Research Development Quarterly Workshop Series

Winter 2013: Strategies for Success in Winning NIH Funding

Presentation 3:30 pm
Panel Discussion 4:00 pm

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Agenda and Format

• Funding Success at NIH (presented by Randal Berg)
• Panel introductions
  – Steve George, Professor, Biomedical Engineering, and Director of The Edwards Lifesciences Center for Advanced Cardiovascular Technology
  – Andy Borovik, Professor, Chemistry, School of Physical Sciences
  – Robin Bush, Associate Professor, Ecology & Evolutionary Biology, Associate Dean Research, School of Biological Sciences
• Question and Answer period
Success in NIH Funding

• Know your target
  – Structure and organization; Strategic goals
• Funding mechanisms
• Searching funding opportunities
• Grant proposal elements
• Review process
  – Scoring and summary statement
• Strategies for success
• Pitfalls to avoid
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 the burdens of illness and disability.

- 27 Centers/Institutes
  - NCI
  - NEI
  - NHLBI
  - NIMHD
  - NCATS
  - CSR
Center for Scientific Review
(http://public.csr.nih.gov/ApplicantResources/Pages/default.aspx)

Tips for applicants
What happens to your grant
Peer review video
NIH Funding Mechanisms

- Individual research grants (R01, R03, R21)
- Team science funding (R24, R25, U01, U19)
- Career development awards (K08, K22, K23)
- Training grants (T32, F31)
- Center grants and program projects (P01, P20, P30)
- Resource related grants (S10)
Searching NIH Funding Opportunities
Searching NIH Funding Opportunities

- NIH reporter
  - http://projectreporter.nih.gov/reporter.cfm
- NIH webpage
- Weekly update
- Research development
  - http://www.research.uci.edu/funding/databases.htm#fundopp
- SciVal funding, SPIN, Grant Forward
Grant Proposal Elements

- **Specific Aims Page** (the most important page in grant)
- **Research Strategy** (next most important 6 or 12 pages)
- **Significance**
  - *Describe how the concepts, methods, technologies, treatments, services, or preventative interventions that drive this field will be changed if the proposed aims are achieved.*
- **Innovation**
  - *Explain how the project challenges and seeks to shift current research or clinical practice paradigms.*
- **Approach**
  - *Describe the overall strategy, methodology, and analyses to be used to accomplish the specific aims of the project. Unless addressed elsewhere include how the data will be collected, analyzed, and interpreted as well as any resource sharing plans as appropriate.*
• **Approach**
  
  – *Discuss potential problems, alternative strategies, and benchmarks for success anticipated to achieve the aims.*

  – *If the project is in the early stages of development, describe any strategy to establish feasibility, and address the management of any high risk aspects of the proposed work.*

  – *Preliminary Studies for New Applications. For new applications, include information on Preliminary Studies as part of the Approach section. Discuss the Project Leader’s preliminary studies, data, and/or experience pertinent to the project.*
Grant Proposal Elements

- Project Summary/Abstract (30 lines, general audience)
- Project Narrative (2 lines, health relevance)
- Facilities and Other Resources
- Biographical Sketch
- Bibliography and References Cited
- Letters of support and collaboration
- Budget
- Budget Justification
- Appendix
Review Process

• Your grant is assigned to primary and secondary reviewers who provide detailed written critiques – including specific strengths and weaknesses
• Others on the grant panel review the grant
• Reviewers submit an overall impact/priority score
• Grant panel meets to discuss the top half of proposals
• Primary reviewer leads, followed by secondary reviewer and then others add comments
• All panel members then score the grant (secret ballot)
## Review Process

### 9 point scoring system

<table>
<thead>
<tr>
<th>Impact</th>
<th>Score</th>
<th>Descriptor</th>
<th>Additional Guidance on Strengths/Weaknesses</th>
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</thead>
<tbody>
<tr>
<td><strong>High</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Exceptional</td>
<td></td>
<td>Exceptionally strong with essentially no weaknesses</td>
</tr>
<tr>
<td>2</td>
<td>Outstanding</td>
<td></td>
<td>Extremely strong with negligible weaknesses</td>
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<tr>
<td>3</td>
<td>Excellent</td>
<td></td>
<td>Very strong with only some minor weaknesses</td>
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<tr>
<td><strong>Medium</strong></td>
<td></td>
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<tr>
<td>4</td>
<td>Very Good</td>
<td></td>
<td>Strong but with numerous minor weaknesses</td>
</tr>
<tr>
<td>5</td>
<td>Good</td>
<td></td>
<td>Strong but with at least one moderate weakness</td>
</tr>
<tr>
<td>6</td>
<td>Satisfactory</td>
<td></td>
<td>Some strengths but also some moderate weaknesses</td>
</tr>
<tr>
<td><strong>Low</strong></td>
<td></td>
<td></td>
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<tr>
<td>7</td>
<td>Fair</td>
<td></td>
<td>Some strengths but with at least one major weakness</td>
</tr>
<tr>
<td>8</td>
<td>Marginal</td>
<td></td>
<td>A few strengths and a few major weaknesses</td>
</tr>
<tr>
<td>9</td>
<td>Poor</td>
<td></td>
<td>Very few strengths and numerous major weaknesses</td>
</tr>
</tbody>
</table>

Non-numeric score options: NR = Not Recommended for Further Consideration, DF = Deferred, AB = Abstention, CF = Conflict, NP = Not Present, ND = Not Discussed

Minor Weakness: An easily addressable weakness that does not substantially lessen impact
Moderate Weakness: A weakness that lessens impact
Major Weakness: A weakness that severely limits impact
Review Process

• Five elements are given a score
  – Significance; Investigator; Innovation; Approach; Environment

• Grant is given an overall impact/priority score
  – Reviewers focus on the likelihood for the proposed research to exert a sustained, powerful influence on the research field(s) involved.

• These are averaged, then multiplied by 10 to arrive at your grant impact/priority score (range is 10 – 90)

• Summary statement will review the discussion, and include details of strengths and weaknesses in each of the 5 elements from primary and secondary reviews
Strategies for Success

• Start early
  – Plan, write, review, revise, seek assistance

• Incorporate feedback
  – Revision and improvements, fill gaps and correct errors

• Write in layers
  – Experts, non-experts, bored reviewers will be reading

• Follow instructions
  – Administrative review could result in rejection

• Make it easy for the reviewers
  – Give them material for your grant’s strengths

• Use diagrams and figures to tell your story
  – A (useful) picture is worth 1,000 words
Pitfalls to Avoid

• Overuse of jargon and abbreviations
  – Non-experts will be reviewing and scoring your grant

• Overly ambitious proposal
  – Be realistic about what can be accomplished (time & money)

• Lack of focus
  – Trying to do too much often leads to unfocused proposals

• Last-minute submission
  – Start early, submit early, to allow time to review, proof-read and include suggestions from colleagues

• Gaps in logic, preliminary data, expertise
  – Demonstrate that your team is capable of doing the work, include collaborators if necessary
Important Resources

- **NIH Homepage**: http://nih.gov/
- **NIH Past Awards**: http://projectreporter.nih.gov/reporter.cfm
- **NIH Program Officers**: use proper etiquette when contacting them
- **Postdocs**: Writing assistance at the UCI Graduate Resource Center - http://www.grad.uci.edu/services/grc/index.html
- **Faculty**: Research Development Professionals in your School - http://www.research.uci.edu/rdocsps/index.htm
- Past awardees in your School or Department
- Mentors and colleagues
Summary

• Know your target and their strategic goals
• Find appropriate fit between your research and the funding mechanisms and opportunities
• Follow instructions and include all grant proposal elements
• Strategies for success: start early, incorporate feedback, use diagrams, write in layers, make it easy for reviewers
• Pitfalls to avoid: (see above)

• Questions?

• Introductions and panel discussion