Peer Review
Author vs. Reviewer

GRANT WRITING 101
Where to begin?

- Funding sources
  - Federal – NIH, USDA, NSF, DOD, and others
  - State – ARP, ATP
  - Private – commercial companies, private foundations, private gifts

Grants vs. Gifts vs. Contracts all have different issues to consider e.g. IP, publishing, indirect costs, freedom to change the plan and/or manipulate the budget, etc. MOAs vs. no formal contract.

Getting Started

- What do I want to do?
- What can I do?
- What can’t I do
  - collaborators?
- Who will fund this?
  - monitor RFAs, set up searches, sign up for e-mail alerts providing new RFAs on a weekly basis.
The Basics

• You need a novel, exciting idea
• Do your best to develop hypothesis driven experiments with appropriate controls
• Sometimes experiments may involve simple observation for discovery

Anatomy of a Grant Proposal

• Routing page (internal document, first grant I didn’t do this)
• Cover letter/page
• Abstract/project summary
• CVs
• Resources and facilities
• Work plan
• Human Subjects
• Animal Subjects
  ➔ AUPs, IBCs
• Bibliography
• Budget and budget justification
• Appendix
Anatomy of the Work Plan

• Specific Aims
• Justification
  ➢ Very important—your going to solve world hunger

Preliminary Studies
  ➢ Very important—you have to demonstrate you can do the work and already have data to support your hypothesis/ideas (some grants, R21, don’t require)

• Experimental Plan
  ➢ Materials and methods, describe experiments
  ➢ Expected outcome
    ➢ What do you expect to demonstrate and reemphasize why this is important
  ➢ Potential pitfalls
    ➢ Be honest and don’t blow smoke. Humility is important as well as solutions. Identify the problems then provide potential solutions
  ➢ General work effort and final comments
    ➢ Who will do what, when, where, and provide a time line

Keys to Success

• Tell a good story that has a beginning a middle and an end! Think BEST SELLER!!
• As much as possible write so someone who has taken high school biology can understand
• When your grant gets trashed, don’t get mad or frustrated
  ➢ Write your first response, tell them what idiots they are, print, read, then throw it in the trash and forget it.
  ➢ Read the reviews carefully and resubmit
    ➢ Respond to every concern, be confident in your response but with humility and respect. Thank the reviewers for their time.
Keys to Success

- Submit and resubmit and resubmit
  - Keep a bottle of champagne ready but buy a good one as you may have to keep it a while
  - If you get 1 in 5 grants funded you will be a super-star
- Try to always keep 1-2 grants under review as it takes a long time for the process i.e. 6-8 months before you get your reviews back and 1 year before you ever receive any $.
- Leverage – always try to identify and utilize this

Why do this? its just too difficult and stressful !!

- Your writing the new text books
- In fact you might solve world hunger
- You might get rich!!
  - Academia vs. Commercial employer, potential IP and royalties
- The feeling of success and self-fulfillment is incredible
- You get to do what you want/love and be in control of your own life/destiny
- You get to drink the champagne!!
Reviewer Concerns

Do I understand, Can I review this?
humility is important.
OK to get help, just keep confidential.
OK to say I can’t do this.
Is the idea novel?
Does the idea excite me?
Do I have a conflict of interest?

Reviewer Concerns (cont.)

- Is it clear what the author wants to do and easy to understand
- Are the methods up-to-date
- Does the hypothesis/reasoning make sense
- Does the PI have the ability to do this work/have preliminary data

!!!!!!!!!!!!!
Reviewer Concerns (cont.)

- What is the risk vs. benefit
  - If experiment one fails does this trash the whole grant?
- Is the research new, innovative, will have a significant impact. (Sheep hemophilia model example)
- Does the grant fit with the program? (USDA BRAG example)

Author Concerns

- Mirror image of Reviewer concerns !!!
- Have someone who knows nothing about what you are doing read the grant/paper and see if they understand it.
- For grants, resubmission, Pay extremely close attention to the reviewer comments
Author Concerns

• Go underground if you can and find out more information i.e. talk to your Program Director to find out what was discussed. What were the comments not written in summary statement.

• HUMILITY – Even though you think it is interesting and great and important does not make it so in reviewers mind. You have to convince them, or move on.

Author Concerns (cont.)

• Take advantage of RFAs
• Independent vs. Multiple PI
  ⇔ If you can do it/no experience/no pubs/no preliminary data, you better have someone on your grant that can.

• Take advantage of programs for new faculty.
• Don’t be afraid to reach out. What is the worst that can happen? (G. Hannon, K Cornetta).