The NIH Peer Review Process

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Scientific Review Officer
Synapses, Cytoskeleton & Trafficking (SYN) study section
Molecular, Cellular & Developmental Neuroscience (MDCN) Integrated Review Group (IRG)
Center for Scientific Review
NIH
Most Applications Go to the NIH Center for Scientific Review (CSR)

Focal Point for Initial Review at NIH

- Receives
- Refers
- Reviews
NIH Peer Review System for Grant Applications

1st Level
Scientific Review Group (Study Section)

2nd Level
NIH Institute/Center Council
Path from Idea to NIH Funding

INSTITUTION

National Institutes of Health

Center for Scientific Review
Assigns to NIH Institute and Peer Review Group

Study Section
Reviews for Scientific Merit

Institute
Evaluates for Relevance to Research Priorities

Advisory Council or Board
Recommends Action

Institute Director
Takes Final Action
Help Your Application Get to the Right Study Section

1. List of study sections on CSR website

www.csr.nih.gov → Study Sections → Chartered Study Sections
Help Your Application Get to the Right Study Section (cont.)

2. Assisted Referral Tool (ART)

www.csr.nih.gov ➔ Use our Guided Study Section Selector
Help Your Application Get to the Right Study Section (cont.)

3. NIH RePORTER database

https://projectreporter.nih.gov/reporter.cfm
Assignment Request Form (optional)

- Suggest Institute/Center assignment (+ and -)
- Study Section Requests (+ and -)
- Potential individuals in conflict (and why)
- Areas of expertise needed
Your SRO Convenes the Study Section Meeting
Discussions Focus on the Best Applications

- Reviewers typically discuss the top half
At the Meeting: Application Discussion

• Anyone in conflict with an application leaves the room
At the Meeting: Application Discussion (cont.)

- Anyone in conflict with an application leaves the room
- Reviewer 1 introduces the application and presents critique
- Reviewers 2 and 3 highlight new issues and differences of opinion in areas that significantly impact scores
- All panelists in the room are invited to join the discussion and then vote on the final overall impact score
# Review Criteria and Considerations: K vs. R Grant Applications

<table>
<thead>
<tr>
<th>Overall Impact</th>
<th>Career Development Grants (K01, K02, K07, K08, K23, K24, K25, K99)</th>
<th>Research Project Grants (R01, R21, R03)</th>
</tr>
</thead>
</table>
| Scored Review Criteria (Scored individually and considered in overall impact score) | • Candidate  
• Career Development Plan/ Career Goals & Objectives/Plan to Provide Mentoring  
• Research Plan  
• Mentor(s), Co-Mentor(s), Consultant(s), Collaborator(s)  
• Environment & Institutional Commitment to the Candidate | • Significance  
• Investigator(s)  
• Innovation  
• Approach  
• Environment |

PAR & RFA: May add questions to each scored criterion or additional criteria
## Review Criteria and Considerations (cont.)

<table>
<thead>
<tr>
<th>Additional Review Criteria</th>
<th>Career Development Grants (K01, K02, K07, K08, K23, K24, K25, K99)</th>
<th>Research Project Grants (R01, R21, R03)</th>
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<tr>
<td>(Not scored individually, but considered in overall impact score)</td>
<td>For Clinical Trials only: Study Timeline for Clinical Trials All: • Protections for Human Subjects • Inclusion • Vertebrate Animals • Biohazards • Resubmission • Renewal • Revision</td>
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</tr>
<tr>
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<td></td>
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NIH Center for Scientific Review
## Review Criteria and Considerations (cont.)

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<td>• Applications from Foreign Organizations</td>
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<td>• Select Agents</td>
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</tr>
<tr>
<td>• Resource Sharing Plans</td>
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</tr>
<tr>
<td>• Authentication of Key Biological and/or Chemical Resources</td>
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<tr>
<td>• Budget &amp; Period of Support</td>
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</tr>
</tbody>
</table>
Scored Review Criteria for K Applications

• Overall Impact
  – Assessment of the likelihood that the proposed career development and research plan will enhance the candidate’s potential for a productive, independent scientific research career in a health-related field

• Candidate
Scored Review Criteria for K Applications (cont.)

- Career Development Plan/Career Goals & Objectives/Plan to Provide Mentoring
  - Customized
  - Research/technical skills
  - Professional training

- Research Plan
  - Well-integrated with career development plan
  - Significance
Scored Review Criteria for K Applications (cont.)

• Mentor(s), Co-Mentor(s), Consultant(s), Collaborator(s)
  – Complementary skills
  – Strong history of training PIs
  – When adding senior faculty, justifying good fit
  – For K99, what candidate can take with them
  – Check for consistency

• Environment & Institutional Commitment to the Candidate
Scored Review Criteria for K Applications (cont.)

Very strong: people + science + plan
= competitive application

ADDITIONAL HELPFUL RESOURCES

See https://grants.nih.gov/grants/peer/critiques/k.htm for what reviewers are asking with respect to each criterion (specific to the type of K mechanism)

https://www.niaid.nih.gov/grants-contracts/application-advice-research-career-development-k-awards
Scored Review Criteria for R01s, R21s, R03s

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

• Significance
• Investigator(s)
• Innovation
• Approach
• Environment
### 9-Point Scoring Scale

<table>
<thead>
<tr>
<th>Impact</th>
<th>Score</th>
<th>Descriptor</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Impact</td>
<td>1</td>
<td>Exceptional</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Outstanding</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Excellent</td>
</tr>
<tr>
<td>Medium Impact</td>
<td>4</td>
<td>Very Good</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Good</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>Low Impact</td>
<td>7</td>
<td>Fair</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Marginal</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>Poor</td>
</tr>
</tbody>
</table>
Scoring

9-point score scale is used to provide:

- Criterion Scores
  - Candidate Career Development Plan/ Career Goals & Objectives/Plan to Provide Mentoring; Research Plan; Mentor(s), Co-Mentor(s), Consultant(s), Collaborator(s); and Environment & Institutional Commitment to the Candidate for Ks OR
  - Significance, Investigator, Innovation, Approach & Environment for Rs
- Overall Impact Score

All applications receive scores:

- Not discussed – initial criterion scores
- Discussed – initial criterion scores & avg overall impact score
Priority Scores/Percentile Rank

- Discussed applications are scored 1 (best) to 9 (worst)
- Average Final Overall Impact Score $\times$ 10 = Priority Score
- Percentile based on application’s rank
## Summary Statement

**Program Officer**

**Impact/Priority Score 10-90 range**

**Percentile in whole numbers**

**Indicator for Early Stage or New Investigators**

**Program Contact:** BARBARA CROFT PH.D.  
301 496-9531  
erastage@mail.nih.gov

**Application Number:**

**Principal Investigator:** [Name]

**Applicant Organization:** GCMB  
Gastrointestinal Cell and Molecular Biology Study Section

**Meeting Date:** 03/24/2008  
Council: MAY 2008  
Requested Start: 07/01/2008

**Project Title:**  
SRG Action: Impact/Priority Score: 20  
Human Subjects: 10-No human subjects involved  
Animal Subjects: 10-No live vertebrate animals involved for competing appl.

<table>
<thead>
<tr>
<th>Project Year</th>
<th>Direct Costs Requested</th>
<th>Percentile: 29</th>
<th>Estimated Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>250,000</td>
<td></td>
<td>291,200</td>
</tr>
<tr>
<td>2</td>
<td>250,000</td>
<td></td>
<td>291,200</td>
</tr>
<tr>
<td>3</td>
<td>250,000</td>
<td></td>
<td>291,200</td>
</tr>
<tr>
<td>4</td>
<td>250,000</td>
<td></td>
<td>291,200</td>
</tr>
<tr>
<td>5</td>
<td>250,000</td>
<td></td>
<td>291,200</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>1,250,000</strong></td>
<td></td>
<td><strong>1,456,000</strong></td>
</tr>
</tbody>
</table>

**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**

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**NIH Center for Scientific Review**
Your Career Stage Is Considered

- If you are a New Investigator or Early Stage Investigator (R01s)
  - Less emphasis on preliminary data and publications
  - More emphasis on training
Jumpstart Your Career: CSR Early Career Reviewer Program
Early Career Reviewer (ECR) Program Goals

• Train and educate
• Expose to the peer review experience
• Enrich the pool
Qualifications for the Early Career Reviewer (ECR) Program

- Demonstrated training and experience by:
  - A faculty appointment or equivalent
  - An active independent research program
  - At least two senior-authored research publications in peer-reviewed journals in the past two years
- No previous CSR review
- New Investigator
How to Apply for the ECR Program

- Instructions are at [www.csr.nih.gov/ECR](www.csr.nih.gov/ECR)
- If eligible, your name is entered in ECR database
- You may be invited to serve as an ECR
- You can also email Scientific Review Officers
Personal Observations

- Planning your project
  - Program Officers
  - Preliminary studies
- Pay attention to the writing (story)

_There is no amount of grantsmanship that will turn a bad idea into a good one . . . . But there are many ways to disguise a good idea._

_Dr. William Raub, former Deputy Director, NIH_
Personal Observations (cont.)

- Everchanging guidelines, forms, etc.
  
  [www.grants.nih.gov](http://www.grants.nih.gov)

- Start early

- Note extenuating circumstances in Biosketch
Personal Observations (cont.)

- Growth mindset
- Understand the randomness
Personal Observations (cont.)

- Publish!
- Get some review experience

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