The Sponsored Research Lifecycle

Part 2: Proposal Preparation & Submission

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Grantsmanship is a Customer Relations Exercise

The Proposal

The Project

The Proposal

Advocating

No Help

No Need

Building Customer Relationships:
The Counselor Salesperson.
Wilson Learning Corp.

Supporting

No Satisfaction

No Trust

Agency Meetings

Relating

Discovering

No Need

No Trust

No Satisfaction

Supporting

Relating

Discovering

Advocating
Beating the Odds

- NSF Proposal Success Rates declined from 30% in 2000 to 20% in 2005
- In the same period, there was a 38% increase in PI’s
- NIH Proposal Success Rates range from 7-30% and averaged 21% in 2007

NSF Funding Rate for Competitive Research Grants

<table>
<thead>
<tr>
<th>Year</th>
<th>Number</th>
<th>Percent</th>
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</thead>
<tbody>
<tr>
<td>1997</td>
<td>10,000</td>
<td>20%</td>
</tr>
<tr>
<td>1998</td>
<td>11,000</td>
<td>22%</td>
</tr>
<tr>
<td>1999</td>
<td>12,000</td>
<td>24%</td>
</tr>
<tr>
<td>2000</td>
<td>13,000</td>
<td>26%</td>
</tr>
<tr>
<td>2001</td>
<td>14,000</td>
<td>28%</td>
</tr>
<tr>
<td>2002</td>
<td>15,000</td>
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<td>2004</td>
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<td>34%</td>
</tr>
<tr>
<td>2005</td>
<td>18,000</td>
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- Proposal Actions
- Awards
- Funding Rate

NJIT
New Jersey’s Science & Technology University
THE EDGE IN KNOWLEDGE
Cited Reasons for Rejection (NIH)

I. Nature of the Problem (18%)
   - It is doubtful that new or useful information will result from the project (14%).
   - The basic hypothesis is unsound (3.5%).
   - The proposed research is scientifically premature due to the present inadequacy of supporting knowledge (0.6%).

II. Approach to the Problem (38.9%)
   - The research plan is nebulous, diffuse and not presented in concrete detail (8.6%).
   - The planned research is not adequately controlled (3.7%).
   - Greater care in planning is needed (25.2%).
   - A more thorough statistical treatment is needed (0.7%).
   - The proposed tests require more individual subjects than the number given (0.7%).
Cited Reasons for Rejection (NIH)

III. Competence of Investigators (38.2%)
   - The applicants need to acquire greater familiarity with the pertinent literature (7.2%).
   - **The problems to be investigated are more complex than the applicants realize (10.5%).**
   - The applicants propose to enter an area of research for which they are not adequately trained (12.8%).
   - The principal investigator intends to give actual responsibility or of a complex project to an inexperienced co-investigator (0.9%).
   - The reviewers do not have sufficient confidence in the applicants to approve the present application, largely based on the past efforts of the applicants (6.8%).

IV. Conditions of Research Environment (4.8%)
   - The investigators will be required to devote too much time to teaching or other non-research duties (0.9%).
   - Better liaison is needed with colleagues in collateral disciplines (0.4%).
   - **Requested expansion on continuation of a currently supported research project would result in failure to achieve the main goal of the work (3.5%).**
Before You Write
Get the Request for Proposals
Analyze the RFP

- Sponsor’s Definition of Problem
- Anticipated Funding
- PI Eligibility
- Institutional Limits & Restrictions
- Proposal Format
- Review Criteria
Develop A Strategy

I keep six honest serving-men
(They taught me all I knew);
Their names are What and Why and When
And How and Where and Who.

Rudyard Kipling
"Just So Stories" (1902)
Develop A Strategy

- **What** – Define the outcomes of value to the sponsor
- **Why** - Define the contribution to the sponsor’s need
- **When** – Set up a program schedule with milestones
- **How** – Demonstrate that the approach
  - will extend the work that has been previously done,
  - will avoid the mistakes and/or errors that have been previously made,
  - will serve to develop stronger collaboration between existing initiatives, or
  - is unique since it does not follow the same path as previously followed.
- **Where** – Describe any unique facilities & equipment
- **Who** – Describe the credentials of the investigators to accomplish the goals
Set Goals & Objectives

- Try and differentiate between your goals and your objectives - and include both.
  - Goals are the large statements of what you hope to accomplish but usually aren't very measurable. They create the setting for what you are proposing.
  - Objectives are operational, tell specific things you will be accomplishing in your project, and are very measurable.

- Your objectives will form the basis for the activities of your project and will also serve as the basis for the evaluation of your project. Try to insure that there is considerable overlap between the goals and objectives for your proposal and the goals and objectives of the funding organization.

- Present measurable objectives for your project. Your proposal is easier for a prospective funding organization to understand (and the outcomes are much more clear) if you describe your objectives in measurable ways.
Develop a Draft Budget

- Who is involved and to what extent of time commitment?
- How many students? Where will they come from?
- Are there equipment needs and how will procurement affect schedule?
- Is travel consistent with the grant purposes?
- Are there partners or sub-contractor issues to be addressed?
- Is there a match required and is it approved?
- Does the scale match the program?
Writing the Proposal
Get the Forms

<table>
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<th>Opportunity Title:</th>
<th>Nanotechnology Undergraduate Education (NOE) in Engine</th>
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<td>05/14/2008</td>
</tr>
<tr>
<td>Agency Contact:</td>
<td>Mary F. Peats</td>
</tr>
<tr>
<td></td>
<td>Program Manager</td>
</tr>
<tr>
<td></td>
<td>Email: <a href="mailto:mpeats@nsf.gov">mpeats@nsf.gov</a></td>
</tr>
</tbody>
</table>

This electronic grants application is intended to be used to apply for the specific Federal funding opportunity referenced here.

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This opportunity is only open to organizations, applicants who are submitting grant applications on behalf of a company, state, local or tribal government, academia, or other type of organization.

- *Application Filing Name:*

<table>
<thead>
<tr>
<th>Mandatory Documents</th>
<th>Mandatory Completed Documents for Submission</th>
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<td>SF&amp;24 (R&amp;R)</td>
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<tr>
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<td>Research &amp; Related Other Project Information</td>
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<tr>
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<tr>
<td>Research &amp; Related Budget</td>
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Review and Complete the Forms

**APPLICATION FOR FEDERAL ASSISTANCE**

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<tr>
<th>SF 424 (R&amp;R)</th>
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1. **TYPE OF SUBMISSION**
   - [ ] Pre-application
   - [ ] Application
   - [ ] Changed/Corrected Application

2. **DATE SUBMITTED**
3. **DATE RECEIVED BY STATE**

4. **FEDERAL IDENTIFIER**
   - [ ]

5. **APPLICANT INFORMATION**
   - [ ] * Organizational DUNS:
   - [ ] Legal Name:
   - [ ] Department:
   - [ ] Division:
   - [ ] Street1:
   - [ ] Street2:
   - [ ] City:
   - [ ] County:
   - [ ] * State:
   - [ ] * Country: USA
   - [ ] * Zip / Postal Code:

   **Person to be contacted on matters involving this application**
   - [ ] Prefix:
   - [ ] * First Name:
   - [ ] Middle Name:
   - [ ] * Last Name:
   - [ ] Suffix:
   - [ ] * Phone Number:
   - [ ] Fax Number:
   - [ ] Email:

6. **EMPLOYER IDENTIFICATION (EIN) or (TIN):**

7. **TYPE OF APPLICANT:**
   - Please select one of the following:

8. **TYPE OF APPLICATION:**
   - [ ] New
   - [ ] Resubmission
   - [ ] Renewal
   - [ ] Continuation
   - [ ] Revision

9. **NAME OF FEDERAL AGENCY:**
   - [ ] National Science Foundation

10. **CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER:**
    - [ ] 07 041

11. **DESCRIPTIVE TITLE OF APPLICANT'S PROJECT:**

12. **AREAS AFFECTED BY PROJECT (cities, counties, states, etc.)**
Headlining as a Style Metaphor

- Expect your proposal to be scanned
- Do not expect a linear (cover to cover) reading
- Establish all of the important points in the lead paragraph
- Refine and expand in the supporting paragraphs
- If it is important, repeat it early and often!
- A proposal is not a journal article
Know Your Audience

- Understand the review process
- Write to the reviewers’ level of expertise - or lower
- If possible, understand the specific background of potential reviewers
- Directly address any previous reviewer criticisms
General Style Tips

- Stay within your linguistic comfort zone
- Use white space — even if it means cutting out some of your cherished text.
- Include graphs, bars, tables, insets, pictures, illustrations — unless you are not allowed to do so.
- Follow all the rules for formatting e.g., margins, line spacing, and font size.
- Use active rather than passive tense.
- Avoid acronyms, jargon or other “shorthand”.
- Run the spell & grammar check, then proofread.
- Have someone read the draft of the proposal to make sure that you've written in a clear and direct style.
References

- **Art of Writing Proposals**  Social Science Research Council  

- **Basic Elements of Grant Writing**  Corporation for Public Broadcasting  
  [http://www.cpb.org/grants/grantwriting.html](http://www.cpb.org/grants/grantwriting.html)

- **Proposal Writing Short Course**  The Foundation Center  
  [http://fdncenter.org/learn/shortcourse/prop1.html](http://fdncenter.org/learn/shortcourse/prop1.html)

- **The Toolkit: Getting an NIH R01 Grant**  AAAS Science's Next Wave  
  [http://nextwave.sciencemag.org/cgi/content/full/2001/09/27/1](http://nextwave.sciencemag.org/cgi/content/full/2001/09/27/1)

- **NSF Proposal Writing Guide**  National Science Foundation  

- **EPA Grant-Writing Tutorial**  EPA and Purdue University  

- **Guide for Writing a Funding Proposal - Links**  
  [http://www.learnerassociates.net/proposal/links.htm](http://www.learnerassociates.net/proposal/links.htm)
Preparing the Budget
Proposal Budget Development

- Faculty Salary
- Student Support
- Professional Staff
- Equipment
- Supplies
- Travel
- Sub-Contracts
- Consultants
- Facilities & Administrative Costs
Budget Prototype One-year $100K

Academic Year Salary (1/8th) $ 12,909
Summer Salary (1 mo.) 9,675
Graduate Stipend (1-12mo) 26,536
Graduate Tuition 19,090
Travel 2,000
Supplies 1,000
Publication 1,000
F&A (52% MTDC) 27,623
Total $ 99,833
Getting Approvals
Proposal - Internal Review

- Course Release Time (Chair & Dean)
- Summer Support (Chair & Dean)
- Student Tuition & Stipend (Dean, SVPRD)
- Space Utilization or Reconfiguration (Dean, SVPFA)
- Human Subjects (IRB)
- Intellectual Property Rights (AVPTD)
- Contractual Obligations (OSRA, VPGC)
Over-arching Principles

Every Transaction has institutional implications that require review and approval.

Many transactions are Contracts, not Grants and have additional stipulations.

Donations, and other forms of Philanthropy received through University Advancement still require legal review and properly constructed budgets before funds can be dispersed.

The PI has the ultimate responsibility to understand the terms & conditions of any award and to conduct the research in compliance with agency and university policy.
Submitting the Proposal
## Grant Application Package

**Opportunity Title:** Nanotechnology Undergraduate Education (NUE) in Engineering

**Offering Agency:** National Science Foundation

**CFDA Number:** 47.041

**CFDA Description:** Engineering Grants

**Opportunity Number:** 08-544

**Competition ID:**

**Opportunity Open Date:** 02/14/2008

**Opportunity Close Date:** 05/14/2008

**Agency Contact:**
- Mary F. Peats
  - Program Manager
  - Email: mpeats@nsf.gov

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* Application Filing Name: Nanosystems Summer Internship Program
 Grants.Gov Submission Process

- PI Completes Package
- PI Sends Package to SRA
- SRA Acknowledges
- SRA Submits Package Grants.Gov
- Grants.Gov Acknowledges to SRA & PI
- Agency Reviews Grants.Gov Package
- Agency Verifies Package
- Agency Reviews Proposal

NJIT
New Jersey's Science & Technology University
THE EDGE IN KNOWLEDGE
Office of Research and Development
Web Page

NJIT: Sponsored Research: Sponsored Research Administration

http://www.njit.edu/sponsoredresearch/
Appendix:
Detail slides not used in the presentation
Grant Lifecycle

A successful proposal is the outcome of a process of engagement with the sponsor, not the starting point. The process is not unlike any customer relationship activity that begins with relationship building, discovery of customer needs, advocacy for your solution and support of the customer through implementation. If successfully managed this cycle can be repeated endlessly. Skipping steps or undervaluing their importance is a recipe for failure. The process begins with identifying the most likely “customers” for your “product’ – the research that you want to pursue. That is the topic for today’s discussion.
Follow the RFP

- Follow Section Format exactly as instructed
- Clear statement of benefits and significance: in abstract, introduction, and conclusions
- Complete review of relevant literature
- Include clear schedule, and describe the deliverables
- Justify budget expenditures
- Present your qualifications

The RFP will indicate the mechanism to be used in the submission of proposals.
Pre-Award Proposal Preparation

- Obtain a copy of the RFP (Request for Proposal) or program description.
- Budget Development
- Scope of Work
- Internal Review
- Submission
Follow the RFP

- Grants.gov, part of the President’s Management Agenda to improve government services to the public, provides a single Government-wide portal for funding and applying for Federal grants online.

- Proposals submitted via Grants.gov must be prepared and submitted in accordance with the Agency Application Guide available through Grants.gov as well.

[SRA Web Page]
Proposal Preparation Basic Tips

- Allow time for assistance with budget preparation and other necessary support

- Always check the SRA Web page for benefit and indirect cost rates along with some boilerplate forms for budget and salary computation guidelines for proposals. Chances are there's other information you'll need for your application on that page as well.

http://www.njit.edu/v2/Directory/Admin/Sponsored_Programs/
Proposal - Internal Review

1. Complete all necessary sections of the Internal Sign-off (http://www.njit.edu/v2/Directory/Admin/Sponsored_Programs/ui/frame-forms.htm). Proposals will not be routed without the Internal Sign-off Form approved – this gives information about **Space, Cost-Sharing and Time & Effort information**.

2. Submit to SRA the following documents:
   - Proposal draft narrative and abstract
   - Approved Internal Sign-off. If the program you're applying to doesn't allow indirect cost charges at our normal rates, or places other budgetary restrictions, include the relevant sections of the program guidelines
   - Budget and budget narrative
   - Letters from collaborators or consultants, if applicable. If a subcontract to another organization is part of your proposal, full authorization must be received from the collaborating institution prior to proposal approval.
Budget tips

- The budget and proposal copy must be mutually reinforcing. Proposal budgets directly reflect the depth of project planning. A reader should never be surprised by finding any line item in the budget not referred to in the narrative plan and/or in the budget justification.

- Create a budget by analyzing the tasks needed to complete each activity. One of the easiest ways to develop a budget is by identifying the individual tasks that must be performed to achieve an objective and breaking those tasks down into a series of logical steps.
Avoid lump sum requests; be as detailed as possible. Budget details help justify a request. For instance, a budget requesting a flat $1,000 for “travel” will pale beside a travel request that identifies specific destinations and breaks down the total amount requested into airfare, ground transportation, lodging and meals.
Budget Tips

- Allow for inflation. Salaries, fringe benefits (health insurance) costs often increase each year.
- Facilities and administrative costs (indirect costs) are a legitimate budget item. Most funding sources provide funds over and above the direct costs to cover the intangible expenses associated with administering a project (heat, water, business forms, paperwork processing, etc.)
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