GRANTSEEKER’S GUIDE TO NIH

A WEBINAR FROM HANOVER RESEARCH
WEBINAR LOGISTICS

PRESENTATION LENGTH
45-minute presentation followed by Q&A

Q&A
Please ask questions using the Q&A function in the Zoom toolbar. Presenters will respond in real time, where possible, and we will respond to as many of the remaining questions as time allows during the Q&A.

RECORDING & SLIDES
All attendees will receive a copy of the recording, including the slides.
Sarah Ott
SENIOR GRANTS CONSULTANT & NIH TEAM LEADER

TOTAL WINS
$95+ MILLION
More than $95 million in total grant funding for clients since 2010.

SPECIALIZES IN

- Degrees in Exercise Science and Health Promotion; Journalism
- Joined Hanover in 2013
- Supervises Hanover’s NIH Team
- Predominantly supports health-services and research proposals

On a Personal Note...

- AMATEUR STRONGWOMAN: Lives in basement gym
- CHILDHOOD DREAM: Be an Olympic gymnast
- MOTHER OF FOUR: 2 kids, 2 cats
**PRESENTER**

**Bryan DeBusk, PhD**  
SENIOR GRANTS CONSULTANT & NSF TEAM LEADER

**TOTAL WINS**

$360+ MILLION  
More than $360 million in total grant funding for clients since 2008.

- PhD in Pharmaceutical Sciences
- Joined Hanover in 2009
- Supervises Hanover’s NSF Team
- Started grant writing as a junior faculty member

**SPECIALIZES IN**

- NSF
- NIH
- DARPA

**On a Personal Note...**

- AVID HIKER: Lives in Colorado
- CHILDHOOD DREAM: Be an astronaut
- FATHER OF SEVEN: 4 kids, 2 dogs, 1 cat
First: Don’t Panic
TODAY’S AGENDA

Overview of NIH Funding Mechanisms

R  K  T  P  U
Required Components and Common Mistakes

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>Specific Aims</td>
</tr>
<tr>
<td>✓</td>
<td>Research Strategy</td>
</tr>
<tr>
<td>✓</td>
<td>Vertebrate Animals</td>
</tr>
<tr>
<td>✓</td>
<td>Human Subjects</td>
</tr>
<tr>
<td>✓</td>
<td>...</td>
</tr>
</tbody>
</table>
TODAY’S AGENDA

Best Practices for Competitive Applications

Overview of NIH Funding Mechanisms

R K T P U

Required Components and Common Mistakes

- Specific Aims
- Research Strategy
- Vertebrate Animals
- Human Subjects
- ...

Fit
Best Practices
Feedback
Clarity
Outreach
Time
NIH FUNDING MECHANISMS

- Research Grants
- Career Development Awards
- Research Training and Fellowships
- Program Project / Center Grants
- Cooperative Agreements
## RESEARCH GRANTS

*R*-series grants are intended to support research planning or well-defined research projects.

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Length</th>
<th>Direct Costs</th>
<th>Parent FOA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Project Grant Program</td>
<td>3-5 years</td>
<td>No Limit or Specified by RFA</td>
<td>PA-19-054, PA-18-343</td>
</tr>
<tr>
<td>Small Grant Program</td>
<td>2 years</td>
<td>$50K per year</td>
<td>PA-19-052</td>
</tr>
<tr>
<td>Academic Research Enhancement Award (AREA)</td>
<td>Up to 3 years</td>
<td>$300K</td>
<td>PA-18-504</td>
</tr>
<tr>
<td>Exploratory / Developmental Research Grant</td>
<td>2 years</td>
<td>$275K</td>
<td>PA-19-053, PA-18-344</td>
</tr>
<tr>
<td>Clinical Trial Planning Grant</td>
<td>Typically 1 year but up to 3 years</td>
<td>Typically $100K</td>
<td>N/A</td>
</tr>
<tr>
<td>Small Business Awards (SBIR / STTR)</td>
<td>6 months to 3 years</td>
<td>$150K up to $1M per year</td>
<td>PA-18-573, PA-18-574</td>
</tr>
</tbody>
</table>
### RESEARCH GRANTS

*R-series grants are intended to support research planning or well-defined research projects.*

#### PURPOSE

- Support for Research Excellence (SURE) and SURE-First
  - Faculty without an *active* Research Project Grant (SURE) OR with no prior or current federal funding (SURE-First)
  - Institutions with > 25% of students Pell eligible AND < $6 million in Research Project Grant funding on average in the past 2 years

#### LENGTH

Up to 4 years

#### DIRECT COSTS

$100K per year OR $125K per year (SURE-First)

#### PARENT FOA

PA-21-169 AND PA-21-173
RESEARCH GRANTS

R-series grants are intended to support research planning or well-defined research projects.

PURPOSE
Maximizing Investigators’ Research Award (MIRA)

Goal: Increase the efficiency of NIGMS funding by providing investigators with greater stability and flexibility, thereby enhancing scientific productivity and the chances for important breakthroughs.

LENGTH
Typically 5 years

DIRECT COSTS
Up to $750K direct costs per year ($250K for ESI)

PARENT FOA
PA-19-367 AND PA-20-117
CAREER DEVELOPMENT

Provides protected time to conduct research and career development activities leading to independence.

SALARY: Typically $75K - $100K + fringe

DURATION: 3 to 5 years (not renewable)

COMMITMENT: Full-time appointment with minimum 75% effort devoted to the K award activities (some ICs allow 50% effort for clinical specialties)

RESEARCH SUPPORT: $25K to $50K
# Career Development Awards

<table>
<thead>
<tr>
<th>Award Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mentored Research Scientist Development (K01)</td>
<td>Usually awarded to faculty with a PhD or equivalent to support training toward independence, change to a new field, enhance workforce diversity, or return from career hiatus.</td>
</tr>
<tr>
<td>Academic Career Development (K07)</td>
<td>Intended to enhance academic or research capacity at the sponsoring institution. Junior and senior faculty may be eligible.</td>
</tr>
<tr>
<td>Mentored Clinical Scientist Development (K08)</td>
<td><strong>Clinical degree required.</strong> Intended to support clinicians committed to substantial research engagement.</td>
</tr>
<tr>
<td>Research Career Enhancement (K18)</td>
<td>Awarded to established investigators to broaden their research expertise or transition into new fields.</td>
</tr>
<tr>
<td>Transition to Independence (K22)</td>
<td>Usually a two-phase award with a mentored component followed by an independent component at a different institution.</td>
</tr>
</tbody>
</table>
CAREER DEVELOPMENT AWARDS

MENTORED PATIENT-ORIENTED RESEARCH DEVELOPMENT

K23  Clinical degree required. Intended to support clinicians who want to focus on patient-oriented research.

MENTORED QUANTITATIVE RESEARCH DEVELOPMENT

K25  Intended to support faculty in quantitative sciences and engineering refocus their efforts on health-related research.

EMERGING MENTORED GLOBAL LEADER

K43  Intended to support faculty with health-related research programs in low and middle-income countries (not the US).

PATHWAY TO INDEPENDENCE

K99/ R00  Transition from post-doctoral position to faculty position.
TRAINING GRANTS

Institutional awards that provide support for individual research training opportunities at the undergraduate, graduate, and postdoctoral levels.

BUDGET
Unlimited

LENGTH
Up to 5 years (most are renewable)

IMPORTANT CONSIDERATIONS
Participating faculty must have
- strong research programs as evidenced by prior and current NIH funding
- strong history of mentoring trainees at the proposed level

[Link to all current T opportunities]
TRAINING GRANTS
Institutional awards that provide support for individual research training opportunities at the undergraduate, graduate, and postdoctoral levels.

Ruth L. Kirschstein National Research Service Award (NRSA) Institutional Research Training Grant

Bridges to the Baccalaureate
Community College to Four-Year Transition

Undergraduate Research Training Initiative for Student Enhancement (U-RISE)
Institutions with an average of < $7.5 million in NIH Research Project Grant funding over the last 3 fiscal years

Maximizing Access to Research Careers
Institutions with an average of > $7.5 million in NIH Research Project Grant funding over the last 3 fiscal years

Ruth L. Kirschstein National Research Service Award (NRSA) Short-Term Institutional Research Training Grant
FELLOWSHIPS

Supports the training of biomedical, behavioral, and clinical researchers to ensure that a diverse pool of highly trained scientists.

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>STIPEND</td>
<td>Subsistence allowance to help defray living expenses while in training</td>
</tr>
<tr>
<td>TUITION &amp; FEES</td>
<td>60% of actual costs up to $16,000 for F30/F31 and up to $4,500 for F32</td>
</tr>
<tr>
<td>TRAINING-RELATED EXPENSES</td>
<td>Health insurance, staff, consultants, research supplies</td>
</tr>
<tr>
<td>F&amp;A</td>
<td>8% of base, including tuition, fees, and equipment</td>
</tr>
<tr>
<td>PAYBACK</td>
<td>Not required for F30/F31; Qualifying service required in exchange for first year of F32 (payable with subsequent year of F32)</td>
</tr>
</tbody>
</table>
## Fellowships

Supports the training of biomedical, behavioral, and clinical researchers to ensure that a diverse pool of highly trained scientists.

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Length</th>
<th>Parent FOA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Predoctoral Dual Degree Fellowship</td>
<td>Up to 6 years F + T support</td>
<td>PA-21-049, PA-21-050</td>
</tr>
<tr>
<td>Predoctoral Single Degree Fellowship</td>
<td>Up to 5 years F + T support</td>
<td>PA-21-051, PA-21-052</td>
</tr>
<tr>
<td>Postdoctoral Fellowship</td>
<td>Up to 3 years</td>
<td>PA-21-048</td>
</tr>
<tr>
<td>Senior Fellows (change in career direction)</td>
<td>Typically 2 years</td>
<td>PA-21-047</td>
</tr>
<tr>
<td>Predoctoral to Postdoctoral Transition Award</td>
<td>Up to 5 years (max 2 F99 + 3 K00)</td>
<td>PA-21-108</td>
</tr>
</tbody>
</table>
PROGRAM PROJECT & CENTER GRANTS

Large, multi-project efforts that generally include a diverse array of research activities.

**BUDGET**
Varies by solicitation and Institute/Center

**LENGTH**
Typically 5 years (most are renewable)

**KEY FEATURES**
- Typically organized around a theme
- Most project PIs should have a strong history of success, but early career faculty can be included
- Supporting cores can provide shared infrastructure and services
PROGRAM PROJECT & CENTER GRANTS

Large, multi-project efforts that generally include a diverse array of research activities.

- P01: Research Program Project Grant
- P20: Exploratory Grants
- P30: Center Core Grants
- P50: Specialized Center
COOPERATIVE AGREEMENTS

Research Project Cooperative Agreement (Comparable to R01)

Conference Cooperative Agreements

SBIR Cooperative Agreements

Specialized Center Cooperative Agreements

And more than 80 others (linked)
**REQUIRED COMPONENTS (AND COMMON MISTAKES)**

<table>
<thead>
<tr>
<th>✔️ Specific Aims</th>
</tr>
</thead>
<tbody>
<tr>
<td>✔️ Research Strategy</td>
</tr>
<tr>
<td>✔️ Vertebrate Animals</td>
</tr>
<tr>
<td>✔️ Human Subjects</td>
</tr>
<tr>
<td>✔️ ...</td>
</tr>
</tbody>
</table>
RESOURCE: NIH ANNOTATED FORMS-F
RESOURCE: NIH ANNOTATED FORMS-F

<table>
<thead>
<tr>
<th>Country:</th>
<th>USA: UNITED STATES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phone Number:</td>
<td></td>
</tr>
<tr>
<td>Fax Number:</td>
<td></td>
</tr>
<tr>
<td>Email:</td>
<td>Contact e-mail is required by NIH. If not included, or improperly formatted, the AOR e-mail provided in item 19 will be used</td>
</tr>
</tbody>
</table>

6. EMPLOYER IDENTIFICATION (EIN) or (TIN): Non-US organizations use 4444444444

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

- Small Business Organization Type
  - Women Owned
  - Socially and Economically Disadvantaged

8. TYPE OF APPLICATION: See application guide for definitions

- New
- Resubmission
- Renewal
- Continuation
- Revision

Is this application being submitted to other agencies? Yes No

9. NAME OF FEDERAL AGENCY: 

10. CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER: NIH will assign CFDA post-submission

11. DESCRIPTIVE TITLE OF APPLICANT'S PROJECT: If Revision (box 8), provide exact title (including punctuation and spacing) as provided for awarded grant. Limited to 200 characters.

12. PROPOSED PROJECT: Start Date Ending Date

13. CONGRESSIONAL DISTRICT OF APPLICANT

Format: 2 character state abbreviation - 3 character District number (e.g., CA-005). Use 00-000 if outside the US. See application guide for additional details.

See Key Dates section of announcement. Start date is an estimate, typically at least nine months after submission. Project period should not exceed what is allowed in announcement.
## Documents Relevant to All Submissions

<table>
<thead>
<tr>
<th>Required?</th>
<th>Description</th>
<th>Common Mistakes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>YES</strong></td>
<td>Institutional disclosure provided by the grants office</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Required When**
- using Human Fetal Tissue
- using continuous submission
- Late Application Policy or Genomic Data Sharing applies
- one of a set of collaborative applications
- a subaward budget component is not active in all years
- received an agency pre-approval for something

**Cover Letter**

No longer used to request study sections or request / exclude reviewers

| When using Human Fetal Tissue | Confirms compliance with current requirements [Related Notices] | N/A |

| When using Human Fetal Tissue | Sample form used for consent | Failure to include a compliant form |
# Documents Relevant to All Submissions

<table>
<thead>
<tr>
<th>REQUIRED?</th>
<th>DESCRIPTION</th>
<th>COMMON MISTAKES</th>
</tr>
</thead>
</table>
| YES       | Up to 30 lines summarizing the proposed work | Including  
- more than 30 lines  
- citations  
- tables or figures |
| YES       | Up to 3 sentences describing public health relevance | Including  
- more than 3 sentences  
- Using scientific jargon |
| YES       |  
[Details on Content and Format]  

| BIBLIOGRAPHY & REFERENCES CITED |  
|---------------------------------|-------------------------------------------------|
| YES                             | Failure to include the NIH Manuscript Submission reference number or PubMed Central ID for your articles that are covered by the Public Access Policy |
| FACILITIES & OTHER RESOURCES    |  
| YES                             | Failure to include a statement on facilities used for handling biohazards and other dangerous substances |
# Documents Relevant to All Submissions

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Required?</th>
<th>Description</th>
<th>Common Mistakes</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>List of major equipment available for the project with location and capabilities</td>
<td>Failure to show availability of all major equipment needed to complete the proposed work</td>
<td></td>
</tr>
</tbody>
</table>

**Biographical Sketch**

(For all Senior / Key Personnel)

- **Form and Instructions**
- **NOTE:** new requirements coming May 25, 2021

- Using the wrong form
- Altering the formatting
- Including disallowed hyperlinks
- Not including the required sections
- Including too many citations
- Linking to patents
- Including awards that ended more than 3 years ago

<table>
<thead>
<tr>
<th>Current &amp; Pending Support</th>
<th>Required?</th>
<th>Description</th>
<th>Common Mistakes</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>Form and Instructions</td>
<td>Not reporting all relevant support</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NOTE: new requirements coming May 25, 2021</td>
<td>Not reporting in-kind support</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Budget Justification</th>
<th>Required?</th>
<th>Description</th>
<th>Common Mistakes</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>Explanation of all costs outlined in the budget (Helpful Resources)</td>
<td>Not including justification for costs in all years</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Numbers do not match the budget</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Not including quotes for equipment or services</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Not including consultant letters outlining commitment (time and cost)</td>
<td></td>
</tr>
</tbody>
</table>
# Documents Relevant to All Submissions

<table>
<thead>
<tr>
<th>INTRODUCTION</th>
<th>REQUIRED?</th>
<th>DESCRIPTION</th>
<th>COMMON MISTAKES</th>
</tr>
</thead>
</table>
| REQUIRED FOR RESUBMISSIONS | One-page response to reviewer critiques | • Failure to respond to all critiques in the Resume and Summary of Discussion  
• Including scores from the Summary Statement |

| SPECIFIC AIMS | YES | One-page introduction to the need for the project and summary of proposed approach, including project aims | • Proposing interdependent aims  
• Inconsistency with aims in the Research Strategy |

| RESEARCH STRATEGY | YES (Program Plan for T Mechanisms) | Complete description of the project | • Not including headings for Significance, Innovation, and Approach (or others required by the solicitation)  
• Not discussing rigor of prior work or including elements demonstrating rigor and reproducibility |

| PROGRESS REPORT PUBLICATIONS LIST | REQUIRED FOR RENEWALS ONLY | List of publications resulting from the original funding | Not including all publications reported in project progress reports |
# Documents Relevant to All Submissions

<table>
<thead>
<tr>
<th>Required?</th>
<th>Description</th>
<th>Common Mistakes</th>
</tr>
</thead>
</table>
| Required if using vertebrate animals | • Description of Procedures  
• Justification for use of VAs  
• Minimization of Pain and Distress | • Including >2 pages  
• Not including required sections  
• Inconsistencies in #/sex/methods in Research Strategy  
• Inadequately justifying euthanasia inconsistent with AVMA guidelines |

**Resource Sharing Plan(s)**

- **Required For**
  - SBIR / STTR applications  
  - Requesting > $500K for direct costs in any year  
  - Developing a model organism  
  - Generating large-scale genomic data

**Authentication of Key Biological and/or Chemical Resources**

**Appendices**

- **Only allowed when noted in the solicitation**
  - Varies by solicitation

**Common Mistakes**

- Not justifying the decision not to include a plan when reviewers expect to see one  
- Inadequately describing feasible, accessible approaches for sharing

- Not including it (even to simply say the project does not include any resources that need to be authenticated)  
- Inadequately describing methods or timing  
- Not describing plans for reauthentication over time

- Including them when not required / requested  
- Using them to circumvent page limits in the Research Strategy
PHS Assignment Request Form

Funding Opportunity Number:

Funding Opportunity Title:

Awarding Component Assignment Suggestions (optional)

If you have a suggestion for an awarding component (e.g., NIH Institute/Center) assignment, use the link below to identify the appropriate short abbreviation (e.g., "NCI" for National Cancer Institute) and enter it below in the boxes for "Suggested Awarding Components." All suggestions will be considered; however, not all assignment suggestions can be honored.

Information about Awarding Component can be found here: https://grants.nih.gov/grants/phs_assignment_information.html#AwardingComponents

Suggested Awarding Components:

Study Section Assignment Suggestions (optional)

If you have a suggestion for a study section assignment, use the link below to identify a study section(s). Enter the short abbreviation for that study section in the boxes for "Suggested Study Sections." Remove all hyphens, parentheses, and spaces. All suggestions will be considered; however, not all assignment suggestions can be honored.

For example, enter "CAI/P" if you wish to suggest assignment to the NIH Cancer Institute Pathology study section, or "ZRG1HOMR" if you wish to suggest assignment to the NIH Healthcare Delivery and Methodologies SBIR/STTR panel for informatics.

Information about Study Sections can be found here: https://grants.nih.gov/grants/phs_assignment_information.html#StudySection

Suggested Study Sections:

Rationale for assignment suggestions (optional)

Entry is limited to 1000 characters.

List individuals who should not review your application and why (optional)

Entry is limited to 1000 characters.
ASSIGNMENT REQUEST FORM

Information about Study Sections can be found here: https://grants.nih.gov/grants/phs_assignment_information.html#Study/Section

Suggested Study Sections:
Only 20 characters allowed

Suggestions are considered with other assignment factors. Not all suggestions can be honored.

Rationale for assignment suggestions (optional):
Entry is limited to 1000 characters.

List individuals who should not review your application and why (optional):
Provide sufficient information (e.g., name, organization, affiliation) to correctly identify each individual. Provide specific reason why an individual should not review your application. Information will be considered, but listing an individual does not guarantee they will not be on review panel.

Identify scientific areas of expertise needed to review your application (optional):
Note: Do not provide names of individuals

Limit your answers to expertise. DO NOT enter the names of individuals you'd like to review your application.
## Documents Relevant to Human Subjects Research

<table>
<thead>
<tr>
<th>Required?</th>
<th>Description</th>
<th>Common Mistakes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inclusion of Individuals Across the Lifespan</strong></td>
<td>Description of plans to include individuals of all ages in research and justification of any exclusions</td>
<td>• Failure to <strong>scientifically justify any exclusions</strong>&lt;br&gt;• Failure to <strong>explicitly address all age groups</strong></td>
</tr>
<tr>
<td><strong>Inclusion of Women and Minorities</strong></td>
<td>Description of plans to include women and minorities in research and justification of any exclusions</td>
<td>• Failure to <strong>scientifically justify any exclusions</strong>&lt;br&gt;• Failure to describe <strong>diversity of potential participant pool</strong> and feasible plans to ensure a diverse sample</td>
</tr>
<tr>
<td><strong>Recruitment and Retention Plan</strong></td>
<td>Description of plans for recruiting and retention</td>
<td>• Failure to demonstrate the participating sites have <strong>sufficient populations to meet recruiting goals</strong>&lt;br&gt;• Not describing potential challenges and alternative approaches to <strong>address poor accrual or high attrition</strong></td>
</tr>
<tr>
<td><strong>Study Timeline</strong></td>
<td>Timeline of clinical study or trial activities</td>
<td>Including a project timeline rather than a timeline specific to and only inclusive of study-related events</td>
</tr>
</tbody>
</table>
# Documents Relevant to Human Subjects Research

<table>
<thead>
<tr>
<th>Protection of Human Subjects</th>
<th>Single IRB Plan</th>
<th>Data Safety Monitoring Plan</th>
<th>Overall Structure of the Study Team</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>REQUIRED?</strong></td>
<td><strong>DESCRIPTION</strong></td>
<td><strong>COMMON MISTAKES</strong></td>
<td></td>
</tr>
<tr>
<td><strong>YES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| **REQUIRED IF PROPOSING MULTIPLE SITES** | Description of the plan for a single IRB and a statement of assurance that all participating sites will comply with the plan | • Failure to identify the single IRB  
• Failure to affirm all sites will comply with the plan |                                    |
| **REQUIRED FOR CLINICAL TRIALS** | Description of plans data safety monitoring, including composition of a DSMB where appropriate | • Failure to follow plan outline preferred by the funding Institute / Center  
• Failure to provide sufficient detail on decision points, including stopping criteria |                                    |
| **REQUIRED FOR CLINICAL TRIALS** | Organizational chart and optional narrative description of team members, responsibilities, and relationships | Failure to identify at least one team member responsible for each aspect of the study |                                    |

**Guidance**

- Failure to identify obvious potential risks  
- Identifying risks without providing mitigation plans  
- Failure to propose mitigation plans that align with published best practices for a given population
# Documents Relevant to Human Subjects Research

<table>
<thead>
<tr>
<th>Statistical Design and Power</th>
<th>Dissemination Plan</th>
<th>Other Clinical Trial-Related Attachments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Required?</strong></td>
<td><strong>Description</strong></td>
<td><strong>Common Mistakes</strong></td>
</tr>
</tbody>
</table>
| Required for Clinical Trials | Description of power calculation and sample size determination plus all statistical analyses for the trial | - Inadequately justifying the sample size  
- Failure to define trial success for the primary outcome  
- Failure to include analytical plans for all primary and secondary endpoints |
| Required for Clinical Trials | Description of plans to register the trial on ClinicalTrials.gov and ensure proper reporting | - Failure to identify the individual responsible for registration and reporting  
- Failure to provide a timeline for registration |
| Required Only When Noted in the Solicitation | Varies by solicitation | Including other attachments when not required by / specified in the solicitation |
# ADDITIONAL DOCUMENTS FOR SPECIFIC MECHANISMS

<table>
<thead>
<tr>
<th>F</th>
<th>T</th>
<th>K</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RESPECTIVE CONTRIBUTIONS</strong></td>
<td><strong>PLAN FOR INSTRUCTION IN THE RESPONSIBLE CONDUCT OF RESEARCH</strong></td>
<td><strong>PLANS AND STATEMENTS OF MENTORS AND CO-MENTORS</strong></td>
</tr>
<tr>
<td><strong>SELECTION OF SPONSOR AND INSTITUTION</strong></td>
<td><strong>DATA TABLES</strong></td>
<td><strong>DESCRIPTION OF INSTITUTIONAL ENVIRONMENT</strong></td>
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- **R4X**

- **COMPANY COMMERCIALIZATION HISTORY** (if previously received SBIR Phase II awards)
- **COMMERCIALIZATION PLAN** (Phase II, Direct to Phase II, Fast Track, and Phase IIB)
BEST PRACTICES FOR COMPETITIVE APPLICATIONS

Fit

Feedback

Outreach

Best Practices

Clarity

Time

PAST FUNDING

- NIH Reporter - searchable database of funded projects
- NIH Matchmaker - Long text (up to 15k characters) overlap with funded projects

UPCOMING FUNDING

- Parent vs. non-parent announcements
- Definition of clinical trial
- Keyword search in Grants.gov
- Look at best fitting Institute/Center website
  - Overview of NIH Institutes and Centers (with links)
BEST PRACTICES FOR COMPETITIVE APPLICATIONS

Most funded proposals have been discussed with a Program Officer before submission.

EMAIL YOUR SPECIFIC AIMS PAGE TO THE PROGRAM OFFICER AND ASK

- Are you interested in this type of work?
- If so, do you have any guidance on how best to approach a proposal?
- If a program officer prefers to speak on the phone, speak to them on the phone.

Take program officer guidance seriously: they are in the best position to know what will be competitive.
BEST PRACTICES FOR COMPETITIVE APPLICATIONS

Best Practices:
- Fit
- Feedback
- Outreach
- Clarity
- Time

Steps:
1. Gather feedback and revise
2. Plan
3. Outline and write
BEST PRACTICES FOR COMPETITIVE APPLICATIONS

WRITE A CLEAR AND COMPPELLING PROPOSAL

- Well-written and easy to follow
- Pay special attention to significance and impact
- Include a strong scientific premise and rationale for the decisions you have made
- Ensure your project is realistic in scope
- Use rigorous methods
- Acknowledge potential challenges and offer alternative solutions
BEST PRACTICES FOR COMPETITIVE APPLICATIONS

- Feedback
- Outreach
- Best Practices
- Clarity
- Time

GATHER FEEDBACK ON
- Science
- Grantspersonship
- Accessibility
HOW HANOVER CAN HELP

OUR SOLUTIONS

PROJECT CONSULTS

Recommendations for developing strong project concepts and engaging with program officers for feedback.

PROPOSAL REVIEW

Proposal critique with a focus on recommendations for structural and/or stylistic revisions based on experience working on successful proposals and funder guidance.

PROPOSAL REVISION

Editing and revision of proposals to ensure PIs are communicating their projects in a clear and concise manner and within reviewer and funder expectations.
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TRAINING, TIPS, AND TEMPLATES

Find self-directed training materials on NSF CAREER and other major competitions. Learn tips for preparing competitive proposals and find templates for common funders and programs.

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