

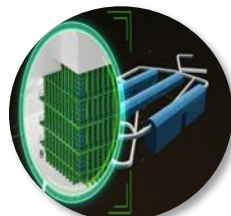


U.S. DEPARTMENT OF  
**ENERGY**

Office of  
Science

HEP Office Hours:  
Guidance for Proposal Writing  
and Award Management

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# Office of Science Statement of Commitment & other Guidance

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- ▶ **SC Statement of Commitment** – SC is fully and unconditionally committed to fostering safe, diverse, equitable, inclusive, and accessible work, research, and funding environments that value mutual respect and personal integrity. <https://science.osti.gov/SW-DEI/SC-Statement-of-Commitment>
- ▶ **Expectations for Professional Behaviors** – SC’s expectations of all participants to positively contribute to a professional, inclusive meeting that fosters a safe and welcoming environment for conducting scientific business, as well as outlines behaviors that are unacceptable and potential ramifications for unprofessional behavior. <https://science.osti.gov/SW-DEI/DOE-Diversity-Equity-and-Inclusion-Policies/Harassment>
- ▶ **How to Address or Report Behaviors of Concern**– Process on how and who to report issues, including the distinction between reporting on unprofessional, disrespectful, or disruptive behaviors, and behaviors that constitute a violation of Federal civil rights statutes. <https://science.osti.gov/SW-DEI/DOE-Diversity-Equity-and-Inclusion-Policies/How-to-Report-a-Complaint>
- ▶ **Implicit Bias** – Be aware of implicit bias, understand its nature – everyone has them - and implicit bias if not mitigated can negatively impact the quality and inclusiveness of scientific discussions that contribute to a successful meeting. <https://kirwaninstitute.osu.edu/article/understanding-implicit-bias>

# Before you get started on your proposal

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## ▶ Read the FOA carefully!

- ▶ Make sure your institution is eligible to apply
- ▶ Make sure you understand all deadlines (LOI, Pre-application, Application)
- ▶ Make sure you understand what documents must be submitted
- ▶ No FOA posted yet? Look for last year's FOA.

## ▶ Prepare to apply

- ▶ Figure out the proposal submission process *in advance*
  - ▶ Speak with your Sponsored Research Office or Business Office – often they will ask for 1 week to process your proposal before they can submit it for you
    - For many FOAs, this means you will have just 3 weeks to get the proposal done
    - They may ask for supporting budget spreadsheets -- ask if they have a template
- ▶ Prepare some of the widely-needed (and reusable!) documentation in advance
  - ▶ Create your CV using “SciENcv”, and ask your Co-PIs to do the same
  - ▶ Develop a short description of your research facilities and equipment
- ▶ Develop your “Team” (if required/appropriate) in advance
  - ▶ Socialize your collaboration idea with colleagues in advance

# Before you get started on your proposal

## ▶ Look at last year's awards to see what types of activities get funding

### ▶ Sometimes programs post previous awards

- ▶ ARDAP does: <https://science.osti.gov/ardap/Funding-Opportunities/Awarded-RD-Activities>

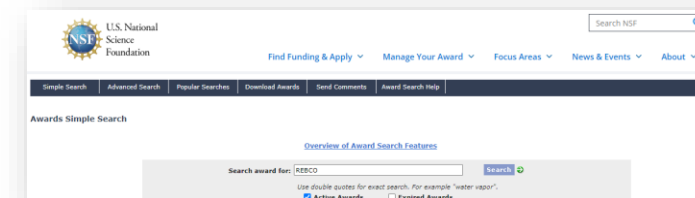
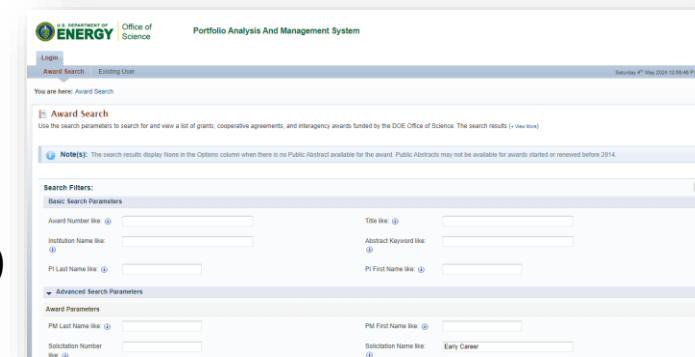
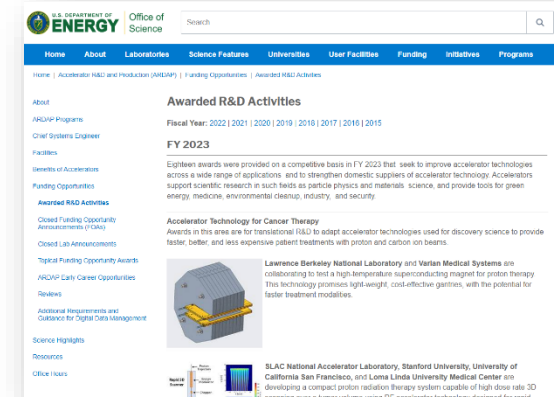
### ▶ Agencies often make award search tools available:

#### ▶ Office of Science

- <https://pamspublic.science.energy.gov/WebPAMSEExternal/interface/awards/AwardSearchExternal.aspx>
- Try keyword searches (e.g., “klystron”, “LSST”, “g-2”)
- Try Solicitation Name Like searches (e.g., “Stewardship”, “RENEW”, “Early Career”)
- Try limiting by Award Start Date (e.g. “Between 1/1/2023 and 12/31/2023”)
- Try limiting by Program Area (e.g., “High Energy Physics”, “Cosmic Frontier”)

#### ▶ National Science Foundation

- <https://www.nsf.gov/awardsearch/>
- Try keyword searches (e.g., “klystron”, “stochastic”, “REBCO”)



# Before you get started on your proposal

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## ▶ Speak with the program manager (PM)

- ▶ PMs are happy to discuss the program's aims with you and to answer questions about the FOA
- ▶ If your topic/idea doesn't fit in their program, PMs can sometimes suggest alternate programs to consider
- ▶ Important!
  - ▶ Every FOA has a “quiet period”
    - Starts: on the FOA Issue Date
    - Ends: with the public announcement of awards
  - ▶ During this time:
    - PMs can only clarify the instructions and intent of the FOA
    - They **cannot** answer “Do you like my idea” questions
- ▶ *Tip! PMs can have a wider-ranging discussion about the program and your ideas when there is no open FOA*

# What's in a Funding Opportunity Announcement?

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- ▶ **Typical SC FOAs provide the following information:**
  - ▶ **Funding Opportunity Description** – **what** topics are being funded and what are the aims
  - ▶ **Award Information** – **how** awards are funded (e.g., Grant), amount & duration
  - ▶ **Eligibility Information** – **who** can apply
  - ▶ **Application and Submission Information** – **Required contents** of the proposal and any LOI or pre-proposal, **checklists**, and submission **deadlines**
  - ▶ **Application Review Information** – how **merit review** and award selection is done
  - ▶ **Award Administration Information** – details about reporting, IP, integrity
  - ▶ **Questions/Agency Contacts** – whom to **call with questions**
  - ▶ **Supplementary Material** – lots of useful **how-to information** for preparing your proposal

# Writing a Good Proposal

## ▶ Consider your readers

- ▶ Reviewers will likely spend 1—2 hours each understanding your *entire* proposal, including all supporting materials. Help them to help you!
- ▶ Get to the point quickly!
  - ▶ What do you propose to do, and why is it new?
  - ▶ Why is it important – what impact will a successful result have?
  - ▶ Who is doing the work – define the role of each member in the team
  - ▶ Where will the work take place
  - ▶ How will the work be done – define the work scope and milestones
  - ▶ What will it cost and why

## ▶ Hints

- ▶ Write the proposal narrative as if it was to be delivered in a 60-minute meeting with a friendly colleague
  - Do not write an intricate text that requires multiple re-readings to grasp
  - Be persuasive, not comprehensive!
- ▶ If you have multiple grants, clearly delineate what this particular proposal will do, and why it is synergistic with your other grants
- ▶ Use the bibliography strategically – include references that show the foundations and plausibility of your current idea



Tip! I read close to 10,000 pages of proposals each year. I read proposals in several selective passes, extracting different information from each pass. Rarely do I read a proposal “cover to cover” like a novel. I appreciate well-structured documents that can be read in “search mode” and do not have to be read like a John le Carré novel.

- E. Colby, ARDAP

# Writing a Good Proposal

## ▶ Consider your readers

- ▶ Your reviewers will be asked to answer a specific set of questions in their merit review. Help them to help you!
- ▶ Read the “Application Review Information” section of the FOA carefully (see example→)
  - ▶ Have these merit review questions in mind as you write your narrative.
  - ▶ Will your reviewers be able to answer the questions, based on your proposal?

## ▶ Hints

- ▶ The Budget Explanation can be used to explain the “mechanics” of the work, allowing you to declutter the project narrative.
  - ▶ (e.g., what each grad student and postdoc will do, what the work scope for each collaborator/subawardee is, why you need specific equipment)
  - ▶ A too-brief budget explanation looks like the PI doesn’t care to explain the use of the funds
  - ▶ Include vendor quotes for major items (e.g., anything listed in Equipment, and anything that is critical and hard to buy) but it’s unnecessary to include quotes for minor items

### SCIENTIFIC AND/OR TECHNICAL MERIT OF THE PROJECT

- What is the scientific innovation of the proposed research?
- What is the likelihood of achieving valuable results?
- How might the results of the proposed work impact the direction, progress, and thinking in relevant scientific fields of research?
- How does the proposed work compare with other efforts in its field, both in terms of scientific and/or technical merit and originality?
- Is the Data Management Plan suitable for the proposed research? To what extent does it support the validation of research results? To what extent will research products, including data, be made available and reusable to advance the field of research?
- For renewal applications only: Is the proposed work an appropriate outgrowth of, continuation to, or successor of the currently supported research?
- For applications requesting conference support: Consistent with SC’s Statement of Commitment, does the host organization’s code of conduct or equivalent policy for addressing discrimination and harassment sufficiently address all forms of harassment and include protocols for addressing complaints?
- For applications requesting conference support: Consistent with SC’s Statement of Commitment, to what extent is the recruitment and accessibility plan likely to lead to participation of individuals from diverse backgrounds, including individuals historically underrepresented in the technical focus area of the conference or meeting?

### APPROPRIATENESS OF THE PROPOSED METHOD OR APPROACH

- How logical and feasible are the research approaches?
- Does the proposed research employ innovative concepts or methods?
- Are the conceptual framework, methods, and analyses well justified, adequately developed, and likely to lead to scientifically valid conclusions?
- Does the applicant recognize significant potential problems and consider alternative strategies?
- Is the proposed research aligned with the published priorities identified or incorporated by reference in Section I of this FOA such as program strategic plans?

### COMPETENCY OF APPLICANT’S PERSONNEL AND ADEQUACY OF PROPOSED RESOURCES

- What is the past performance and potential of the research team?
- How well qualified is the research team to carry out the proposed research?
- Are the research environment and facilities adequate for performing the research?
- Does the proposed work take advantage of unique facilities and capabilities?

### REASONABLENESS AND APPROPRIATENESS OF THE PROPOSED BUDGET

- Are the proposed budget and staffing levels adequate to carry out the proposed research?
- Is the budget reasonable and appropriate for the scope?

### QUALITY AND EFFICACY OF THE PROMOTING INCLUSIVE AND EQUITABLE RESEARCH PLAN

- *For applications for supplemental funding or conference support: This merit review criterion is not applicable.*
- Is the proposed Promoting Inclusive and Equitable Research (PIER) Plan suitable for the size and complexity of the proposed project and an integral component of the proposed project?
- To what extent is the PIER plan likely to lead to participation of individuals from diverse backgrounds, including individuals historically underrepresented in the research community?
- What aspects of the PIER plan are likely to contribute to the goal of creating and maintaining an equitable, inclusive, encouraging, and professional training and research environment and supporting a sense of belonging among project personnel?



# Writing a Good Proposal

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## ▶ **Be a proposal reviewer!**

- ▶ A great way to learn how to write a good proposal is to be a proposal reviewer!
- ▶ You get to see how others try to persuade, and how they express their ideas
- ▶ You will quickly form an opinion on what makes a proposal “good” or “bad”
- ▶ Contact us and let us know you’d like to be a reviewer

## ▶ **Read your merit review comments carefully**

- ▶ The overwhelming majority of peer reviewers try to be helpful
- ▶ Comments tend to skew positive – you may need to “read between the lines” to see what they found amiss

## ▶ **Talk to us**

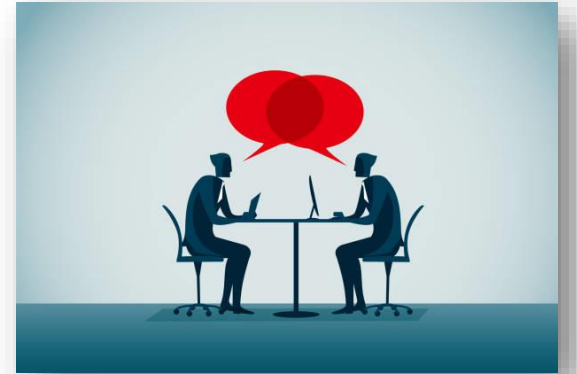
- ▶ Many FOAs are highly competitive – it may be that your proposal was very good, but there was insufficient funding for everything that was worthy of funding
- ▶ We will share what information we can
- ▶ You may reapply to other related FOAs, or the same FOA next year
  - ▶ Make sure to improve your proposal to address the reviewers’ comments



# How to manage an award

## ▶ Communicate!

- ▶ We prefer to hear news (good or bad) early
  - ▶ We always welcome updates on progress
  - ▶ We may be able to suggest solutions for issues that come up
- ▶ Things don't always go as planned
  - ▶ GRA hire planned for fall quarter didn't happen until spring quarter
  - ▶ Postdoc changed topics and left the project
  - ▶ Vendors quoted much longer delivery time than expected
  - ▶ Collaborators and their facilities were not available when originally planned
  - ▶ Equipment repairs were needed, or travel costs were higher than expected
- ▶ Common Solutions:
  - ▶ **Re-allocating funds** (e.g., from GRA costs to PI costs) is possible
  - ▶ **No Cost Extensions** give you more time to complete the research
- ▶ Rare Solution:
  - ▶ **Supplements** provide more funding
  - ▶ **Funded Extensions** provide more funding and more time
- ▶ Discuss the options with us!



# How to manage an award

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## ▶ Reporting & Publishing

### ▶ Grant Reporting

#### ▶ Progress Reports

- Awards of 2- or more year duration require the PI to submit a Research Performance Progress Report (RPPR) through PAMS\* 90 days before the next Budget Period starts
- PAMS will send you a reminder 120 days before the next Budget Period starts

#### ▶ Final Reports

- All awards require the PI to submit a final report 90<sup>†</sup> days after the award ends

#### ▶ The RPPR and final report document how the taxpayer's funds are used

- They should not be used to report the scientific findings in detail as they are not public reports. Be concise, citing your publications where possible.

### ▶ Publishing & Patenting

- ▶ If you think you have a patentable invention, talk to your patent attorney first
- ▶ Please publish early and often!
- ▶ Upload all publications to OSTI through the E-Link page
- ▶ Please cite your award number in all publication acknowledgments

# How to manage an award

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## ▶ Always look a step ahead...

### ▶ When your award ends, what is the next step?

#### ▶ You're done with the Research (and/or Development):

- Graduate the students, file the patents, publish the papers, start a company and be rich and famous,...

#### ▶ You're not done with the Research :

- Submit a **Renewal** proposal – only if the PI, Co-PIs and institutions remain largely the same, and the next steps are a logical extension of the current work
  - Reviewers will want to know what you accomplished in the previous award cycle—they'll look at your publications and progress
- Submit a **New** proposal – do this if the PI, Co-PI, or institutions changed, or if the next steps are a significant departure from the current work
- Submit a **New proposal to another FOA or funding agency** – do this if your next steps take you beyond the bounds of the program that issued your current award
  - Search Grants.gov for other opportunities
- Either way, submit the proposal the cycle *before* your award expires to prevent a discontinuity in funding



# Recordings and Slides from past Office Hours

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## ▶ Please complete the exit survey!

- Tell us what you'd like to discuss at future office hours!

## ▶ Past Office Hours

- Slides and videos of past HEP Office hours are available at <https://science.osti.gov/hep/officehours>
- Slides and videos of past ARDAP Office hours are available at <https://science.osti.gov/ardap/officehour>

# Proposal Commandments

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1. **Thou shalt read the FOA carefully and comply.**
2. **Thou shalt not waste space on boiler plate.** Unless you've come up with a new virtue of the enormous experiment you and others have been working on for a decade, keep it to a minimum.
3. **Thou shalt not over-claim.** It will be just your luck that one of the panelists will know the real story.
4. **Thou shalt not over-emphasize past glory. It's a PROPOSAL, i.e. what you are proposing to do.** There should be enough discussion of previous work to give a context to what is proposed and make the case that you are competent to do what you propose to do. It's not a life achievement award.
5. **Thou shalt detail what you propose to do. Say who will do what, when.**
6. **Thou shalt be clear about who will be supported, when they start doing work and when they are expected to stop.** For each year, it should be very clear how many postdocs will be supported on the proposed award and for how many months. Similarly for graduate students.
7. **Thou shalt trim your COI list.** Do not include every name in your 3000-person collaboration, just the ones you actually had significant interactions with in the last four years.
8. **Thou shalt put some real effort into your PIER plan.** Don't just parrot the university or departmental policy. Make sure your own group's part in it is emphasized.
9. **Thou shalt get someone experienced and not on your proposal to look at a draft of your narrative.** This will save you from howlers and probably lead to improvements. This must be done early enough that you can incorporate their responses
10. **Thou shalt not have reviewers guess or assume.** They review what is presented and it's not their role to fill in unknowns with positive assumptions on your behalf.

With thanks to B. Beckford