

The Nuts and Bolts of Research Applications Peer Review at the NIH

NCI Center to Reduce Cancer Health Disparities

ANNOUNCEMENTS



Professional
Advancement
Virtual
Engagement
Series

Alternative Career Pathways

August 30, 3-4 pm EST [Register Here](#)



James Lillard, Ph.D., MBA

Senior Associate Dean, Morehouse School of
Medicine

Objectives

- 1) Identify pathways leading to private sector success
- 2) Appraise critical career steps toward a fruitful scientific career
- 3) Explore resources to support your career ambitions

For questions, please contact the team at Paves@nih.gov

Upcoming Paves

Date	Title	Time	Speakers	Registration Link
October 25, 2023	Physician Scientist Forum - Managing the Dynamics of Multiple Responsibilities of a Research Career	3:00-4:00 pm EST	Dr. Narjust Florez , Dr. Idalid Franco	Register Here
November 29, 2023	You've Reached Research Independence, Now What?	3:00-4:00 pm EST	Dr. Saavedra Harold	Register Here
December 13, 2023	Thriving as a Cancer and Cancer Health Disparity Researcher and Clinician Scientist	3:00-4:00 pm EST	Jennifer Wiggins	Register Here

Learning Objectives

1. *Learn about review process and priorities*
2. *Identify review criteria/questions reviewers are instructed to focus on*
3. *Identify what reviewers are instructed to evaluate in a resubmission*

Today's Presenter



Thomas Cho, Ph.D.

Scientific Review officer at NIH Center for Scientific Review, Division of Basic and Integrative Biological Sciences, Cell and Developmental Biology Review Branch



U.S. Department of Health & Human Services



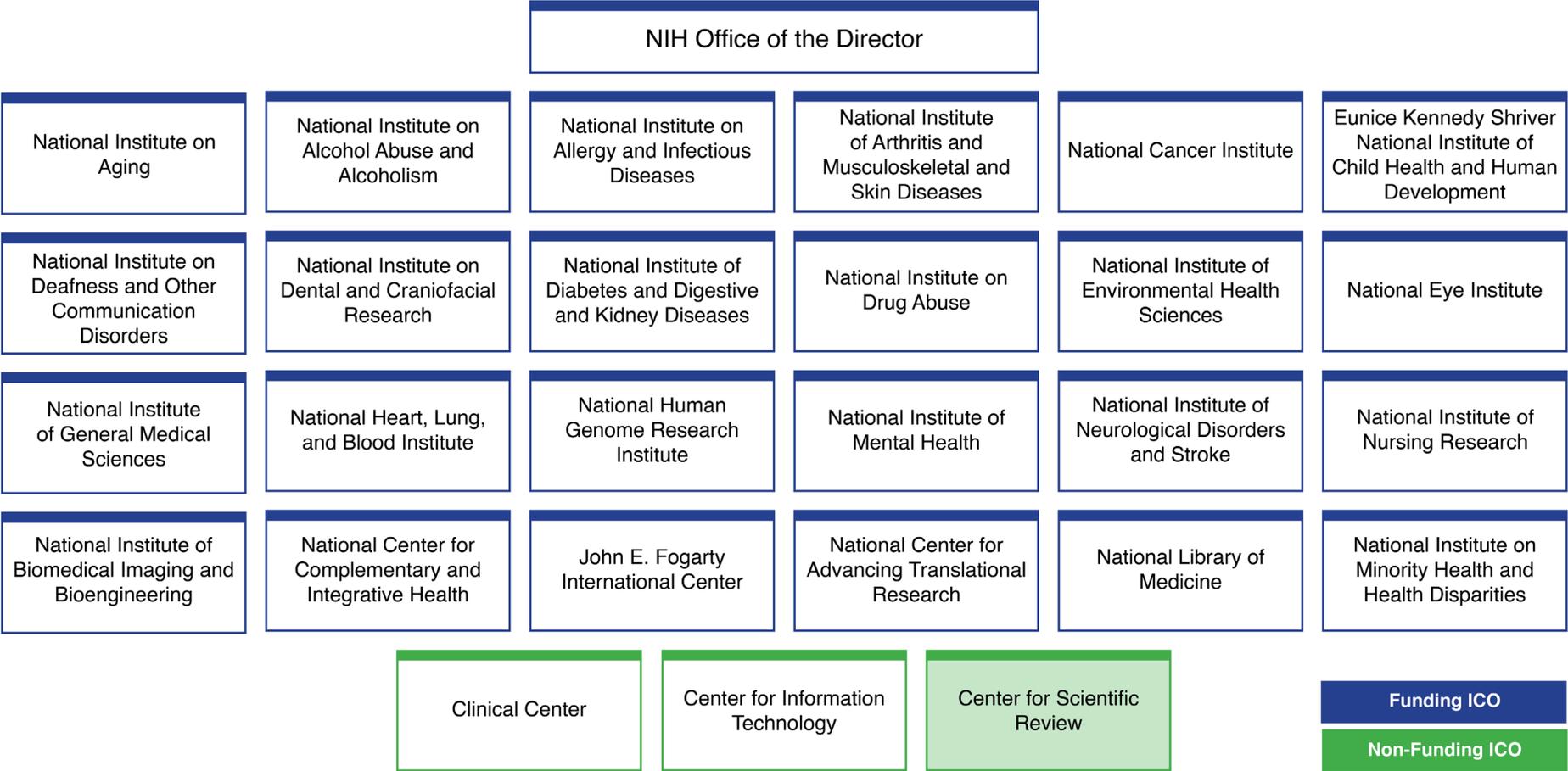
Center for
Scientific Review

NIH Review Process

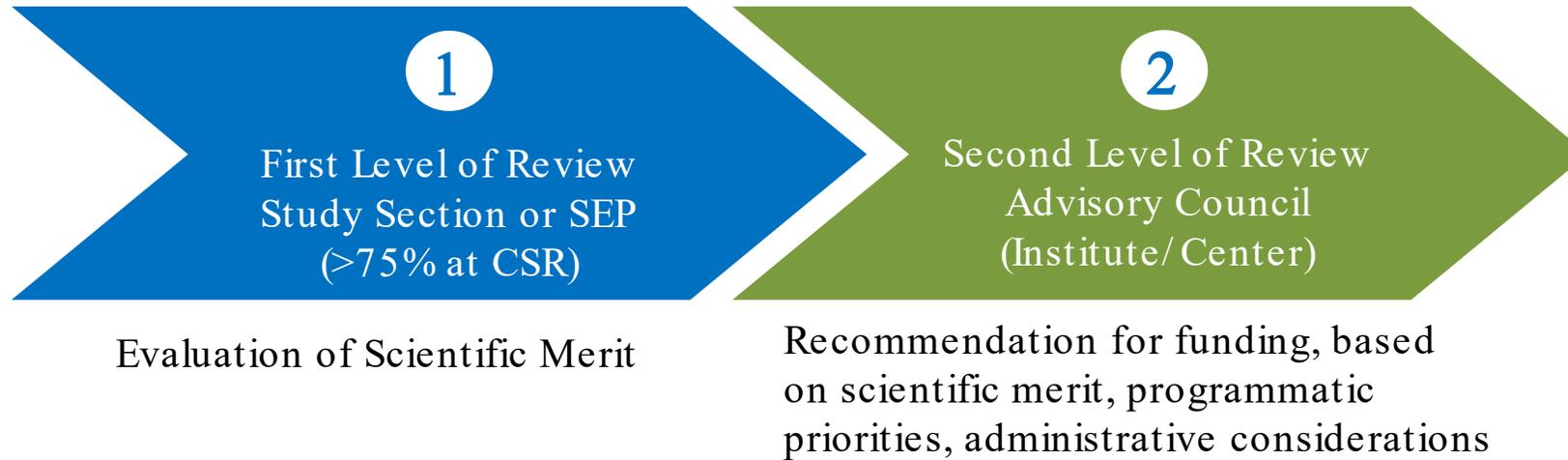
Tom Cho, Ph.D.
Scientific Review Officer

Center for Scientific Review
National Institutes of Health
Department of Health & Human Services

Your Application Could Be Funded by One of 24 NIH Institutes or Centers (ICs)

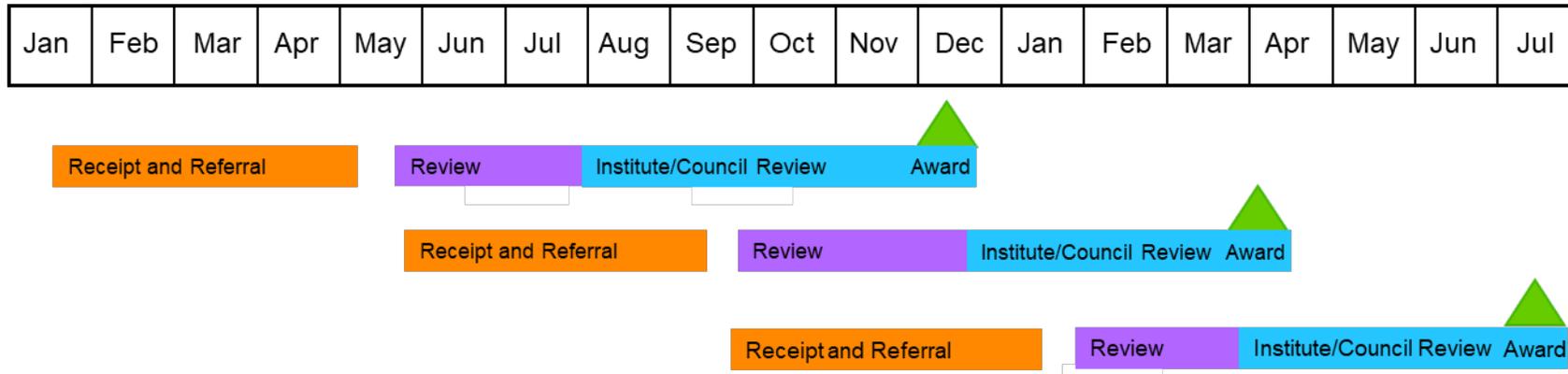


NIH's Two-Stage Peer Review System



Timeframe from Submission to Award

There are three main overlapping cycles per year



<http://grants1.nih.gov/grants/funding/submissionschedule.htm>

Preparation

How can you stay abreast of policy changes?

Subscribe to the NIH Guide Notice – this is the primary means of communication from NIH to the external community:

<https://grants.nih.gov/policy/notices.htm>

The screenshot displays the NIH Grants & Funding website. The header includes the NIH logo, the text 'GRANTS & FUNDING NIH Central Resource for Grants and Funding Information', and a search bar. The navigation menu is at the top, with 'POLICY & COMPLIANCE' selected. The breadcrumb trail reads 'Home > Policy & Compliance > Notices of NIH Policy Changes'. The main content area is titled 'Notices of NIH Policy Changes' and includes a description of policy notices, a search prompt, and a list of notices from August 2020. A sidebar on the left contains a 'POLICY & COMPLIANCE' menu with 'Notices of Policy Changes' highlighted.

NIH GRANTS & FUNDING
NIH Central Resource for Grants and Funding Information

Search this Site
eRA | NIH Staff | Glossary

HOME ABOUT GRANTS FUNDING **POLICY & COMPLIANCE** NEWS & EVENTS ABOUT OER

Home > Policy & Compliance > Notices of NIH Policy Changes

POLICY & COMPLIANCE

NIH Grants Policy Statement

Notices of Policy Changes

Compliance & Oversight

Policy Topics

Anti-Sexual Harassment

Animal Welfare

Application Submission Policies

Communicating and Acknowledging Federal Funding

Clinical Trial Requirements

Early Stage and Early Established Investigator Policies

Notices of NIH Policy Changes

Policy notices published in the NIH Guide for Grants and Contracts supersede information in the NIH Grants Policy Statement. Compliance with these policy updates become a term and condition of award. NIH incorporates these notices into the annual update of the NIH Grants Policy Statement. Below is a listing of selected policy notices.

Search the [NIH Guide for Grants and Contracts](#) for all notices.
[Subscribe](#) to receive notices each week.

Previous Years:
[\[2015\]](#) [\[2014\]](#) [\[2013\]](#) [\[2012\]](#) [\[2011\]](#) [\[2010\]](#) [\[2009\]](#) [\[2008\]](#) [\[2007\]](#) [\[2006\]](#) [\[2005\]](#) [\[2004\]](#) [\[2003\]](#) [\[2002\]](#) [\[2001\]](#) [\[2000\]](#) [\[1999\]](#) [\[1998\]](#) [\[1997\]](#) [\[1996\]](#) [\[1995\]](#) [\[1994\]](#) [\[1993\]](#)

August 2020

August 28 [Notice of Correction to Eligibility in NIH Funding Opportunity Announcements](#)

August 28 [Reminder: NIH Natural Disaster Policy – Hurricane Isaias, Derecho](#)

August 12 [Extending the Special Exception to the NIH/AHRQ/NIOSH Post-Submission Material Policy During the COVID-19 Pandemic](#)

August 11 [Temporary Extension of Eligibility for the NIH K99/R00 Pathway to Independence Award During the COVID-19 Pandemic](#)

Find a Funding Opportunity (NOFO, formerly FOA) in the NIH Guides to Grants and Contracts

The screenshot shows the NIH Grants and Contracts search interface. On the left, there are two filter panels: 'Organizations' and 'Activity Code'. The 'Organizations' panel has 'NIH' selected. The 'Activity Code' panel has 'R01' selected. The main search area includes a search bar with 'Active Funding Opportunities and Notices' selected, a search button, and an 'Advanced Search' link. Below the search bar, there is a 'Clear All Filters' button, a 'Displaying: 1 to 25 of 473 results' indicator, and a 'Results Per Page' dropdown menu. There are also buttons for 'Export to XLS', 'Share Search', and 'Save your Search'. The search results are displayed in a table with the following columns: Title, FOA/Notice Number, Issuing Organization, Release Date, Expiration Date, and Activity Code.

Title	FOA/Notice Number	Issuing Organization	Release Date	Expiration Date	Activity Code
Notice of Special Interest (NOSI): Dissemination and Implementation Science for Cancer Prevention and Control in Low Resource Environments	NOT-CA-22-038	NCI	May 20, 2022	May 8, 2024	R21, R01, R03
Notice of Special Interest: Tools to Enhance the Study of Prenatal and Pediatric Hydrocephalus	NOT-NS-23-003	NINDS	May 20, 2022	Dec 10, 2025	R21, R01
Notice of Special Interest: Disease Mechanisms of	NOT-NS-23-004	NINDS	May 20, 2022	Dec 10, 2025	R01

<https://grants.nih.gov/funding/searchguide/index.html>

Ways NIH Lets You Know What It Wants to Support

Funding Opportunity Announcements (FOAs)

- **Program Announcements (PA)** Identifies priority areas and/ or funding mechanisms for an area.
 - **PAR:** a PA with special receipt, referral and/ or review considerations.
 - **PAS:** a PA with set-aside funds.
- **Request for Applications (RFA):** Identifies a focused area where NIH award grants with set aside funds.
- **Request for Proposal (RFP):** Solicits contract proposals, usually with one receipt date.
- **Notices of Special Interest (NOSI):** Simplified notices of specific research interests.
- **Notice (NOT):** Announces policy and procedures, changes to earlier FOAs and general info.

Help Your Application Get to the Right Institute

The screenshot shows the NIH RePORT Matchmaker tool interface. At the top left is the NIH logo and the text "RePORT Research Portfolio Online Reporting Tools". Below this is the heading "Matchmaker" with a green underline. A paragraph of text explains the tool's function: "Enter abstracts or other scientific text and Matchmaker will return lists of similar projects from RePORTER or program officials associated with those projects. These matches are based on the terms and concepts used in the submitted text. Matchmaker summarizes the projects by the program official, institute or center, review panel, and activity code." Below the text is a green button labeled "Find a Match". At the bottom, there is a navigation bar with five icons and labels: "RePORTER" (magnifying glass icon), "Matchmaker" (network icon, highlighted with a green underline), "Awards by Location" (globe icon), "Categorical Spending" (dollar sign icon), and "NIH Data Book" (pie chart icon).

<https://report.nih.gov/#>

What study sections might you suggest?

NIH Center for Scientific Review

What are you searching for?

For Applicants | For Reviewers | News & Policy | Study Sections | Review Panels & Dates | About CSR

Need a study section recommendation? Try CSR's Assisted Referral Tool (ART)

Join CSR's leadership team: we are hiring for a Director, Division of Receipt and Referral

We're hiring SROs!

Find a Study Section - or -

Keyword search

Assisted Referral Tool (ART)

<http://www.csr.nih.gov>

Assignment Request Form (ARF)

- Suggest assignments (study section and institute)
- Identify potential conflicts of interest
- List areas of expertise needed to evaluate the application

The screenshot displays the PHS Assignment Request Form (ARF) interface. At the top left, there is a button labeled "View Burden Statement". The title "PHS Assignment Request Form" is centered at the top, with "OMB Number: 0925-0001" and "Expiration Date: 2/28/2023" on the right. The form contains several input fields: "Funding Opportunity Number" (a single-line text box), "Funding Opportunity Title" (a multi-line text box), "Awarding Component Assignment Suggestions (optional)" (a multi-line text box with a link to "https://grants.nih.gov/grants/phas_assignment_information.html#AwardingComponents"), "Suggested Awarding Components" (three separate text boxes), "Study Section Assignment Suggestions (optional)" (a multi-line text box with a link to "https://grants.nih.gov/grants/phas_assignment_information.html#StudySection"), "Suggested Study Sections" (three separate text boxes, each with a note "Each entry is limited to 20 characters"), and "Rationale for assignment suggestions (optional)" (a large multi-line text box with a note "Entry is limited to 1000 characters").

- Speak freely! This form will not be part of the assembled application; it will not be made available to program or to reviewers.

Cover Letter

You can use a cover letter to:

- Explain why your application is late ([NOT-OD-15-039](#))
- Provide notice of plans to submit a video
- Identify your project as generating large-scale genomic data
- Provide pre-approvals (\$500k, conference grants)

You should NOT use a cover letter to:

- Make assignment requests (use the ARF!)
- Suggest specific reviewers (*never* do this!)

Tracking Your Application in eRA Commons

eRA Commons is an online interface where a grant applicant can:

- Check submitted grant application for errors and warnings and view final image
- Track review assignment, view review outcomes, find contact info
- Update Personal Profile to ensure Early-Stage Investigator eligibility is in place
- Submit pre-award information (just in time)
- View Notice of Award and other key documents

And much more!

<https://commons.era.nih.gov/commons/>

What are the most common grant submission problems?

- Submitting late.
 - Be aware of grant deadlines (<https://grants.nih.gov/grants/how-to-apply-application-guide/duedates-and-submission-policies/duedates.htm>)
 - **Aim to submit EARLY.** There is a 2-day viewing window but it does NOT extend the deadline. Early submission allows time to fix problems and omissions.
 - Note: late applications are sometimes accepted, with good reason. Familiarize yourself with the policy (<https://grants.nih.gov/grants/how-to-apply-application-guide/duedates-and-submission-policies/submission-policies.htm>)
- Not following instructions
 - Read the instructions with your mind, not your heart.
 - Some screening, such as for “overstuffing”, is done manually and errors are caught after submission. Follow the instructions in the [SF424](#) and the FOA – even if a colleague says they did something outside of those instructions without incident.
- Not knowing which institutes/centers participate in a funding opportunity announcement (FOA).
 - Participating ICs are listed in the FOA. CSR cannot assign your application to an IC that does not participate. **This is the #1 reason applications are withdrawn.**

CSR is the Gateway for NIH Grant Applications

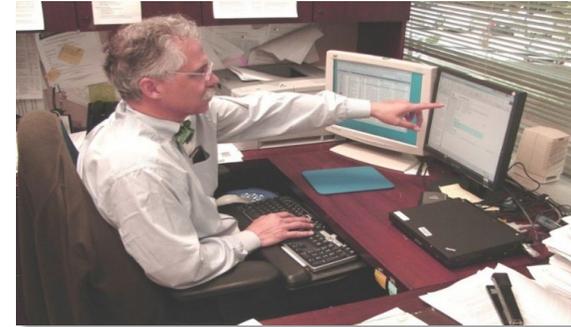


- The Center for Scientific Review (CSR) receives all NIH grant applications
- Assigns applications to one or more NIH institutes or centers for potential funding
- Assigns applications to CSR or NIH institute review groups
- Conducts initial scientific merit review of most NIH research applications **(76% of all NIH grant applications = ~61,000 applications a year)**

CSR's Division of Receipt and Referral

Determines if your application is

- On time
- Formatted correctly
- Complete
- Compliant with NIH policy



Assigns your application to

- Institute(s) or center for funding consideration
- Review group for review of scientific and technical merit

If you have questions during these stages, please reach out to DRR: csrdrr@mail.nih.gov

Applications Are Assigned to:

- **Institutes or Centers based on**
 - Overall mission and guidelines of the IC
 - Specific programmatic mandates and interests of the IC
 - Applications can only be assigned to ICs participating in the FOA
- **Scientific review groups based on**
 - Specific, published review guidelines for each review group
 - Suggestions made in the Assignment Request Form are considered

The Study Section

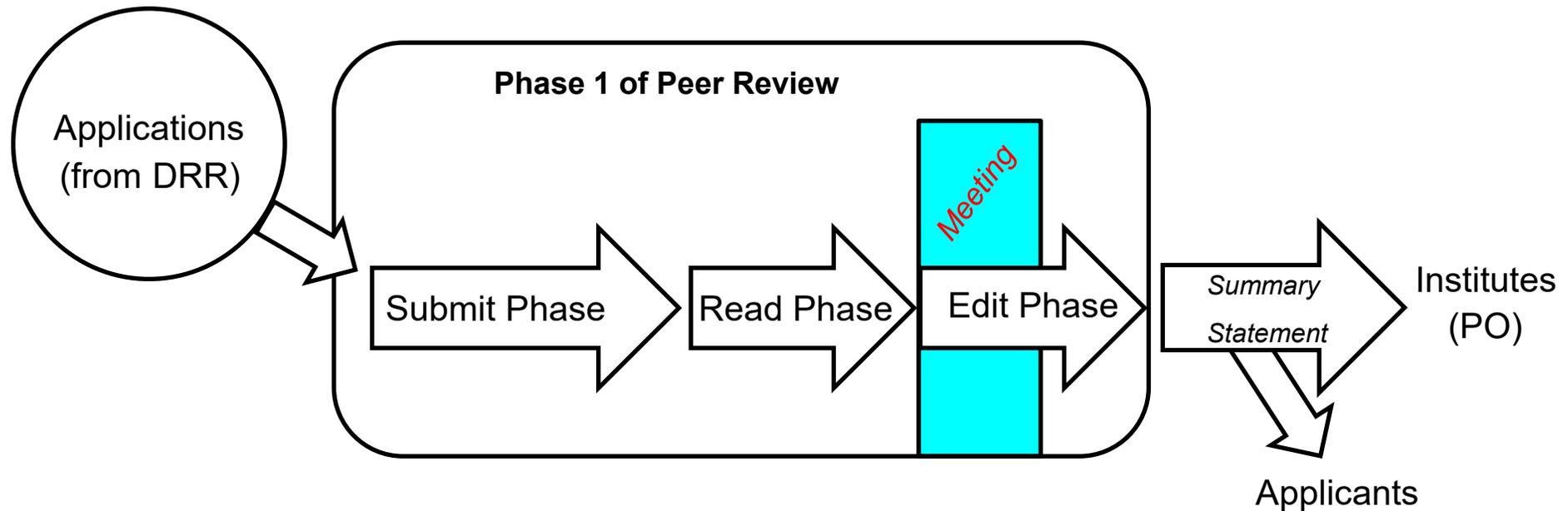
Your Scientific Review Officer (SRO)



- Recruits reviewers and assigns applications
- Manages the meeting and conflicts
- Prepares summary statements
- Provides information to NIH institutes and centers

Review Phases

Move from individual review to collaborative review



SROs Seek Reviewers Who Are Recognized Authorities in Their Field

- Doctoral degree or equivalent
- Demonstrated scientific expertise/ research support
- Mature judgment and breadth of perspective
- Work effectively in a group context
- Impartiality
- Inclusion of women and minority scientists
- Geographic distribution



Reviewer Conflicts of Interest (COI)

What constitutes a reviewer COI?

- Institutional
- Family member/ close friend
- Collaborator/ Key Personnel
- Longstanding scientific disagreement
- Personal bias
- Appearance of conflict

http://grants.nih.gov/grants/peer/peer_coi.htm

Confidentiality

- Review materials and proceedings of review meetings represent confidential information for reviewers and NIH staff.
- At the end of each meeting, reviewers must destroy or return all review-related material.
- Reviewers should not discuss review proceedings with anyone except the SRO.
- Questions concerning review proceedings should be referred to the SRO.
- Applicants should never communicate directly with any members of the study section about an application.
- Statute of confidentiality is life-long.

Before the Study Section Meeting



Each application is assigned to 3 or more reviewers 5-6 weeks in advance

Reviewers assess each application by providing:

- Preliminary Overall Impact score
- Criterion scores for each of the 5 core review criteria
- Comment on appropriateness of the budget
- A written critique

Review Criteria

5 Scored Review Criteria

- Significance
- Investigator(s)
- Innovation
- Approach
- Environment

Each scored from 1-9

Overall Impact

Assessment of the likelihood for the project to *exert a sustained, powerful influence on the research field(s) involved*

Scored from 1-9

Overall Impact:

The likelihood for a project to exert a sustained, powerful influence on research field(s) involved

Evaluating Overall Impact:

Consider the 5 criteria: significance, investigator, innovation, approach, environment (weighted based on reviewer's judgment) and other score influences (e.g. human subjects)

Overall Impact	High	Medium	Low
Score	1 2 3	4 5 6	7 8 9

e.g. Successful completion of the aims will make a **contribution of high importance** to the field. May have some or no weaknesses.

5 is a good medium-impact application, and the entire scale (1-9) should always be considered.

e.g. Successful completion of the aims may make a **contribution of high importance** to the field, but weaknesses bring down the overall impact to medium.

e.g. Successful completion of the aims may make a **contribution of moderate importance** to the field, with some or no weaknesses.

e.g. Successful completion of the aims may make a **contribution of moderate/high importance** to the field, but weaknesses bring down the overall impact to low.

e.g. Successful completion of the aims may make a **contribution of low or no importance** to the field, with some or no weaknesses.

NIH Office of Extramural Research; revised July 22, 2021

The Study Section Meeting

At the Meeting

Not Discussed Applications

- About half the applications will be discussed
- Applications unanimously judged by the review committee to be in the lower half are not discussed

Clustering of Review

- New Investigator R01 & some types of applications are often reviewed together

Order of Review

- Applications to be discussed are reviewed in random order within each cluster.



At the Meeting: Application Discussion

- Any member in conflict with an application leaves the room
- Reviewer 1 introduces the application and presents critique
- Reviewers 2 and 3 highlight new issues and areas that significantly impact scores
- All members without a conflict are invited to join the discussion and then vote on the final overall impact score

Resubmissions

- The committee will evaluate the application as now presented, taking into consideration the responses to comments from the previous scientific review group and changes made to the project.

Rigor and Transparency Research Project Grant Applications

Rigor and Transparency Element	Which applications?	Where in the application?	Which Criteria?	What's added to the review criteria?	Affect overall impact score?
Rigor of Prior Research	All	Research Strategy	Significance	Is the prior research that serves as the key support for the proposed project rigorous?	Yes
		Research Strategy (Approach)	Approach	Have the investigators included plans to address weaknesses in the rigor of prior research that serves as the key support for the proposed project	Yes
Scientific Rigor	All	Research Strategy (Approach)	Approach	Are there strategies to ensure a robust and unbiased approach?	Yes
Consideration of Relevant Biological Variables, Such as Sex	Projects with vertebrate animals and/or human subjects	Research Strategy (Approach)	Approach	Are adequate plans to address relevant biological variables, such as sex, included for studies in vertebrate animals or human subjects?	Yes
Authentication of Key Biological and/or Chemical Resources	Project involving key biological and/or chemical resources	New Attachment	Additional review considerations	Comment on plans for identifying and ensuring validity of resources.	No

Your Career Stage Is Considered...



- If you are a New Investigator or Early-Stage Investigator on an R01 application
- If NIH has the correct info on the applicant's career stage

Larger Factor in Second Level Review by Institutes/ Centers

http://grants.nih.gov/grants/new_investigators/

Priority Scores/ Percentile Rank



- The entire panel (except those in conflict) cast a final score on each discussed application.
- Individual scores are averaged and multiplied by 10 to give the final priority score
- A percentile ranks your application relative to the other applications reviewed by your study section at its last three meetings.
- Not all applications are percentiled.

Summary Statement

SUMMARY STATEMENT
(Privileged Communication)

PROGRAM CONTACT:
Austin Yang
301.496.9350
yangj13@mail.nih.gov

Release Date: 02/05/2019
Revised Date:

Application Number: 1 R01 AG

Principal Investigator

Applicant Organization:
Review Group: CMND
Cellular and Molecular Biology of Neurodegeneration Study Section

Meeting Date: 01/31/2019
Council: MAY 2019
Requested Start: 07/01/2019

RFA/PA: PA18-484
PCC: 3BSETAY

Project Title:

SRG Action: Impact Score:34 Percentile:13
Next Steps: Visit https://grants.nih.gov/grants/next_steps.htm
Human Subjects: 10-No human subjects involved
Animal Subjects: 30-Vertebrate animals involved - no SRG concerns noted

Project Year	Direct Costs Requested	Estimated Total Cost
1	349,997	564,629
2	350,802	565,928
3	361,871	583,785
4	387,212	624,666
5	384,834	620,830
TOTAL	1,834,716	2,959,839

ADMINISTRATIVE BUDGET NOTE: The budget shown is the requested budget and has not been adjusted to reflect any recommendations made by reviewers. If an award is planned, the costs will be calculated by Institute grants management staff based on the recommendations outlined below in the COMMITTEE BUDGET RECOMMENDATIONS section.

EARLY STAGE INVESTIGATOR
NEW INVESTIGATOR

Program Officer

Impact/Priority Score 10-90 range

Percentile in whole numbers

Indicator for Early Stage Investigators/New Investigator eligibility

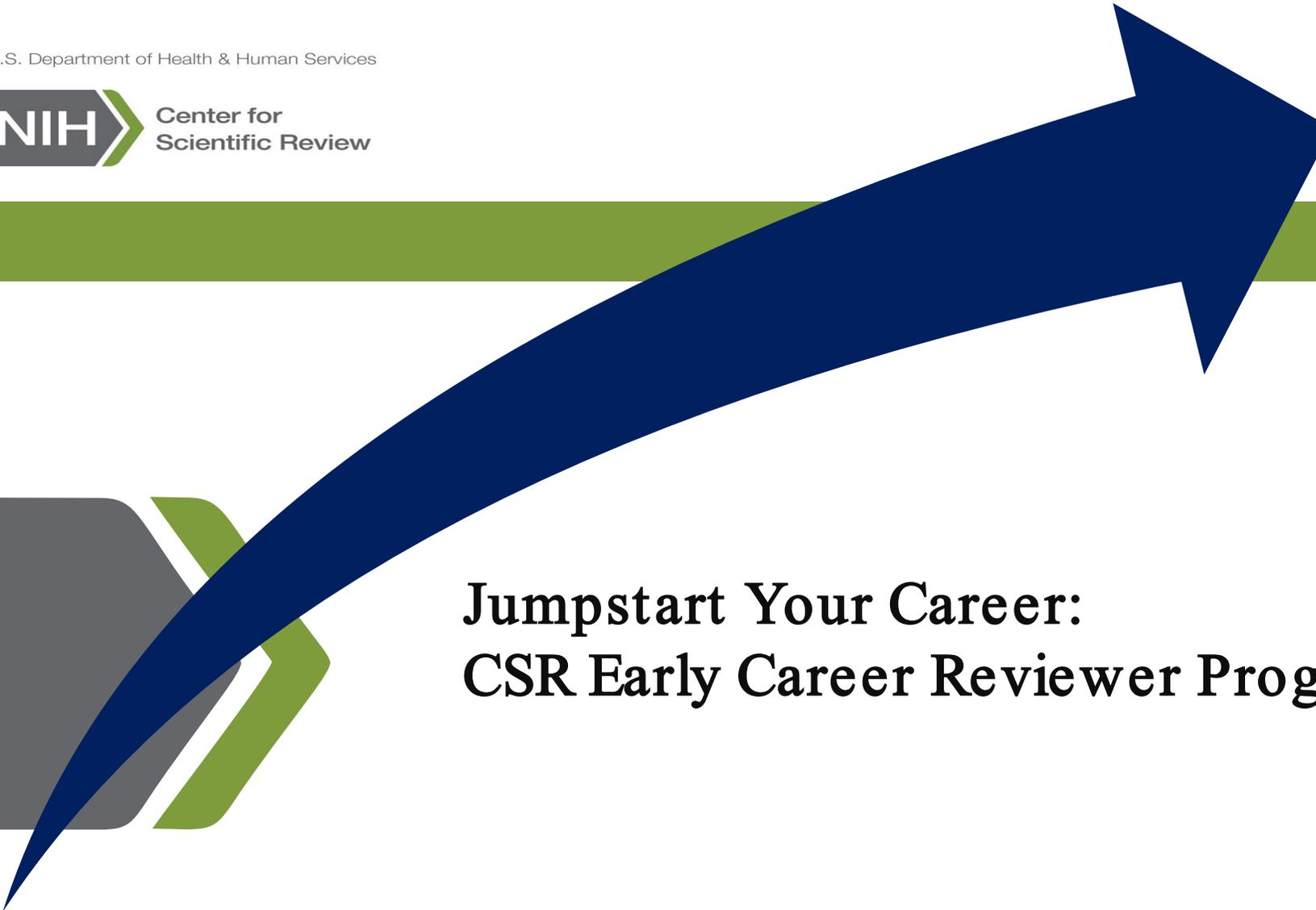
Become a Reviewer



U.S. Department of Health & Human Services



Center for
Scientific Review

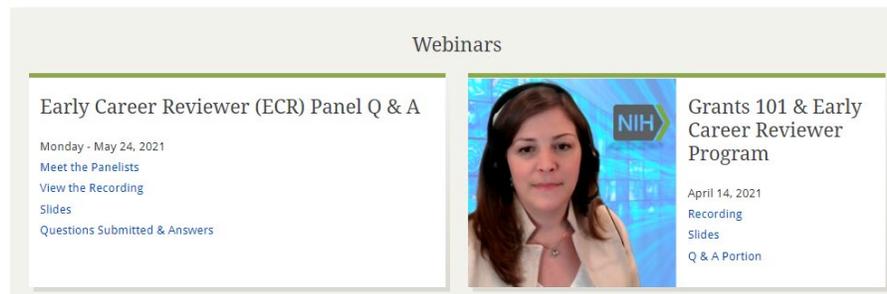


Jumpstart Your Career: CSR Early Career Reviewer Program

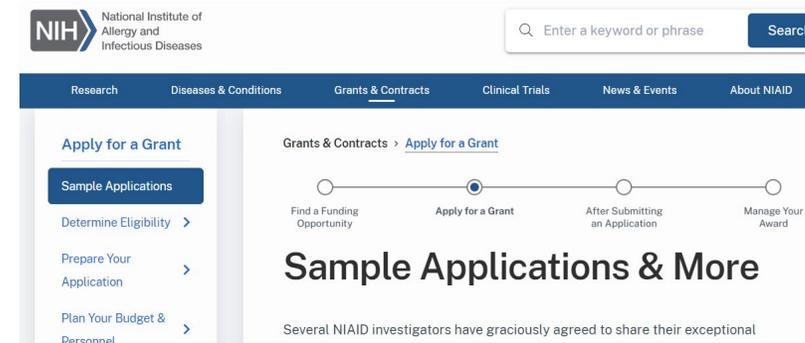
www.csr.nih.gov/ecr

Other Resources

- Webinars - Early Career Reviewer Panel Q & A and Grants 101 - <https://public.csr.nih.gov/NewsAndPolicy/PeerReviewVideos>
- Sample applications at <https://www.niaid.nih.gov/grants-contracts/sample-applications>



The screenshot shows a webpage titled "Webinars". It features two main sections. The left section is titled "Early Career Reviewer (ECR) Panel Q & A" and includes the date "Monday - May 24, 2021", a "Meet the Panelists" link, a "View the Recording" link, "Slides", and a "Questions Submitted & Answers" link. The right section is titled "Grants 101 & Early Career Reviewer Program" and includes the date "April 14, 2021", a "Recording" link, "Slides", and a "Q & A Portion" link. A small video thumbnail of a woman is visible between the two sections.



The screenshot shows the NIH website's "Grants & Contracts" section. The top navigation bar includes "Research", "Diseases & Conditions", "Grants & Contracts", "Clinical Trials", "News & Events", and "About NIAID". A search bar is located in the top right corner. The main content area is titled "Apply for a Grant" and features a "Sample Applications" button. Below this is a progress bar with four stages: "Find a Funding Opportunity", "Apply for a Grant", "After Submitting an Application", and "Manage Your Award". The "Apply for a Grant" stage is currently selected. The main heading is "Sample Applications & More", followed by the text: "Several NIAID investigators have graciously agreed to share their exceptional".

Who Can Answer Your Questions?

Before you submit your application

- A program officer (PO) at an NIH Institute or Center
- Scientific review officer (SRO)
- CSR Division of Receipt and Referral (csrdrr@mail.nih.gov)

After you submit

- Your SRO
- CSR Division of Receipt and Referral (csrdrr@mail.nih.gov)

After your review

- Your assigned PO

Grants Info: GrantsInfo@od.nih.gov – 301 945-7573

Reporting Concerns about Bias or Integrity

For issues related to respectful interactions, bias or anything else that could affect the fairness of the review process, contact your SRO or the CSR Associate

Director of Diversity & Workforce Development at
G.Fosu_AssocDir@csr.nih.gov.



Gabriel Fosu, Ph.D.

For issues related to review integrity, contact your SRO, or the CSR Review Integrity Officer at csrrio@mail.nih.gov, or the NIH Review Policy Officer at reviewpolicyofficer@mail.nih.gov.

Existing CSR policy regarding a potentially flawed/ biased review

Assessment by CSR management – is it a flawed review?

- Yes - CSR re-reviews the application in the same council round.
- No – CSR refers PI to program officer for guidance on council appeal process

A great question
doesn't simply inform...
it enlightens.





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www.cancer.gov

www.cancer.gov/espanol