Goddard Applied Sciences Seminar on Proposal Writing

Leonard Garcia

Science Proposal Support Office (SPSO), Code 605
https://science.gsfc.nasa.gov/605/index_internal.html

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How do I create a persuasive proposal?

Match your plans to the needs in the Call

What’s your motivation? – Your Key Message is the solution

Graphics + Text for high impact

The structure of a ROSES proposal

Importance of planning and reviewing
Match your plans to the needs in the Call

Seek to answer the following questions

How can you respond to their needs with research you want to pursue?

How will your approach to solving their problem yield a high return on investment?

What discriminates you from your competition?

How will your work impact the field?

So what? Why our team?
What’s your motivation? – 
Your Key Message is the solution

Start with a motivation paragraph that expresses a critical need that you are uniquely suited to meet.

It should be drawn from needs expressed in the Call.

Don’t let details distract you. Keep it short, stay on topic.

This sets the context for the whole proposal.
What’s your motivation?

The key message is your proposed solution to their critical need expressed in the motivation

For example,

We propose X that will meet critical need Y by doing Z.
Effective graphics and text will help the reader remember your proposal

and based on work by Richard Mayer
We recommend beginning your proposal with an Executive Summary

An effective Executive Summary communicates your message in three ways

[Verbal] Motivation → Key Message
[Visual] High impact graphic and action caption
[Architecture] Overall Executive Summary

Answers “What’s this about?” “So What?” “Why me?” plus relevance and impact.
Compelling Executive Summaries contain a strong motivation, a clear solution, and a high impact graphic and caption.
Structure of a generic ROSES proposal

- The solicitation may ask for modifications to these sections, read the call carefully.

*The DMP is usually required as an NSPIRES web page entry.
Your Message and Plan should map clearly through the major sections of your proposal

A reviewer may not necessarily begin reading your proposal on page 1!
Action Captions should *inform, interpret, and persuade*

**Poor**
Overview of Proposed Technology Developments.

**Good**
Our proposed technology developments are driven by clear science requirements and enable student participation at all levels.

**Poor**
An illustration of the steps for characterizing amino acids in meteorites.

**Good**
We have well developed and integrated preparation and analysis methods for meteoritic amino acids.

**Poor**
Organization Chart

**Good**
Our organizational structure promotes clear lines of communication and authority and includes Alaskan Natives in an advisory capacity from day 1.
Every page of your proposal should have a Take-Away message

A Key message – for overall proposal

Theme statements – for each major section

Action captions – for every figure or table

These are the items most likely to receive attention by reviewers. A page of nothing but a “wall of text” will be skipped by the skim readers.

Remember the POWER of graphics!
Continue the message in the *Plan of Work* with a focus on your team and schedule

The focus when writing Plan of Work:
Provide confidence that your team will accomplish the proposed research and fulfill customer needs within the time span proposed.

Include:
Description of expertise – why they’re on your team
Description of roles and responsibilities – what they will do
A schedule – when tasks will be performed
Also consider noting the level of effort of each team member

Have you done similar work before? Draw from this experience to support your *Plan.*
Planning, preparation and reviewing is an important part of creating a winning proposal

Seek feedback at all stages of the proposal process

Strategy (Blue Team) Review
Provides early feedback; enhances strategy and teaming potential; reduces stress.

Red Team review
Combines content review, compliance focus, and key message focus;
Can boost you into “competitive range.”
Some Lessons Learned from Red Team Reviews

• Make sure reader knows your contribution to this field. Claim ownership of your work. Use active voice.

• Start paragraphs with the punch line, follow with supporting details.

• Make figures clear, avoid confusion and eye strain.

• Why should NASA fund this now?

• Maintain a clear focus; explain what you won’t do.

• What are your advantages over current approaches/state-of-the-art/competitors?

• Don’t forget the “Facilities and Equipment Section” in the Budget Justification. This is part of your leveraging argument i.e. what resources are in hand so you can “hit the ground running” when funding comes in?
Three Key Elements of a winning proposal

**Responsiveness to a critical need** – your proposed work constitutes an important and unique approach to meeting their needs.

**Key message** – your solution to fulfill their critical need

**Team** – your team’s unique experience and capabilities provide confidence that you will fulfill their needs.
Visit the SPSO Website

• Best Practices document
• Deadlines and Points of Contact
• SPSO Budget Web Tool
• Tutorials
• Generic ROSES proposal template

https://science.gsfc.nasa.gov/605/index_internal.html

Thank You!
A Science Background section provides context, shows expertise but risks derailing the proposal

Benefits:
- provides context and illustrates the holes your work will fill
- demonstrates team expertise

Risks:
- may turn attention from your message and argument
- separates key message and research strategy

Options:
- put near beginning of Technical Approach section
  or as new section after Executive Summary
- don’t put it in Executive Summary

Keep the focus on answering “So What?”
NASA needs as expressed in ROSES Solicitations

Science Community

Decadal Survey Reports
http://sites.nationalacademies.org/SSB

ROSES Solicitations “Call for Proposals”

Knowledge, capability

• Technology
• Data Analysis
• Theory

priorities

The Proposer

implementation

NASA Strategic Plans and Implementation Plans
http://science.nasa.gov/about-us/
What’s your motivation?

Refine and focus your message, get feedback from various sources, and read the solicitation again.
The NASA Guidebook for Proposers and the ROSES Summary are important sources of compliance information.
Science Proposal Support Office Red Teams can help you refine your proposal

Provides a section-by-section review of draft; first impressions are especially important.

*Is the proposal compelling, clear, and consistent?*
*Is the proposal readable?*
*Is the proposal compliant?*

Identifies strengths and weaknesses; Provides specific suggestions for improvement.

You will receive a marked-up copy of proposal
In summary, seek to enable synergy between your overall research and your proposals

Effective proposals can provide valuable outlines and work plans for proposed work, when funded.

The proposal writing effort forces you to put into words your research goals and a clear path to accomplishing these goals. This is valuable regardless of the outcome of the proposal.