance and broader impact of the proposed research in the executive summary than to the team's competencies.

DEVELOP A GRANT BUDGET

The funder will want to know precisely how you plan to spend their money. They want to ensure that your research project's cost-effective and that you've considered the actual costs of running your project.

In their calls for proposals, agencies provide information on the number of grants expected to be funded and the estimated size of each grant award. This information should inform the creation of your budget.

Meet with the grant office to talk through expenses

As mentioned, most institutions have grant administrators who can work with you to create the budgets and complete any budget forms required by the funder. If you're awarded the grant, they are most likely to manage these budgets.

In preparing a grant budget, there are three main considerations:

- **Policies and requirements of the funding agency**

- **Policies of your institution**

- **Costs related to each project task**

Knowing these rules before developing a grant application will save you time. The grant office can help you understand them, plus translate your project's goal and objectives into money.

Identify categories

Budgets are typically formatted in tables and figures. They contain three components:

- **Direct costs**

- **Facilities and administrative costs**

- **Institutional commitments**

The latter describes your institution's agreement to share the expenses of a research project with the funding body.

Each component is divided into separate categories.

For example, direct costs refer to expenses linked to the performance of specific activities and the resources needed to deliver the project. These often comprise:

- **Personnel: research project team members' salaries**

- **External consultants: e.g., you might need an expert adviser to do a cost-benefit analysis for your project**

- **Equipment: furniture or laboratory equipment**

- **Travel expenses: transportation, accommodation, and/or daily subsistence costs**

Create and justify a budget

On top of providing a line-by-line budget, you'll need to justify each expense. This involves a brief explanation for each line item in your budget. When writing this, follow the order in which budget items are presented.

In computing your budget, be as realistic as possible.

If your proposed budget is under the grant limit, think bigger. Think about how your research plans could be better, such as by choosing a bigger population sample or conducting more experiments.

If your estimated budget is over the available limit, you may be proposing too much. Think about removing a research question or staff involved.

The following is a sample 12-month research project budget (in which the university and sponsor share project expenses):

Budget Period: 10/15/2022 to 10/14/2023

	Annual Cost	Sponsor Amount	University Amount	Total Amount
Faculty Salaries				
Principal Investigator	78,719	23,616	15,744	39,360
Co-investigator	57,881	28,941	0	28,941
Staff Salaries				
Research Associate	40,517	24,310	16,207	40,517
Laboratory Technical Staff	32,414	24,311	0	24,311
Data Entry Assistant	23,037	11,519	0	11,519
Graduate Research Assistants (part-time)	18,010	90,050	0	90,050
Other Wages	-	10,000	0	10,000
Total Salaries	-	212,745	31,951	244,696
Faculty and Staff Benefits	-	33,809	9,595	43,394
Total Benefits	-	57,074	9,585	66,659
Consumable resources & materials	-	13,000	9,000	22,000
Travel costs	-	28,000	0	28,000
Other operating costs	-	5,700	0	5,700
Space rental costs	-	2,000	0	2,000
External Consultants	-	6,780	0	6,780
Subcontracts	-	35,000	0	35,000
Patient Care Costs	-	33,280	—	33,280
Total Operating Costs	-	144,992	40,588	183,580
TOTAL DIRECT COST		425,511	82,124	507,635
INDIRECT COST				
Subcontractors	-	167,755	26,784	194,539
TOTAL INDIRECT COST		167,755	26,784	194,539
GRAND TOTAL		369,122	51,728	420,850

Create a budget timeline

You've established your project's specific aims. Now it's time to create a timeline of key activities and specify when each activity will be completed. This is key to the construction of a sound budget.

Imagine you're proposing a two-year study. You plan to enroll 80 research participants over 12 months (around six people monthly). You'll interview each one for 1 hour in their home.

In year one, you'll need to budget for recruiting and interviewing study participants and traveling to their houses. In year two, though, the project won't involve such activities. Instead, the budget might reflect data entry, analyses, and report generation.

Get down to specifics. Explain yourself clearly. Show your plan.

FINALIZE, REVIEW, AND POLISH YOUR PROPOSAL

Think like the reviewer (just like you need to think like a journal editor when you submit a manuscript, or a job interviewer when you're trying to get hired).

Suppose you're tired and hungry. You've got multiple applications to read in a short period. How can you make it as easy as possible for the reviewers?

Avoid jargon

No matter how innovative your ideas are, sloppy or unfocused writing can hide them.

Use clear, concise, and accessible language. Flow clearly from one idea to the next. Use a "plain" word instead of a "smart-sounding" one.

Compare these pairs of sentences:

Bad: *I propose dissecting the wartime mnemonic practices of externally displaced Afghan populations.*
Better: *I would like to see how Afghan refugees remember and talk about the war in their country.*

Bad: *I aim to explore the heterogeneity of forest ecosystems in spatial and temporal recovery following numerous turbulences.*
Better: *I hope to see what occurs when a forest grows back after being logged, burned, and cultivated.*

Avoiding scientific jargon will help you tell your story from the heart, in words that many more people can understand. Take that type of thinking into your manuscript writing, and you'll increase your research impact.

Use reader-friendly formatting

Along with omitting jargon, formatting also increases readability.

White space, bold headings, standard fonts, and illustrations all make proposals easier to read. Widening margins and reducing the font size to 9-point (or less!) to squeeze in more text may add detail. But it also makes your document harder to read.

Organize ideas with numbered lists. Lists are easier to scan and encourage succinctness. Preface the lists with phrases like, "This project's three main goals are:" or "This work will involve four stages:"

Make sure your English is grammatically correct and readable

Spelling errors, bad grammar, unnatural word choice, exceeding the word limit... these issues can make the reader doubt how rigorous your research is. They might also wonder how careful you'll be with their money.

English errors can result from both a lack of English skills and from hurried writing.

Apart from the usual advice about getting a professional edit or proofread, and using a grammar tool, allow plenty of time. If you wait until the last day, week, or even month to prepare your grant, you're almost guaranteed to make language mistakes.

Even if you're a good writer, you'll probably miss a chance to write something more clearly, remove jargon and idioms, and have a consistent, professional tone.

Once your proposal's clearly written and you've edited it until it seems "perfect," set it aside for a week. Yes, you're in a hurry, but you'll benefit from this break.

Then go back to it and edit/proofread/revise. Better yet, do it twice.

GET LOTS OF FEEDBACK

Peer review is key to all research funding applications.

Even if you follow the advice outlined above, there might still be unclear bits of your proposal (at least to some). To strengthen your proposal, get other people to read it. Don't limit yourself to colleagues from your field. They'll probably be familiar with research jargon and methods.

Talk with:

- **Professors**

- **Former grant recipients**

- **The funding agency you're applying to**

- **Trusted peers in your field**

They'll all help you learn more about what successful grant proposals look like in your career stage.

The more feedback you receive, and from a greater variety of people, the better. Arrange early on when and which person will look at your proposal and revise the proposal after each set of feedback.

6. LIFE AFTER GRANT SUBMISSION

There's no guarantee of funding, no matter how strong your application is. In fact, rejection is common because of the tough competition.

Even renowned scientists aren't always successful.

The Nature article cited above notes that on the day molecular biologist Dr. Carol Greider was awarded the 2009 Nobel Prize in Physiology or Medicine, she learned her recently submitted grant proposal got the thumbs down. Wonder how that grant funder felt when they read the news the next day!

So, even if your proposal ends up not getting funded, the process of planning and writing is valuable, to say the least. Why? Because...

- **You'll generate new ideas.**

- **You'll expand your horizons by talking to peers or involving project partners.**

- **You may even decide there's a better way to do your study or another research question that's important for you.**

Grant writing can be frustrating and tiring, especially if you're an early-career researcher and not used to it.

Take your time to learn from past rejections and negative feedback. It will increase your chances of nailing your next grant proposal.

7. TIPS FOR FINDING AND APPLYING FOR RESEARCH GRANTS

For many researchers, the prospect of finding and applying for grant funding can seem daunting. The grant review process is rigorous and time consuming, and funding opportunities are limited and highly competitive. Thus, knowing where to find available sources of funding is an essential starting point in the process.

1. Consider the large, well-known sources of funding. Large, well-known funding agencies, such as the National Science Foundation and National Institutes of Health, can be good starting points in your search for grant funding opportunities. These funding sources are usually free to access and provide an abundance of information about submitting an application. Please see our lists of both free and subscription-based databases below.

2. Reach out to senior researchers and your institution's grant office. Experienced researchers with a strong track record of receiving funding may be able to recommend funding sources and may have examples of successfully funded grant proposals that they are willing to share with you (4). Additionally, your institution likely has a [grant office that can point you toward grant opportunities](#) and advise you on every step of the grant application process.

3. Cast a wide net. By widening your funding net, you are more likely to ensure financial security for your research. Money lost due to budget cuts can be replaced with smaller awards from a variety of smaller and/or lesser known sources (3) beyond large/government grants.

4. Be in the know. Following news from organizations in your field and regularly searching for novel funding sources will keep you apprised of any otherwise unknown funding opportunities (3).

5. Network with colleagues. Your colleagues may be aware of funding opportunities or may have received grants that you are not aware of. Asking around your network is particularly helpful if your team is multidisciplinary, having diverse experience and points of view.

6. Know the funding agency's requirements. Learn as much as possible about the funding agencies and their grant review processes in order to write your proposal according to the organization's specific requirements. Additionally, do not name specific grant reviewers in your cover letter, as this could be construed as a potential conflict of interest.

7. Ask questions early. There are typically personnel at grant agencies who can answer questions about the entire grant application process, from initial submission to receiving an award. [Taking advantage of this resource](#) can provide you with additional information that may not be available on the grant application or website.

8. Consider adding experienced co-investigators. If you are an early-career researcher with limited experience, some grant reviewers may immediately discount your application for that very reason due to the number of applications they receive. By adding co-investigators with long-term experience in your field, you may increase the likelihood of being awarded a grant.

9. Demonstrate your expertise and research plan. Clearly and concisely show reviewers that you and your team have the appropriate knowledge and background to conduct the research. Also show that you will work within the stated timeframe and budget. The difference between failure and success is the significance and feasibility of the proposed research, according to anesthesiologist and clinical researcher Peter Nagele.

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10. Consider employing a grant support service. You can improve the language, conciseness, grammar, and clarity of your proposal with the help of a grant support service. With these services, experienced, professional researchers will help you to strengthen, edit, and polish your grant proposal.

11. Understand who will be reviewing your application and their assessment criteria. Find out the specific review process for the scheme you are applying for and understand who will be reviewing your proposal as early as possible in the writing process. Once you know who your audience is, cater to them. Knowing your audience will help you establish which specialist terms and concepts need to be explained, and how much you need to guide your reader through the logical argument.

12. Show that your team has the necessary expertise to succeed. Are you and your team up to the job? Can your team cover all of the relevant techniques and concepts in the work? In some grant formats, you'll be prompted to answer these questions in a personal statement. Even if you're not, it's important to include this information somewhere.

Avoid claims of superhuman powers, but also avoid underselling the relevance of your experience. If you've published relevant work, cite it within the text and emphasize you did that work.

8. ARE THERE OTHER WAYS TO FUND RESEARCH?

There are considerable grant opportunities for funding research initiatives, but the process can be time consuming, complicated, and competitive. Thus, many researchers are thinking outside the box, towards less traditional means of funding to continue moving their research forward.

1. Charities and foundations: fund research that aligns with their missions

- **Bill and Melinda Gates Foundation**

- **Barack Obama Foundation**

- **Mastercard Foundation**

- **Spencer Foundation**

- **Wellcome.org**

- **Mellon Foundation**

2. **Crowdfunding**: active online fundraising through public donations

- [Experiment](#)
- [FundRazr](#)
- [Givebutter](#)

3. **Angel investors, private investors, and venture capitalists**: individual investors willing to negotiate terms of funding

- [Angel Investment Network](#)
- [Ask for Funding](#)

4. **Think tanks:** Though not funders of external research, think tanks host internal research programs carrying out fully funded projects.

- [Urban Institute](#)
- [Brookings Institution](#)

5. **Professional associations, industry groups, labor organizations**: fund research to further a specific agenda

- [American Library Association](#)
- [American Heart Association](#)
- [Exxon Mobil](#)
- [National Mining Association](#)

9. ASSISTANCE WITH YOUR GRANT PROPOSAL

After you've gone through the grant proposal process, consider getting your proposal edited by AJE. AJE's VIP Editing service matches you with an expert in your field to provide constructive feedback on the presentation, logic, structure, and organization of your grant proposal to give you the best chance of securing funding for your research.

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