

# Successful grant writing

Getting it right

## Critical stages of grant applications...

...and what to consider along the way

### Generate an idea

- Why is this interesting and who cares?
- Who will benefit if the work is successful?
- How novel is this idea?
- Why am I the best person to do this?
- Can I realistically achieve what I claim?

### Find a matching funding opportunity

- Look at who funds similar research
- Be aware: different agencies support different types of projects
- Scan for available calls
- Be willing to cast a wider net
- Think outside of the box. Keep your mind open

### Background research

- Understand the different agencies and their styles
- Talk to the Program Manager – they are used to cold calls!
- Do the literature search, it can save you weeks of writing!
- Assume the panel members know nothing about your work, but everything about your competitors.
- Don't expect the panel members to be experts in your field, put your idea into context.

### Write the technical portion

- What problem are you addressing?
- Why hasn't it been solved yet?
- Why do you think you will succeed? What is your hypothesis?
- What is your work plan and what are your milestones?
- How will you measure success?

### Check the administrative parts

- Read the call – again and again and again...
- Calls are usually specific about the formats they require
- Terms like “required” and “must include” should be adhered to
- Work on your budgets and other documents in advance – be prepared
- If you need external letters, give people enough time to get them to you

### Submit and forget about it

- Allow enough time to upload the files and check pdfs for readability and errors.
- Many agencies systems get very busy during submission times – accept and prepare for this.
- Once submitted, forget about the proposal until you hear from the review panel.
- Make sure that the agency communications don't get filtered into your spam folder.
- Many agencies will return detailed reviews. Use the review to revise and resubmit your grant.

## Top tips and tricks

**Time keeping:** Be realistic about the time it takes to write the grant – grants are like an ideal gas, they fill all the space available to them.

**Check your style:** Do not use tiny fonts, even if the call doesn't have a lower limit. 11 point is probably as low as you can go. Leave ample margins (3/4 in is pushing it). Avoid passive voice and tell a story.

**Know your audience:** Find out more about your funding agency and use it to your advantage e.g. emphasize basic science for NSF, healthcare for NIH or technology for DARPA etc.

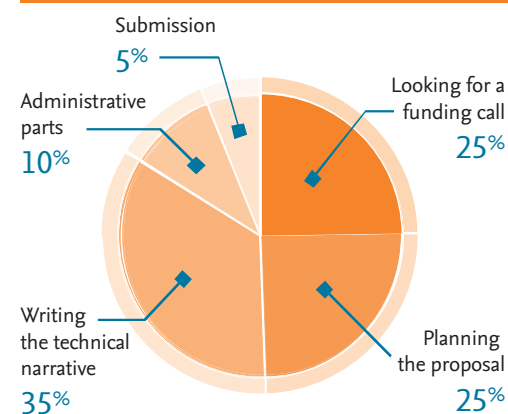
**Connect and network:** Grant calls include the contact information for a reason. Call the Program Manager as they seldom can answer all their emails. Prepare all your questions in advance.

**Recycle but be warned:** If you reuse parts of older grants (everybody does it) watch for the items specific to older grants in those texts – nothing reveals a quick hack job better.

**Size matters:** When it comes to budget be frugal but realistic. The average size of the award specified in the call is a good indication of the scope of work the Program Manager has in mind.

**Be original!** Try to be original and propose ideas that make sense, not just the “boilerplate”. Reviewers have read the “boilerplate” many times before. But don't forget to explain things that look unusual.

## Time and effort for a typical grant



## And remember...

- Always assume any problems were your fault, not the reviewer.
- If the reviewer has misunderstood something, then you did not explain it clearly enough.
- Make sure you invest considerable work and effort in any revision – reviewers will likely do the same.

...and finally – good luck!

# How to get published

What distinguishes a good manuscript from a bad one?

Publishing Campus

## A good manuscript...

### ...is in scope

Investigate all candidate journals and find out about the:

- Aims and scope
- Accepted types of articles
- Readership
- Current hot topics by going through the abstracts of recent publications

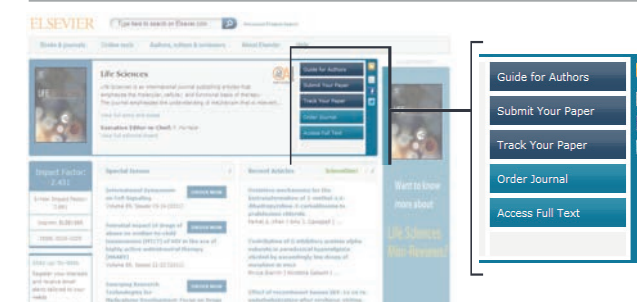
### ...adheres to publication ethics

- Avoid plagiarism of others' work
- Avoid multiple publication of the same work, never submit your manuscript to more than one journal at a time
- Cite and acknowledge others' work appropriately
- Only list co-authors who made major contributions

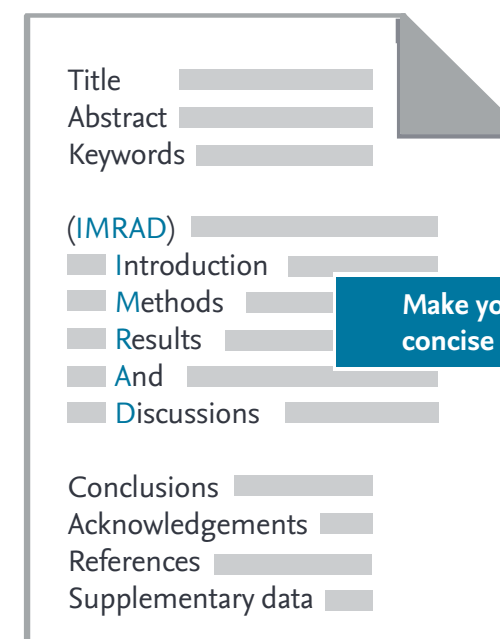
### ...follows the Guide for Authors

Stick to the [Guide for Authors](#) in your manuscript, editors do not like wasting time on poorly prepared manuscripts.

You can find the Guide for Authors on the journal's homepage on [elsevier.com](#).



## Article structure



## Illustrations

Illustrations are critical, because...

- **Figures and tables** are the most efficient way to present results
- **Results are the driving force of the publication**

“One picture is worth a thousand words.”  
Sue Hanauer (1968)

- **Captions and legends** must be detailed enough to make figures and tables self explanatory
- **No duplication of results** described in text or other illustrations

## Use proper manuscript language

Publishers do not correct language, this is the author's responsibility

- Ask a **native speaker** or use a **language editing service** to improve your paper before you submit it.
- Poor English makes it difficult for the editor and reviewers to understand your work and **might lead to rejection of your paper**.
- Be alert to common errors:
  - ✗ Sentence construction
  - ✗ Incorrect tenses
  - ✗ Inaccurate grammar
  - ✗ Mixing languages
- English language should be used throughout the manuscript, including figures, charts, graphs and photos.

## Are you ready to submit?

Roughly 35% of all submitted manuscripts are rejected before peer review. Make sure you revise before you submit.

- Do your findings **advance understanding** in a specific research field?
- Is your work of **interest** to the journal's audience?
- Is your manuscript **structured** properly?
- Are your conclusions **justified** by your results?
- Are your **references** international/accessible enough?
- Did you format your **figures and tables** properly?
- Did you **correct** all grammatical and spelling mistakes?

## Make sure you are equipped!



# Research and publishing ethics

Authorship, plagiarism and responsibilities

## What does it mean to be an author?

“An “author” is generally considered to be someone who has made substantive intellectual contributions to a published study.”

### Remember

- Being an author comes with credit but also responsibility
- Decisions about who will be an author and the order of authors should be made before starting to write up the paper

## Types of authorship

- First author:** the person who conducts or supervises the data collection, analysis, presentation and interpretation of the results and also puts together the paper for submission
- Co-author:** makes intellectual contributions to the data analysis and contributes to data interpretation, reviews each paper draft, must be able to present the results, defend the implications and discuss study limitations

**Avoid ghost authorship:** excluding authors who participated in the work

**Avoid scientific writers and gift authors:** including authors who did not contribute to the work

## What happens when there is a dispute?

- It must be resolved by authors
- Editors cannot adjudicate or act as judge
- It delays publication as the editor has to get agreement from all authors about any changes
- After publication it can be published as a correction but needs agreement from all authors with justification

## Key author responsibilities

### Authorship:

- Report only real, unfabricated data
- Originality
- Declare any conflicts of interest
- Submit to one journal at a time

### Avoid:

- Fabrication:** making up research data
- Falsification:** manipulation of existing research data
- Plagiarism:** previous work taken and passed off as one's own



## What is plagiarism and how is it detected?

“Plagiarism is the appropriation of another person's ideas, processes, or words without giving appropriate credit, including those obtained through confidential review of others' research proposals and manuscripts.”

Federal Office of Science and Technology Policy, 1999

- CrossCheck is a huge database of 30+ million articles, from 50,000+ journals, from 400+ publishers.
- The software alerts editors to any similarities between your article and the huge database of published articles.
- Many Elsevier journals now check **every** submitted article using CrossCheck.



## Work that can be plagiarised includes...

Words (language)	Computer programs	Lectures
Ideas	Diagrams	Printed material
Findings	Graphs	Electronic material
Writings	Illustrations	Any other original work
Graphic representations	Information	

## Correct citation is key

## Declare conflicts of interest

### Conflicts of interest can take many forms:

- Direct financial:** employment, stock ownership, grants, patents
- Indirect financial:** honoraria, consultancies, mutual fund ownership, expert testimony
- Career and intellectual:** promotion, direct rival institutional
- Personal belief**

## The consequences

Consequences vary depending on the misconduct and the journal, institutions, and funding bodies involved.

### Authors could:

- Have articles retracted (carrying a note why they were retracted, e.g. for plagiarism)
- Have letters of concern or reprimand written to them
- Institutes and funding bodies could carry out disciplinary action

# How to review manuscripts

Peer review, your role and responsibilities

Publishing Campus

## Peer review

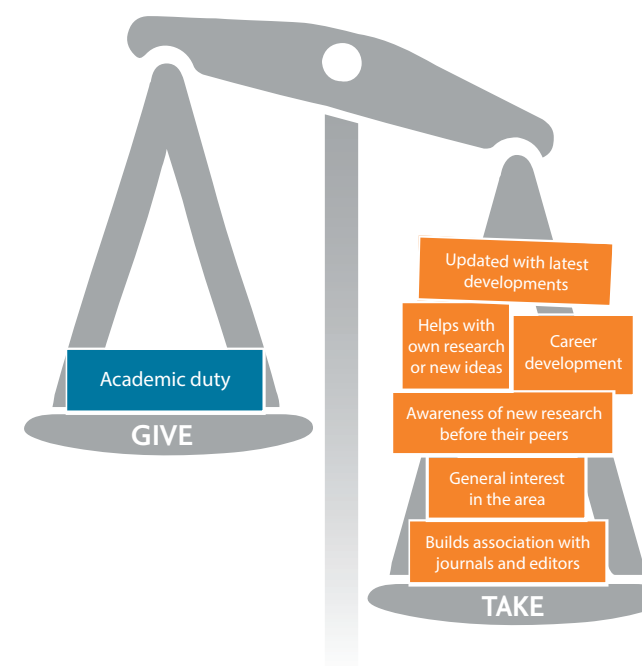
### ...is critical because it

- Improves the quality of the published paper
- Ensures previous work is acknowledged
- Determines the importance of findings
- Detects plagiarism and fraud
- Plays a central role in academic career development

### ...adheres to the principles that

- It is a well understood concept
- Without it there is no control in scientific communication
- Journal editors evaluate and reject certain articles prior to external peer review

## Why should you review?



## Editors' view: what makes a good reviewer?

- Provides a thorough and comprehensive report
- Submits the report on time
- Provides well-founded comments for authors
- Gives constructive criticism
- Demonstrates objectivity
- Provides a clear recommendation to the editor

## Comments to the editor

- 1 Comment on novelty and significance
- 2 Recommend whether the manuscript is suitable for publication
- 3 Confidential comments will not be disclosed to the author(s)

## Your ultimate checklist for reviewing a paper

### First impressions

- Is the research original, novel and important to the field?
- Has the appropriate structure and language been used?

### Abstract

- Is it really a summary?
- Does it include key findings?
- Is it an appropriate length?

### Introduction

- Is it effective, clear and well organized?
- Does it really introduce and put into perspective what follows?
- Suggest changes in organization and point authors to appropriate citations.
- Be specific – don't write “the authors have done a poor job”

### Methodology

- Can a colleague reproduce the experiments and get the same outcomes?
- Did the authors include proper references to previously published methodology?
- Is the description of new methodology accurate?
- Could or should the authors have included supplementary material?

### Results and discussion

- Suggest improvements in the way data is shown
- Comment on general logic and on justification of interpretations and conclusions
- Comment on the number of figures, tables and schemes
- Write concisely and precisely which changes you recommend
- List separately suggested changes in style, grammar and other small changes
- Suggest additional experiments or analyses
- Make clear the need for changes/updates
- Ask yourself whether the manuscript should be published at all

### Conclusion

- Comment on importance, validity and generality of conclusions
- Request toning down of unjustified claims and generalizations
- Request removal of redundancies and summaries
- The abstract, not the conclusion, summarizes the study

### References, tables and figures

- Check accuracy, number and citation appropriateness
- Comment on any footnotes
- Comment on figures, their quality and readability
- Assess completeness of legends, headers and axis labels
- Check presentation consistency
- Comment on need for colour in figures