Writing an impactful grant proposal

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Nature Portfolio

Writing an effective proposal

Increase your chance of grant acceptance

Understand the grant/funders

Identify a novel and relevant problem
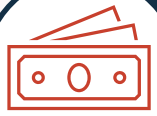
Preparing an effective proposal

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Why are grants important?

- *Funding for your research*

- *Helps you structure your research plan*

- *Important in obtaining academic positions*

Can only be used to support the research directly according to the guidelines

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Understanding the funder

Low risk / high return

Funders are looking for low risk investments

Goal

Convince the funder of the *success* & *impact* of your proposal

Impact

Academic & societal

In line with the grant's objectives

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"In 2022, the Global Grants for Gut Health will consider proposals for research projects that advance our understanding of the **geriatric gut microbiome** and its **influence on human health and aging**."

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What will happen if your proposal does not align with the grant's objectives?

It will not likely be reviewed

Understanding the grant

Reviewing process

Reviewing your grant

Reviewed by expert panel on 4 criteria

Karen Scott

Eran Elinav

Kiyoshi Takeda

Liping Zhao

Peer reviewed for originality and quality

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Review criteria

1 *Quality and originality of the science*

Must contribute to knowledge of the human microbiota using well-designed & robust studies

2 *Potential scientific & social impact*

Importance of the contribution to society and patients via knowledge, tools & techniques

3 *Quality of applicant & value for money*

Applicants must be qualified to conduct the study & budget should be appropriate

4 *Emphasis on mechanism of action*

Elucidate the role of geriatric gut microbiome on health and aging, *not* just descriptive

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Relevant research questions

Novel and impactful

Formulating a research question

After a thorough review of the field

What are the important problems?

Discuss with colleagues

Which can you address?

After selecting a question...

Double-check databases for originality

Discuss with colleagues

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Be SMART when considering your aim(s)

S Specific – Focused on an important issue

M Measurable – Appropriate methodolgies

A Achievable – Have expertise and resources

R Realistic – Cost effective (in budget)

T Timely – Can be completed within 1 year

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Focusing your aims

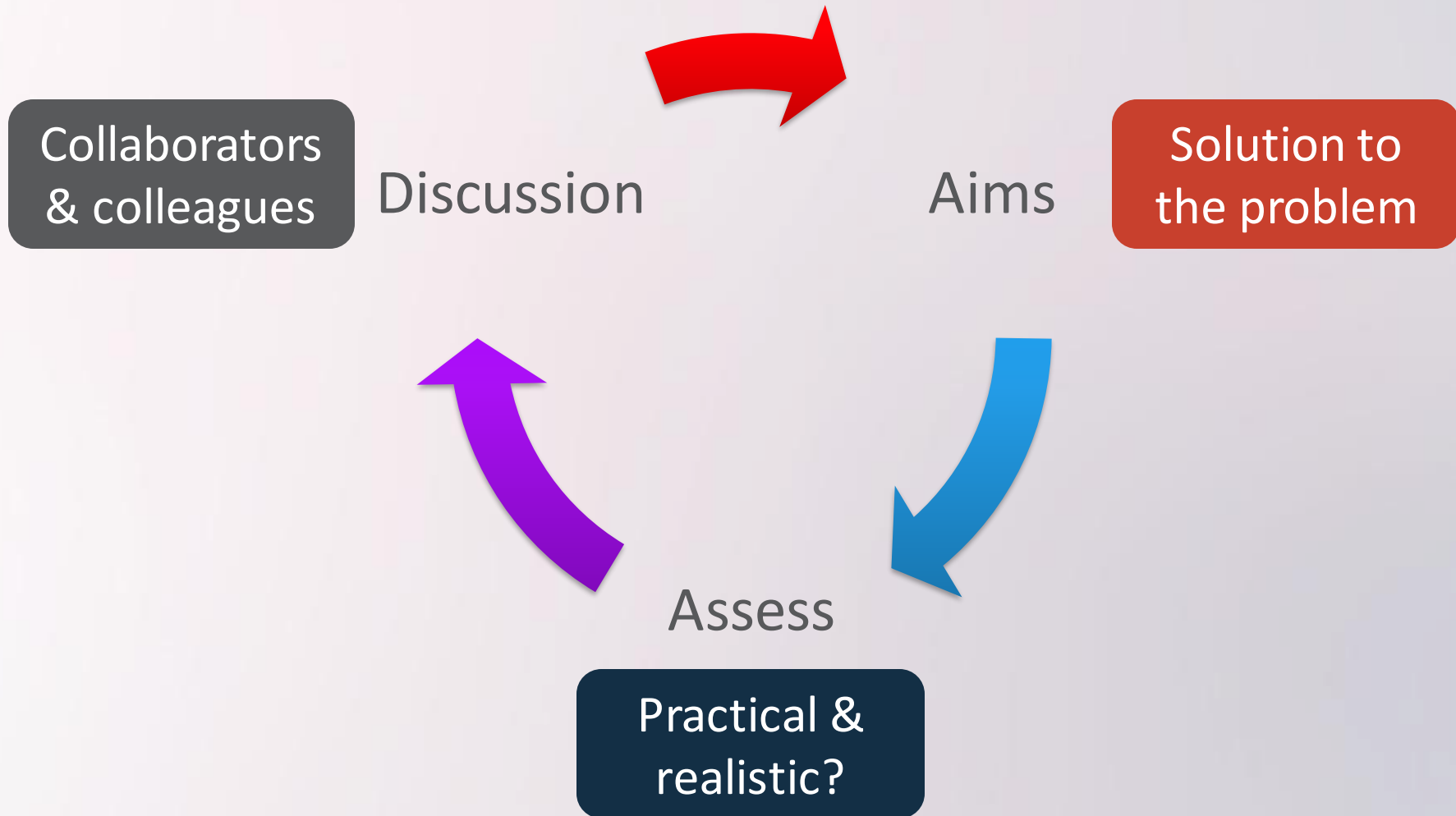|	
What are you investigating?	Variable, condition, strategy, intervention
What are you measuring?	• Outcome • Comparison
From where are the measurements taken?	• Participants, animals • Samples, materials
What are the key benefits and for whom?	Academic, societal, commercial

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Organic refinement

Collaborators & colleagues

Discussion

Aims

Solution to the problem

Assess

Practical & realistic?

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What to avoid when deciding aims

Fishing expedition

- Unclear variable or outcomes
- Find along the way (data dredging)

What to avoid when deciding aims

Preconceived aims

- Outcomes already decided
- Skew experiments to achieve them

Preparing your proposal

Follow the guidelines

For Global Grants for Gut Health

Project summary — Summarize context, objectives, methodology, project team and dissemination/impact plan (600 words)

Research proposal — Detailed information of the above (~5000 words)

Budget — Description of direct costs of up to USD100,000

CVs — CVs of each team member to establish credibility

Summary statement — Summary of overall purpose and importance of proposal (250 words)

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Project summary

Abstract of your proposal

Keep your reviewers in mind!

They have many proposals to read...

Make yours stand out!

Summary

What to include <600 words)

"Our proposed study will investigate [main purpose]."	Introduction to the proposal
"Although previous studies have demonstrated… …it is still unclear if [currently important problem]."	Context and research question
"Therefore, in this study, we will address this issue by [aims and brief methodology]."	Aims and methodology
"This study will be conducted by [project team] located at [institution(s)]."	Project team
"This study will be important to [solve problem] and will also be able to [benefit to the field/society]."	Impact and benefits

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Research proposal

Detailed description of your project

Research proposal

Research question

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Research question
(<250 words)

Describe the question that you previously identified and refined with your colleagues

Photo by Pixabay via Pexels

Research proposal

Context

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Context (background, <500 words)

What is known about the topic

Discuss the literature (peer-reviewed, pre-prints, repositories)

This section is useful to:

- Establish subject expertise (credibility)

- Give context as to why the study needs to be done

- Important to highlight the research problem; i.e., the motivation why the proposal should be funded

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Discussing previous research

Be careful here!

- *Little research* being done suggests not interesting to the field or society now (and therefore difficult to publish)

- *Too much research* suggests not original or too much competition (and therefore, again, difficult to publish)
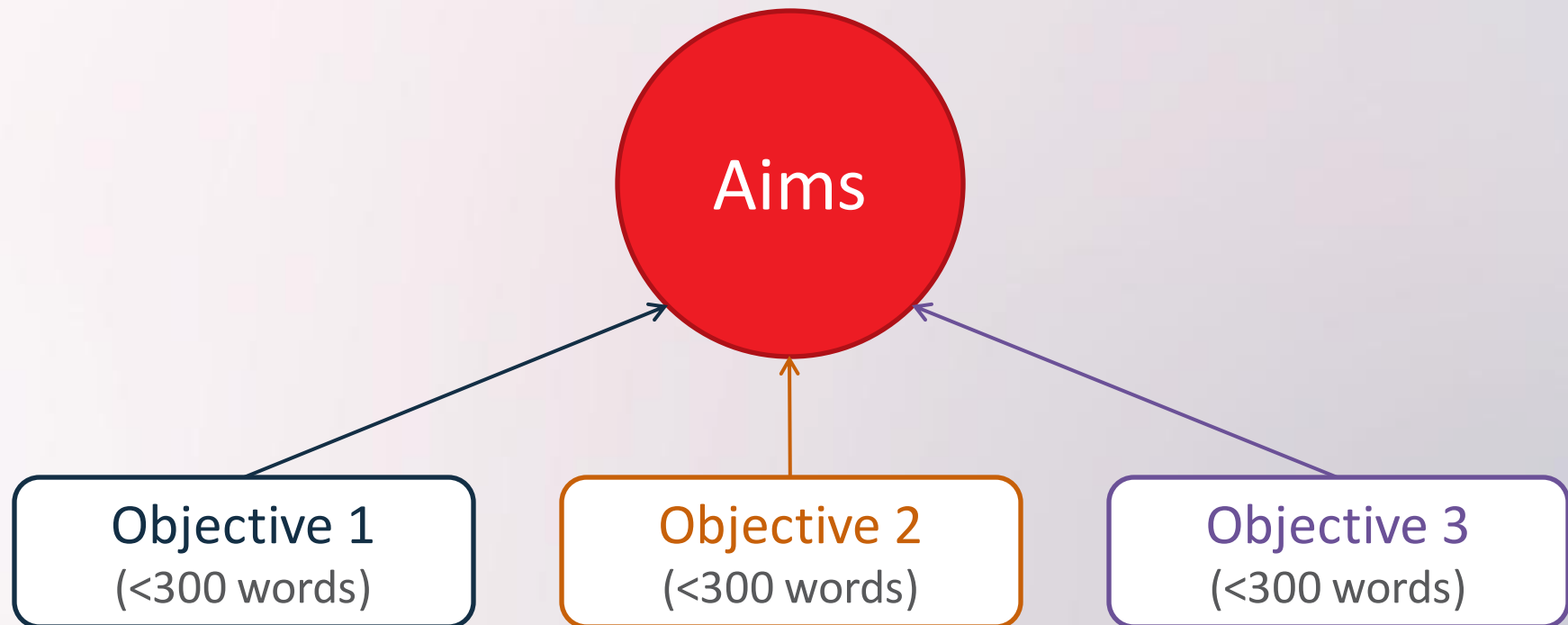
You need to have a ***balance*** (discuss with colleagues)

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Research proposal

Objectives

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Identify up to 3 objectives

Consider three ways to address your aims

Each objective should be independent of each other

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Research proposal

Methodology

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Methodology

Write methodology for **each objective** (<750 words)

SMART

- **S**pecific – Focused on an important issue
- **M**easurable – Appropriate methodologies exist
- **A**chievable – You have the technologies/expertise
- **R**ealistic – Cost effective
- **T**imely – Can be conducted within 1 year

Demonstrate that your research plan
is feasible and not a **risk**

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Preliminary results

Important points to remember

If you have preliminary data to support your proposal, this is when you discuss it!

- Established expertise
- Validates proposal

You are allowed up to 5 figures per objective

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Research proposal

Project management

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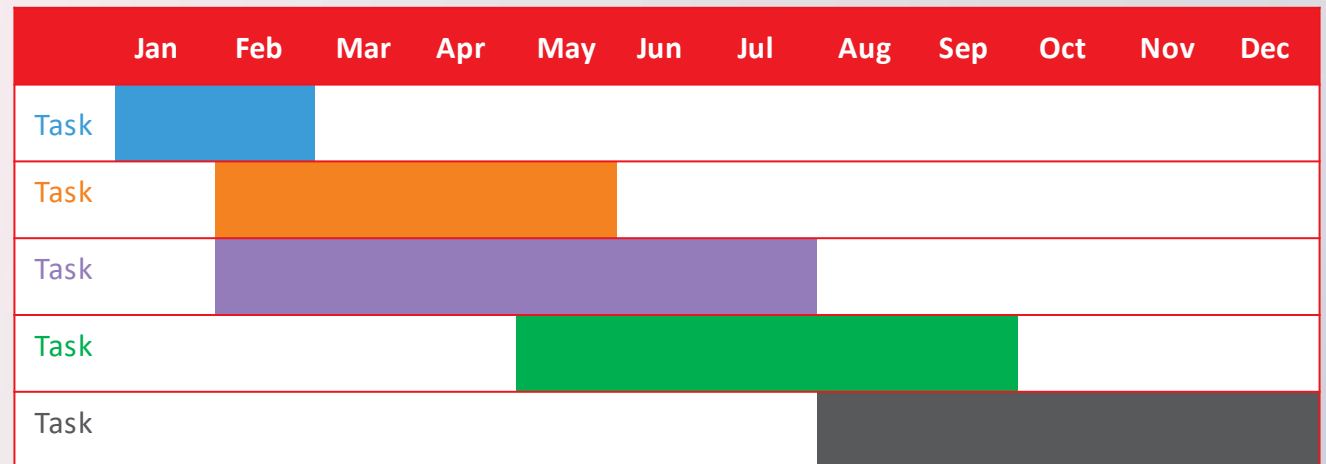FOR GUT HEALTH

Risks and contingency plans

You can include up to 3 risks and back-up plans

Shows you have carefully considered your study design (greater chance of **success**)

Other aspects of project management

Timeline
(upload Gantt chart file)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Task	███											
Task		████████										
Task			████████████									
Task							███████████					
Task									████████████			

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Other aspects of project management

Timeline
(upload Gantt chart file)

Project team
List of members along with background / roles (<500 words)

Research environment
Institutional facilities available (<400 words)

Impact plan
How to achieve societal impact (<600 words)

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Additional information

Budget, CVs, & summary statement

Budget

Budget

Why does it matter?

Shows **feasibility** of the study

Shows **careful planning** of the study

Strongly impacts proposal success

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CVs

Upload each team member's CV (up to 4)

Confidence in you

What have you accomplished?

Funding agencies are looking for **low risk** investments

Summary statement

Like the ***conclusion*** of your proposal (<250 words)

Summarize the overall purpose and importance of your proposed study

Your last chance to make an ***impact***!

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Thank you and good luck!

Any questions?

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