Tips & Tricks for Submitting an NIH Grant

Presentation by **Nika Stoop**, Center for Faculty Excellence

**Guests Panelists**
- Ed Dratz, Professor, Chemistry & Biochemistry
- Alex Adams, Director, Center for American Indian and Rural Health Equity
5 Tips & Tricks

• Good Science
• Specific Aims page is crucial
• Talk to your Program Officer
• Find the right Study Section
• Keep the reviewers in mind
Parts of the Proposal

**Narrative**
- Specific Aims
- Research Strategy
  - Significance
  - Innovation
  - Approach
- Preliminary Data
- References
- Project Summary/Abstract
- Project Narrative

**Forms**
- Biographical Sketch
- Project Performance Sites
- Senior/key personnel
- Budget & Budget Justification

**Supporting Docs**
- Resource Sharing Plans
- Select agent research
- Authentication of Key Biological and/or Chemical Resources
- Protection of Human Subjects
- Multiple PD/PI Leadership Plan
- Vertebrate Animals
- Letters of reference/institutional commitment
- Letters of Support/Commitment
- etc
1. Know the Path of a Successful Application

- 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
Describing GOOD SCIENCE
Formula for Conveying GOOD SCIENCE

• GOOD SCIENCE that is well described in an application.

SIGNIFICANCE + APPROACH + INNOVATION = GOOD SCIENCE

Adapted from Allen Harmsen, former Director of Montana INBRE, Professor, Microbiology & Immunology
CONFIDENCE

- CONFIDENCE – an application that makes the reviewer confident that proposed experiments are accomplishable, and if accomplished, that the results will represent a significant increment of increased knowledge.

Good PRELIMINARY DATA + well designed APPROACH + INVESTIGATOR PRODUCTIVITY = CONFIDENCE
IMPACT

- IMPACT – a well prepared application conveys the GOOD SCIENCE, SIGNIFICANCE and CONFIDENCE, and thus IMPACT.

GOOD SCIENCE + CONFIDENCE + SIGNIFICANCE = IMPACT

IMPACT = FUNDING
Specific Aims
Specific Aims

MOST CRUCIAL PART OF THE PROPOSAL

• Why?
  – Before you submit
    • Outlines the proposal
    • Used to start the discussion with the Program Officer
    • Used to start discussions with collaborators
  – After you submit
    • It is the first thing your reviewers read
    • Sets the stage for the rest of the proposal
Specific Aims

MOST CRUCIAL PART OF THE PROPOSAL
• Start and end with this 1 page
• State the problem
• State what is not known
• State you prelim. results that address what is not known
• State hypothesis based on prelim. results
• State ~3 specific aims that will test this hypothesis
• What will the fall back be if a key/new step does not work as anticipated?
Talking to your PO
Study Sections & Institutes
What Study Section and Institute is right for me?

- NIH **Reporter** – current funded projects
- NIH **Matchmaker**
Skeletal Biology Structure and Regeneration Study Section [SBSR]

The Skeletal Biology Structure and Regeneration [SBSR] study section reviews applications involving basic and applied aspects of the cellular/tissue elements of the musculoskeletal system; their interaction in joints (and the spine); their response to normal loading, injury, aging and diseases/disorders; and their regeneration and repair.

Rosters

SBSR Membership Roster  SBSR Meeting Roster

Topics

» Molecular and cell biology of bone, cartilage, tendon and ligament injury and repair.

» Gene expression, gene regulation, and gene therapy in the processes of injury and repair of musculoskeletal tissues.

» Mechanobiology and biomedical mechanics at the molecular, cellular, tissue and organ level.

» Nature of musculoskeletal injuries, and selected disorders and/or diseases of infectious, degenerative, traumatic and/or age-related etiologies (this includes sports-related and repetitive motion disorders, and the wear, injury-induced and degenerative changes manifest in articular and meniscal cartilage).
NIAMS Priorities

Director's Page
NIAMS Director Stephen I. Katz, M.D., Ph.D., oversees an extensive portfolio of basic and applied research.

Long-Range Plan
Read the NIAMS long-range plan and research priorities for FY 2015-2019.

Advisory Council
The Council meets to advise NIAMS about its research portfolio and broader issues of science policy and provides peer review of grant applications.

National Institute of Arthritis and Musculoskeletal and Skin Diseases

• Explain how your project can meet the priorities of the Institute
Understanding Reviewers
Qualifications for the Early Career Reviewer Program

• Demonstrated training and experience in the scientific areas under review as evidenced by:
  • Two or more years in faculty appointment or the equivalent
  • An active independent program of research
  • At least 2 senior authored research publications in peer reviewed journals in the past 2 years

You cannot have an R01 grant or have served on a CSR study section.

Want to apply? Instructions at www.csr.nih.gov/ECR
Anticipate Reviewer Questions

• Can your research move your field forward?
• Is the field important—will progress make a difference to human health?
• Can you and your team carry out the work?
• Will the investigators be able to get the work done within the project period, or is the proposed work over ambitious?
• Did the PI describe potential pitfalls and possible alternatives?
• Will the experiments generate meaningful data?
• Could the resulting data prove the hypothesis?
• Are others already doing the work, or has it been already completed?
QUESTIONS?
Application Information

Tip:
- Some actions (e.g., Preview Application) are only available from this screen. The Return to Application action can be used to return to this screen.
1. Research Plan Attachments:
Please attach applicable sections of the research plan, below.

1. Introduction to Application
   (for RESUBMISSION and REVISION only)
2. Specific Aims

* 3. Research Strategy

4. Progress Report
   Publication List

Human Subjects Sections
5. Protection of Human Subjects
6. Inclusion of Women and Minorities
7. Inclusion of Children

Other Research Plan Sections
8. Vertebrate Animals
9. Select Agent Research
10. Multiple PD/PI Leadership Plan
11. Consortium / Contractual Arrangements
12. Letters of Support
13. Resource Sharing Plan(s)
14. Appendix
Links to More Info

- https://public.csr.nih.gov/StudySections/Standing/Pages/default.aspx
- https://www.niaid.nih.gov/grants-contracts/write-research-plan#A17
- https://grants.nih.gov/grants/how-to-apply-application-guide/forms-e/general/g.240-r&r-seniorkey-person-profile-(expanded)-form.htm#Instructions
- https://projectreporter.nih.gov/reporter_matchmaker.cfm