Developing a Grant Proposal: Necessary Steps Along the Way!

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Grant? Idea!

Items to consider:

• Organization-Foundation-Association-Society
• Funding opportunities *(PA/RFA/RFP/NOT)* *(subscribe to:*
  
  *i) UF’s newsletter* - http://research.ufl.edu/fyi

  *ii) COS* - http://fundingopps.cos.com/

  *iii) Grants.gov:*
  
  http://www.grants.gov/applicants/email_subscription.jsp

Ideas and Hypothesis

• Teams *(co-PI, co-inv, coll)* [http://vivo.ufl.edu/](http://vivo.ufl.edu/)
  
  *(Internal, External from your Dept, External from UF)*

• Budget, Stats, Feasibility

• Paperwork *(RAC-DSR, IRB, IACUC)*
Original Idea?

- Original Idea
- New observations, Carve out a niche
- Talk to your mentors, colleagues, network, etc
- Question the experts, Solicit feedback (*Local, National, International Conferences, Webinars*)
- Review the latest priorities of the Institute (*Funding percentile*)

Identify and talk to your Program Officer

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Specific Aim Page

• Title
• Brief Intro
• Significance
• What is lacking, conflicting studies, etc
• (Your preliminary data/observations)
• Working hypotheses
• Aim 1, Aim 2...
• Conclusion – Impact on field of research
  (Maybe add a brief personal statement, confidence/feasibility)
  - This page should be perfect
  - Send it to your program officer at least 1 month before
  (And you may discuss about optimal Study section, other institutes)
Significance

- Significance
  Background (importance of the problem, barrier, what is lacking, conflicting studies, clarify here)

- Innovations
  - *First study, explain why it is novel*
  - *Multidisciplinary teams*
  - *Novel tools/resources, unique human samples, innovative*
  - *Drug is being used for other conditions – so can be readily tested*
  - *etc*
Approach: Preliminary Results

Items to consider:

• Preliminary data for each AIM
• Clear figures

*(Do not assume that the reviewers will search for and read your previous papers)*

• n=xx, *p<0.05
• Provide enough info to understand and critically evaluate what has been done
Approach: Research Design

- *Diagrams (1/3 to ½ of a page)*
- Aims/Hypotheses
- Rational
- Design, Justification
- Expected results
- Pitfalls/Alternatives
- Stats and Power calculation

Pleasant to read (Spacing, minimal use of abbreviations)
The NIH has even mentioned that it should be written as a USA Today article!
Timeline

Year 1: We will do....

Year 2: We will complete Aim 1 and start Aim 2... and submit abstracts and papers to high impact journals.

Year 3: Submit papers and prepare for the R01 competitive renewal.
Vertebrate Section

• A. Proposed use:
• B. Animal Justification:
  \((\text{Number justification/Table/groups})\)
• C. Veterinary Care:
• D. Pain and Distress:
• E. Euthanasia:
References

- Never really too many (though could be too few)
- Update with the latest ones
- Use EndNote/Ref Man (*I suggest to use superscript\textsuperscript{42} in the text - less distracting*)
- You may shade the ones from your group
- Cite your competitors/colleagues

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Abstract (Write last)

- Brief background of the project;
- Specific aims, objectives, or hypotheses;
- Significance of the proposed research and relevance to public health;
- Unique features and innovation of the project;
- Methodology (action steps) to be used;
- Expected results and Description of how your results will affect other research areas.

*Somewhat similar to your aim page but concise (30 lines)*

**Narrative**

- Public Heath Relevance/Significance
- Brief (~2 sentences) - Use lay language
Budget Justification

Personnel separated into 2 sections:

- A. Senior/Key Person
  - PI (6.0 cal month)... “unique/independent responsibilities”
  - co-Inv (2.5 cal month)... “responsibilities”

- B. Other Personnel
  - Postdocs, Techs, Grad Students, Undergrads: Only the number of personnel is required (not specific names or responsibilities).
The purpose of the resources and environment section is to describe the resources, facilities, and support available to the researcher.

- Make sure the resources and environment section addresses all requirements of the proposed research plan. **Highlight your independence here**
- Justify any reliance on resources external to the research.
- Make sure all subcontractors and consortium members have the capability to perform the tasks assigned to them.
- Make certain your resources and budget requests are consistent.
- Make sure appropriate letters of collaboration are included.
Cover Letter

• PA/RFA # and the Title of the program
• Your Grant Title
• Maybe suggest potential Study Section (per discussion with your program officer)
• (Highlight if it is a resubmission)
• Suggest a primary Institute (and also secondary and tertiary institutes who should consider funding your grant)
• Use your Letterhead (and include your phone # and email)
• Optional: Brief list of individuals who should not review the application and why.

Example: http://research.musc.edu/inklings/0208/nih_sugg.html
Biosketch

A) Personal Statement (they write, you review)
B) Positions and Honors
C) Selected Publications most relevant to this proposal (from a list of 143). (Bold or underline your name)
  - Most relevant to the current application:
  - Additional references:
D) Research Support
  Ongoing Research Support:
  Pending:
  Overlap: N/A

They should be perfect (specific format)

Examples of full RO1:
Collaborative Letters

• I am please to participate in.... This is an exciting project that addresses an important problem...I plan to commit 5% of my time... I will meet every month...

• My expertise is....

• I will provide all personnel and equipment resources from my team....

• This project is of high significance....

On Letterhead and you review them (you may offer to provide a draft and/or rewrite parts of them if necessary)
Some points to remember

• Start early
• Read and re-read your proposal – it should be perfect, clear and consistent
  (Proofread: You may want to use software that reads for you such as: “Read a PDF with Read Out Loud”) (Ask your colleagues, and friends to read – if something is not clear to them then it is likely that it won’t be clear to a reviewer)
  (Use basic English: the NIH stated that it should be written as a USA-Today article!)
• Submit to UF-COM Internal Grant Review
• Keep an eye on new announcements/notices (UF, NIH, COS, etc)
• Read the acknowledgment sections of papers and slide presentations for new Source of Funding!
Remember to have fun, and great enthusiasm!

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Review Process

http://grants.nih.gov/grants/peer/critiques/rpg.htm

**OVERALL IMPACT**

Reviewers will provide an overall impact score to reflect their assessment of the likelihood for the project to exert a sustained, powerful influence on the research field(s) involved, in consideration of the following five scored review criteria, and additional review criteria. An application does not need to be strong in all categories to be judged likely to have major scientific impact.

+ **Overall Impact**: Write a paragraph summarizing the factors that informed your Overall impact score.

**SCORED REVIEW CRITERIA**

Reviewers will consider each of the five review criteria below in the determination of scientific and technical merit, and give a separate score for each.

1. **Significance**
   - **Strengths**
   - **Weaknesses**

2. **Investigator(s)**
   - **Strengths**
   - **Weaknesses**

3. **Innovation**
   - **Strengths**
   - **Weaknesses**

4. **Approach**
   - **Strengths**
   - **Weaknesses**

5. **Environment**
   - **Strengths**
   - **Weaknesses**
ADDITIONAL REVIEW CRITERIA

As applicable for the project proposed, reviewers will consider the following additional items in the determination of scientific and technical merit, but will not give separate scores for these items.

— Responses for Protections for Human Subjects, Vertebrate Animals, and Biohazards are required for all applications.
— A response for Inclusion of Women, Minorities and Children is required for applications proposing Human Subjects Research.

### Protections for Human Subjects

**Click Here to Select**

Comments (Required Unless Not Applicable):
- [ ]

**Data and Safety Monitoring Plan** (Applicable for Clinical Trials Only):
- [ ]
  - **Click Here to Select**
  - Comments (Required Unless Not Applicable):
    - [ ]

### Inclusion of Women, Minorities and Children

**Applicable Only for Human Subjects Research**

**Click Here to Select Gender Code**

**Click Here to Select Minority Code**

**Click Here to Select Children Code**

Comments (Required Unless Not Applicable):
- [ ]

### Vertebrate Animals

**Click Here to Select**

Comments (Required Unless Not Applicable):
- [ ]

### Biohazards

**Click Here to Select**

Comments (Required Unless Not Applicable):
- [ ]
Now that you got the grant?

**Items to consider:**

- Allocate budget, review quarterly
- Get you IRB (clinicaltrial.gov), IACUC
- Annual Progress Reports
- Submit Abstracts/Papers/Patents
- Plan for your Competitive Renewal
Flowchart “Draft” for Anesthesiology Research Grant Submission 5/16/11

- Decide on your grant, read all the instructions, and avoid any last minute documents.
- This is formatted for the NIH grants, although a similar flowchart applies to other funding agencies.
*The time periods given are only approximate and minimal, please be early at all steps. Avoid any last minute grant, it could have small errors and typos and it will likely affect your score and chances of being funded!

1. Read RFA (in details, and discuss with Program officer)
2. Draft the grant, Revise, Ask colleagues to read it, Ask a statistician to review it, and Revise and Revise
   - 12-18 weeks: Present to the monthly Research Meeting for open discussion
   - 12-13 weeks: Send the Specific Aim page to your Program officer for additional feedback and study section
   - 13-17 weeks: Free Consultation services offered by CTSI (Stats, IRB, etc.) & Draft your IRB
   - 8-12 weeks: To UF-COM or Research Committee for internal review (Strongly recommended by the chair)
3. Prepare Budget
   - 4 weeks: To Anest Office of Research (and start uploading in People Soft)
4. Revise according to comments from Research Committee
   - Get all documents edited/reviewed for typos or inconsistencies
   - 17 days: To editor
5. Assemble final version (Grant, Budget, Budget Justification, Bios, Letters, Statements of work, IRB, IACUC approvals if necessary)
   - 7 to 10 days: To Anest Office of Research (and to Research Committee), for review, signatures, etc.
   - 6 to 7 days: Entered into UF’s People Soft Database, Assigned proposal project number
   - 4 to 5 days: To Research and Administrative Compliance Office (RAC)
6. NOTE: Once RAC has approved and issued Financial Language Assessment (FLA) letter the Principle Investigator (PI) can submit their IRB documents to IRB committee for review and approval.
   - 2 to 4 days: To Division of Sponsored Research (DSR) and Contracts and Grants Office (C&G)
   - 1 to 3 days: To Grants.gov
Flowchart (ii)
(After submission)

Add preliminary data (if “really” exciting new data) (Review if you can with your Program Officer, check the time limit)

-21 days before study section meet

Study Section, Score, Percentile allocated, Just-in-Time (JIT) requested, Institute council meet, Notice of Award (NOA), Update Budget, Provide all Approvals, Start doing the science, publish and start working on the renewal!

- Get approval for IACUC (consult with colleagues) or IRB (consult with colleagues, and support staff)
- Monthly basis reports from your grant administrator (and available through People Soft Menu)
- Submit your abstracts and papers to high impact journals

Annual progress reports (keep all IRB and IACUC active and renewed)

-21 days to editor
-14 days to Anest Office of Research, then to RAC, then DSR, then Grants.gov, then Institute decides or not

Final Progress report, Report of Invention, etc.

-21 days to Anita Yeager
-14 days to Anest Office of Research, then to RAC, then DSR, then Grants.gov

Submit Competitive Renewal (including a summary of your final progress report)
Good Luck!