

U.S. Department of Health & Human Services



Center for  
Scientific Review

# NIH Review: Insights for Established Investigators

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18<sup>th</sup> Annual New Grantee Workshop

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# Goals for today's talk

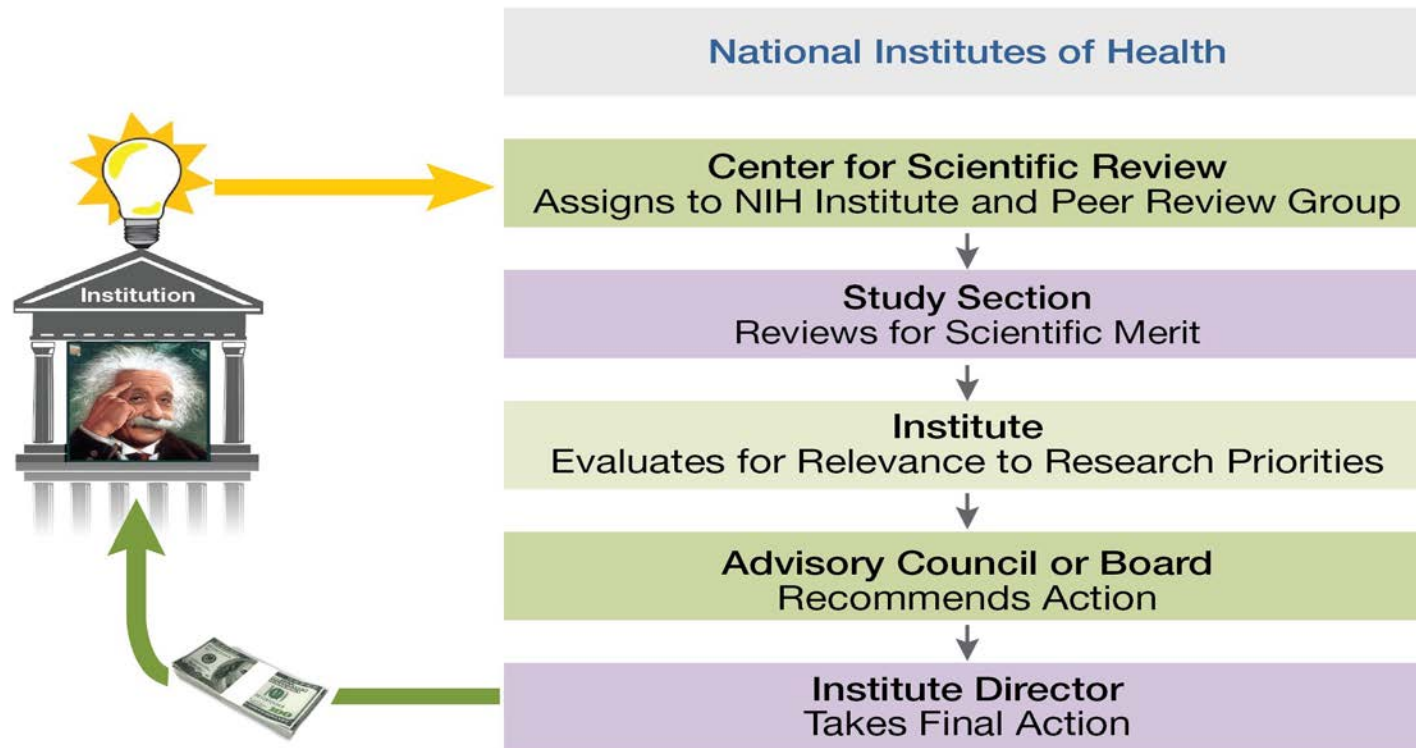
- To learn the basics of the NIH Peer Review Process
- To gain insight into preparing your own applications
- To learn how you can participate in the NIH Peer Review Process

# NIH . . . Turning Discovery Into Health



NIH's mission is to seek fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to enhance health, lengthen life, and reduce illness and disability.

# The Path of a Successful Application



# Assignment to CSR Study Sections

**Within an IRG, applications are assigned to:**

## **Standing Study Sections**

- When subject matter of application matches the referral guidelines for the study section or

## **Special Emphasis Panels (SEPs)**

- When the subject matter does not fit into any study section
- When assignment of an application to the most appropriate study section creates a conflict of interest
- When certain types of grants are sought (e.g., fellowships, SBIRs, AREAS)

# Help Your Application Get to the Right Study Section



## Find a Study Section

Applications are reviewed in Study Sections (Scientific Review Group, SRG). Integrated Review Groups (IRGs) are clusters of Study Sections based on scientific discipline.

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

# Help Your Application Find the Right Review Home

## CSR Assisted Referral Tool (ART)

The screenshot shows the NIH Assisted Referral Tool (ART) interface. At the top, it says "Assisted Referral Tool (ART)" and "Help". Below that, there is a navigation bar with "ART Home >> SRG >> Report". A text input field contains the text: "Enter application text and hit the Submit button to get a list of relevant study sections. Entering the Specific Aims is highly recommended." Below the input field is a "Title" field with the text "I Contain Multitudes". A paragraph of text is displayed: "The microbes in our bodies are part of our immune systems and protect us from disease. In the deep oceans, mysterious creatures without mouths or guts depend on microbes for all their energy. Bacteria provide squid with invisibility cloaks, help beetles to bring down forests, and allow worms to cause diseases that afflict millions of people. Many people think of microbes as germs to be eradicated, but those that live with us—the microbiome—build our bodies, protect our health, shape our identities, and grant us incredible abilities. In this astonishing book, Eric Lax takes us on a grand tour through our microbial partners, and introduces us to the scientists on the front lines of discovery. It will change both our view of nature and our sense of where we belong in it." Below the text is a "Resubmit" button and a table of study sections.

Reference	SRG	IRG	Membership	Name
Strong	HSP	EDM	Roster	Host Interactions with Bacterial Pathogens Study Section
Strong	GMPB	DKUR	Roster	Gastrointestinal Mucosal Pathobiology Study Section
Strong	PCMB	GGG	Roster	Prokaryotic Cell and Molecular Biology Study Section
Possible	ODCS	MOSS	Roster	Oral, Dental and Craniofacial Sciences Study Section
Possible	BACP	EDM	Roster	Bacterial Pathogenesis Study Section
Possible	IHD	IMM	Roster	Immunity and Host Defense Study Section
Possible	VB	EDM	Roster	Vector Biology Study Section
Possible	BOHA	BST	Roster	Biodata Management and Analysis Study Section

<https://art.csr.nih.gov/ART/selection.jsp>

## NIH RePORTER

The screenshot shows the NIH RePORTER interface. At the top, it says "NIH Research Portfolio Online Reporting Tools (RePORTER)". Below that, there is a navigation bar with "QUICK LINKS", "RESEARCH", "ORGANIZATIONS", "WORKFORCE", "FUNDING", "REPORTS", and "LINKS & DATA". A search bar is present. Below the navigation bar, there is a "QUERY" section with "BROWSE NIH" and "MATCHMAKER" options. A text input field contains the text: "Enter your Text:". Below the input field is a "VIEW TUTORIAL" button. At the bottom, there are buttons for "CLEAR", "SIMILAR PROJECTS", and "SIMILAR PROGRAM OFFICIALS".

<http://projectreporter.nih.gov/reporter.cfm>

# Tell CSR Your Assignment Preferences

## Assignment Request Form

Request Institute assignment(s) →

Requests review group assignment →

Identify conflicts of interests →

Suggest expertise →

**Never Request Specific Reviewers**

The image shows a screenshot of the 'PHS Assignment Request Form'. The form is titled 'PHS Assignment Request Form' and includes a 'View Current Statement' link. It contains several sections:

- Funding Opportunity Information:** Fields for 'Funding Opportunity Number' and 'Funding Opportunity Title'.
- Awarding Component Assignment Request (optional):** A section with instructions and a table for assigning components. The table has columns for '1', '2', and '3', and rows for 'Assign to Awarding Component' and 'Do Not Assign to Awarding Component'.
- Study Section Assignment Request (optional):** A section with instructions and a table for assigning study sections. The table has columns for '1', '2', and '3', and rows for 'Assign to Study Section' and 'Do Not Assign to Study Section'.
- Conflicts of Interest:** A section titled 'List Individuals who should not review your application and why (optional)' with a text area and a character limit of 1000.
- Expertise:** A section titled 'Identify Scientific areas of expertise needed to review your application (optional)' with a table for suggesting expertise. The table has columns for '1', '2', '3', '4', and '5', and a row for 'Expertise' with a character limit of 40.



# Cover Letter

## You can use a cover letter to:

- Explain why your application is late
- 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!)

# CSR Study Sections: The Meeting



- Each CSR standing Study Section has ~12-22 regular members plus temporary reviewers from the scientific community
- About 70 applications are usually reviewed by each study section in 1-2 day meetings

# Reviewer Conflicts of Interest (COI)

## What Constitutes a Reviewer COI?

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

[http://grants.nih.gov/grants/peer/peer\\_coi.htm](http://grants.nih.gov/grants/peer/peer_coi.htm)

# Confidentiality in Review

- Review materials and proceedings of review meetings represent privileged 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.

# At the Meeting

## Order of Review

- The average of the preliminary Overall Impact score from the assigned reviewers determines the review order
- Discussions start with the application with the best average preliminary Overall Impact score.
- Discussions focus on the best applications

## Clustering of Review

- New Investigator R01 applications are clustered
- Clinical applications & other mechanisms may be clustered ( $n \geq 20$ )

# At the Meeting: Application Discussion

## Not Discussed Applications

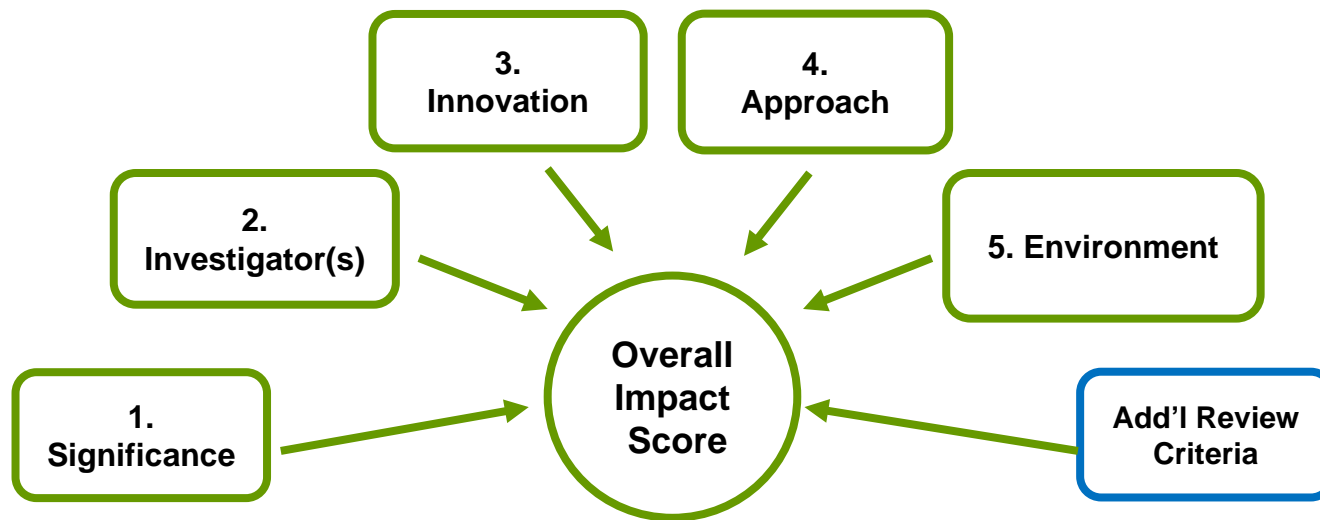
- About half the applications will be discussed
- Applications unanimously judged by the review committee to be in the lower half are not discussed
- The panel will discuss any application a reviewer wants to discuss
- Not discussed applications will only have assigned criterion scores

## Discussed Applications

- 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

# Evaluating R-Type Grant Applications -- Main Review Criteria

**Overall Impact / Score (Priority Score)** is the likelihood for the project to exert a sustained, powerful influence on the research field, in consideration of the **5 Scored Review Criteria** and **Additional Review Criteria**, if relevant.



# Four Rigor and Transparency Review Elements

## Research Project Grant Applications

Can Affect Your Overall Impact Score!

Rigor and Transparency Element	What's added to the review criteria?	Where in the application?
1. Scientific Premise	Is there a strong scientific premise or foundation for the project?	Research Strategy (Significance)
2. Scientific Rigor	Are there strategies to ensure a robust and unbiased approach?	Research Strategy (Approach)



# Four Rigor and Transparency Review Elements

Projects with Vertebrate Animals and/or Human Subjects

Can Affect Your Overall Impact Score!

Rigor and Transparency Element	Where in the application?	What's added to the review criteria?
<b>3. Consideration of Relevant Biological Variables, Such as Sex</b>	Research Strategy (Approach)	Are adequate plans to address relevant biological variables, such as sex, included for studies in vertebrate animals or human subjects?

# Scoring

## 9-point score scale is used to provide:

- Criterion Scores for each of the 5 core review criteria
- Overall Impact/Priority Score based on but not a sum of the core criterion scores plus additional criteria

## All applications receive scores:

- Not discussed applications will receive only initial criterion scores from the three assigned reviewers.
- Discussed applications also receive an averaged overall impact score from eligible (i.e., without conflicts of interest) panel members.

# Where Do We Find Reviewers?

- Successful applicants
- Recommendations from reviewers and NIH staff
- NIH RePORTER  
(<http://projectreporter.nih.gov/reporter.cfm>)
- Internet
- Scientific conferences
- Volunteers

# Become a Reviewer

- **Contact a CSR Scientific Review Officer:** Send them your CV
- **Let Us Try to Find a Good Review Group for You:** Send your CV to [csrvolunteer@mail.nih.gov](mailto:csrvolunteer@mail.nih.gov)



[www.csr.nih.gov/review4CSR](http://www.csr.nih.gov/review4CSR)