Proposal elements

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Four perspectives

• What convinces an agency to fund your proposal?
• How to convince a reviewer (panel) to rate you highly?
• How to convince the funder that you will succeed?
• What should you do beyond the proposal itself?
Proposal foundation

• What convinces an agency to fund your proposal?
Proposal foundation

• What convinces an agency to fund your proposal?
  • Responsive to the Opportunity
  • High reviewer rating
  • Demonstrated (scientific and technical) feasibility at low (or at least managed) risk
  • Requisite (team) expertise and commitment
  • Past (team) performance
Proposal style & elements

• How to convince a reviewer (panel) to rate you highly?
Proposal style & elements

• How to convince a reviewer (panel) to rate you highly?
  • “Joy to read”: well written, illustrated, documented
  • Show context of work (progress and questions) by others
  • Provide succinct, quotable reasons, goals, and milestones
  • “Self-contained” but adequate: don’t force reviewers to leave your document to read other documents to understand the basic idea, and don’t provide more technical details than needed
  • Demonstrate that you thought about why, why now, how, when, and with whom
  • Assimilate critique from one or more colleagues (“red team” your draft … and don’t do that on the last day)
Feasibility

- How to convince the funder that you will succeed?
Feasibility

• How to convince the funder that you will succeed?
  • Think about “TRL” (technology readiness level) whether it is for hardware, software, or methodology
  • Address risk, risk management, and alternative outcomes
  • Argument for resources: time, personnel, IT, data, tools, …
Proposal activities

• How can you help convince a review panel to rate you highly and an agency to fund your work by activities beyond the proposal itself?
Proposal activities

• How can you help convince a review panel to rate you highly and an agency to fund your work by activities beyond the proposal itself?

• Lay the groundwork:
  
  • Your project cannot be a secret (which does not mean you have to give away all the details): communicate with colleagues to get feedback, support, buy-in, and partnerships
  
  • Build a track record in the literature of your work (or your team’s) and of the feasibility of the proposed project
  
  • Build community recognition/support: present in, or even (co)-organize meetings or topical sessions
  
  • Nudge agency or national strategic plans: submit white papers, volunteer to participate in committees and panels, …
Success rates

- Acceptance rates for research proposals in heliophysics: about 1 in 5 to 7

- Success rates for instrument/mission proposals in NASA/SMD: somewhere between 1 in 10 to 1 in 30

- Lesson: submit only “excellent” proposals! (research proposals take, on average, 180 “writing hours” to complete; instrument/mission proposals often exceed $1M)

- Don’t take it personally if even the “excellent” proposal is not funded (which happens to roughly 1 in 2) or if your proposal comes out just under excellent without adequate identification of “weaknesses” (panel makeup does matter)