



NSF Review Process: Who, What, Where, When, How

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CONTACT A PROGRAM OFFICER!!

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A Proposal is Different Than a Paper

A Paper is:

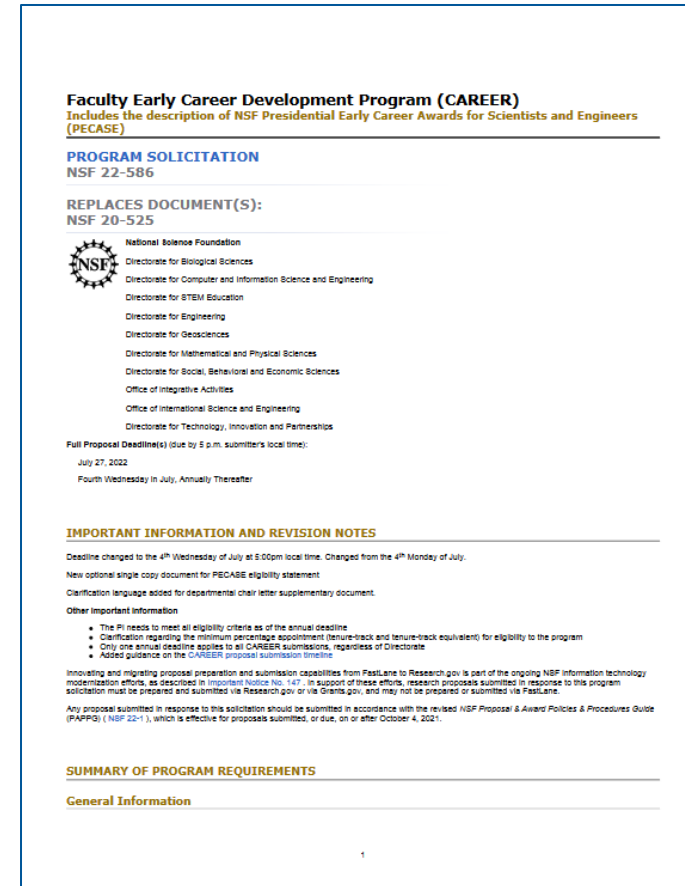
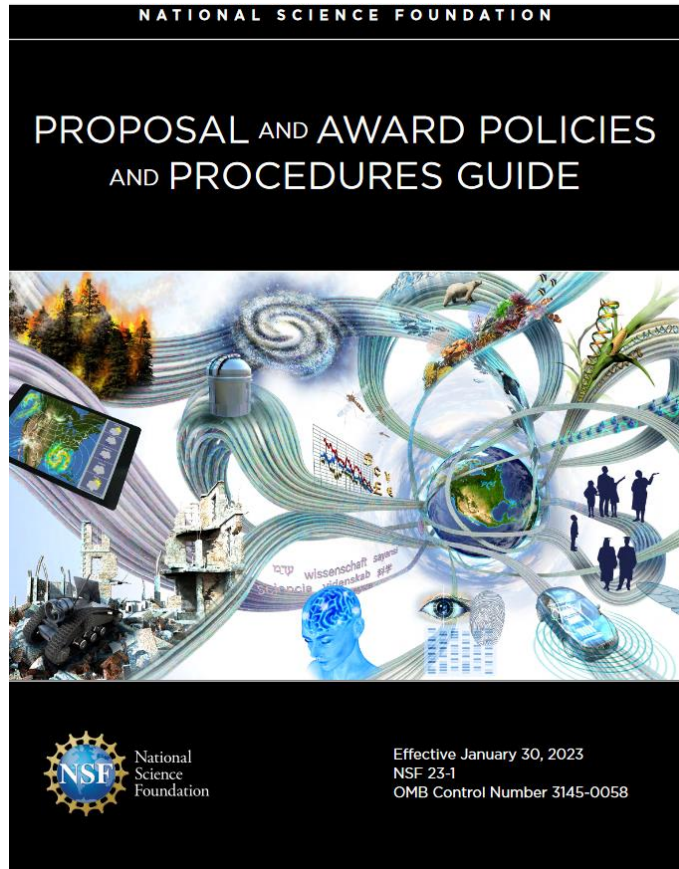
- a scholarly pursuit: individual passion, past-oriented, work that has been done
- theme-centered: theory and thesis
- expository rhetoric: explaining to the reader, impersonal tone, objective, dispassionate
- individualistic: primarily a solo activity
- few length constraints: verbosity rewarded
- specialized terminology: “insider jargon”

A Proposal is:

- aimed at sponsor goals: service attitude, future-oriented, work that should be done
- project-centered: objectives and activities
- persuasive rhetoric: ‘selling’ the reader, personal tone, conveys excitement
- team-focused: feedback needed
- strict length constraints: brevity rewarded
- accessible language: easily understood



Essential Documents



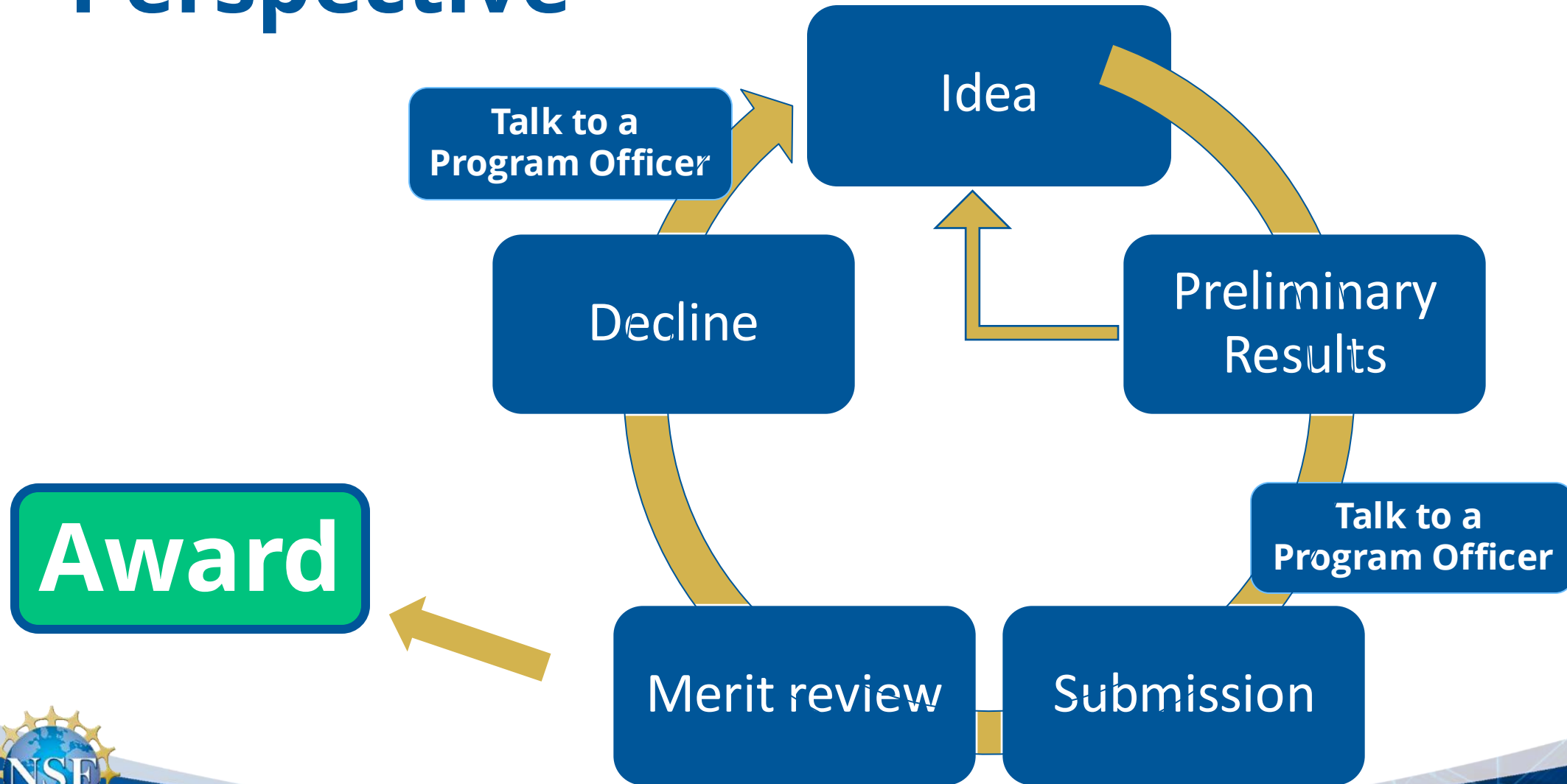
PAPPG

+

Solicitation



Proposal Submission Process: PI Perspective



Merit Review Process

1. No Deadline/Deadline/Target Date/



2. Ad hoc review and/or



3. Panel



4. Program Director makes recommendation

COVER SHEET FOR PROPOSAL TO THE NATIONAL SCIENCE FOUNDATION					
NSF 09-543 004611				NSF PROPOSAL NUMBER 1119224	
EAR - PETROLOGY AND GEOCHEMISTRY					
DATE RECEIVED	NUMBER OF COPIES	DIVISION ASSIGNED	FUND CODE	DUNSF (Use internal numbering system)	FILE LOCATION
01/06/2011	3	0000000 EAR	1873	940117312	
EMPLOYER IDENTIFICATION NUMBER (EIN) OR TAXPAYER IDENTIFICATION NUMBER (TIN)		IS THIS PREVIOUS AWARD NO. IF THIS IS: <input type="checkbox"/> A REPEAL <input type="checkbox"/> AN ACCOMPLISHMENT BASED REPEAL		IS THIS PROPOSAL BEING SUBMITTED TO ANOTHER FEDERAL AGENCY? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> IF YES, LIST AGENCY(IES)	
481278531					
NAME OF ORGANIZATION TO WHICH AWARDS SHOULD BE MADE University of Oregon Eugene		ADDRESS OF AWARDING ORGANIZATION, INCLUDING 8-DIGIT ZIP CODE University of Oregon Eugene 5219 University of Oregon Eugene, OR, 97403-5129			
AWARDING ORGANIZATION CODE, if known 003223000					
NAME OF PERFORMING ORGANIZATION, if different from above		ADDRESS OF PERFORMING ORGANIZATION, if different, including 8-DIGIT ZIP CODE			
PERFORMING ORGANIZATION CODE, if known					
SEARCHED ORGANIZATION (Check All That Apply) <input type="checkbox"/> SMALL BUSINESS <input type="checkbox"/> SECURITY BUSINESS <input type="checkbox"/> IF THIS IS A PRELIMINARY PROPOSAL, SEE SP5 (I.C. 2.0.3.0.0.0) <input type="checkbox"/> FEDERAL ORGANIZATION <input type="checkbox"/> NON-FEDERAL ORGANIZATION <input type="checkbox"/> NON-PROFIT ORGANIZATION <input type="checkbox"/> FOR-PROFIT BUSINESS <input type="checkbox"/> OTHER					
TITLE OF PROPOSED PROJECT: Testing models of magma generation in warm-slab subduction zones: A case study of volcanics in the Cascade arc					
REQUESTED AMOUNT \$ 295,274	PROPOSED DURATION (in months) 36	REQUESTED STARTING DATE 06/01/12	IS THIS RELATE PRELIMINARY PROPOSAL NO. IF APPLICABLE		
CHECK APPROPRIATE BOXES IF THIS PROPOSAL INCLUDES ANY OF THE FOLLOWING: <input type="checkbox"/> DISCLOSURE OF EMPLOYING ACTIVITIES (SP5 I.C. 1.4) <input type="checkbox"/> PROPRIETARY & PRIVILEGED INFORMATION (SP5 I.C. 1.4) <input type="checkbox"/> HISTORIC PLACES (SP5 I.C. 2.3) <input type="checkbox"/> ENDANGERED SPECIES (SP5 I.C. 2.3) <input type="checkbox"/> VERTEBRATE ANIMALS (SP5 I.C. 2.3) <input type="checkbox"/> HAZARDOUS MATERIALS (SP5 I.C. 2.3) <input type="checkbox"/> HIGH-RESOLUTION GRAPHICS OR OTHER GRAPHICS WHERE EXACT COLOR REPRESENTATION IS REQUIRED FOR PROPER INTERPRETATION (SP5 I.C. 1.1)					
PI'S AGENCY AWARD NUMBER		PI'S POSTAL ADDRESS			
PI'S DEPARTMENT Department of Geological Sciences		Eugene, OR 97403 United States			
PI'S PHONE NUMBER 541-346-4892		High Degree	% of Degree	Telephone Number	Electronic Mail Address
NAME(S) (TITLE)		Paul Walker	PhD	1991	541-346-5985 pwalker@uoregon.edu
PURCHASER					
CO-PI					
CO-PI					
CO-PI					
CO-PI					



Note that this varies across NSF

Merit Review Criteria

- **Intellectual Merit (IM):**
the potential to advance knowledge
- **Broader Impacts (BI):**
the potential to benefit society and contribute to the achievement of specific, desired societal outcomes



5 Review Elements

IM

BI

1. Will the work advance knowledge, and benefit society?
2. Is the work creative or potentially transformative?
3. Is the work plan sensible, and how will they know if they're successful?
4. Is the team qualified?
5. Do they have adequate staff support and facility resources?



Structure Your Proposal to Address These 5 Review Elements

1. Build a compelling introduction and project description

RE1: how will this advance science?

- this is basically a statement of the Intellectual Merit. Catch the reader's attention immediately. State up front what you want to do, and why it's exciting and important

RE2: is the work creative/
transformative?

- lay out your specific **hypothesis** to be tested. Explain your compelling observations and the work it will take to develop a hypothesis (a 'pilot' type study)

- explain why previous studies have been insufficient to address this research question and how your research methods are different.

RE3: is the work plan clear?

- explain why your field site (or experiment or model) was chosen for the study.



Structure Your Proposal to Address These 5 Review Elements

2. Lay out a clear work plan, timeline, and role for each participant

RE3: is the work plan clear?

- draw out a timeline, with tasks
- explain how each analysis or model connects to your hypotheses

RE4: is the team qualified to do this?

- clarify the specific role of each investigator + student + postdoc
- show that the work is feasible within your timeline

RE5: do they have the right lab and collabs?

- include letters of collaboration and money in the budget if needed
- use the Facilities, Equipment, & Other Resources section wisely



Broader Impacts: Benefitting Society

**Teaching, training,
and learning
(undergrads +
grad students)**

**Broaden
participation of
underrepresented
groups**

**Build or enhance
partnerships
(internationally,
or with other
agencies)**

**Broad
dissemination to
enhance scientific
+ technological
understanding**

**Enhance
infrastructure
(labs, equipment,
+ work
in developing
countries)**

**Local impacts
(policies @ state +
local level)**



Advice on Broader Impacts

- It's not a formula
 - Do something that interests you, has measurable outcomes, and matches the time you are willing to devote
 - Go above and beyond what you are already paid to do
- Ask for money if you need it
- Use existing infrastructure, as appropriate
 - But...give, as well as take
 - Realize that institutions certify to support your efforts
- Ask for help with assessment
- Consult <https://www.researchinsociety.org/>



Who is your audience?

- Ad Hoc reviewers
 - Experts in your specific area
 - You should have recommended 4-5 reviewers
- Panelists
 - Generalists in the programmatic area you are submitting to
 - E.g. – development biologists (both plant and animal)



What is co-review and how does it happen?

Science is more and more integrative.

Programs across NSF are receiving proposals that are at the interfaces of current funding program.

- Program Directors regularly reach out to **other** programs to inquire about the potential to co-review a proposal.
- Co-review:
 - Have proposal reviewed in 2 panels
 - Review proposal in 1 panel but with program-specific ad hoc reviewers
 - Review proposal in single-panel with PDs from both programs present to pose any program-specific questions



Become an NSF Reviewer

- Peer review process depends on qualified reviewers from the academic, industrial, and government sectors.
 - Provide helpful advice on the merits of proposals and constructive comments to proposers that strengthen their projects.
 - Learn about:
 - Peer review process
 - Common problems with proposals
 - Strategies to write strong proposals
 - Meet colleagues and NSF program officers
- Send an e-mail to the PO of the program(s) that fits your expertise
 - Introduce yourself and identify your areas of expertise
 - It is most helpful if you also attach a 2-page CV



How to write a good review

THE ART AND SCIENCE
OF REVIEWING
PROPOSALS

Goal of a review:

1. Provide fair, consistent and constructive feedback.
2. Avoid unintentional biases.

How to Provide Constructive Feedback:

1. Read the merit review criteria before you read the proposal(s)
2. Take notes when reading the proposal
3. Focus on strengths and weaknesses with respect to the review criteria
4. Include specific and concrete examples
5. Critically read your review (when done)
6. Allow sufficient time to read the proposals and write the reviews.



How to write a good review

THE ART AND SCIENCE
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PROPOSALS

Structure to Give Constructive Feedback:

1. Provide a 1-sentence summary of the proposal
2. Discuss the Intellectual Merit- Strengths and Weaknesses
 - Every comment is supported by specific examples
3. Discuss the Broader Impact- Strengths and Weaknesses
4. In the summary section, tell us whether or not you believe the proposal is competitive and why.

Apply structure and consistency to your reviews.

Use the same evaluation criteria for all proposals.

Think about what kind of feedback **you** would want to have!



How to write a good review

The Art and Science of Reviewing -

<https://new.nsf.gov/od/oia/merit-review-orientation>

<https://tipsforreviewers.nsf.gov/>

**THE ART AND SCIENCE
OF REVIEWING
PROPOSALS**



How to write a good review

- Read the merit review criteria before you read the proposal(s), decide how you will apply the criteria, and stick to them.
- Do not shift your criteria as you go from evaluating one proposal to the next, and do not include extraneous data or criteria.
- Take notes when reading the proposal.
- Do not include a lengthy summary of the proposal in your review!!!
- Be constructive in your feedback; is this the type of review you would like to receive?
- List strengths and weaknesses with respect to the review criteria.
- In the summary section of your review, tell us whether or not you believe the proposal is competitive and why.
- Include concrete examples from the proposal in support of the points in your review.
- Look for signs of the impact of cognitive biases in what you write and strive to mitigate these.
- If you are reviewing multiple proposals, are your reviews consistent and objective?
- Think of alternative views and consider whether they are justified based on facts.
- Play a devil's advocate to your own assessment.
- Review your notes.
- Take time, pause, and reflect on your recommendation.
- Critically read each review after you have written it; ask yourself whether each judgment is clearly justified in the text of the review.
- Be accountable to yourself and imagine justifying your decision to others.



The Role of the Program Director in the Proposal Process

- **Before Proposal Submission**
 - Read 1-pager from PI
 - Guide PI on fit of the proposed research to a program's research priorities
- **After Proposal Submission**
 - Read submitted proposal
 - Identify ad hoc subject-area expert reviewers (if needed)
 - Manage the discussion of the proposal during panel (if in panel)
- **After Panel Review**
 - Make holistic decisions on proposals - panel's advisory recommendation, Program's portfolio balance, & NSF's stated priorities
 - Discuss reviews of the proposal with the PI
 - Provide feedback on what drove the panel's placement



CONTACT A PROGRAM OFFICER WHEN YOU...

- *have a question about research fit*
- *want to serve as a reviewer*
- *get a new position and have new contact info*
- *have questions regarding your reviews*
- *or any other question!*



Questions?

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