Pre-Conference Workshop

Strategies for Developing Effective Grant Proposals

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Speakers for this session have nothing to disclose. Any updates in disclosure will be made from the podium.

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SPEAKER

Paul Tuttle, MA, CRA

Strategies for Developing Effective Grant Proposals

Paul Tuttle, Director of Proposal Development
North Carolina A&T State University

Your Presenter: Paul Tuttle

- Certified Research Administrator, 2015-2020
- NORDP Board Member, 2018-2022
- NC Chapter President, SRAI, 2018-2019

- Over 18 years of experience in
  - finding funding opportunities
  - proposal development from idea to submission
  - faculty workshops and mentoring in grantsmanship
  - other pre-award services (e.g., team building)
  - institutional cultural change and strategic planning for individuals, departments, colleges, and universities to incorporate grants capabilities and external funding

Today’s Agenda

- Learning Objectives
- Getting Started on Proposal Writing
- Developing Key Proposal Components
- Final Q&A
  - Interactive discussion welcome throughout

Learning Objectives

1. Understand the challenges in becoming successful proposal writers and learn strategies to address those challenges.
2. Learn how to approach program officers.
3. Describe the role of proposal components and how the sections relate to each other in an effective proposal.
4. Learn techniques to write each proposal component clearly and effectively to improve proposal success.
5. Understand the agency review process to ensure appropriate review of the proposal.

The Four Stages of the Writing Process

Prewriting

- Freewriting – sentences and paragraphs, usually for a set time (allowing for focused work)
- Brainstorming – lists of items
- The journalist’s questions – who, what, when, where, why, and how
- Clustering/webbing/mindmaps – drawing the thinking process
- Outlining – prescriptive or descriptive

Drafting

- The proposal outline
  - Required elements
  - Typical or expected patterns, e.g., problem/need statement followed by solution
- Writing the required elements
  - Individually – making time to write, defeating the fear of the blank screen, and using creative alternatives (like voice memos or speech recognition software)
  - Collaboratively – determining tasks, maintaining momentum during the proposal development process, and defining/implementing a Plan B (for when life happens)

Revising

- Global-level concerns regarding the project:
  - Competitive idea?
  - Activities lead toward accomplishing project goals?
  - Measurable outcomes?
  - Evaluation of the project’s success or effectiveness?
  - Lessons learned will make a difference?
- Expression of the project vision:
  - Clearly presented and readable?
  - Appropriately structured?
  - Interior linkages among ideas? Everything matches?

Editing

- General editing: best practices of standard edited written American English?
  - Logic of each paragraph and section? What needs to be reorganized?
  - Awkward wording? Unclear sentences?
  - Embarrassing typos?
- Proposal editing: adheres to the guidelines?
  - Font size and style, margins, headings, title, etc.?
  - Word choice appropriate to grant proposals (<u>not</u> academic peer-reviewed documents)

Distinguishing Grant Writing from Academic Writing

Academic vs. Grant writing

Academic writing

- Scholarly pursuit:
  - Individual passion
- Past oriented:
  - Work that has been done
- Theme-centered:
  - Theory and thesis
- Expository rhetoric:
  - Explaining to reader

Grant writing

- Sponsor goals:
  - Service Attitude
- Future oriented:
  - Work that should be done
- Project-centered:
  - Objectives and activities
- Persuasive rhetoric:
  - Selling the reader

From: Porter, R. (2007). Why academics have a hard time writing good grant proposals. *The Journal of Research Administration, 38*, 161-167.

Academic vs. Grant writing

Academic writing

- Impersonal tone:
  - Objective, dispassionate
- Individualistic:
  - Primarily a solo activity
- Few length constraints
  - Verbosity may be rewarded
- Specialized terminology
  - “insider jargon”
  - Read by specialists in the field

Grant writing

- Personal tone:
  - Conveys excitement
- Team-focused:
  - Multiple participants
- Strict length constraints:
  - Brevity rewarded
- Accessible language:
  - Easily understood by multiple readers, not always specialists
  - (who are reviewers?)

From: Porter, R. (2007). Why academics have a hard time writing good grant proposals. *The Journal of Research Administration, 38*, 161-167.

Why Do People Write Grant Proposals?

What motivates individuals to conduct research?

- What the literature says:
  - Intellectual stimulation, need to stay current
  - Desire to contribute to the field/literature
  - Formal public recognition
  - Peer recognition
  - Having satisfying research collaborations
  - Institutionalized forms of recognition
  - Clear and consistent internal expectations
  - Institutional culture
  - Disciplinary expectations and norms

Source: Investigating Academics' Motivation to Pursue Research Activity, Richard Jeans and Lyndon Murphy, University of Wales, Newport, in Newport CELT Journal 2009

Why do people write grants?

- Add to or expand current research or academic program
- Develop new research or academic directions
- Enhance one’s academic reputation
- Assess one’s career growth and accomplishments at various career stages
- Expand one’s potential for publication
- Provide a role model for students
- Support students financially
- Increase institutional visibility, ranking
- Other?

Grant Proposal Development: Roles

What I (and Others Like Me) Do

- We are a professional resource regarding grant proposals.
- We serve as part of the proposal development team.
- We help advance researchers' academic careers.
- We have certain skills and can therefore offer various types of support without being a subject matter expert.
- We can make a significant difference in preparing successful proposals.
- "You do the science; we do the rest."

What is the PI's Role?

- Teach
- Advise Undergraduates
- Mentor
  - Graduate students
  - Post-docs
  - Junior faculty

- Conduct research
  - Lab
  - Field work
  - Theoretical work
- Supervise/manage research team
- Publish/review/edit
- Provide patient care

- Be active in professional organizations
  - Present/organize
  - Serve/lead
- Carry out institutional responsibilities
  - Service
  - Committees
  - Leadership

Getting Started as a New Investigator

Challenges for a New PI

- Becoming familiar with grant agencies, priorities and trends
  - Deadlines, budget cycles
- Learning “sponsor-speak” and sponsor contact
- Learning how to read an RFP and write a grant proposal
- Learning the agency review process
- Learning how to prepare grant budgets
- Learning to navigate the grant submission process and available institutional resources

Challenges for a New PI (2)

- Establishing a new independent identity as a faculty member and researcher
- Personal challenges of a new job, new institution, new city—new life
- Determining how you fit into your department
- Identifying worthwhile collaborators at your new institution and outside it
- Planning toward developing a track record and a research trajectory

Longer-term Planning

- **Tenure and Promotion**

  Know your requirements

  What proportion can be collaborative research?

  How many years before you submit your tenure packet?

- **Developing Your Research Reputation**

  What journals will you publish in? Why?

  How often will you be first author? Last author?

  How do you plan to promote your brand as a researcher?

  What might your research trajectory look like? Why?

Planning Your Research Trajectory

	Assistant Professor	Associate Professor	Full Professor
Y 1	Apply for: intramural funding, NIH K99-R00, K01, R03 or R21, <$300K NSF, CAREER, and smaller federal grants, ESI foundation, corporate funding Work on: collecting preliminary data, contact foundation, corporate relations, identify mentoring team, participate as co-investigator on a major award, limit committee and "service" work to focus on establishing research portfolio, identify timeline for transition from early funding to first R01, publications, develop an "idea bank" of research questions	Apply for: NIH R21, first or continuing R01, Foundation grants focusing on transitions, funding from national professional associations Work on: PI grants with Co-Is from other disciplines, direct a graduate program, direct a Center or Institute, build energy around ideas for P01 type grants or NSF center grants, high impact publications, develop an "idea bank" of research questions	Apply for: Continuing R01, P01, high-risk foundation grants like Simons or Keck, corporate funding such as 3M, Microsoft, Samsung Work on: Patents, solicit your VPR, Dean and Provost to kick in for funds to develop a team to seek center-type funding, which requires collaboration such as co-authorship, co-teaching, and/or co-funding, high impact peer review publications, develop an "idea bank" of research questions, mentor an ESI, develop a personal website, twitter
Y 3	Apply for: intramural funding, transitions from mentored awards to independent awards, corporate and foundation prospects gathered from corporate and foundation relations, if ready, first R01, NSF awards between $300-$400K Work on: leverage preliminary data gathered, high impact co-authorship with someone outside your discipline	Apply for: NIH R21, first or continuing R01, foundation grants focusing on transitions, funding from national professional associations Work on: PI grants with Co-Is from other disciplines, direct a graduate program, direct a Center or Institute, build energy around ideas for P01 type grants or NSF center grants, develop a personal website, twitter	Apply for: Continuing R01, P01, high-risk foundation grants like Simons or Keck, corporate funding Work on: Finalize patents and copyrights, build international collaborations, write first center award, conduct needs assessment if necessary, develop partnership with business school for business plans (necessary for successful center and program awards), identify excellent evaluators
Y 5	Apply for: "New Investigator" R01, R21 for additional research ideas, foundation "transitions" awards, professional society awards, PI grants with Co-Is from other disciplines, direct a graduate program, direct a Center or Institute Work on: Transition fully as an independent investigator, align research funding plan with promotion/tenure goals, consider ideas and research product for patent	Apply for: Continuing R01, NSF funded researchers apply for NIH, NIH funded apply for NSF, seek smaller NSF center and collaborative awards Work on: Request funding from Chair, Dean, VPR for interdisciplinary center or institute for collaborative research, degree or certificate program, learn how to develop a business plan	Apply for: Apply for P01 and center funding, high profile foundation funding, quick hitting corporate funding (Lockheed Martin, Pzifer, Shell) Work on: continuing R01s, mentor ESI, high impact publications with multiple disciplines, ERC/STC funding plans, collaborate with foundation relations on high impact and synergistic funding opportunities to bring together federal, foundation and corporate funding

from Tina Edgerly Campbell, MPH | Campbell Consulting Group | TheCampbellConsult@gmail.com

Getting to Know Program Officers

Reaching Out to a Program Officer as a New or Early-Career Investigator

- Key points to keep in mind:
  - Their scope is national or even international
  - They're just like you, merely farther along
  - They're extremely busy, so they need to be sent easily-digestible text
  - They can tell you very quickly whether your idea is fundable by their program
  - Some can make funding decisions—others can merely recommend

Reaching Out to a Program Officer as a New or Early-Career Investigator (2)

- How to approach them:
  - Develop a brief “concept paper” or “white paper” (a Cold War / DoD agency term)
  - Send them an email with the concept paper attached; ask for a phone conversation in 1-2 weeks
  - When you call them, don’t ask anything that can be answered in the RFP or guidelines
  - Concentrate on the high-level version of the project idea—talk initially at a conversational level
  - Follow up with thanks and maintain the relationship

The Concept Paper

The Concept Paper: Why it Matters

It's a brief sketch (2-4 pages) of a project idea

- Helps to organize, think through and refine ideas
- Serves as the basis to develop a full proposal
  - Concept paper uses basic proposal outline as a template
- Establishes priorities and identifies needed resources
- Helps to identify potential problems and weaknesses
- Can help forecast the viability, feasibility and significance of an idea
- Serves to obtain feedback from colleagues both within and outside the institution
- Can be used as a pre-proposal or for **discussion with a program officer**
- Reduces proposal writing to an intermediate, smaller, more manageable task

The Concept Paper (2)

Should contain specific content about the following, in non-technical language:

- **Subject**

  What is the project about? [Topic]

- **Purpose and Significance**

  What is to be accomplished? [Goals and objectives]

  Why is this important? [Background/rationale/significance]

- **Target Population**

  What group is being studied or served?

The Concept Paper (3)

- **Activities**

  What will be done? [Work plan]

  Who will do it? [Work plan]

  What research methods will be used? [Methodology]

- **Expected Outcomes**

  What findings or results will be produced? [Anticipated outcomes]

  To whom will these be useful? [Dissemination plan]

  How will they advance knowledge or the state-of-the-art in this research area? [Benefits to the discipline]

Concept Paper (4)

- **PI Expertise**

  Why/how is the PI qualified to carry out this research? [Biosketch]

  What are the qualifications of other team members? [Biosketches]

- **Facilities and Resources**

  Where will this work be carried out? [Work location]

  Is the lab fully furnished and ready to do this research?

- **(Brief) Budget**

  How much will this project cost? [Budget and budget justification]

Understanding Proposals

Types of Proposals

- **Concept/White Paper**
  - 2-4 pages, high level
  - May be reviewed
- **Letter of Intent/Inquiry**
  - May be a proposal for some foundations
  - May be required
  - May be reviewed
- **Pre-proposal**
  - Up to 5 pages (varies by agency)
  - May be reviewed
  - May be invited to submit
- **Full proposal**
  - 3-50 pages, up to 100
  - Forms and budgets
  - Attachments
  - Specific format
- **Unsolicited Proposal**
- **Contract/Solicited Proposal**
- **Subcontract**
- **Collaborative proposal**
- **Cooperative Agreement**
- **Fellowship**

Proposal Components/Responsibility

Common Heading	Who Completes	Answers the Question
Cover Sheet	ORSP	Who are we?
Table of Contents	ORSP/PI	What's in the proposal?
Abstract	PI	What's the big picture?
Problem Statement	PI	Why should we do this now?
Goals/Aims	PI	What are we trying to accomplish?
Measurable Objectives	PI	What will be different?
Procedures	PI	What exactly are we going to do and when?
Evaluation	PI	How will we know if our idea works?
Dissemination	PI	Who else will benefit? How will we share data?
Facilities	PI	Do we have the necessary tools/resources/capacity?
Personnel	PI	Who will do the work? Are they qualified?
Budget	ORSP/PI	How much will it cost?
Biographical Sketch	PI	Who are the players?
References	PI	Whose work are you building on?
Appendices	PI	What else do the funders need to make a decision?

Writing Effective Proposals

Starting the Writing Process

- Hold an initial meeting to review RFP or proposal guidelines
- Create a template incorporating the selection/review criteria
  - Make sure you understand the agency review process
- Develop a timeline for finishing all proposal parts
- Locate examples of completed/funded proposals
- Write multiple drafts and seek feedback on these drafts
- Ask more experienced faculty—and/or proposal development specialists—to help you

Common Proposal Questions

All grant proposals answer five basic questions:

1. What do you want to do?
2. Why do you want to do it?
3. How do you plan to do it?
4. How will you know if you succeed?
5. What benefits could accrue if the project is successful?

Answer these questions in simple, non-technical language when meeting with others or writing your concept paper.

Understand the Proposal Development Sequence

- Need, significance
- Hypotheses/problem statement
- Objectives
- Methods/work plan
- Evaluation
- Dissemination
- Budget/budget narrative
- Introduction
- Literature cited
- Future funding
- Title/forms page
- Summary/abstract
- Attachments: biosketches, etc.

Understand the Proposal Presentation Sequence

- Title page/forms
- Summary/abstract
- Introduction
- Need/significance
- Hypotheses/problem statement
- Objectives/aims
- Methods/work plan
- Evaluation
- Dissemination
- Future funding
- Literature cited
- Budget
- Attachments

The Need Statement

Problem/Need Statement

- Start with some pointed questions:
  - What exactly is the problem/need?
  - Why is it a problem/need?
  - To what extent does the problem/need exist?
  - Who is affected?
  - What has already been done to address this problem/need? Why is this not sufficient?
- Begin with the broad problem, then relate it to the smaller problem to be addressed in <u>this</u> specific funded project
  - State/national/global needs are different from local needs

Problem/Need Statement (2)

- Provides documentation to establish the need
  - Specific—cite statistics, relevant data, or prior research
  - Analytical—describe strengths, weaknesses, comparisons
  - Demonstrate familiarity with the field and situation
  - No relevant literature is available? Explain why; cite the closest relevant sources
- A strong problem/need statement:
  - Grabs the reader and makes him/her want to continue reading
  - Relates to some larger problem or leads to a social benefit larger than the project
  - Is reasonable in scope (can't go to the Moon for $25K)
  - Can be supported by evidence
  - Doesn't use jargon

Goals and Objectives

Project Goals and Objectives: Definition of Terms

- ✓ **Goals**

  - an ideal or hoped for state (broad), long-term

  - may already be developed by the funding agency

- ✓ **Hypothesis**

  -an idea that is suggested as a possible explanation for a particular situation or condition but that has not yet been proved to be correct

  -an important predictor of the outcome of the research project, based on trends noticed in prior experiences—preliminary studies, field-based data collection, etc.

  - leads into the statement of specific aims for the project

Project Goals and Objectives: Definition of Terms (2)

✓ **Objectives/Aims**

- actions taken to attain goal(s)
- tests of the hypothesis grouped by experimental designs
- specific, achievable, measurable statements

- **Process Objectives**:
  - focus on activities/tasks required to provide service rather than on their impact
- **Outcome Objectives** (also called behavioral, performance, or program objectives):
  - describe expected results/benefits
  - reflect a change in behavior, skills, attitudes/values/beliefs, knowledge, or conditions

Objectives: SMART

- **Specific** – what do you want to achieve (increase number of students who…)
- **Measurable** – be able to measure whether you are meeting the objectives or not
- **Achievable** – are the objectives you set achievable and attainable?
- **Realistic** – are the objectives realistic with the resources you have?
- **Time-bound** – when do you want to achieve the objectives?

BREAK (?)

The Introduction and Literature Review

Overall Proposal Approach

- A strong introduction: why is the project both timely and important (to PI, to agency, to society)
- A comprehensive literature review that locates the project in its intellectual context
- A clear mention of PI's own previous work
- The selected method/approach and why it is being used (advantages, experience, prior results)
- Why other methods/approaches are not used
- A strong format to show the progression of ideas
- An appropriate evaluation/assessment plan

Literature Review

- Organization can be historical/chronological, conceptual, or methodological
- It may focus on outcomes, methods, theories or practices
- It integrates research, criticizes research, and identifies central issues
- It should be clearly identified as a proposal section
- It leads to the next question in the field – the PI's question to be answered to fill the gap

The Project Activities and Methodology

Activities/Methodology

- Explain HOW the project will accomplish its stated objectives
- Discuss ONLY those actions that support an objective
- Fully describe WHAT work will be done in the project
- Make clear WHO will be doing what parts of the project
  - Explain why he/she chose this approach
- What other methods were available/commonly used
  - Why those methods were <u>not</u> used
- How long each activity will take and projected results

Methodology

- Are these the correct methods for the specific questions?
- Are the methods proved and properly cited?
- Are the methods feasible, given the time and support available?
- Is the precision or extent of the study appropriate and sufficient to answer the questions, hypotheses, or objectives?
- Are the investigators competent in the use of all these techniques?
- What critical and innovative outputs will result from this study?

Project Evaluation

Evaluation Plan

- Funders want to be able to determine if their money has been well spent
- Sometimes proposal writers neglect this section, believing their program is a success because it addresses a worthy problem
- Every type of project can/should have a separate evaluation section
- Evaluation answers these questions: Was the project successful/effective? What did <u>not</u> work? What benefits resulted? What will need to be changed, the next time?

Evaluation Questions

- How well did the program achieve its goal?
- Did the project meet its objectives?
- Were project activities implemented as planned?
- How effective were the activities in achieving the objectives? If not, why not?
- How did social and political factors influence the project’s development and impact?

Evaluation Questions (2)

- Were there unintended outcomes?
  - If so, why?
- What did the project actually cost?
- How well was the project managed?
- What were the project's merits compared with alternative approaches?
- Should the methodology be revised?
- Is there more work remaining?

Project Evaluation: More questions (3)

- How will you know if your objectives have been reached?
- What will you do to measure the results?
- What type of evaluation will you conduct?
- How will evaluation data be collected?
- How will you analyze these data?
- What statistical methods will you use?
- When will evaluation occur? How will it affect the project?
- Who will perform the evaluation and what are their credentials?

Project Evaluation (4)

- Most researchers are not trained in project evaluation
- There are several types of evaluation
  - Select the one that is appropriate to the project and its objectives
  - Refer to *The User-Friendly Handbook for Project Evaluation* (2010)
- Consult with an expert in the area of evaluation when designing and implementing the evaluation plan
  - Visit www.eval.org (the American Evaluation Association) and click "Find an Evaluator"
- The evaluation plan should be presented in a format that directly corresponds to the project objectives
  - Each objective should have a method for evaluating its success

The Dissemination Plan

Dissemination

Dissemination is the act of making the results known:

- to the funder
- to the project participants
- to your own institution
- to other professionals in the field (local, national, global)
- to the general public

In other words, how will you ensure that your project results will help other researchers in a similar or comparable topic area? How will you ensure that they add to the knowledge base of your field?

Dissemination

- Questions to be addressed:
  - How will the results of this project be disseminated?
  - To whom?
  - When?
  - Where?
- Methods of dissemination include:
  - journal articles/publications/books/book chapters
  - presentations at professional meetings and conferences
  - media presentations, websites, software, CDs/DVDs
  - public meetings/forums/presentations to/with affected groups

Budgets and Budget Justifications

Budget Items

- Typical federal line items:
  - Personnel (salary and fringe benefits)
  - Travel
  - Equipment
  - Supplies
  - Contractual
  - Construction
  - Other
- Total direct costs
- Total indirect costs (F&A or “overhead”)

Creating Budgets

Plan out your project per objective and activity.

- How much time will X person spend on it? How much is that person's time worth?
- What equipment or supplies will you need?
- What travel do you intend to make in order to disseminate your findings or provide professional development for your team or your students?
- What subcontracts are needed (for evaluators, etc.)?

Alternate method: A Day in the Life of My Project

The Budget Justification

- Explains how you came up with the numbers
  - X number of student participants at $Y per trip = $Z total for student travel
- Justifies the spending you plan to do during the project
  - Provides your reasoning
- Can add information beyond the line items
- Can be used to argue that your approach is cost-effective
- Can be presented multiple ways for different effects or to address different requirements (e.g., activity-based costing, etc.)

Graphics: Tables, Charts, Figures, and Format

Tables and Charts

- Are they really needed? Some tables and charts can take up coveted space.
- Are they properly formatted? Single-spaced/double-spaced? Must be inside the margins. Check guidelines.
- Are they labeled? Can they be understood?
- Is color used wisely? Is font size readable?
- Can they be included in the Appendix (for example, with U.S. Department of Education/Institute of Education Sciences proposals) and not add to the narrative to get around page limits?

Timeline Example

	Year 1: July 2015 – June 2015												Year 2: July 2016 – December 2017											
Activity	**Q1**			**Q2**			**Q3**			**Q4**			**Q5**			**Q6**			**Q7**			**Q8**		
Identify . . .																								
Develop case studies. Develop surveys. Pre-test…																								
Recruit																								
Identify classrooms … to …																								
Obtain parent written permission and student consent for participation in pilot testing…																								
Expert reviewers critique/evaluate the quality of . . .																								
Establish inter-rater reliability																								
Revise…																								
Post-test																								
Pilot the ...																								

Another Timeline Example

2015	Activity
January – March	Identify. . .
March – August	Develop survey
August	Recruit…
August	Obtain parent written permission and student consent for participation in pilot testing
September – October	Develop coding for data analysis…
October	Pre-test…
November – December	Revise
2016	
January – February	Consult Advisory Panel…
March	Pilot the course…Videotape
March -- April	Conduct interviews. . .
April – May	Revise . . .based on the results of statistical analysis
May – June	Conduct . . . Post-test
June -- September	Write report
October	Disseminate findings at annual meeting of…

The Project
Summary or Abstract

Abstract Purpose and Contents

- Immediately shows topic, approach, relevance of the research
- Makes strong first impression, for good or bad
- Helps determine selection of reviewers
- Most-read section of proposal
- Entered into permanent electronic database
- Becomes primary identifier of project
- Often used by agency as press release, notice to politicians, or other publicity
  - Therefore, it is a <u>public</u> <u>document</u>

Who reads the abstract?

- Agency staff
- Highly technical, scientific peers
- Non-technical but professional peers
- Generalists/lay readers
- Public advisory council/board of directors
- Congress: staff, elected officials
- Local politicians
- Special interest groups
- General public

Components of Abstracts

- One or two sentences each on:
  - Subject: What is the project about?
  - Purpose and significance:
    - What is to be accomplished?
    - Why is this important—to funder, to discipline, to society?
  - Activities:
    - What will be done?
    - With what methods?

Components of Abstracts (2)

- Location of project, if relevant or requested:
  - City, state, region
- Target population:
  - Demographics of participants, including beneficiaries or subjects
- Expected outcomes:
  - What results will be produced?
  - How will the results advance knowledge/the state of the art in the discipline or profession?
  - What will be the long-term benefits to society?

Attachments and Appendices

Types of Attachments/Appendices

What is allowed? What is required?

- Letters of support/commitment/invitation
- Pilot research data
- Institutional information
- Selected publications: printed and pre-prints
- Sample measures to be used
- Consent forms
- Sample recruitment letters
- Transcripts, other certification
- Sample syllabi
- Chapter outlines
- Marketing/publicity materials

Final Tips for Proposal Development

Final Review for Presentation and Format

Professional Editors' Strategies: macro to micro

- Five separate readings for:
  - Overall format and appearance
  - Organization and parts
    - Clear divisions between parts
    - Short paragraphs
  - Sentences:
    - 20-word rule
    - Long sentence/short word rule
    - Alternate sentence length and structure
    - Active voice
  - Words
  - Mechanics/grammar/typos

The Review Process

What Happens During the Review Process?

- Triage
  - Has the proposal met minimum standards and requirements?
  - If not, it can be returned without review
- Assignment to a review panel
  - NIH: standing review panels (“study sections”)
  - NSF and other agencies: *ad hoc* review panels
- Lead reviewer(s) can become advocates for funding your proposal
  - Your job is to persuade them that your project and its presentation are both of high enough quality to be funded

What Happens During the Review Process? (2)

- Proposal discussion
  - Strengths and weaknesses of the project concept
  - Typically little discussion at this point of budgetary concerns
- Panel recommendation is prepared
  - Fund/don’t fund (and why)
  - Panel review summary plus individual (anonymous) reviews
- Sent to funding decision maker for final fund/don’t fund
  - DoD agencies: The program officer is often the decision maker as well

Unfunded/Declined Proposals

Reasons for Rejection

- Classic NIH study: list of shortcomings of 605 proposals rejected by the National Institutes of Health
  - *Science*, Vol. 132 (Nov. 25, 1960), pp. 1532-34. Dr. Ernest M. Allen, Chief, Division of Research Grants

- Four main categories of shortcomings:
  - Problem (58 percent)
  - Approach (73 percent)
  - Investigator (55 percent)

Reasons for Rejection (2)

- Other (16 percent)
  - Institutional setting, unrealistic budget request, inadequate personnel, lack of PI time, unconvincing need for project, directions not followed, sloppy presentation, missed deadline, missing components
  - Proposal development specialists can help to avoid these.
- One government official stated: "Overall, the most striking reason for low-marked proposals was the consistent failure of universities to be fully responsive to what was asked for in the RFP."

NIH Ten Most Common Errors: 2010 Analysis of 45,000 Applications

- DUNS # on 424 does not match DUNS# for grants.gov
- Incorrect Type of Submission, Federal Identifier and Type of Application on 424
- Missing eRA Commons ID for all PD/PIs
- Missing PI/PD role on Senior/Key Person Profile Form
- Missing organization name for all Senior/Key persons
- Missing required attachments (human subjects, animals)
- Attachments not in PDF format for NIH
- Page limits in FOA not followed
- Missing effort >0 for all Senior/Key listed in R&R Budget Form
- Special Funding Opportunity Announcement instructions not followed

Major Reasons Why Proposals are Rejected

- Administrative/Regulatory
- Principal Investigator
- Politics
- Intellectual/Scientific/Academic Issues
- Project Design
- Budget
- Institution
- Presentation and/or Format

Effective proposal development can help with these.

Common Format Problems with Rejected Proposals

- Key purpose/idea not stated up front
- Lack of format/outline/clear pattern of thought
- Writing is too vague to the reviewers
- Long paragraphs, long sentences, long words
- Careless mechanics: grammar, spelling, typos, punctuation, abbreviations, acronyms

Common Format Problems with Rejected Proposals (2)

- Masses of print without pictures or format
- Poor quality or mislabeling of images
- Inaccurate word choices
- Unacceptable margins, font type and size
- Too little/too much--bold, italics, underline

Deciding to Revise and Resubmit

- Analyze the reviews
  - Identify types of problems
  - Determine consistency of comments
- Get other objective expert opinions
- Contact the program officer for advice (within 2-3 weeks after the notice)
- Re-assess time and PI commitment
  - Decide if the project is still relevant and important, and if program is still available
  - If so, go for it!
  - If not, find other funding sources

Final Thoughts

- Successful grantsmanship is a lifelong process for researchers and for proposal development specialists
- Most proposals are unsuccessful the first time
- People don't automatically know how to develop strong proposals
- Proposal development is more than filling out forms, calculating budgets and meeting deadlines
- Research administrators and proposal development specialists can play a huge role in PI careers and their professional success by
  - Helping them to develop and submit the strongest possible proposals to the most appropriate funders
  - Focusing on the proposal development issues and letting the PIs focus on the science