NIH: UNDERSTANDING PROPOSAL REVIEW

RESEARCH AND FACULTY DEVELOPMENT
FACULTY SUCCESS SEMINAR SERIES

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Special Guest: Rajal Cohen, PhD
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Please note that this session is being recorded

Zoom participants: Please keep your microphone muted until the Q&A session
OFFICE OF RESEARCH AND FACULTY DEVELOPMENT

- We provide proposal development assistance across the spectrum*
- Meet goals in the UI strategic plan – grow research and creative efforts across all disciplines
- Reach out to request service – uidaho.edu/orfd

*Not including budget preparation

All services are optional and are granted on a first come, first served basis
HELP US IMPROVE OUR SEMINARS

After the Q&A session: brief 3 question sli.do poll

- On a scale from 1-5, how helpful was this seminar?
- What did you like most about this seminar?
- How can we improve this seminar?

www.slido.com or use the sli.do app (Use code #FSS)
OBJECTIVES

IN THIS SESSION, WE’LL DISCUSS WHAT HAPPENS TO YOUR NIH APPLICATION:

- Center for Scientific Review (CSR)
  - Scientific Review Groups (w/in CSR or IC)

- NIH Peer Review
  - Receipt and Referral (Assignment)
  - Level 1 – Initial Peer Review \textit{(who, what, how)}
  - Level 2 – National Advisory Council Review

- NIH Review Criteria

- Special Guest: Dr. Rajal Cohen
NIH PEER REVIEW

- Cornerstone of NIH extramural research
- Two-stage review process
  - Receipt and Referral (Assignment)
  - Level 1 – Initial Peer Review
  - Level 2 – National Advisory Council Review
GATEWAY FOR NIH GRANT APPLICATIONS

The Center for Scientific Review

- Receives all NIH applications
- Refers them to NIH Institutes/Centers and scientific review groups
- Reviews majority of NIH grant applications for scientific merit

CSR’s Mission:

Ensure that NIH grant applications receive fair, independent, expert, and timely reviews (free from inappropriate influences) so NIH can fund the most promising research.
NIH CENTER FOR SCIENTIFIC REVIEW

Serves the 24 NIH Institutes and Centers that fund grants

https://public.csr.nih.gov/
NIH CENTER FOR SCIENTIFIC REVIEW

https://public.csr.nih.gov/

Resources:

- For Applicants & Reviewers
- Videos – NIH Review Revealed
- Sign up for blog - Review Matters
- Early Career Reviewer Program
NIH PEER REVIEW

- Receipt & Referral - Division of Receipt and Referral (DRR)
  - Application compliance, Assignment to Institute(s) for funding consideration, Assignment to Study Section for initial peer review

- Level 1 – Initial Peer Review
  - Assessment of scientific and technical merit of the proposed research, overall impact, and appropriate justification of additional criteria (e.g., human subjects protections, etc.)

- Level 2 – National Advisory Council Review
  - Funding recommendations
DIVISION OF RECEIPT & REFERRAL

INITIAL CHECKS AND ASSIGNMENT:

Ⅰ Application Validation
  ▪ Compliance checks for timeliness, formatting, completeness

Ⅰ Application Assignment to Scientific Review Group
  ▪ Within CSR applications are assigned to a standing Study Section or Special Emphasis Panel (~75% of NIH applications)
  ▪ Review groups within NIH Institutes and Centers (~25% of NIH applications)

Ⅰ Before Review Group – CSR Scientific Review Officers (SRO) assign application to one or more NIH Institutes or Centers for potential funding
  ▪ Based on Institute or Center mission and specific programmatic mandates
CSR DIVISIONS & INTEGRATED REVIEW GROUPS

If reviewed at CSR, your application will be assigned to one of 24 Integrated Review Groups of Study Sections:
Search for a CSR review group by searching for topics.

- Assisted Referral Tool (ART) - web-based tool for matching applications to CSR SRGs.

- Regular Standing Study Sections

*Not all study section or IC requests can be honored.*
Assignment Request Form

- Suggest that NIH assign your application to a particular scientific review group

- Suggest assignment to a specific awarding component (an NIH Institute or Center)

- Let NIH know of potential reviewers who you feel might be in conflict with your application.

- Describe the expertise needed to review your application.

*different from cover letter*
LEVEL 1 – INITIAL PEER REVIEW REVIEW

Key Decisions
- Scientific and technical merit of the proposed research
- Overall Impact
- Confirm appropriate justification of human subject protection, inclusion, vertebrate animals

Managed by Scientific Review Officer (SRO)
- Recruit Reviewers, makes reviewer assignments
- Convenes Study Section Meeting

Level 1
Scientific Review Group
- Scientific Focus & Mission Relevance
- Program Officials (POs)
- Initial Review Groups
- (CSR or ICs)
- Scientific Review Officers (SROs)
Scientific Review Officer (SRO)

- PhD level expertise related to science reviewed in their study section
- Recruits and selects reviewers to serve on review panels
  - Doctoral degrees or equivalent
  - Demonstrated scientific expertise/research support
  - Mature judgment and breadth of perspective in research and research administration
  - Work effectively in group context
  - Impartiality
  - Appropriate diversity (e.g., geographic distribution)

- Manages confidentiality and conflicts of interest
- Schedules and manages the study section meetings
- Prepares summary statements on peer findings of scientific merit
LEVEL 1 – INITIAL PEER REVIEW

PARTICIPANTS:

Study Section Chair
- Partners with SRO to conduct the meeting
- Guides and summarizes study section discussion
- Ensures all study section member opinions are given careful consideration
- Manages scientific discussions at the meeting, seeking balance between conciseness and thoroughness of discussions

Study Section Members
- 12-25 regular members
- From academia, biomedical industry, government research labs

Assigned Reviewers (3 per application)
LEVEL 1 – INITIAL PEER REVIEW

ENSURING INTEGRITY OF REVIEW:

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
NIH REVIEW CRITERIA

### Scored Review Criteria

- **Significance** – *should they do it?*
- **Investigator(s)** – *can they do it?*
- **Innovation** – *should they do it?*
- **Approach** – *can they do it?*
- **Environment** – *can they do it?*

Each scored from 1-9

### Additional Review Criteria

- Provisions for human subjects
- Appropriate use of vertebrate animals
- Inclusion - consideration of sex as a biological variable
- Management of biohazards

*must be convincingly addressed in the application so as to not detract from overall impact.*

### Overall Impact

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

*Should they do it? Can they do it?*

Scored from 1-9 (*1 is best*)
<table>
<thead>
<tr>
<th>Overall Impact</th>
<th>Scores</th>
<th>Examples</th>
</tr>
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| **High**      | 1 Exceptional  
                2 Outstanding  
                3 Excellent | Applications address a problem of high importance/interest in the field. May have some or no technical weaknesses. |
| **Medium***   | 4 Very Good  
                5 Good  
                6 Satisfactory | Applications may address a problem of high importance in the field, but weaknesses in the criteria bring down the overall impact to medium.  
Applications may address a problem of moderate importance in the field, with some or no technical weaknesses. |
| **Low***      | 7 Fair  
                8 Marginal  
                9 Poor | Applications may address a problem of moderate/high importance in the field, but weaknesses in the criteria bring down the overall impact to low.  
Applications may address a problem of low or no importance in the field, with some or no technical weaknesses. |

*Medium and Low Overall Impact - reviewers have concerns about significance of proposed science or perceive substantial weaknesses in approach, team of investigators, or innovation.*
BEFORE THE REVIEW MEETING

WHAT REVIEWERS DO:

- Examine assignments (~6-8 weeks prior to meeting)
- Orientation teleconference
- Sign Conflict of Interest and Confidentiality certifications
- Read applications, prepare written critiques
  - comment on each of five core criteria, discuss stronger and weaker points
  - draft a summary of overall impact
  - give scores for each criterion and overall impact, noting elements that contributed to impact
- Enter preliminary scores and critiques into secure website
- Read and consider critiques and preliminary scores form other study section members
**Objective of discussion**
- Reviewers are expected to openly discuss all perspectives leading to judgement of overall impact of application

**What is discussed**
- Reviewers discuss and score top half of applications based on average of preliminary overall impact scores from assigned reviewers
- *also discuss applications that any member wishes to discuss*
AT THE REVIEW MEETING

Procedure – Discussion of applications

- Any member in conflict with an application leaves the room
- Chair identifies assigned reviewers and announces preliminary scores to all present
- Reviewer 1 introduces application, presents critique, including all scoreable issues (scored criteria, human subjects protection, vertebrate animals, etc.)
- Reviewers 2 and 3 highlight new issues and areas that strongly impacted their judgement and scores
- Disagreements are discussed and clarified
- All members not in conflict are invited to join the discussion
AT THE REVIEW MEETING

Procedure – Determination of Final Impact Score

- Once discussion has revealed all points of view, then chair closes discussion
- Chair provides summary of critical points presented during discussion
- Assigned reviewers openly state final overall impact scores, defining the score range
- All panel members vote by private ballot based on discussion (if voting outside of range, then members must declare intent to do so and provide a rationale)
- Non scoreable issues discussed (budget, data sharing plan, foreign applicants, etc.)
- Final Impact Scores range from 10 - 90 (average of all reviewers’ scores multiplied by 10)
Available in eRA Commons

- Final Impact Score within 3 days
- Summary statement available within 4-8 weeks, available to:
  - Funding Institute Program Officer
  - PD/PI
  - Other NIH Officials
  - Advisory Council members

Summary Statement - contains reviewer critiques, criterion scores

- Page 1 – NIH PO, Final Impact Score, Percentile (if applicable), Budget Request
- Subsequent pages: Summary of discussion (if discussed), Criterion Scores from assigned reviewers, Reviewer critiques (essentially unedited), Meeting roster, Administrative Notes
**AFTER THE REVIEW**

- Point of Contact becomes the assigned NIH Program Official
- Applicants may need to:
  - Submit Just-In-Time (JIT) information
  - Resolve human subject, vertebrate animal, inclusion codes
  - Consider application options - submit a new application, revise and resubmit, or appeal the review outcome

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**After the Review**

- **Funding Institute(s)**
  - Scientific Focus & Mission Relevance
  - Program Officials (POs)

- **Scientific Review Group**
  - Initial Review Groups
  - (CSR or ICs)
  - Scientific Review Officers (SROs)
LEVEL 2 – ADVISORY COUNCIL REVIEW

Key Decisions
- Funding recommendations
- Confirm relevance to IC research priorities

National Advisory Councils
- Advise IC Director about research priorities, policy issues, future initiatives, funding priorities
- Recommend applications for funding – awards can’t be made without Council approval
- Consider unresolved appeals and grievances related to initial peer review
IC Director makes final funding decisions, based on:

- Mission of the NIH Institute or Center
- Program priorities, Congressional mandates
- Outcome (score/percentile) of initial peer review
- Additional outside expertise, if applicable
- Recommendation of IC program staff
- Recommendations of the IC Advisory Council
- Available Funds

**FUNDING DECISION**

1. **Application**
2. **CSR DRR**
3. **Scientific Review Group**
   - Scientific Focus & Mission Relevance
   - Program Officials (POs)
4. **Initial Review Groups**
   - (CSR or ICs)
   - Scientific Review Officers (SROs)
5. **Council**
6. **IC Director**
7. **Funding Decision**
NIH Center for Scientific Review

- For Applicants [website](#)
- Study Sections (Integrated Review Groups, Special Emphasis Panel) [website](#)
- Review Panels & Dates (rosters, meeting dates) [website](#)
- How to Become a Reviewer [website](#)

NIH Center for Scientific Review YouTube channel

- What Happens to Your NIH Grant Application [video](#) (2018)
- Top 10 Peer Review Q&As for NIH Applicants [video](#)
- NIH Peer Review Revealed [video](#)
- RO1 Grants: Navigating Peer Review [video](#) (2016)
- NIH Peer Review Briefing for Basic Research Applicants & Reviewers [video](#)
- CSR Insider’s Guide to Peer Review for Applicants [video, website](#)
TAKEAWAYS

Consider the questions for which reviewers are seeking answers:

- Should it be done?
- Can they do it?

Access resources, tutorials available through the Center for Scientific Review

- How to Become a Reviewer [website]
- Early Career Reviewer Program

Scored Review Criteria

- Significance – should they do it?
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- Innovation – should they do it?
- Approach – can they do it?
- Environment – can they do it?

Overall Impact

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

Should they do it? Can they do it?
FACULTY SUCCESS SEMINARS

Let Us Be Your Guide Through the Proposal Development Process

JOIN US IN IRIC 305
12:30 P.M. – 1:30 P.M. PT

Can't join us in person? Then join us live via Zoom: uidaho.zoom.us/j/798224314. Each seminar will be recorded and be available on our website.
THANK YOU FOR COMING!

QUESTIONS?

BEFORE YOU GO...

Please take a brief 3-question sli.do poll

www.slido.com or use the sli.do app

Use code #FSS
LET’S ASK OUR EXPERT

DR. RAJAL COHEN

Experience serving on a NIH review panel
- Reasons to serve
- Process to volunteer

What happens during a NIH Study Section meeting?
- How reviewers are trained
- How proposals are reviewed and scored

Lessons learned

Advice to early career PIs