Successful Grant Writing Strategies

Sally Bond
Assistant Director of Research Development Services
Proposal Coordination
Office of the Vice President for Research and Partnerships
Purdue Research Development Services

Office for the Vice President for Research services and resources
Where Do I Go for Help?

Hyperlinked “help” flowchart

A Visual Guide to the Grants Process at Purdue

Click on the boxes below for more information.

1. **IDEA**
   - Need help building a team?
     - YES ▶ Email Perry Kirkham
       - pkirkham@purdue.edu
     - NO
   - Have funding opportunity?
     - YES ▶ Email Sue Grimes
       - ovrilimited@purdue.edu
     - NO
   - Is funding limited?
     - YES ▶ Contact Pre-Award Center to begin budget development with a proposal specialist
     - NO
   - Review funding options
     - YES ▶ EMAIL
     - NO ▶ Review self-help tools

2. **Large or consult level?**
   - LARGE ▶ Email Proposal Coordinator
     - proposalcoordinator@purdue.edu
   - CONSULT
   - Smaller or one-time level

3. **Want grant writing assistance?**
   - YES ▶ Submit final proposal using institutional authority at Pre-Award Center
   - NO ▶ Review self-help tools
Where Do I Go for Help?

Hyperlinked “help” flowchart

A Visual Guide to the Grants Process at Purdue

Click on the boxes below for more information.

IDEA

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pkirkham@purdue.edu

NO

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YES

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sgrimes@purdue.edu

NO

Review funding options

Consult

Large or consult level?

YES

Email Sally Bond
sbond@purdue.edu

CONSULT

NO

Want grant writing assistance?

YES

Review self-help tools

NO

Submit final proposal using institutional authority at Pre-Award Center

FAQs

Where do I go for help with...

Other Useful Links

Grantsmanship Events

Site Visits

Teambuilding

Grant Writing

Limited Submissions

Funding

Research Development Home

Services & Resources

5

Submit final proposal using institutional authority at Pre-Award Center
Large-Scale Proposal Coordination

High-value, higher-complexity, interdisciplinary

Grant Writing Assistance

Large Proposal Development Services

EVPRP grant writers assist faculty in the development of high-value, high-complexity proposals that often represent multi-departmental and inter-institutional collaboration. If you have questions or would like to request EVPRP-funded proposal coordinator services, please contact Sally Bond. Our grant writers assist with:

- proposal preparation timelines and processes
- a compelling "storyline" or gap analysis
- agency mission and requirements of specific grant competitions
- meeting logistics
- assessment, outreach, and diversity component needs
- writing of non-technical text and transitions
- document control and copyediting
- graphics support
- institutional support letters (see Self-Help Tools)
- addendum forms such as conflict of interest and biosketches

(For information about cost-sharing commitments, please visit our Cost Sharing page)

Small Proposal Development Services

EVPRP grant writers are also available to consult individually with faculty who are writing small grant proposals for external funding. We can help you with:

- agency solicitation requirements
- a proposal preparation timeline
- proposal organization
- guidance for graphics
- specific proposal sections such as storyline or specific aims
Smaller Proposal Consultation

Help is available for proposals of all sizes.

Grant Writing Assistance

Large Proposal Development Services

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- proposal organization
- guidance for graphics
- specific proposal sections such as storyline or specific aims
# Proposal Preparation

## Tailored and intentional plan

General 10-week project timeline:

<table>
<thead>
<tr>
<th>Analysis and Planning</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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| Vision |   |   |   |   |   |   |   |   |   |    |
| Goals |   |   |   |   |   |   |   |   |   |    |

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Red Text: Important to have agreement (and explicit text for problem overview) prior to proposal writing
Key Strategies

Strategies to steer you away from common trouble spots

• tell a compelling story
• respond to solicitation
• answer “Why Purdue?”
• know your reviewer
• conduct internal review
Key Strategies

Addressing common trouble spots

• tell a compelling story

• respond to solicitation

• answer “Why Purdue?”

• know your reviewer

• conduct internal review

• good science is a story that begins with a problem

• narrative gives coherence

• hooks reviewer so weaknesses are not fatal flaws
Key Strategies

Addressing common trouble spots

• tell a compelling story

• respond to solicitation

• answer “Why Purdue?”

• know your reviewer

• conduct internal review

• What is the problem?

• What has been done already to address the problem?

• What is the gap that remains?

• How do you propose to address this gap?
Key Strategies

Addressing common trouble spots

• tell a compelling story

• respond to solicitation

• answer "Why Purdue?"

• know your reviewer

• conduct internal review

• What is the problem?
• What has been done already to address the problem?
• What is the gap that remains?
• How do you propose to address this gap?
Build the Storyline

Example narrative...in op-ed language

What is the problem?
What has been done already to address problem?
What is the gap that remains?
How do we propose to address this gap?

NSF IGERT: Solar Economy IGERT (SEIGERT)
PI: Rakesh Agrawal

2. Vision, Goals, and Thematic Basis
Currently, fossil fuel resources of coal, natural gas and petroleum supply nearly 85% of the total energy needs of the US economy. The flow of energy from fossil fuels to end-uses: 1) electricity, 2) heating, 3) chemicals, and 4) transportation is a complex system dictated by resource availability, processing capacity, government policy, world affairs, and market forces. However, recent volatility of petroleum prices, uncertainty of future carbon taxes, and the potential impact of greenhouse gases on the environment has led to renewed efforts to reduce our dependence on fossil fuels.

Recently, 25 U.S. state legislatures passed legislation that establishes minimum percentages of the state’s electricity supply that must come from renewables by a certain date. These so-called Renewable Portfolio Standards (RPS) are shown in Figure 1. The states with RPS account for over half the nation’s electricity. The implementation of RPS presents the U.S. with great opportunities and challenges. Currently, the total primary power used in the U.S. by all four major end-uses is 3.3 TW (PCAST, 2006). When averaged over day, night, seasons, and cloud cover, over 1800 TW of sunlight falls on U.S. land. Clearly, economic collection and transformation of solar energy can provide a long-term solution for all the energy needs of the United States.

For decades, the U.S. enjoyed global leadership in solar energy innovation and market share. By 2005, however, the U.S. share of the world production capacity of solar cell modules dropped to 8% while shipments from Europe and Japan increased to 26% and 48%, respectively (EIA, 2007). The economic effect of the decreasing U.S. market share is exacerbated by a rapidly increasing need for solar cell manufacturing. The U.S. Photovoltaic Industry Roadmap foresees a 30% growth of the world solar industry over the next decade and a U.S. solar industry that needs to employ 250,000 people by 2030 (DOE, 2001). However, at a time when U.S. states and industry need a significant increase of highly skilled labor with solar energy expertise, the supply of Ph.D.s in this area is limited.

Further, of all the research articles published on solar energy, the fraction published by U.S. authors has dropped significantly in the last 30 years, from 49% to 18%. More importantly, of all the journal citations for articles on solar energy, the fraction of citations that U.S. authors receive is down from 61% to 24% in that same time period (Hillhouse, 2007). The output and impact of U.S. research on solar energy is diminishing. These trends clearly define a challenge of national importance. It is imperative that the U.S. strategy include effective education and training programs to develop the human resources and intellectual capital that will allow us to compete in this emerging world market for Sun-to-Electricity. Our vision is to prepare for a fossil fuel-deprived world where nearly all energy demands are met sustainably by solar energy resources.
Build the Storyline

Example narrative for NIH specific aims page

**What is the problem?**

**What has been done already to address problem?**

**What is the gap that remains?**

**How do we propose to address this gap?**

---

### Significance

The NIH is committed to translating basic biomedical research into clinical practice and thereby impacting global human health\(^1\), and Francis Collins identifies high-throughput technology as one of five areas of focus for the NIH's research agenda\(^2\). For many diseases, researchers have identified novel therapeutic or research targets by applying technical advances in automation to high-throughput screening (HTS) using either biochemical or cell-based assays\(^3\)\(^-\)\(^5\). Researchers are using genetic perturbations such as RNA interference or gene overexpression in cell-based HTS assays to identify genetic regulators of disease processes as potential drug targets\(^6\)\(^-\)\(^8\). However, the molecular mechanisms of many diseases that deeply impact human health worldwide are not well-understood and thus cannot yet be reduced to biochemical or cell-based assays.

Ideally, researchers could approach disease from a phenotypic direction, in addition to the traditional molecular approach, by searching for chemical or genetic regulators of disease processes in whole model organisms rather than isolated cells or proteins. Moving HTS towards more intact, physiological systems also improves the likelihood that the findings from such experiments accurately translate into the context of the human body (e.g., in terms of toxicity and bioavailability), simplifying the path to clinical trials and reducing the failure of potential therapeutics at later stages of testing. In fact, for some diseases, a whole organism screen may actually be necessary to break new therapeutic ground. In the search for novel therapeutics for infectious agents, for example, it is widely speculated that the traditional approach of screening for chemicals that directly kill bacteria in vitro has been largely exhausted\(^9\). Our work recently identified six novel classes of chemicals that cure model organisms from infection by the important human pathogen *E. faecalis* through mechanisms distinct from directly killing the bacterium itself\(^10\). Anti-infectives with new mechanisms of action are urgently needed to combat widespread antibiotic resistance in pathogens.

Enabling HTS in whole organisms is therefore recognized as a high priority (NIH PAR-08-024)\(^11\)\(^-\)\(^12\). *C. elegans* is a natural choice. Manually-analyzed RNAi and chemical screens are well-proven in this organism, with dozens completed\(^14\)\(^-\)\(^15\). Many existing assays can be adapted to HTS; instrumentation exists to handle and culture *C. elegans* in HTS-compatible multi-well. Its organ systems have high physiologic similarity and genetic conservation with humans\(^17\)\(^-\)\(^18\). *C. elegans* is particularly suited to assays involving visual phenotypes: physiologic abnormalities and fluorescent markers are easily observed because the worm is mostly transparent. The worms follow a stereotypic development pattern that yields identically-appearing adults\(^19\)\(^-\)\(^20\) such that deviations from wild-type are more readily apparent.

The bottleneck that remains for tackling important human health problems using *C. elegans* HTS is image analysis (NIH PA-07-320)\(^21\)\(^-\)\(^22\). It has been recently stated, “Currently, one of the biggest technical limitations for large-scale RNAi-based screens in *C. elegans* is the lack of efficient high-throughput methods to quantitate lethality, growth rates, and other morphological phenotypes”\(^23\). Our proposal to develop image analysis algorithms to identify regulators of infection and metabolism in high-throughput *C. elegans* assays would bring image-based HTS to whole organisms, and have the following impact:

- Identifying novel modulators of infection by the NIH priority pathogen *Microsporidia* (Aim 1). *Microsporidia* are emerging human pathogens whose infection mechanisms are almost completely unknown.

---

Carolina Wählby of the Broad Institute

Build the Storyline

Create a one-page brief

One-page project description sent to program officer that includes:

- concise storyline
- vision/goals
- team
- methodology/approach
- impact
Build the Storyline

One-page...taste of your entire grant in a single, bite-sized piece

It forces you to distill all aspects down to their essences and to find a way of piecing things together that is economical, coherent, logical, and compelling [...] is totally unforgiving, revealing problems in the clarity of your thinking and presentation, weaknesses in the logic of your research, vagueness in your methods, and failures in the all-important ‘so what?’ realm. Given the luxury of length, additional verbiage has a way of camouflaging weaknesses (at least from the writer but not so often from the reviewer).

—Robert Levenson, UC-Berkeley
Key Strategies

Addressing common trouble spots

• tell a compelling story

• respond to solicitation

• answer “Why Purdue?”

• know your reviewer

• conduct internal review

• follow all instructions!

• outline before writing
Respond to Solicitation

Follow all instructions! Know the agency guidelines as well as solicitation

<table>
<thead>
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<th>Research on Education and Learning (REAL)</th>
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<tr>
<td><strong>PROGRAM SOLICITATION</strong></td>
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<td>NSF 13-604</td>
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<tr>
<td><strong>REPLACES DOCUMENT(S):</strong></td>
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<td>NSF 10-516, NSF 12-542, NSF 12-552</td>
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<tr>
<td>National Science Foundation</td>
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<td>Directorate for Education &amp; Human Resources</td>
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<td>Research on Learning in Formal and Informal Settings</td>
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<td><strong>Letter of Intent Due Date(s) (optional) (due by 5 p.m. proposer's local time):</strong></td>
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<td><strong>Full Proposal Deadline(s) (due by 5 p.m. proposer's local time):</strong></td>
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**IMPORTANT INFORMATION AND REVISION NOTES**

A revised version of the NSF Proposal & Award Policies & Procedures Guide (PAPPG), NSF 13-1, was issued on October 4, 2012 and is effective for proposals submitted, or due, on or after January 14, 2013. Please be advised that the guidelines contained in NSF 13-1 apply to proposals submitted in response to this funding opportunity.

Please be aware that significant changes have been made to the PAPPG to implement revised merit review criteria based on the National Science Board (NSB) report, National Science Foundation’s Merit Review Criteria: Review and Revisions. While the two merit review criteria remain unchanged (Intellectual Merit and Broader Impacts), guidance has been provided to clarify and improve the function of the criteria. Changes will affect the project summary and project description sections of proposals. Annual and final reports also will be affected.

A by-chapter summary of this and other significant changes is provided at the beginning of both the Grant Proposal Guide and the Award & Administration Guide.

Please note that this program solicitation may contain supplemental proposal preparation guidance and/or guidance that deviates from the guidelines established in the Grant Proposal Guide.

**Revision Summary**

This solicitation has been revised to incorporate into the Other Information section a newly issued publication jointly developed by the National Science Foundation and the Institute of Education Sciences in the U.S. Department of Education entitled, Common Guidelines for Education Research and Development. The Guidelines describe six types of research studies that can generate evidence about how to increase student learning. Research types include those that generate the most fundamental understandings related to education and learning, examinations of associations between variables, iterative design and testing of strategies or interventions, and assessments of the impact of a fully-developed intervention on an education outcome. For each research type, there is a description of the purpose and the expected empirical and/or theoretical justifications, types of project outcomes, and quality of evidence.

The Guidelines publication can be found on the NSF website with the number NSF 13-132 (http://www.nsf.gov/pubs/2013/nsf13132/nsf13132.pdf). A set of FAQs regarding the Guidelines are...
Respond to Solicitation

Sleuth what was funded previously to identify trends

• What type of science and how does it compare to yours?
• What was team composition?
• What type of education integration?
• What type of institution?
• What type of budget?
Respond to Solicitation

Agency websites often show what was previously funded.

http://www.nsf.gov

www.nsf.gov
Respond to Solicitation

Each program page has “what has been funded” and map of recent awards.
Respond to Solicitation

### Search Results

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<td>Abi-Dargham, Anissa</td>
<td>New York State Psychiatric Institute</td>
<td>2014</td>
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<td>DECODING NEURAL SYSTEMS UNDERLYING AFFECTIVE PROSODY IN CHILDREN WITH AUTISM</td>
<td>Abrams, Daniel Arthur</td>
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<td>TIME-RESOLVED MR METHODS FOR ANALYSIS OF CONTRAST AND FLOW VELOCITY IN ANEURYSMS</td>
<td>Acevedo-Bolton, Gabriel Alejandro</td>
<td>University of California, San Francisco</td>
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<td>Achilefu, Samuel</td>
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<td>MOTIVATED MEMORY AS THERAPEUTIC TARGET</td>
<td>Adcock, Rachel Alison</td>
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<td>Afraz, Seyed Reza</td>
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Respond to Solicitation

Outline before you write. Be consistent with formatting.

Example of NSF-style proposal outline

1. RATIONALE [2.5 pages]
   - Storyline
     - What is the problem?
     - What has been done already?
     - What is the gap that still remains?
     - What do you propose to do to address this gap?

   Goals and Objectives
   - List goals and objectives (per goal)

   Team Partnership
   - Team expertise
   - Targeted teacher and/or community college faculty participants
   - Institutional commitment

   Broader Impacts
   - Curriculum accessed by underrepresented students through targeted teacher recruitment
   - Community-based research activities
   - Integrating research activities into computing-related courses in local high schools
   - Role models from HBCU partner on HUBzero webinars
   - Presentation to parent-teacher organizations to include assessment results from DLRC-collected metrics
   - Presentations at both technology education conferences as well as K-12 STEM learning

2. NATURE OF TEACHER ACTIVITIES [3.5 pages]
   - Need clearly articulated research projects and activities
     - Map to goals/objectives
   - Teachers must be involved in research project for at least 6 weeks
   - Must have orientation session at beginning of program for the teachers to acquaint them with laboratory methods, safety procedures, analytical methods, etc.
   - Address approach to research training being undertaken

   Research Project
   - Include overview statement of spectrum of research projects

   Project 1
   - Provide detailed descriptions of examples of research projects
     - Include who is doing what role
     - Present plans that will ensure the development of RET participant-faculty interaction and communication
     - How will you facilitate development of collegial relationships and interactions as teachers work closely in teams with university faculty and students?

   Project 2
   - Provide detailed descriptions of examples of research projects
     - Include who is doing what role
   - Present plans that will ensure the development of RET participant-faculty interaction and communication
   - How will you facilitate development of collegial relationships and interactions as teachers work closely in teams with university faculty and students?

Project Timetable
- Need Gantt-style chart such as this.
- Overview sentence

<table>
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<tr>
<th>Program Initiative</th>
<th>Year One</th>
<th>Year Two</th>
<th>Year Three</th>
<th>Year Four</th>
<th>Year Five</th>
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</table>

3. RESEARCH ENVIRONMENT [2.5 pages]
- Describe the experience and record of involvement with K-12/community college education and research of the PI
- Describe faculty who may serve as research mentors. Consider table such as:

<table>
<thead>
<tr>
<th>Mentor Name</th>
<th>Dept/School</th>
<th>Expertise</th>
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</table>

- Describe institution
  - Include emphasis on cross-disciplinary partnerships and past record of success in cross-disciplinary collaborations
Key Strategies

Addressing common trouble spots

• tell a compelling story
• respond to solicitation
• answer “Why Purdue?”
• know your reviewer
• conduct internal review
• win differentiators of expertise, facilities, prior work, campus environment
Key Strategies

Addressing common trouble spots

• tell a compelling story
• respond to solicitation
• answer “Why Purdue?”
• know your reviewer
• conduct internal review

• writing for expert and non-expert
• busy, rushed
Know Your Audience

How is your reviewer reading your draft? How can you help?

• sleepless, busy, rushed
• stack of 25 proposals to review
• reading proposal on plane or late at night
• perhaps not an expert in your exact field
Know Your Reviewer

Mechanics matter. Sloppy writing = sloppy science

• Use formatting as a roadmap
• fix grammar and proof proposal
• get rid of passive voice whenever possible
Elemental mapping of animal tissues has been investigated, and results have been documented.

changed to:

We investigated elemental mapping of animal tissues and documented results.
Know Your Reviewer

Use quality graphics and make them readable
### Program Initiatives

<table>
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<tr>
<th>Initiative</th>
<th>Year 1</th>
<th>Year 2</th>
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<td>Partner retreat</td>
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<td>Create I-hub</td>
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<td>Create Passport tracking</td>
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<td>External Advisory Board meetings</td>
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<td>Annual Alliance-wide conference</td>
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<td><strong>Goal 1: Alliance-wide practices</strong></td>
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<td>Campus director monthly centralized training</td>
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<td>Faculty/students training on I-hub</td>
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<td>Cross-Alliance recruiting, including veterans</td>
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<td>Co-mentored domestic research experience at partner campuses</td>
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<td>Industry guest speakers</td>
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<td>Cross-Alliance teaching symposia and workshops with community college faculty</td>
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<td>Map activities and identify gaps</td>
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<td>Pair scholars with mentors</td>
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<td>Create individualized portfolios</td>
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<td>Map incentives to Passport Badges</td>
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Key Strategies

Addressing common trouble spots

• tell a compelling story
• respond to solicitation
• answer “Why Purdue?”
• know your reviewer
• planned from beginning
• formal or informal
• conduct internal review
**Internal Review**

New eyes on your draft before submission

---

### General 10-week project timeline:

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<td>- How we propose to address gaps</td>
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Red Text: Important to have agreement (and explicit text for problem overview) prior to proposal writing
Key Online Resources

Who does what at Purdue to submit your proposal

A GUIDE TO THE
GRANTS PROCESS
AT PURDUE UNIVERSITY

Office of the Vice President for Research

August 2013
Key Online Resources

Self-help tool series

- Management Plan Self-Assessment
- Letters of Individual or Institutional Commitment
- Postdoctoral Mentoring Plan Template
- Tips for Major Research Instrumentation Proposals
Key Online Resources

OVPR e-Pubs for searchable, citable, up-to-date institutional text

http://docs.lib.purdue.edu/ovpr/
Key Online Resources

OVPR e-Pubs for searchable, citable, up-to-date institutional text
Key Online Resources

OVPR e-Pubs for searchable, citable, up-to-date institutional text

Purdue University
Purdue e-Pubs

University General Facility Descriptions
Office of the Vice President of Research

2-21-2014

Discovery Park General Facilities Description

Candis Vibeert
Purdue University, vibeert@purdue.edu

Purdue University Office of the Vice President for Research

Discovery Park General Facilities

INITIATED: 2001
TOTAL BUILDINGS, EQUIPMENT, ENDOWMENTS, AND RESEARCH EXPENDITURES AS OF DECEMBER 31, 2013: $1.02 billion

Explore Purdue’s unique interdisciplinary facilities, cutting-edge equipment and shared spaces for collaborative projects in areas such as life and health sciences; drug discovery and development; energy, climate change, water, the environment and food security; information technology; homeland security; and simulation of modeling new materials; nanotechnology, biotechnology, and nanomedicine; and science, technology, engineering and mathematics (STEM) learning.

Facilities attract researchers and students from all 11 West Lafayette colleges, Purdue’s regional campuses, Purdue Technology Centers throughout Indiana, Indiana University and the Indiana University School of Medicine, and countries such as South Korea, Australia, China, Russia, Ukraine, Colombia, India and Azerbaijan.

Discovery Park sits on 40 acres bounded by State Street on the north, Nimitz Drive on the south, Airport Road on the west and South Martin Jischke Drive on the east. Its location fosters collaboration with researchers in the nearby Martin C. Jischke Hall of Biomedical Engineering, Ray W. Herrick Laboratories, and the Wayne T. and Mary T. Hockmayer Hall. Additionally, the Drug Discovery Facility is located on the main campus, and the Discovery Park Partners Facility is approximately 1/4 mile west of campus.

The Lilly Endowment provided generous initial funding for the centers and programs in Discovery Park, recognizing the potential of Purdue’s commitment to advancing its interdisciplinary research and translational capabilities to a new level of excellence and impact.

UNIQUE FEATURES: All facilities are shared. Highly collaborative, interdisciplinary projects are connected throughout Purdue and to Purdue Research Parks. Technology commercialization is facilitated through the Burton D. Morgan Center for Entrepreneurship, an ecosystem on campus conducive to invention and entrepreneurship from the newest undergraduate to the most senior researcher, and the University’s strong partnership with the Purdue Research Park.

ECONOMIC IMPACT TO DATE
EXTERNAL SPONSORED RESEARCH: $824.4 as of 2/1/2014
PRIVATE DONATIONS INVESTED: $139 million
EQUIPMENT ADDED: $34 million
LABORATORY SPACE ADDED: 147,502 sq ft.
OFFICE, MEETING SPACE ADDED: 107,299 sq ft.
Key Online Resources
Tools for understanding broader impacts

Funding Agency Requirements for Broader Impacts

While a variety of funding agencies require researchers to address how proposed research will benefit the nation, the National Science Foundation (NSF) has made broader impacts a significant emphasis. The NSF Grant Proposal Guide now requires the project summary, narrative, and the Prior NSF Support section to contain a discussion of the broader impacts accomplished:

- through the research itself,
- through the activities that are directly related to specific research activities,
- through complementary activities that are supported by the

The “societally relevant outcomes” valued by NSF include but are not

- full participation of women, persons with disabilities, and underrepresented minorities in science, technology, engineering, and mathematics (STEM);
- improved STEM education and educator development at any level;
- increased public scientific literacy and public engagement with science and technology;
- improved well-being of individuals in society;

Steps to Leveraging Campus Resources for Broader Impacts

Networking

Step 1

Network Prior to Identifying Any Proposed Project

Become familiar with Purdue infrastructure and existing programs that may complement your research.

- Attend campus symposia, workshops, educational showcases, and poster sessions on campus.
- Consider the ONPR virtual Rolodex of potential broader impact, education, and outreach partners. http://catalog-educationsolutions.com/c256068

Understanding Funding Opportunity

Step 2

Know If You Need Large-Scale Educational Research or Broader Impact Activities

Identify funding opportunity

To this a larger, perhaps center-level proposal requiring educational components that:

- build on a theoretical framework.
- include rigorous assessment.
- create new pedagogical knowledge?

Be Targeted, Intentional, and Creative

Identify any broader impacts intrinsic to the research itself, e.g., new tools for your research community, practitioners, or policy makers.

Identify potential high-quality, innovative education and outreach activities that fit your interests and can bring benefits of your research to a wider audience.

Go beyond the normal requirements of your faculty job and do more than develop new courses.

Think about your goal. For example, do you want to develop the STEM pipeline in your area? Increase diversity of participation? Help provide workforce training?

Partnering

Step 3

Identifying Broader Impacts

Identifying Broader Impacts

Move to Step 3, “Identifying Broader Impacts”

For tips on building broader impact activities into your pro

Two recommended reads from the Office of the Vice President for R

(1) NSF Merit Review FAQs from January 2013 http://www.n:

(2) Centers for Ocean Sciences Education Excellence (COSEE)
http://www.cosee.net/files/coseenet/Bi%2020%20FAQs g

Writing

Step 6

Expert Contributions to Text

Your broader impact partner can be a great source for compelling information on:

- rationale for activities,
- track record of success for initiatives,
- description of relevant expertise, and
- program implementation details.
Key Online Resources

Virtual Rolodex for broader impact partners at Purdue

http://catalog.e-digitaleditions.com/i/256966
Questions?