



How to advance your career in science

Speed read

- There are common problems that most researchers face early in their career
- They range from getting funding to making sure you're around the right people
- You can overcome them with research, planning and clarity in your goals

1. Top five challenges

1. Getting funding
2. Lack of support or becoming isolated
3. Lack of skills (for example, in writing, communication or research)
4. Lack of relevant data/literature for work
5. Maintaining a focused topic of study

There are many challenges to advancing a career in science, not least the 'publish or perish' culture in which researchers are immersed. Modern academia can be a difficult landscape for early-career researchers to navigate — how do you establish what your priorities should be while avoiding the pitfalls that might hamper your future career?

With this in mind, SciDev.Net conducted a survey of researchers from all over the world about the biggest challenges they face, pitfalls to avoid, and advice they would give other researchers facing the same obstacles.

With [more than 80 respondents and input from professionals](#) who support researchers, we've distilled this input and added useful resources.

Challenges faced by researchers

Perhaps unsurprisingly, the ability to get funding came through as the biggest challenge for researchers. However, respondents also painted a picture of an environment where it is easy to become isolated, and where getting adequate support can be difficult.

Other significant challenges included dealing with heavy workloads; time management; navigating bureaucracy; and knowing how to get published in the right journal. We've categorised the advice below with some of these challenges in mind:



Getting funding

Familiarise yourself with the landscape and key frameworks

Does your research fit into wider agendas such as the [SDGs](#) or [Agenda 2063](#)? Increasingly, you must be able to explain how your research fits the bigger picture, and such frameworks are great starting points.

Don't rush into a PhD

What kind of funding exists in the field? If it seems there is limited funding or resources in a particular area, think carefully about rushing into a PhD.

Keep an eye on calls

Look out for specific funding calls relevant to your research. Research councils are a good place to start, with sections on their websites requesting proposals. Here is an example from the [South African Medical Research Council](#).

Listen to feedback

Share your ideas with trusted people outside your research group (and with non-specialists). They'll be able to tell you if you've expressed your ideas clearly.

Become media savvy

Talking to the media can lead to more collaborations and, ultimately, funding. For example, policymakers often use the media as their source of information for science and technology. SciDev.Net has [an online media training course](#) for scientists, discounted for developing-country researchers.



Developing your skillset

Know yourself	Reflect on what you are good at, and on your biggest areas for development. If you're not sure, get feedback from trusted colleagues, mentors or friends. This will help you choose the skills and knowledge to prioritise.
Improve your communication skills	You never know who you will be pitching your research to, when the opportunity might arise, or where it might lead. Polish your communication skills so you are able to tell anyone about your research. This practical guide is packed with tips for boosting your science communication skills.
Keep learning	There is a wealth of information at your fingertips. Free online resources such as SciDev.Net's practical guides and online courses , and support networks such as AuthorAID are extremely helpful. If possible, attend short courses or seminars.
Manage your time	Researchers face a number of competing priorities and this can be daunting to manage. There are many things you can do to develop your time management skills. Check out this article from <i>Science</i> which is packed with specific tips for academic scientists.
Make a plan	Write a timeline for your medium and long-term ambitions. Distinguish between what you know and what you should know in order to achieve it. Figure out what you need to do in order to address any knowledge or skills gaps you've identified.
 <p>Get the right type of support, and stay connected</p>	
Get a great mentor	It's important to have someone who cares about you and your career. A PhD supervisor should be a mentor, so maintain contact with them even after graduation. Cultivating relationships can result in more opportunities in the future.
Develop your online profile	Having ORCID and Google Scholar accounts will make your work searchable and trackable. This practical guide is packed with advice on this theme. Social media and blogging will also help you to showcase your work.
Network in real life	Many professional opportunities come through networking, rather than online. Developing your online persona is useful but nothing can replace meeting people at events such as conferences and seminars.

Talk to people both within and outside your field and test your ideas with them.

Evaluate the impact of your research

Be organised about tracking where your work is mentioned, referenced or used for a news piece. Distinguish between traditional and alternative ways of [tracking the impact](#) of your research.



Be savvy about getting published

Publish early

Don't leave it until the end of your PhD to publish a paper. Try to get your Masters research published, for example.

Stay focused

Try not to spread yourself too thinly by working on too many projects at once. This should allow you the time to write manuscripts and endeavour to get published.

Target the right journals

Do your best to [get published in a journal that's right for your research](#). Don't succumb to the pressure of publishing in predatory journals, but don't become obsessed with publishing only in 'big name' journals either.

Know the process

In addition to having a clear research objective, it is essential that you know the conventions and procedures for how to submit an article to your choice of journal. This [practical guide](#) will support you through the process. Journals usually have guidance for this too; here is [Elsevier's](#), for example.

Know how to write a scientific paper

Brush up on [how to report scientific findings](#) and make sure that you follow the conventions of your target journal.

**Top ten pitfalls
to avoid**

Some of this advice reinforces the previous points, but came through strongly in the feedback and deserves highlighting.

1. **Rushing into a PhD** without carefully considering your interests, whether you are a good fit with the supervisor, or whether future funding exists for the type of work.
2. **Isolating yourself from the wider world**, be it by not talking to others about your work, not attending events or not having a social media presence. In the long run it pays to be visible and well connected, even if there is no tradition of doing so in your department or if there are no immediate, obvious rewards.
3. **Not researching the lab or group you are going to work with.** You might end up somewhere with limited support. This is a common issue researchers face but you can minimise this risk by finding out as much as you can about life in the prospective research group.
4. **Only completing others' work.** Be careful to develop your own profile and reputation as a researcher. In some research groups you might end up working on projects that will advance only others' careers and not yours.
5. **Getting desperate to publish so you can graduate or get a job**, and breaking ethical standards to do so. This includes fabricating data, plagiarising and submitting work to predatory journals. It stays on your record and can hamper your career later on.
6. **Not developing other skills** including communication, language, new lab techniques and so on.
7. **Ignoring advice** from mentors, friends, colleagues or more experienced people; and failing to reflect on how you can improve as a researcher. Be humble and always be prepared to learn.
8. **Putting things off, such as leaving it late to try to publish work.** This will not look good when you are seeking further career opportunities. Building your CV and profile takes time and can't be done overnight.
9. **Losing sight of the bigger picture.** It is good to have a clearly defined research question, but make sure you can always explain why it matters to the wider world.
10. **Not being clear about what you are researching.** Your research objective should be clearly defined and you should be able to tell a friend in simple terms the problem your research addresses. It will be extremely challenging for others to see the value of your research if you are not able to.

Another common message, from both experienced researchers and others starting off, is that it is perfectly natural to feel overwhelmed at the beginning. Make sure that you prioritise your wellbeing and that you surround yourself with supportive people who share your interests.

Finally, remember to be assertive and not to underestimate yourself, even if you are only just starting out on your career.

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