Intramural Funding Opportunities and Strategies

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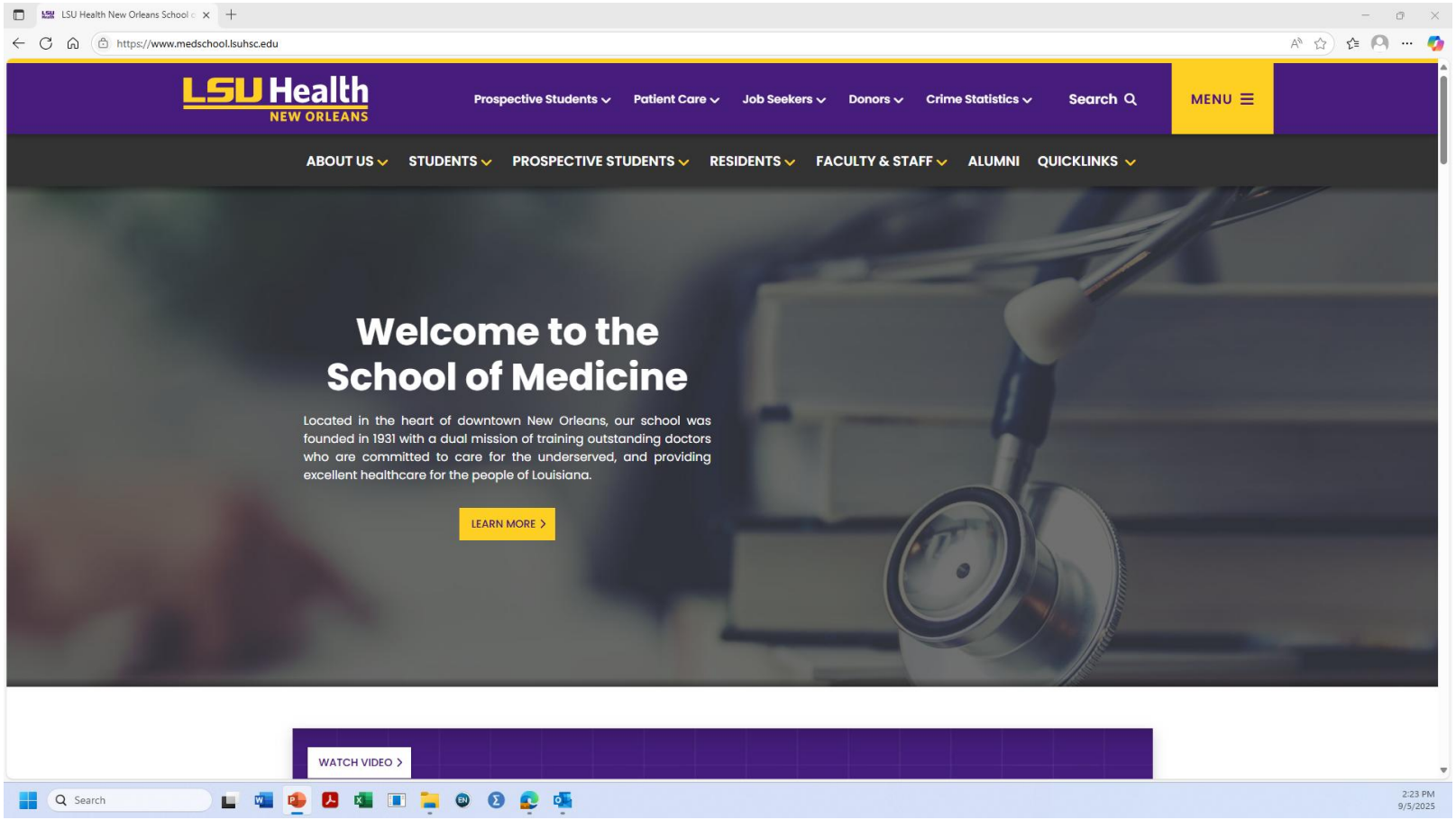
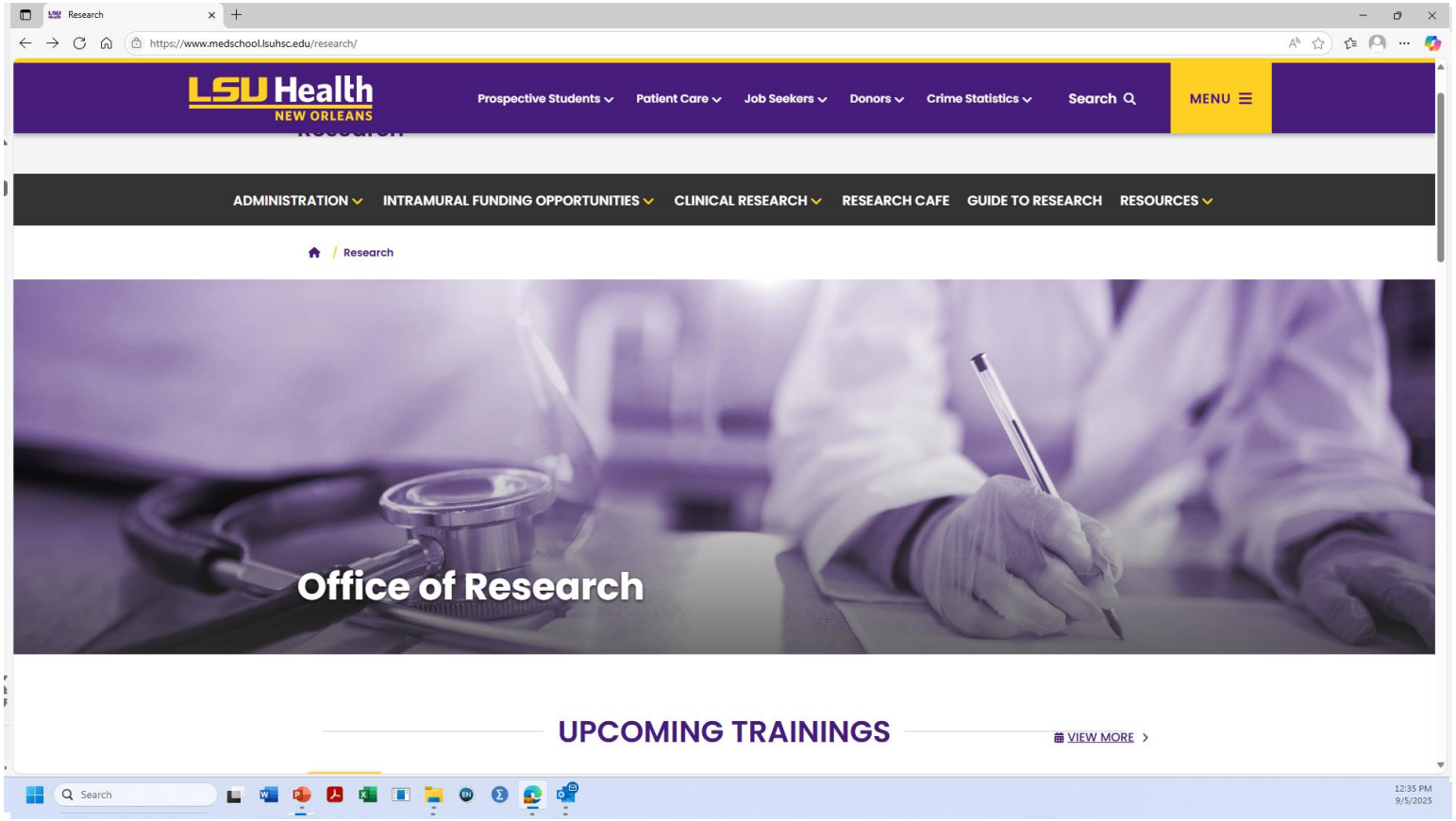
Learning Objectives:

- Identifying the different intramural grant mechanisms available to faculty
- Understanding key elements of a successful internal funding application
- Applying strategies learned from experienced panelists to improve one's own funding submissions

School of Medicine Website

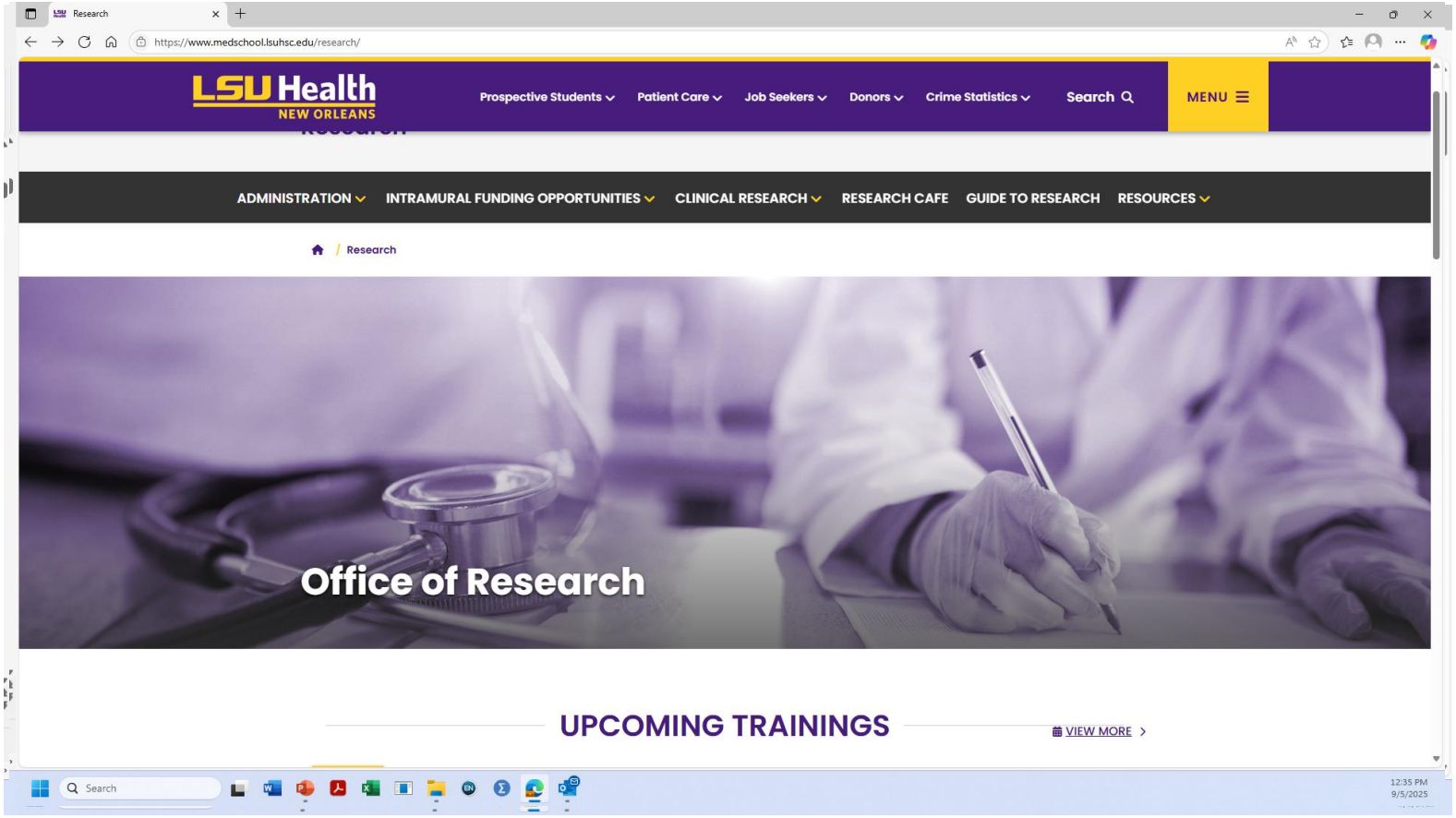


Intramural Grant Mechanisms

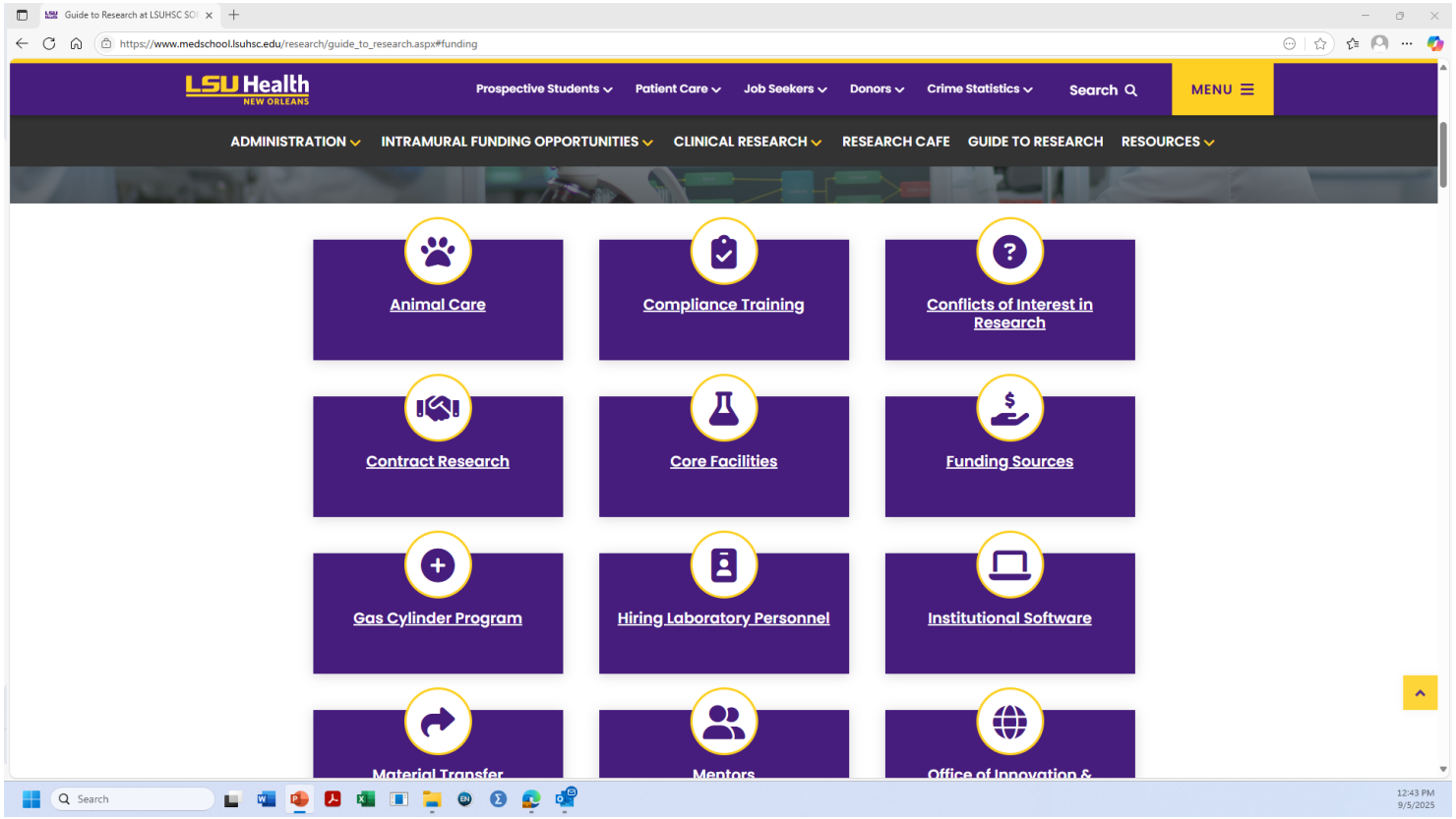


https://www.medschool.lsuhsc.edu/research/

Research Office Website

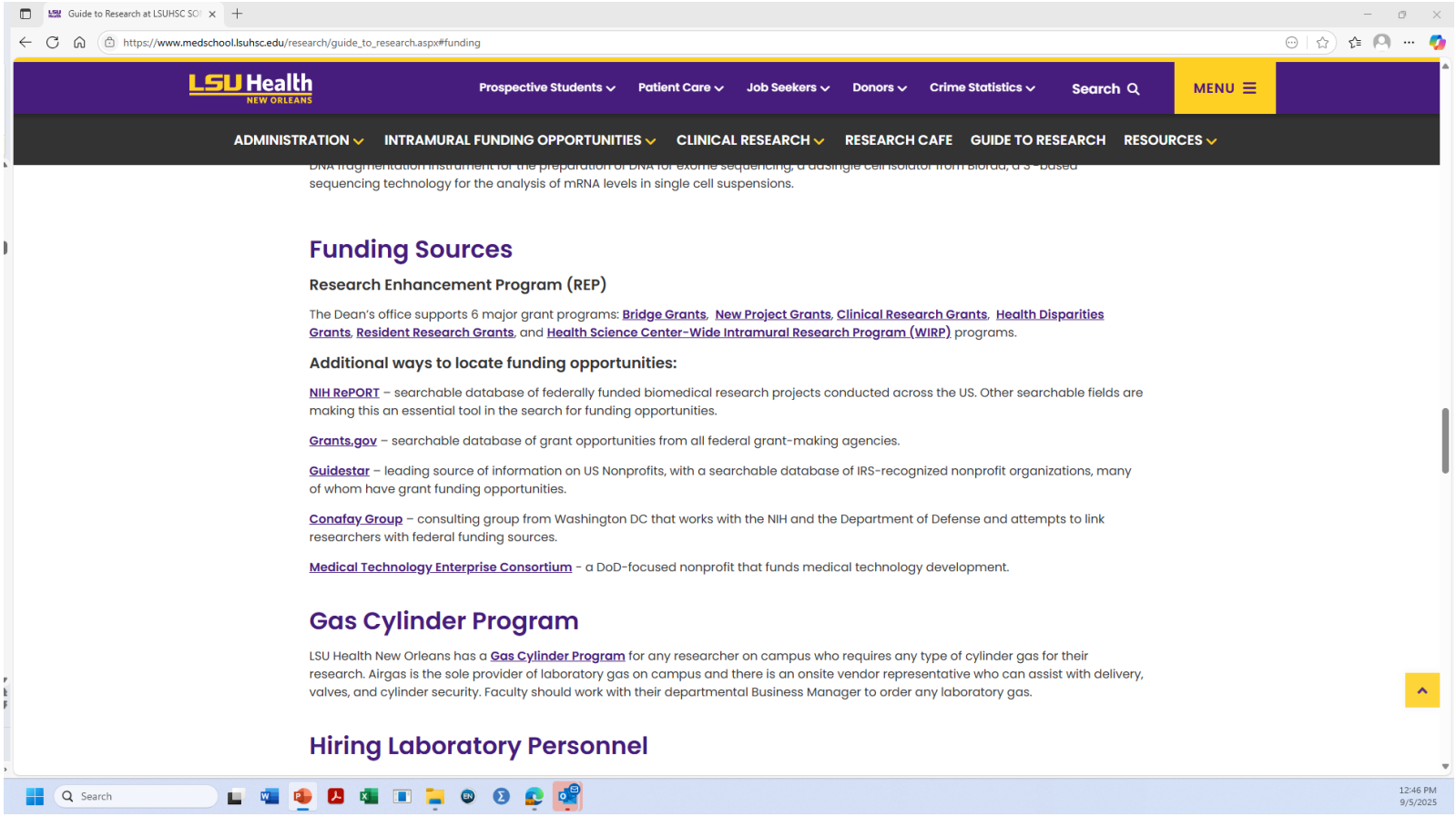


Alternate Path - Research Office Website



https://www.medschool.lsuhsc.edu/research/guide_to_research.aspx#funding

Research Office Website



Intramural Grant Mechanisms

Funding Sources

Research Enhancement Program (REP)

The Dean's office supports 6 major grant programs: (1) **Bridge Grants**, (2) **New Project Grants**, (3) **Clinical Research Grants**, (4)**Health Disparities Grants**, (5) **Resident Research Grants**, and (6) **Health Science Center-Wide Intramural Research Program (WIRP)** programs.

There are three competitions per year. The deadlines are March 9th, July 9th, and November 9th.

Bridge Grants

- Purpose of bridge grant support is to allow faculty members to maintain research activities during a temporary disruption in extramural support. Applications will be viewed in terms of their scientific merit and the probability of securing extramural funding.
- Bridge grant support receives the highest priority among eligible School of Medicine Research Grant applications.
- These projects can provide $75,000 per year for two years. However, the second year of funding is contingent on both the scope of the project, and submission of a progress report demonstrating productivity on this proposal.
- All full-time SOM faculty supported by extramural research funding with the last 3 years are eligible to apply for this grant program.

New Project Grants

- New Project Grants provide initial funding necessary for the development of new research ideas into competitive applications for support from extramural agencies.
- Goal of this program is primarily focused on support for new faculty whose start-up funding could not effectively support their current research programs. Funding of new research directions from existing faculty will also be considered.
- Applications will be viewed in terms of potential for generating data that will lead to support from National funding agencies.
- These projects provide $75,000 for one year. An applicant can resubmit for an additional year of support; this re-application will be critically evaluated based not only on its scientific merit, but also on evidence of submission of extramural grant support during this time.

Clinical Research Grants

- The Clinical Research Grant Program provides funding necessary to turn clinical research projects into competitive extramural applications.
- Goal of this program is to provide institutional support for full-time clinical faculty on either the clinical- or tenure-track who have a research idea that needs to be better developed before it can be submitted for extramural support.
- Eligibility for this program requires the PI to be an M.D., although a Basic Science co-investigator may be included, and could significantly strengthen the proposal. Established investigators with extramural funding also are not eligible for these awards. Applications will be viewed in terms of potential for generating data that will lead to support from National funding agencies.

Clinical Research Grants

- These projects can provide $75,000 per year for up to two years. An applicant can resubmit for an additional year of support; this re-application will be critically evaluated based not only on its scientific merit, but also on evidence or plans for submission of extramural grant support during this time. As part of this program, the PI must commit to submitting their research proposal for extramural funding to a nationally competitive agency (e.g. NIH, NSF, DOD, PCORI, etc.).

Health Disparities Grants

- These grants are intended to support the education, analysis, improvement and innovation in reducing healthcare disparities within our teaching hospitals/academic centers and our communities, and how we can improve the working and training spaces we occupy.
- Funds may be used to undertake new projects or to expand current projects. The goal of this program is to provide institutional support for project initiatives that can directly affect our patient care communities and hospital systems.

Faculty	$10,000 ($5,000 from SOM/$5,000 from Department)
Residents and Staff	$7,500 ($3,750 from SOM/$3,750 from Department)
Students	$5,000 ($2,500 from SOM/$2,500 from Department)

Health Disparities Grants

- Due to the limited funds available, some research-related costs are not supported by this funding mechanism, they include:
  - Publication cost: Publication costs are permitted only as part of the project.
  - Faculty Salaries: Not allowable.
  - Travel: Travel is not allowed unless it is part of the project (e.g., travel to a remote site to collect data). The departmental contribution to the award can include travel to a meeting to present research that is the result of the project.
  - Patient care costs: Costs associated with performing a diagnostic test that is necessary for the research project, but not covered by normal patient care is an allowable expense. It is also allowable to include any patient incentives that are integral to participation in the project.
  - Office equipment: Not allowable.
- Funding can be used for personnel support with data collection, equipment needs, educational materials, lecturers, etc.

Resident Research Grants

- Goal of this program is to provide institutional support to foster the resident research and scholarly activities. It is intended to assist medical residents in pursuing a research project and bringing it to a conclusion.
- Although it is not intended solely for the publication costs, publication costs are permitted as part of the project.
- Application must also include a sponsoring faculty member who will take responsibility for the research training of the applicant.
- Up to $2,500 for resident research will be provided, which is contingent on a statement from the Department Head committing at least an equal amount in matching funds.

Health Sciences Center-Wide Research Program (WIRP) Grants

- HSC-Wide Intramural Grant program was established to provide funding for projects involving investigators from multiple schools of LSU Health – New Orleans.
- Goals of the project are two-fold. The first is to foster collaborative research that involves investigator teams with primary appointments in at least two different schools of the HSC, and the second is to assist these investigators in obtaining the data necessary to develop projects that will ultimately be fundable by extramural agencies.
- Applications will be viewed in terms of their potential for generating data that will lead to support from national funding agencies and foundations.

Health Sciences Center-Wide Research Program (WIRP) Grants

- The duration of these projects is for up to two years. However, the second year of funding is contingent on both the scope of the project, submission of a report demonstrating productivity on this proposal, and presentation of their research progress at an annual symposium.
- Salary support will only be considered for faculty to provide release time for clinical activities, or for research faculty whose entire salary is covered by extramural grant support.
- Travel will only be considered as an integral part of data gathering. The total period of support cannot exceed 2 years and will not exceed $100,000 per year (for all investigators).
- Two-year grants will require submission of a budget for both years. No-cost extensions of up to six months will be considered on request to the chair of the review committee (currently Dr. Wayne Backes wbacke@lsuhsc.edu).

Application Format

1. *Title Page* (please use the Title Page template link on website).
2. *Abstract* (limited to 250 words)
3. *Introduction* (only for resubmissions of a proposal that was previously reviewed).
4. *Specific Aims* - Provide a concise, one-page description of the research aims to be addressed during the period of REP funding.
5. *Research Strategy* ***(limit of 6 pages)***. This section should provide a detailed description of the rationale, experimental design, anticipated results, and the problems and alternative approaches for the REP project (this section should not just be a repetition of the extramural grant application if the REP application is only proposing a subset of the aims planned for the extramural grant application).

Application Format (Cont.)

5. *Research Strategy* (cont.)
   A. *Significance* (recommend 1-2 pages) The goal of this section is to present the rationale for the proposed research and to summarize the literature supporting this line of investigation.
   B. *Innovation* (recommend ¼-½ page)
   C. *Approach* (recommended 3-4 pages)
      I. Experimental design
      II. Anticipated results
      III. Problems and alternative approaches
6. *Proposed Budget* – Investigators will need to provide an overall itemized budget for the first year of the project, and a second year if they believe it will be needed (please use the Budget Page template link on website).

7. *Budget Justification* - A budget justification must accompany each budget. The budget must be appropriate for the scope of the study.

Application Format (Cont.)

8. *Plans for Obtaining Extramural Support* - Describe your plans to obtain renewal support for this proposal. Please include the targeted funding agencies and the anticipated time frame for submission of these extramural proposals.

9. *Summary Statement* from the most recent review by NIH, NSF, or other national agency review panel if available.

10. *Current Research Support* - List all current research support by agency number, title, and total direct costs awarded. They should also identify any current departmental, institutional, or startup funding.

11. *NIH-type biographical sketch* (please use the Biosketch template link on website).

12. *Signed original application* from both applicant and department head, and an electronic version of the proposal should be submitted to the Chair of the Institutional Grant Review Committee (currently Dr. Peter Winsauer pwinsa@lsuhsc.edu).

Evaluation of Grant Proposals

- Grant proposals will be reviewed by the Internal Grant Review Committee comprised of scientists who are members of the LSUHSC faculty.
- This grant review committee will operate in a manner similar to NIH study sections.
- The criteria to be evaluated will include:

  (1) scientific merit and significance of the proposed project;

  (2) qualifications and productivity of the applicant;

  (3) potential for securing support from National agencies;

  (4) appropriateness of funding for this mechanism;

  (5) appropriateness of the budget.

- The committee will score proposals and make a recommendation to the Dean of the School of Medicine.

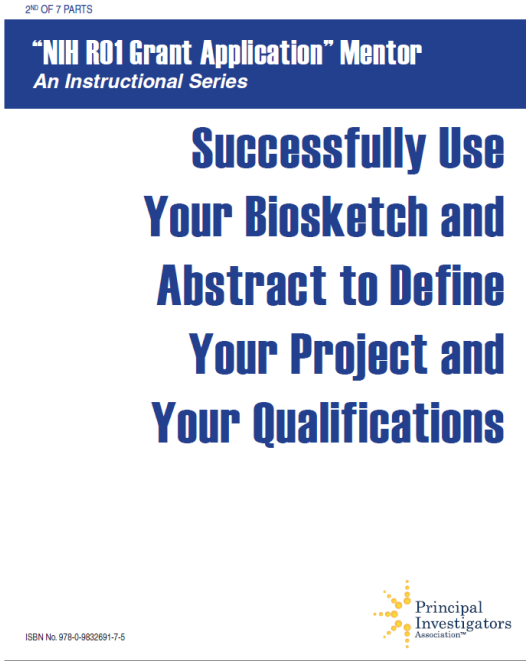
Grant Writing 101: Some Do's and Donuts

What to Know/Do *Before* You Start Writing the Research Proposal: General Advice

- Publish independently: single or last author papers.
- Network with scientists in your field: some may become collaborators or reviewers of your application.
- Get to know program officers in your field; appointments are often available at major scientific meetings.

Basic Truths

- There is a wide variety of excellent sources on grant writing that an individual should take advantage of when thinking about writing a grant application.
- There is no single source that can tell you everything you need to know about grant writing – unfortunately, most of this comes from experience.



Overview of What you should know

- Grant writing is a process
- The process typically starts with a fundable idea, regardless of the source:
  - federal – NIH, NSF, NEH, DOD, etc.
  - private foundations
  - health agency – American Diabetes Association (ADA)
- The idea must be scientifically sound.
- You must be able to clearly and succinctly express this idea to those who will be reviewing the idea.
- The idea usually has to be supported by data – ideally, its yours, rather than someone else's.

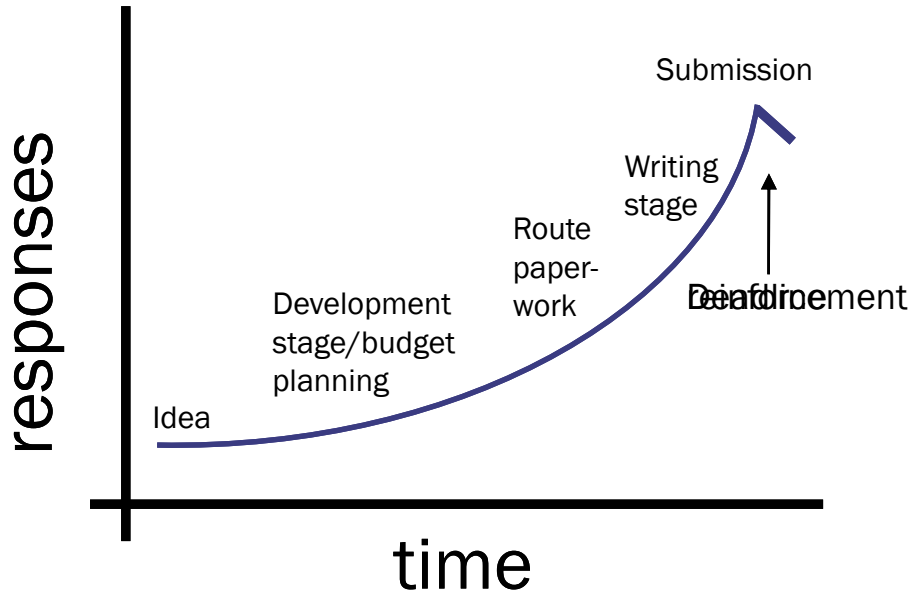
Overview of What you should know (cont.)

- Follow the rules and guidelines for your particular application type.
- Make sure the institutional components have been completed, routed, and signed-off by the appropriate institutional representative/officer.
- Review all aspects of the application before submitting it.
- Submit it in a timely manner (easier said than done)

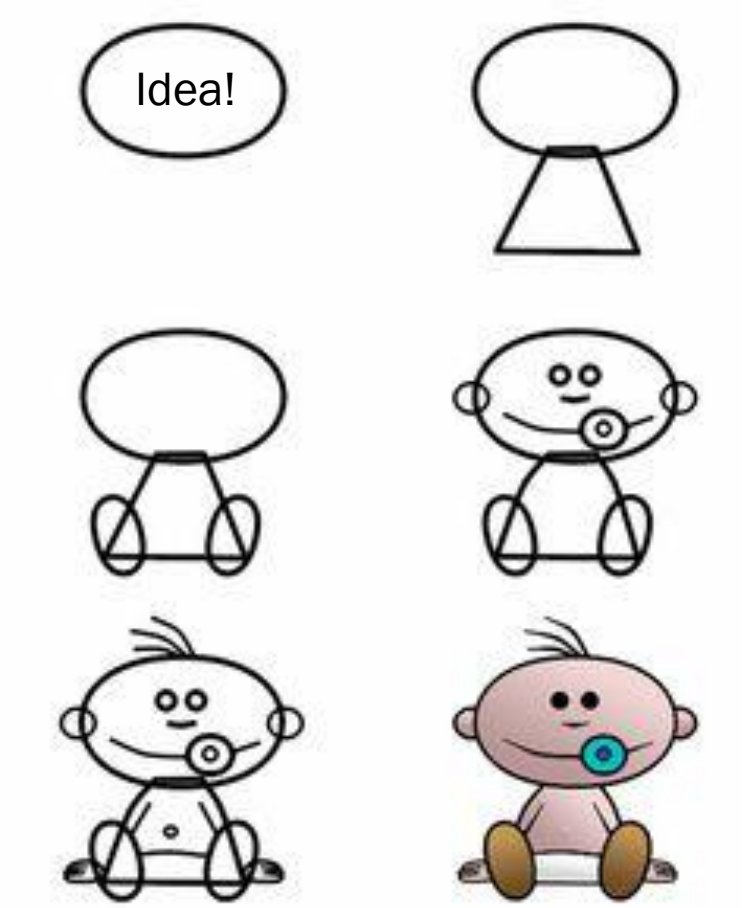
You cannot start this process too early!

Conflicts/stress arise for the principal investigator (PI) when things interrupt the writing stage.

Function describing grant writing for a first-time PI



The process



- Grants may best be viewed as a partnership between you, the institution, and the funding agency.
  - You, because you will bring the idea to fruition by conducting the work.
  - The institution, because the money is actually awarded to them to dispense appropriately.
  - The funding agency, because they agree to supply the money for an agreed upon period of time to complete the project.

In the beginning, there was an idea . . .

- Propose the right idea for the right institution
  - Not all ideas are suitable for submission.
  - Funding agencies want ideas that match the mission of their institution.
- Involve others to help you shape the science surrounding the idea, whether they are formal collaborators or simply colleagues.
- Determine whether you have all the expertise to carry out the proposal.
- Begin thinking about the budget and look over the forms that will need to be completed and routed.

This is no time to be insecure

In the beginning, there was an idea . . . (cont.)

- Learn to wordsmith your ideas into testable hypotheses.
  - For NIH, avoid descriptive, interdependent aims, and make sure the hypotheses address a mechanism.
  - For a foundation, make sure the aims address the disease, condition, or disorder, or a respective cure.
  - For industry, commercialization is often the focus.
- Consider the relevance of sex, age, life style, and socioeconomic status.

The Science

- Grants begin and end with the science!
  - The science must excite.
  - The science must be sound/credible.
  - There must be enough data *to convince the reviewers* of the credibility.
  - The science must be doable.
  - You have to have the expertise to conduct the science.
  - The institution has to have the environment and the resources for completing the science (i.e., science cannot be conducted in a vacuum).

Lost in Translation . . .

- The idea(s) and the science must be clearly communicated.
  1. Consider the source (e.g., NIH versus NSF versus some foundation or industry)
  2. Use the language appropriate for the individuals who are going to review the application
     - Use only lay-language to appeal to the widest audience
     - Use the least amount of jargon possible, assuming some is needed
     - Use highly technical language to demonstrate your knowledge of the topic
  - Punctuation, grammar, and spelling count!

Lost in Translation . . . (cont.)

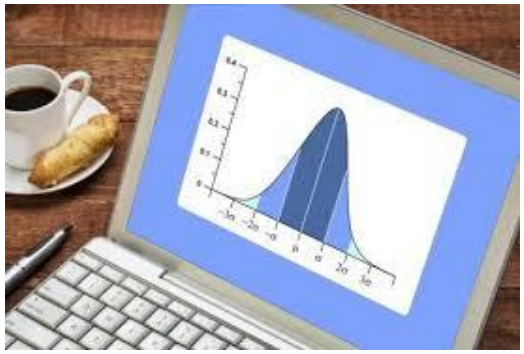
- Do not be surprised to find that things you included in the grant, or points that you felt were articulated well, were missed by the reviewers. Even the best writers' prose are misinterpreted or overlooked – this is particularly true of technical writing.
  - This only means you probably need to follow the old adage about presentations: **"Tell the audience what you're going to say, say it; then tell them what you've said."** – repetition is the key to learning
  - Remember the "KISS" method: Keep It Simple Silly
- Know your audience – the names of the reviewers are often public information. Have you cited their work where appropriate?
- Keep in mind that reviewers usually appreciate a small, focused project better that a diffuse, multifaceted project (*NIH TIP ISBN No. 978-0-9832691-9-9*).

Lost in Translation . . . (cont.)

- Accept the notion that you simply cannot tell the reviewers everything you know or everything on this topic.
- This is especially true of the methods, as methods tend to be highly discipline specific.
- Be scholarly! Cite others work where appropriate. Unless it's true, do not leave the reviewer with the impression you are the only person conducting research in this area.

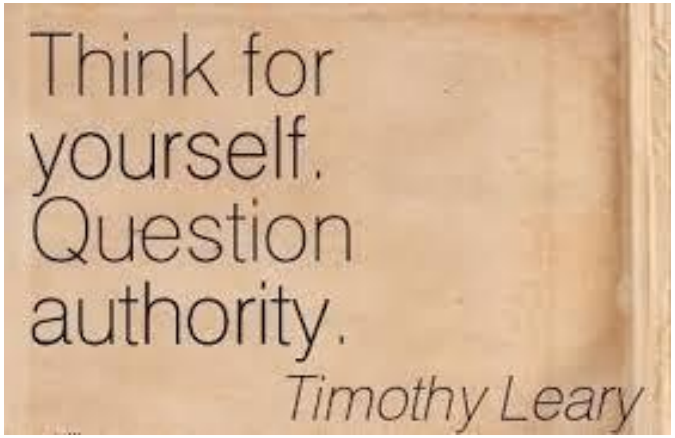
Where's the Data?

- A general rule of thumb is to have at least 1-2 pieces of data for each specific aim.
  - Helps validate the idea and purpose for each specific aim
  - Shows experience with the techniques
  - Shows ongoing interest and readiness
  - Shows competence in displaying and analyzing the results



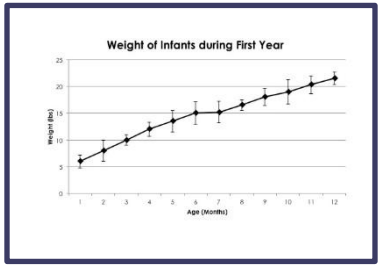
Follow the rules!and guidelines or Question Authority?

- Best-case scenario, an improperly completed application is returned to you for corrections and resubmission.
- Worst-case scenario, an improperly completed application is simply rejected without notification.
- Take the time at the *outset* to *review* the application materials.
  - At least have a working knowledge of the materials
  - There will be no time toward the end of the process



Follow the rules!

- Frequently observed mistakes that lose reviewers' interest and attention – and distract from really good science:
  - Listing all of your publications in your biosketch, rather than the 15 publications requested
  - Placing methods in the Vertebrate Animals section to circumvent the page limit
  - Not including letters of support from proposed consultants, or biosketches from key personnel
  - Changing fonts from 11 point to 8 point, as if no one will ever notice the transition.
  - Including illegible graphs and figure legends



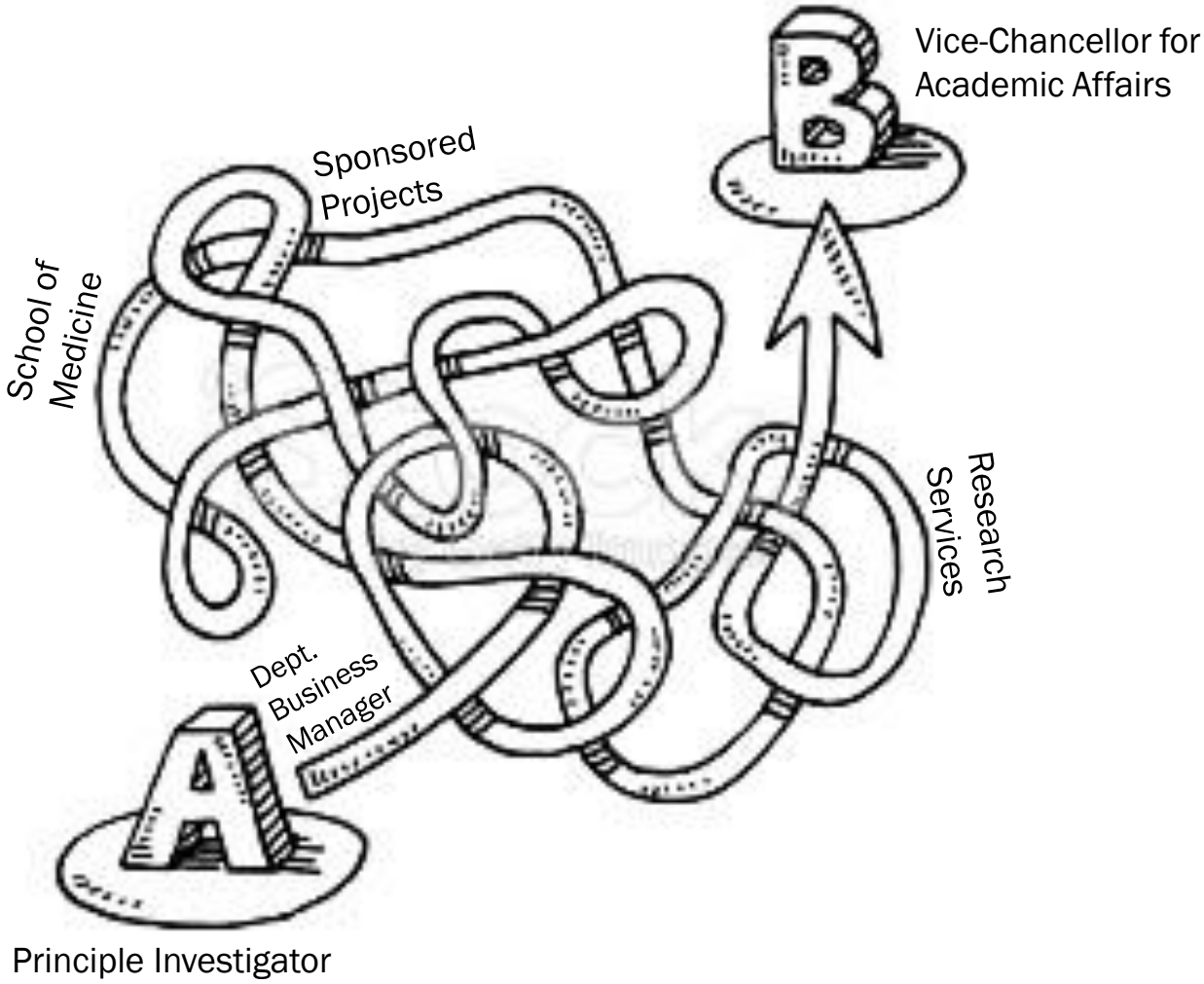
Budget

- Easiest rule: Ask for the amount you need.
  - Reviewers do not like:
    - Inflated budgets
    - Budgets that question the PI's capacity to get the project completed
- Determine whether the required budget is modular or itemized.
  - General categories:
    - Personnel (percent effort, fringe benefits, etc.)
    - Supplies along with subject costs (animal or human)
    - Equipment
    - Travel
- Know if the funding agency has budgetary exclusions (e.g., some exclude travel, or PI salary) – *not knowing can be costly*

Budget (cont.)

- Easiest rule: Be realistic.
  - How many co-investigators, postdoctoral fellows, research associates, or students will actually be needed to complete the project?
  - How many assays, cell lines, subjects (animal or human) will be needed?
    - Conduct power analyses
    - Consult with a statistician if necessary
  - Will additional equipment be needed? These non-recurring costs can ‘front-load’ many budgets.
  - Have you properly estimated the cost of travel to meetings to present the data you will be collecting?

Route the application as early as possible



Additional Routing tips . . .

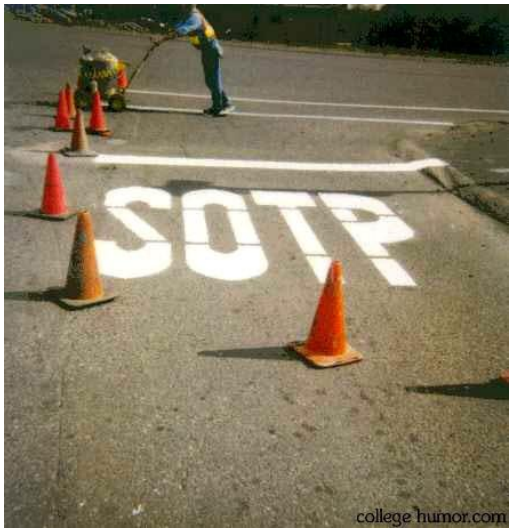
- Your business manager needs to be involved.
- Route before the frenetic writing phase is in full swing! This is the last thing you want to think about as the deadline approaches.
- Not all parts of the grant need to be routed. Necessary and suggested parts to route:
  - Routing sheet w/ keywords and IRB/IACUC/IBC approvals
  - Application face page
  - Abstract
  - Application budget, including F&A costs
  - Personnel justification
  - Letter of Intent to Establish a Consortium
  - Institutional Animal Care and Use (Vertebrate Animals) or Institutional Review Board information
  - Conflict of Interest documents

Additional Routing tips . . . (cont.)

- If a grant has subaward(s), each subaward requires:
  - Statement of Work
  - Letter of Intent signed by the other institution
  - Budget
  - Budget Justification
  - COI/SFI or the highlighted PHS FCOI
- Each subaward also requires:
  - Biosketch(es)
  - Resources and Facilities
  - Equipment

The end is near . . .

- After the grant has received final approval, Research Services will return it to you for submission.
- Though it may seem almost impossible, review and proof the entire application.
- Submit the application by the route required by the funding agency (e.g., NIH requires various sections to be in a pdf format and uploaded into a central document/file).



Have you included PMCID numbers for all of your references?

Submission – plan for some minor hurdles

- Submit the grant application during normal business hours, in case you require assistance.
- For NIH grants, Research Services receives automated messages regarding your submission.
  - Initial submission almost always generates error messages that prevent a successful submission.
  - These are passed back to the PI (and business manager) for correction.
  - They also receive confirmation of successful submissions and notify the PI (and business manager) accordingly.

Relax

- You have no control over review
- You are allowed to bask in a sense of accomplishment
- You may surprise yourself and feel like writing another one.

The Review Process: Common mistakes

1) Assuming the reviewer is very familiar with your sub-sub-specialty. This often leads to too much jargon and abbreviations.

2) Not explaining the rationale for what you propose.

3) If hypothesis driven research is required, not stating the hypotheses clearly and specifically.

4) Not explaining how the hypotheses will be tested.

5) Incorporating too much detail, and not differentiating the details from the big picture of what is being proposed and why it is being proposed.

The Review Process: Fatal Flaws, or "Kiss of Death"

Significance/Innovation

Application is "incremental".

Lack of enthusiasm, the work is not likely to have much impact.

Investigator:

Investigator is not productive.

Investigator is not independent (reviewers are instructed that this determination is made before the application is accepted, but some reviewers make this a criterion anyway).

Approach:

Application is a "fishing expedition" that is not hypothesis driven.

Application is "descriptive", i.e. not hypothesis driven.

There is a logical flaw in the reasoning leading to the hypotheses or their predictions.

House of cards: the aims depend on one another, if one fails everything fails and pitfalls are not explored

Responding to the Reviewers

- In today's funding climate, you cannot count on a hit on the first try. Perseverance and responding to the reviewers' critiques is essential.
- Do not be defensive or insulting (I have seen it done) or try to rebut the reviewer if the criticism is justified.
- Take constructive criticisms to heart and make every effort to address valid criticisms. If you do not address the issues raised to the satisfaction of the reviewers, your score could get worse.
- If the reviewer's criticism is indeed misguided, take responsibility for not explaining the proposed work clearly enough.
- If you choose not to take the reviewer's suggestions, explain why carefully and respectfully. You may be better off with a new application pitched to a different study section, if possible.

Office of Research Services

Director
Dr. Jawed Alam

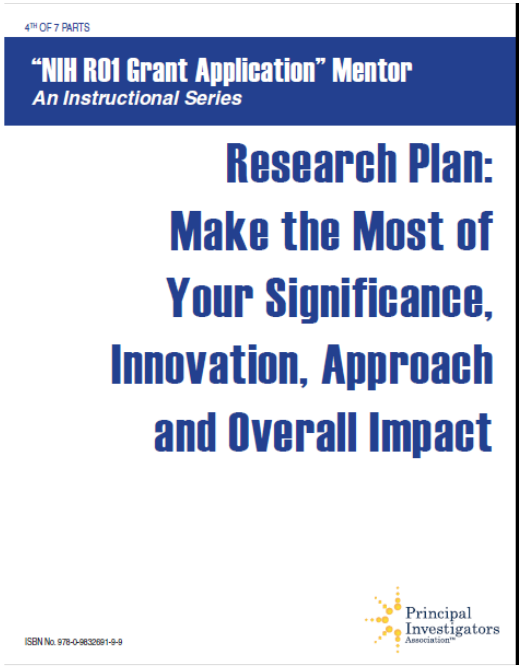
Staff:

Ann Clesi - Pre-award (Grants and Contracts)

Responsibilities:

- **Pre-award, sponsored project activity**; this includes evaluation and routing for signatures all grant applications, research agreements, and clinical trial agreements.
- **Conflict of Interest Program** based upon Chancellor's Memorandum #35 "Individual and Institutional COI in Sponsored Projects".
- The AAHRPP "Fully Accredited" **Human Research Protection Program and Institutional Review Board (IRB)** which provides oversight for the protection of human subjects participating in research.
- The **Institutional Animal Care and Use Committee (IACUC)** which provides oversight for the welfare of animals used in research.
- The **Institutional Bio-safety Committee (IBC)** which in collaboration with the Office of Environmental Health and Safety provides oversight of bio-safety issues and recombinant DNA research.

SOME RESOURCES:



1. "NIH R01 Grant Application" Mentor: *An Instructional Series:*

- *Writing Successful Proposals* by Charles Howard, **Principal Investigators Association,** 3565 10th Street North, Suite B, Naples, FL 34103. p: 800-303-0129 f: 239-676-0146 e: audio@principalinvestigators.org and www.principalinvestigators.org.

- *Successfully Use Your Biosketch and Abstract to Define Your Project and Your Qualifications* by Leslie C. Norins

- *Research Plan: Make the Most of Your Significance, Innovation, Approach and Overall Impact* by Leslie C. Norins

2. A couple more potential useful links: http://grants.nih.gov/grants/grant_basics.htm and http://www.niaid.nih.gov/researchfunding/grant/Pages/default.aspx

3. Standard chatter from NIH: http://grants.nih.gov/grants/grant_tips.htm

Thank You!

Questions?