

## Proposal Writing Tips/How to be a successful applicant for Truman/Hruby Fellowships

### Idea Phase

#### Preparation

- Thoroughly read the guidelines: Ensure you understand all requirements, including eligibility, submission process, and evaluation criteria.
- Learn about previous Hruby and Truman fellows.
- Seek advice from mentors, previous fellows, or colleagues who have experience with similar proposals.

#### Writing the Idea Proposal

- Answer the following questions in your proposal:
  - What is the problem, why is it hard?
  - How is it solved today?
  - What is the new technical idea; why can we succeed now?
  - What are the expected results?
  - What is the impact if successful?
- Ensure your proposal is clear, concise, and free of jargon. Reviewers may not be experts in your specific field.

#### Reference Letters

*Every bullet in this section is not necessary in every letter, but your set of letters should speak to:*

- Your ability to be an independent researcher and potential for future success
- The problem that you solved in your thesis research
- Your ability to work with others
- Technical leadership skills (how you led a team, led the research in a new technical direction, etc.)
- Communication skills and professionalism
- Their opinion of your idea proposal

#### Mission Alignment

- Demonstrate how your research aligns with Sandia's national security mission by reviewing the Sandia website and the research focused page. <https://www.sandia.gov/research/>

#### Final Steps

- Submission Requirements: Double-check that all submission requirements are met, including page limits, font size, and required documents.
- Early Submission: Aim to submit your application packet well before the deadline to avoid last-minute issues.

## Full Proposal Preparation

- Work with the fellowship administrator to find a technical sponsor at Sandia labs who will assist you in developing your full proposal. If you have already determined who that will be, please notify the fellowship administrators who that is.
- Work with your technical sponsor:
  - To demonstrate how your research aligns with Sandia's national security mission
  - to determine if lab space and equipment necessary to complete the work you are proposing exists at Sandia
  - if equipment you will need is missing, determine the cost of purchasing that equipment so that you can add it to your proposal

## Writing the Full Proposal

- Use the template provided
- Clear and Concise Writing: Ensure your proposal is clear, concise, and free of jargon.
  - Reviewers may not be experts in your specific field.
- Compelling Abstract: Write a strong abstract that summarizes your project's significance, objectives, and expected outcomes.
- Main Proposal Body:
  - Problem Statement: Clearly define the problem your research will address.
    - What is the problem, why is it hard?
    - How is it solved today?
    - What is the new technical idea; why can we succeed now?
    - What are the expected results?
    - What is the impact if successful?
  - Objectives: Outline specific, measurable, achievable, relevant, and time-bound (SMART) objectives over all three years of your project.
  - Methodology: Provide a detailed methodology, including experimental design, data collection, and analysis.
  - Impact: Discuss the potential impact of your research on scientific knowledge, technology, and benefits to national security.
- Highlight Your Qualifications
- Background and Expertise: Highlight your relevant experience, skills, and accomplishments. Demonstrate your ability to execute the proposed research.
- Publications and Patents: Include a list of your most relevant publications and patents.
  - Budget and Resources
- Realistic Budget: Provide a detailed and realistic budget. Justify each expense and ensure it aligns with your project goals.
- Edit and Proofread: Thoroughly edit and proofread your proposal for clarity, coherence, and grammatical accuracy.
- Resources and Support: Mention any resources or support you will need from Sandia, such as lab space, equipment, or personnel.

- Review and Revise
  - Peer Review: Have colleagues review your proposal and provide feedback. Multiple perspectives can help identify areas for improvement.

### **Interview Seminar Instructions**

- Target time of 30-40 minutes for your presentation – you want to leave room for questions
- Half of the content should be about your current work, half should be on your proposed work
- Your talk should be comprehensible to the entire audience.
  - Articulate the value of your project using the Heilmeier Catechism:
    - What are you trying to do? Articulate your objectives using absolutely no jargon.
    - How is it done today, and what are the limits of current practice?
    - What is new in your approach and why do you think it will be successful?
    - Why are you well/uniquely qualified, as opposed to others in the field, to successfully take this approach?
    - Who cares? If you are successful, what difference will it make?
    - What are the risks?
    - How long will it take?