What makes a compelling NIH grant proposal?

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Background

• BMRD Reviewer and now ex-Chair
  I am commenting as an individual

• Participated in many successful, and even more unsuccessful, NIH grant applications
  – As Co-I and some as PI

• Participated in many NIH study sections
  – I have read many, many, many, many, many, many, many grant applications ;)

UC San Diego
DIVISION OF BIOSTATISTICS & BIOINFORMATICS
NIH grant basics

- Review is conducted by the Center for Scientific Review
  - Most grants are *scored* in a Study Section
    - E.g. BMRD
- Funding decisions are made by an institute or center (27 of them).
  - *Talk* to your Program Officer at e.g.
    - NCI- National Cancer Institute
    - NIA- National Institute on Aging
NIH grant basics

- Each institute has its own **payline**
  - The score below which funding is likely

- Early Stage or New Investigator PI’s have a funding advantage

- There are specific RFA’s and PA’s, but most applications are to the parent PA
  - I.e. the general request for R01 or R21 proposals
NIH websites are a resource!

- The Center for Scientific Review
  - https://public.csr.nih.gov/ForApplicants

- StatFund at NCI
  - Your NIH center’s website

PS: This Grant Writer’s Workbook is used at UCSD for training
Learn about review criteria

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

<table>
<thead>
<tr>
<th>Overall Impact</th>
<th>High</th>
<th>Medium</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score</td>
<td>1 2 3</td>
<td>4 5 6</td>
<td>7 8 9</td>
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**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, animal welfare, inclusion plans, and biohazards

- e.g. Applications are addressing a problem of **high** importance/interest in the field. May have some or no weaknesses.
- e.g. Applications may be addressing a problem of **high** importance in the field, but weaknesses in the criteria bring down the overall impact to medium.
- e.g. Applications may be addressing a problem of **moderate/high** importance in the field, but weaknesses in the criteria bring down the overall impact to low.
- e.g. Applications may be addressing a problem of **low** or no importance in the field, with some or no weaknesses.

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

- https://public.csr.nih.gov/ForReviewers/BecomeAReviewer/ECR

Early Career Reviewer (ECR) Program

The ECR Program develops qualified scientists without prior CSR review experience into well trained reviewers to advance their careers and enrich the existing pool of NIH reviewers.
Personal comments

Each reviewer will read 9 or 10 grants

Reviewers will not all be expert in your area

Make it easy for reviewers to grasp the main new ideas and the specific impact of your proposed work.
Personal comments

• Be clear, be concise
• Situate the work in the literature
• Tell us WHY IT IS IMPORTANT
• Demonstrate REAL WORLD impact
  – Applications should be convincing
• Convey statistical ideas
  • With adequate technical detail
  • But make the ideas accessible
Suggestions

• Have others read and comment on your application
• Revise, revise, revise
• Persistence in submitting is the best long term strategy
  – It is rare to be funded on first try
Good luck, have fun, learn a lot!!