

Office of Science Statement of Commitment & other Guidance

- **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>

Office of Science Office Hours Office of Accelerator R&D and Production “ARDAP”

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U.S. DEPARTMENT OF
ENERGY

Office of
Science

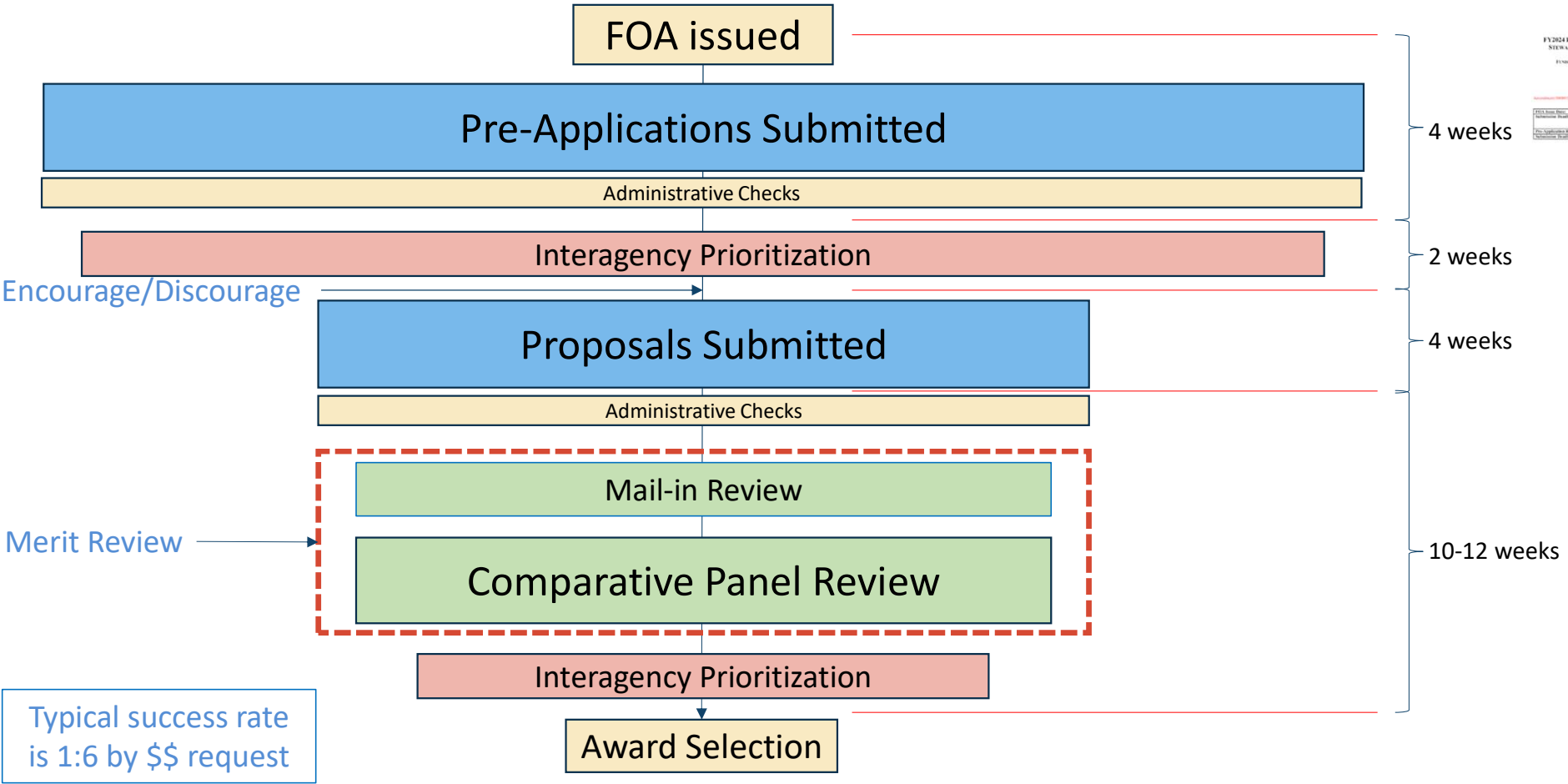
[Energy.gov/science](https://energy.gov/science)

Outline

*Slides & closed-captioned video recordings
of past events are posted at
<https://science.osti.gov/ardap/officehours>*

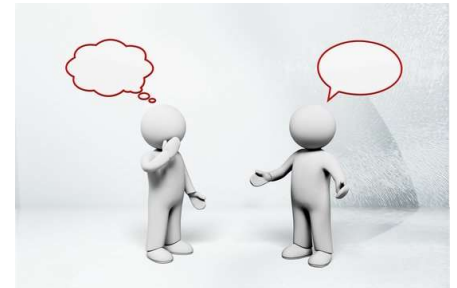
- March 13, 2024: Introduction to Accelerator Science and ARDAP
- April 10, 2024: Funding Opportunity Announcements (FOAs) and Facilities for Accelerator R&D
- May 8, 2024: Writing a strong proposal and managing an award
- **On June 12, 2024 we will cover the ARDAP Merit Review Process**
 - How merit review contributes to award selection
 - The merit review process, criteria, and scoring
 - Mail-in and Panel reviews
 - Conflicts of interest
 - Writing a helpful review
 - Becoming a reviewer
- July 10, 2024: How ARDAP identifies priority research directions to support
- August 14, 2024: Avoiding common mistakes: How to prepare key parts of an ARDAP proposal

ARDAP FOA Flowchart



What does the merit review process entail?

- Mail-in reviews
- Comparative Review Panel
- Interagency review and rank



ARDAP Review Approach

Administrative Compliance Review

- Proposals not meeting the requirements of the FOA are declined without review

Mail-In Review Phase

- In-depth technical reviews

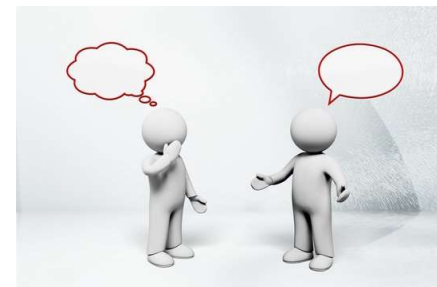
Comparative Review Panel Phase

- Panel triages the proposals, selecting the top N proposals for further discussion
 - The decision to eliminate a proposal from the panel discussion must be **unanimous**
- Panel discusses in detail each of the remaining proposals
 - Strengths and weaknesses are discussed, and similar proposals are compared
 - Panel comments on the mail-in reviews, and is asked to explain any disagreements in scoring
- Final Phase (~10 downselected to individual top-ten lists)
 - Each panelist individually ranks their top 10 proposals, providing a short justification for each
 - Panel discussion is summarized and provided to the PI along with the reviewer comments

Interagency Review Phase

- Proposals and a summary of the merit reviews are discussed with stakeholder federal agencies
- Federal agencies provide rankings and comments on the proposals

Award Selection



The Merit Review Process

- The Merit Review process has two steps:
 - **Mail-In Reviews** give an evaluation of proposals *in isolation*
 - Reviewers provide detailed technical evaluations using the published Merit Review Criteria
 - Relative priorities between proposals are not considered
 - Programmatic synergy between proposals is not evaluated
 - Scoring “calibrations” can vary significantly, despite clear instructions
 - **Comparative Panel Reviews** give an evaluation of the proposals
 - With a clear sense of the **comparative** strengths and weaknesses
 - Seen as parts of a whole program
 - With a more uniform set of scoring expectations

This approach draws on the extensive merit review experience of the Office of Science R&D programs

Merit Review Criteria for All FOA Tracks

Criteria are word-for-word in the FOA

- **Scientific and/or Technical Merit of the Project**
 - Will the proposed work have an impact on SC accomplishing its scientific research mission?
 - Is the Data Management Plan suitable for the proposed work? To what extent does it support the dissemination of results?
- **Appropriateness of the Proposed Method or Approach**
 - Does the application clearly describe specific technical milestones that can be used to evaluate progress?
- **Competency of Applicant's Personnel and Adequacy of Proposed Resources**
 - What is the past performance of the leading members of the collaboration?
 - Does the application clearly define roles and responsibilities of all key participants
 - Are the senior investigator(s) or any members of the research group that are being reviewed leaders within the proposed effort(s) and/or potential future leaders in the field?
 - Does the proposed work take advantage of unique facilities and capabilities?
 - Are the environment and facilities adequate for performing the proposed effort?
- **Reasonableness and appropriateness of the Proposed Budget**
 - Are the proposed budget and staffing levels adequate to carry out the proposed work?
 - Are travel, student costs, and other ancillary expenses adequately estimated and justified?
 - Is the budget reasonable and appropriate for the scope?
- **Quality and Efficacy of the Promoting Inclusive and Equitable Research (PIER) Plan**
 - Is the proposed PIER plan suitable for the size and complexity of the proposed project, an integral project component?
 - 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?
 - How does proposed plan include intentional mentorship? Are associated mentoring resources reasonable & appropriate?
- **Quality of the Accelerator Stewardship or Accelerator Development Opportunity**

These four merit criteria are defined in 10 CFR 605.10(d) and apply to all SC FOAs

This criterion applies to all SC FOAs

This criterion is unique to the ARDAP FOA

Please refer to the FOA for the full merit criteria for a specific proposal track

Merit Review Scoring Criteria

The scoring system is defined as:

Qualifier	Fails completely	Significant problems	Some problems	Minimally meets expectations	Exceeds Expectations	Excellent	Outstanding
Score	0	1	2	3	4	5	6

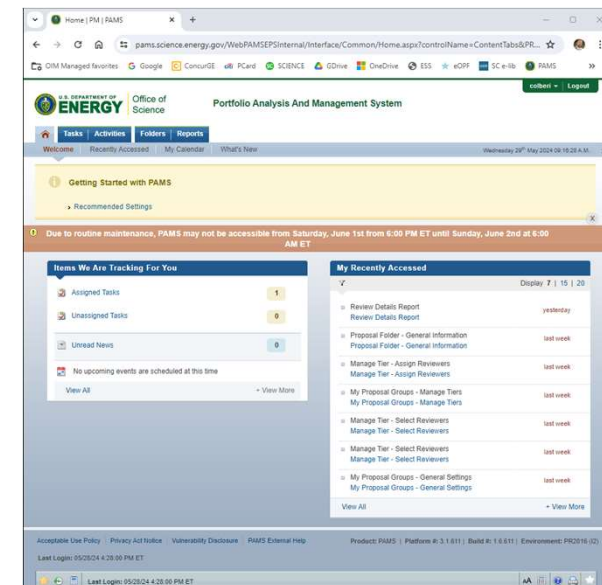
A proposal that meets the reviewer's expectations w.r.t. the merit criteria scores a "3" and is "fundable."

Reviewers are also asked to give:

- **General Comments and an Overall Impression**
- **A discussion of the Strengths and Weaknesses of the proposal**
- **A bottom-line recommendation on whether to fund the proposal, one of:**
 - **Highest Priority – Must Fund**
 - **High Priority – Fund at reduced scope**
 - **Borderline – Fund if possible**
 - **Do Not Fund**
- **Prioritization of the tasks in the work scope**

What does the review process look like to the reviewer?

- **DOE identifies potential reviewers and reaches out by email to ask if you are available**
 - We provide a proposal title, PI name, and PI institution
 - We often provide a list of several proposals and let you choose
 - We pre-screen reviewers for Conflicts of Interest (COIs)
- **Upon agreement, the proposal is assigned to reviewers in PAMS***
 - If you've reviewed for SC before, PAMS sends you an email with a link to the assignment
 - If you've haven't, PAMS sends you instructions on how to create a user account in PAMS
- **Confirm you have no COI in PAMS**
 - PAMS will show you the proposal title, PI/Co-Is, their institutions, and the proposal abstract
 - You may change your mind and declare a COI at any time during the proposal review
 - Please write a justification for declining to review in the comment field
 - If you mark a proposal COI by accident, tell us and we can reset the assignment
- **Read the proposal, consulting the FOA and references when necessary**
 - We suggest you write your review comments in another editor (e.g., Word) then copy/paste your comments into PAMS when you're ready.
 - You will be asked to assign a score to each criterion
- **Submit the assignment in PAMS**
 - It's a two-step process! "Save and Submit", then on the next screen "Confirm" your submission.
 - You'll get an automated email message from PAMS thanking you for your review



*Portfolio Analysis And Management System

How much work is a mail-in review?

- A typical proposal contains:
 - A 15-20 page narrative, describing the proposed work
 - CVs of key personnel, descriptions of facilities and equipment, a PIER plan, a Data Management Plan
 - Budgets for the prime and subawardees

2 hrs

- If the proposal is clearly written and otherwise sound, an experienced reviewer can read the proposal and complete a written review in about 2 hours.
 - However, if there are serious issues requiring detailed comment, or the proposal is poorly written, a review can take significantly longer
 - First-time reviewers will need another 1-3 hours to familiarize themselves with the instructions, merit review questions, and develop their “approach” to reviewing

How much work is it to be a panel reviewer?

- A typical panel member:
 - Reviews 3-4 proposals
 - Prepares 1-2 proposal summary presentations and/or panel discussion summaries
 - Participates in the panel review meeting

8-16 hrs preparation +
14 hrs panel meetings

- In return for this effort, panelists:
 - See the “whole picture”
 - All eligible proposals submitted to a program that year, representing a huge range of new ideas!
 - Discuss the program’s intent and aims with the agency
 - Hear from other federal agencies about priorities and funded work
 - Discuss how newly proposed work builds on existing efforts
 - Play an influential role identifying the highest impact proposals to fund
 - Meet and work with new colleagues from across the field

What skills are needed to be an effective reviewer?

- Background / technical expertise that is closely related to the proposal contents
 - Science, technology, *but also*
 - engineering, project management, technology transfer, commercialization, etc.
- A well-developed sense of what skills and effort are needed to solve a particular problem
- The ability to:
 - Imagine and assess the potential impacts of a project
 - Make an assessment based only on available documents and context
 - Capture and summarize the primary concepts in limited space
 - Recognize and mitigate implicit bias, and of course,
 - Leap tall buildings in a single bound!
- Degree expectations (typically speaking; relevant experience overrides)
 - Scientists: PhDs, postdocs, and graduate students within a year of finishing their PhD
 - Engineers: Master's or ≥ 2 years' experience in the specific discipline or technology
- [Mail-in reviewers](#) are typically deep subject matter experts
- [Panel reviewers](#) are typically generalists

Integrity of the Process is Crucial

- The integrity of the review and selection process rests on two fundamental principles:
 - **Confidentiality**
 - Proposals often contain proprietary information; merit reviews **always** contain sensitive information. Reviewers are expected to:
 - Not disseminate proposal or review information in any manner
 - Not divulge their participation in the merit review
 - Destroy **all** copies of materials once their review(s) are submitted
 - **Impartiality**
 - Conflicts of Interest (COI) **must** be declared
 - Reviewers with an affiliation with a participating institution or named participant of a proposal, must recuse themselves from the review.
 - Completing the review must not yield a “direct and predictable benefit” to you, either monetary or academic.
 - If unsure if a past or current connection constitute a COI, discuss with a program manager.

Conflict of Interest Examples

A review must not yield a “direct and predictable benefit” to you

Terms used below:

- **You*** refers to you, your spouse, your children, and any relatives living with you
- **Participating Institutions** refers to all institutions participating in a proposal
- **Participating Individuals** refers to all named PIs, Co-PIs, Senior and Key Personnel in a proposal

Affiliations that cause a COI

- **You*** have been paid within the last 12 months, or will be paid, by a Participating Institution
 - Employment – recent past, current, or future
 - Consulting/advising

Relationships that cause a COI

- **You*** are (or were) the advisee or advisor of any named Participating Individual
- **You*** collaborated substantively and directly with any Participating Individual in the last 4 years
- Appearance of COI
 - **You*** are close personal friends with any Participating Individual



How to write a helpful review

Help the PI understand the strengths and weaknesses of their proposal

- What aspects are positive? What was concerning?
 - The R&D to demonstrate [sub-system] is innovative.
 - The viability of [concept] for [the proposed application] was unclear. Specifically, the use of [abc] for [def] has not been proven in...
 - Tasks 1,2 and 4 should be given highest priority. Tasks 3 and 5 are not as urgent and could be postponed.
 - The Stewardship customer has not been clearly identified.
 - Objective 2 of proposed work largely duplicates work published in [link to paper].
- Don't summarize. Do evaluate!
 - Instead of "The cost-sharing is in addition to the requested funds" → "Significant cost-sharing is offered"
 - Instead of "The code is a transport code" → "A transport approach like this is new"
 - Instead of "They have several letters of support" → "Support letters show clear Stewardship customer interest"
- For ARDAP FOAs, a score of **3** means that the proposal met the merit criteria and is fundable
 - Scoring all proposals high or low does not help us to distinguish among them
 - Scores are NOT shared with PIs, only comments

How to avoid common errors when writing a review

- Discuss the proposal, not the agency, the program, the field, or other proposals you've reviewed
 - If you're reviewing more than one proposal, don't comment on other proposals in your review
 - *Comments comparing proposals are very useful to us - please email these to us directly*
 - Don't write comments meant for the Agency in the review comments
 - *Comments about the program or Agency are also useful - please mail these to us directly*
 - When appraising the competence of the team members, don't comment about irrelevant personal characteristics such as age or gender
- Be informative, constructive, and don't give clues about your identity
 - Before final submission, re-read your comments imagining yourself in the PI's shoes
 - Guessing the identities of reviewers is a brain teaser most PIs find irresistible—don't give them any clues!
 - The #1 error? Telling the PI to read a paper that the reviewer co-authored!

Become a reviewer!

- **It's a great way to learn how to write a good proposal!**
 - 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
- **Help wanted!**
 - Skillsets in accelerator physics/engineering of **all types**, but especially:
 - Fundamental accelerator physics
 - Industrial applications & commercialization
 - Laser and optical materials
 - Members of **underrepresented groups**
- **What degree or experience do I need?**
 - Scientists
 - PhDs, postdocs, and graduate students *within a year of finishing their PhD*
 - Engineers
 - Master's or ≥ 2 years' experience in the specific discipline or technology



How can YOU become a reviewer?



Two ways:

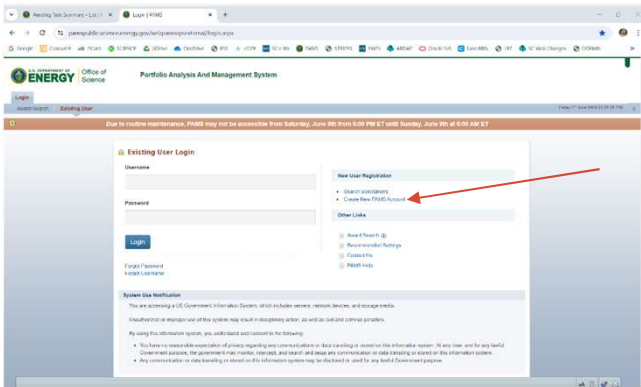
- **Contact us!**

- Email Eric Colby Eric.Colby@science.doe.gov or Camille Ginsburg Camille.Ginsburg@science.doe.gov and tell us your area of expertise and interest!

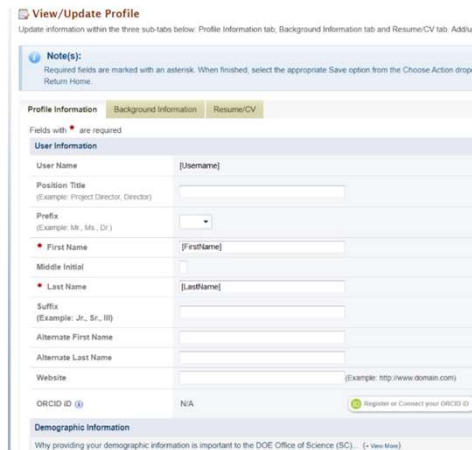
- **Or, you can create a PAMS account and tell us a little about yourself**

- Go to <https://pamspublic.science.energy.gov/webpamsepxternal/login.aspx>

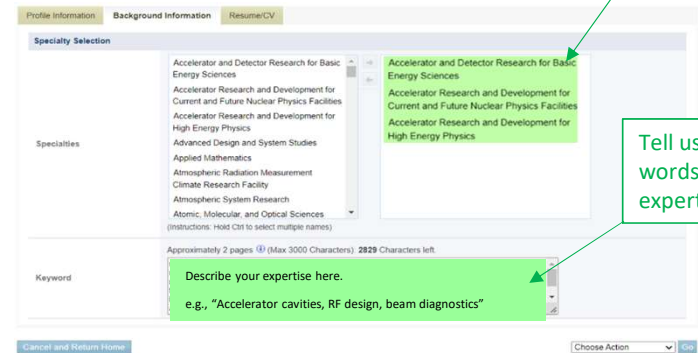
On the PAMS login page, click "Create New PAMS Account"



Tell us who you are and how to contact you



Tell us about your expertise



Pick the program areas you'd like to review

Tell us in your own words about your expertise

Recordings and Slides from past Office Hours

- **Please complete the exit survey!**

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

- **Past and future Office Hours**

- Wednesday, March 13, 2024 at 3pm ET – Introduction to Accelerator Science and ARDAP
- Wednesday, April 10, 2024 at 3pm ET – FOAs and Facilities for Accelerator Science
- Wednesday, May 8, 2024 at 3pm ET – Writing a strong proposal and managing an award
- **Wednesday, June 12, 2024 at 3pm ET – ARDAP Merit Review Process**
- July 10: How ARDAP identifies priority research directions to support
- Aug 14: “Avoiding common mistakes: How to prepare key parts of an ARDAP proposal

- **Reach out!**

- Eric.Colby@science.doe.gov
- Camille.Ginsburg@science.doe.gov

FOAs = Funding Opportunity Announcements (‘DOE-speak’ for “solicitations for proposals”)

Additional Slides