Program in Neuroscience
The Florida State University

Grant Writing Workshop 2013

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How to find if grants are available

- http://grants.gov
- http://grants.nih.gov

- Concept of the grant "mechanism"

How do I know if it is right for me?

- Read the Program Announcement
  - grants.nih.gov/grants/guide/pa-files/PA-11-113.html
- Contact the Program Officer

How do I know where which Institute to choose?

National Institutes of Health (NIH) Structure

- Comprised of 21 Institutes, 6 Centers
- Each institute has own mission areas
- Each Institute or Center has own budget

Cancer (NCI) (1937)
Eye (NEI) (1968)
Heart, Lung, and Blood (NHLBI) (1948)
Human Genome Research (NHGRI) (1989)
Aging (NIA) (1974)
Alcohol Abuse and Alcoholism (NIAAA) (1970)
Allergy and Infectious Diseases (NIAID) (1948)
Arthritis and Musculoskeletal and Skin Diseases (NIAMS) (1986)
Biomed Imaging and Bioengineer (NIBIB) (2000)
Child Health and Human Devel (NICHD) (1962)
Deafness and Other Communication Disorders (NIDCD) (1988)
Dental and Craniofacial Research (NIDCR) (1948)
Diabetes and Digestive and Kidney Diseases (NIDDK) (1950) Drug Abuse (NIDA) (1974) Environmental Health Sciences (NIEHS) (1969) General Medical Sciences (NIGMS) (1962) Mental Health (NIMH) (1949) Minority Health and Health Disparities (NIMHD) (1993) Neurological Disorders and Stroke (NINDS) (1950)
Nursing Research (NINR) (1986) National Library of Medicine (NLM) (1956)

NIH CENTERS
Center for Information Technology (CIT) (1964)
Center for Scientific Review (CSR) (1946) Fogarty International Center (FIC) (1968) National Center for Complementary and Alternative Medicine (NCCAM) (1999)
National Center for Advancing Translational Sciences (NCATS) (2011) NIH Clinical Center (CC) (1953)

Institute Structure

- Headed by a Director
- Intramural: internal labs/clinical care
- Extramural: grants, conferences, workshops
- Each Institute has Advisory Council
  - New directions – approve requests for applications (RFA) and program announcements
  - Recommend funding of grants

Institute Structure (cont.)

- Organized into Programs
- Each Program headed by Program Officer
  - Scientist with knowledge about field
  - Responsible for promoting grants in their program
  - "Training officer" may be responsible for NRSAs across Programs

Center for Scientific Review (CSR)

- CSR responsible for most grant reviews
- Organized into Integrated Review Groups (IRGs)
  - Cluster of Study Sections in common scientific area

- IMPORTANT: you want your grant sent to the appropriate study section!

How do I know where which Institute/study section to recommend?

- http://projectreporter.nih.gov/

Influencing Assignment

- Communicate with Institute program officers
- Write cover letter with grant, recommending study section and Institute
  - May indicate people NOT to review (rarely needed)

Study Sections

- Study sections headed by Scientific Review Officer (SRO) who works for CSR – a scientist trained in area
- Study section members (reviewers) chosen by SRO
  - Usually 1-2 dozen members
  - Outside scientists appointed for multi-year terms or ad hoc members for one meeting
- SRO puts together reviews after meeting, put on Commons web site
- Program officer communicates with applicants

What Happens When You Submit an NIH Grant

- You submit (Sponsored Research actually submits)
- Assigned to Institute, IRG and Study Section
- Assignment based on your title and abstract; cover letter
- You get notice with assignment to study section and SRA, institute, program director and grant number

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| status grant (new, renewal) | Type | Institute | Number | Year of project | Resub. |

Grant Review: CSR

- http://public.csr.nih.gov/

Study Section Review

- Grant assigned to 3 reviewers by SRO
- Reviewers are scientists
  - You cannot recommend reviewers
  - You can highlight people who might be in (negative) conflict
  - May be your friends, but with no conflict of interest
  - Each reviewer will have several grants to review in ≈ 6weeks
- Write independent critiques based on their knowledge and guidelines
- Submit review in advance of meeting, then can see other reviewers comments
- Full committee gets all grants
- Strict confidentiality

How do I know what they are looking for?

- http://public.csr.nih.gov/

Reviewing the Application

- Reviewer assigned to cover criteria:
- Sell grant to reviewer
  - Write so reviewer can easily address all assigned points in the review

Study Section Meeting

- Based on preliminary score SRO decides which not to discuss (triaging), If reviewers agree then given a "ND"
- If recommend discussion, primary then summarizes proposal and review
- Second, third reviewers then state their agreement differences
- Whole panel discusses briefly – study section has 60-80 grants to review in 2 days
- Final scores proposed by reviewers
- Panel generally scores within the range recommended

Study Section Scoring

- Everyone votes scores, but not everyone reads grant!
- Scores from 1 to 9.
- Scores then ranked and calculate percentile
  - NRSAs not percentiled: training staff has latitude
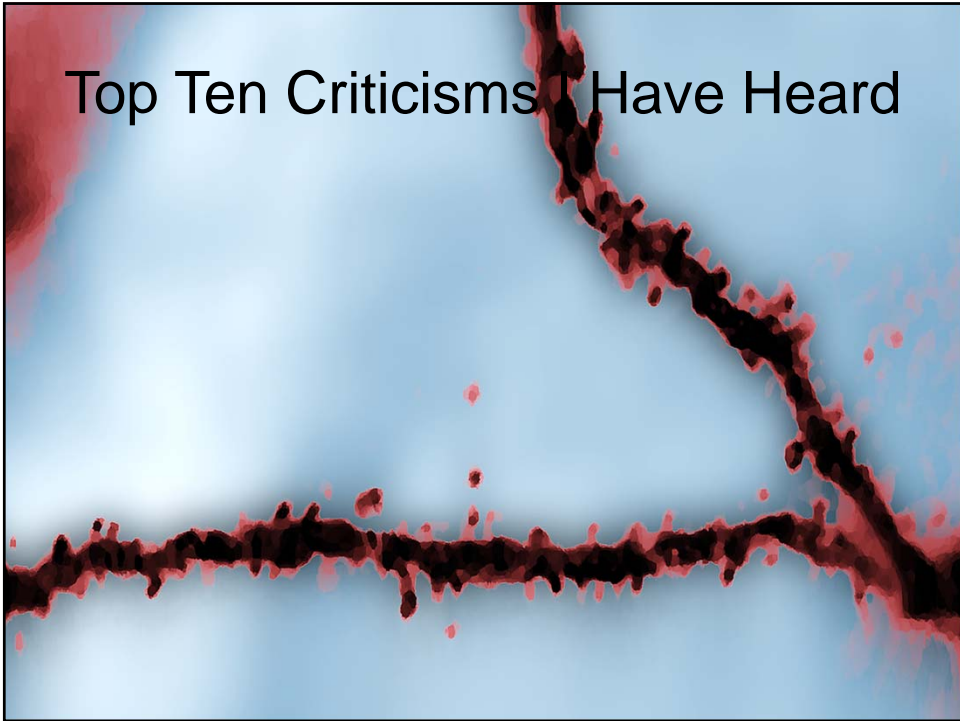- All of this advisory to Institute

Program Review

- Each Institute Advisory Council makes final recommendation
- Generally simple process – go down the line. But…
- Program directors can recommend funding out of order
  - "Programmatic need"
  - Young investigator
- Institute staff makes final decision

Summary Statement

- Resume and Summary of Discussion
  - Attempt to highlight main strengths and weaknesses as discussed at the meeting
- Critique 1
  - Written by reviewer 1 before meeting but may be modified after meeting if they feel the need
  - Addresses each point:
- Critique 2, 3 – same things
- Will also address all the various administrative concerns

Tracking Progress

- Log on to NIH Commons
- Check for info on your grant
  - Date of meeting
  - Get summary statements
  - Names of people to contact with questions

Top Ten Criticisms I Have Heard

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10   Doesn't fit the mechanism

9   Training Potential
- Will not increase marketability
- Been training long enough

Top Ten Criticisms I Have Heard

8   Candidate
- Productivity
- Academic history

7   Mentor
- Concerned about the mentorship available
- "Mentor should have caught that error"
- Mentor is not skilled in the area

Top Ten Criticisms I Have Heard

6   Rationale for Experiments
- Flawed logic
- Naïve understanding of the field

5   Experimental design
- Fatal flaws in logic or design
- Lack of detail (but less expected now)
- Lack appropriate controls

Top Ten Criticisms I Have Heard

4 Promise/Feasibility

- "What if it doesn't come out that way? Is the project over?"
- "Preliminary data difficult to interpret/unconvincing"
- "If they can do it….." (risky)
- "Neither applicant nor mentor have expertise that method"

Top Ten Criticisms I Have Heard

3 Hypotheses

- Not Hypothesis-driven
  - Not original, important or exciting
  - Correlative results, not mechanistic
  - Descriptive
  - A "fishing expedition"

Top Ten Criticisms I Have Heard

2 Grantsmanship

- Poor organization – (outline in
- Careless preparation
- Not clearly written

1   Overambitious!

Good Predoctoral Proposals

- Good ideas; exciting
- Clear What, Why, and Can
- Hypothesis-driven
- Good "training opportunity"
  - Must make you competitive for job at next level
  - Not too risky; must be able to complete and get publishable results
  - Good match between student interests and mentor

The Grant – Based on A Good Idea

- Theory-driven
  - Some concept behind project, not "I wonder if" or "it would be cool if", etc.
  - Some rationale for why you think this is worth pursuing

- The idea: Novel/Original/Creative
  - Results should move field forward

The Project

- Feasibility!
  - Do-able, and do-able by you, and do-able in your timeframe
  - Have you or your sponsor published methods and preliminary data?
  - Include collaborators for strength – don't try to be expert at everything – if there is not published proof that you and/or your mentor have used that technique, get a collaborator to write a support letter
- Can it be done at your institution – facilities, patients, etc.

"Over-ambitious" is Major Error

Don't propose more than is reasonable to do in time allotted.

Very rare for grant to be criticized because does not propose enough - common to be criticized as over-ambitious
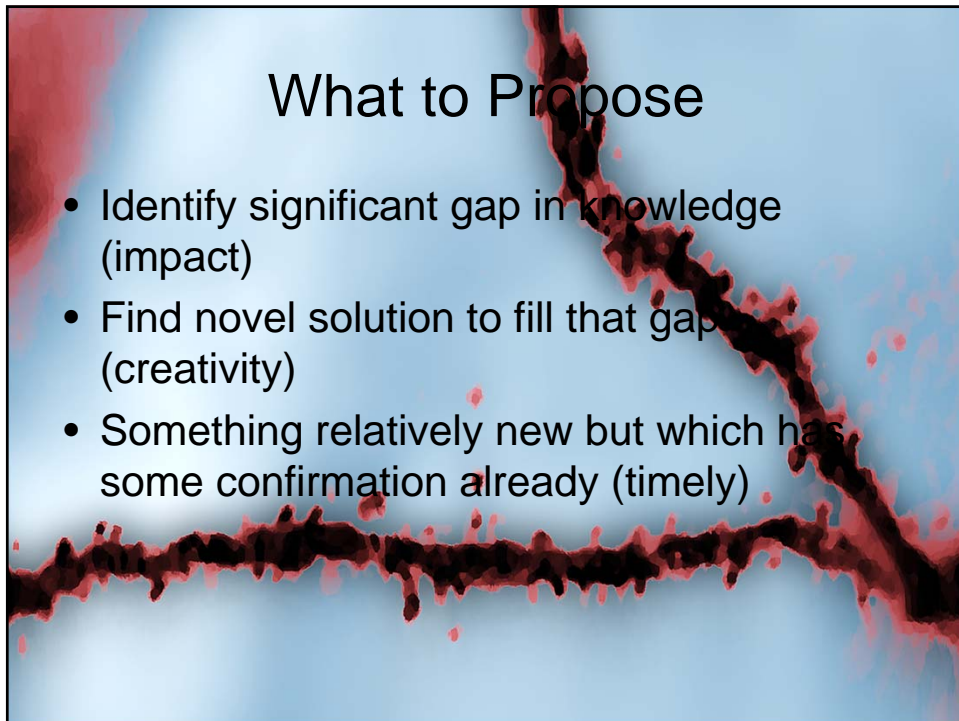
Fit the Mechanism

- Every funding agency has a mission
  - Every type of grant mechanism has distinct goal

- NIH vs NSF

What to Propose and Where to Send It

- First identify the NEED
- Find out what is a priority for that agency
  - NIH RePorter: http://projectreporter.nih.gov/

What to Propose

- Identify significant gap in knowledge (impact)
- Find novel solution to fill that gap (creativity)
- Something relatively new but which has some confirmation already (timely)

Factors for success

- Commit to the process (time management)
  - Think ahead/Plan Backwards
- Don't work in vacuum
  - Bounce idea around and refine plan
- Be a good salesman

What to Avoid

- High risk projects (particularly for NRSA)
- Confirmatory projects of accepted ideas
- Bad ideas…..

Competitiveness

- Be your own critic:
  - Do you have the expertise, resources and preliminary data
  - Do you know the literature
  - Will this make you a long-term contributor to the field (particularly for early awards)

Important for Success

- Contact Program Officer!
- When?
  - As soon as a general plan is in place (specific aims)
- How?
  - Email: list of contacts is posted in Program announcement
- What to ask?
  - Does it fit mission of that institute
  - Is the a particular study section that I should request

Contacting Program Officer

- Why?
  - Does it qualify for the mechanism?
  - Does the work fit the mission?
    - Can something be done to maximize
    - May give advice on better pitch to current attitudes
  - Is there a particular study section to request?
    - CSR: http://public.csr.nih.gov/
  - They will be giving feedback
  - They have power in the end