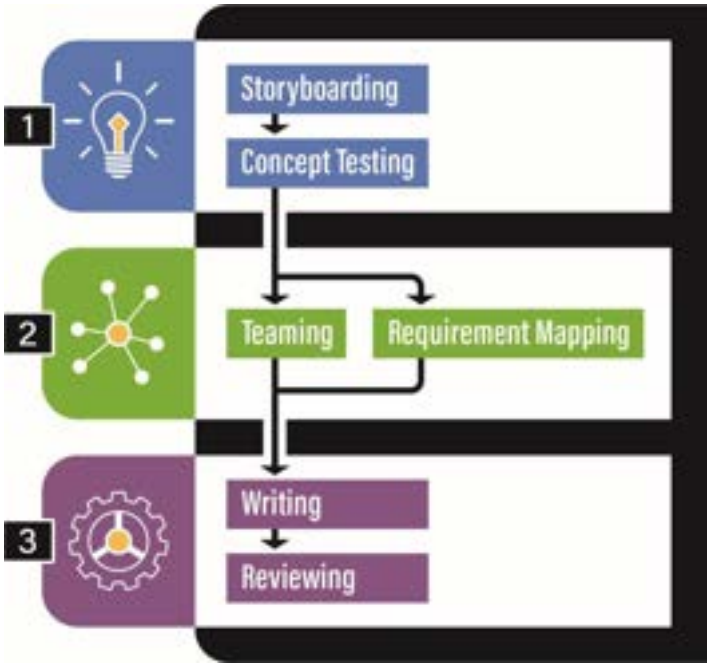
Proposal Strategies and Resources

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

PURDUE
UNIVERSITY

Strategic Process and Resources



Grant Writing Support

Welcome to the Research Development Services grant writing support site. Here you can access resources for your proposal development as well as request hands-on help from our team of grant writers. If you have any questions, contact **sbond@purdue.edu**

Getting Started

Grant Writing Support

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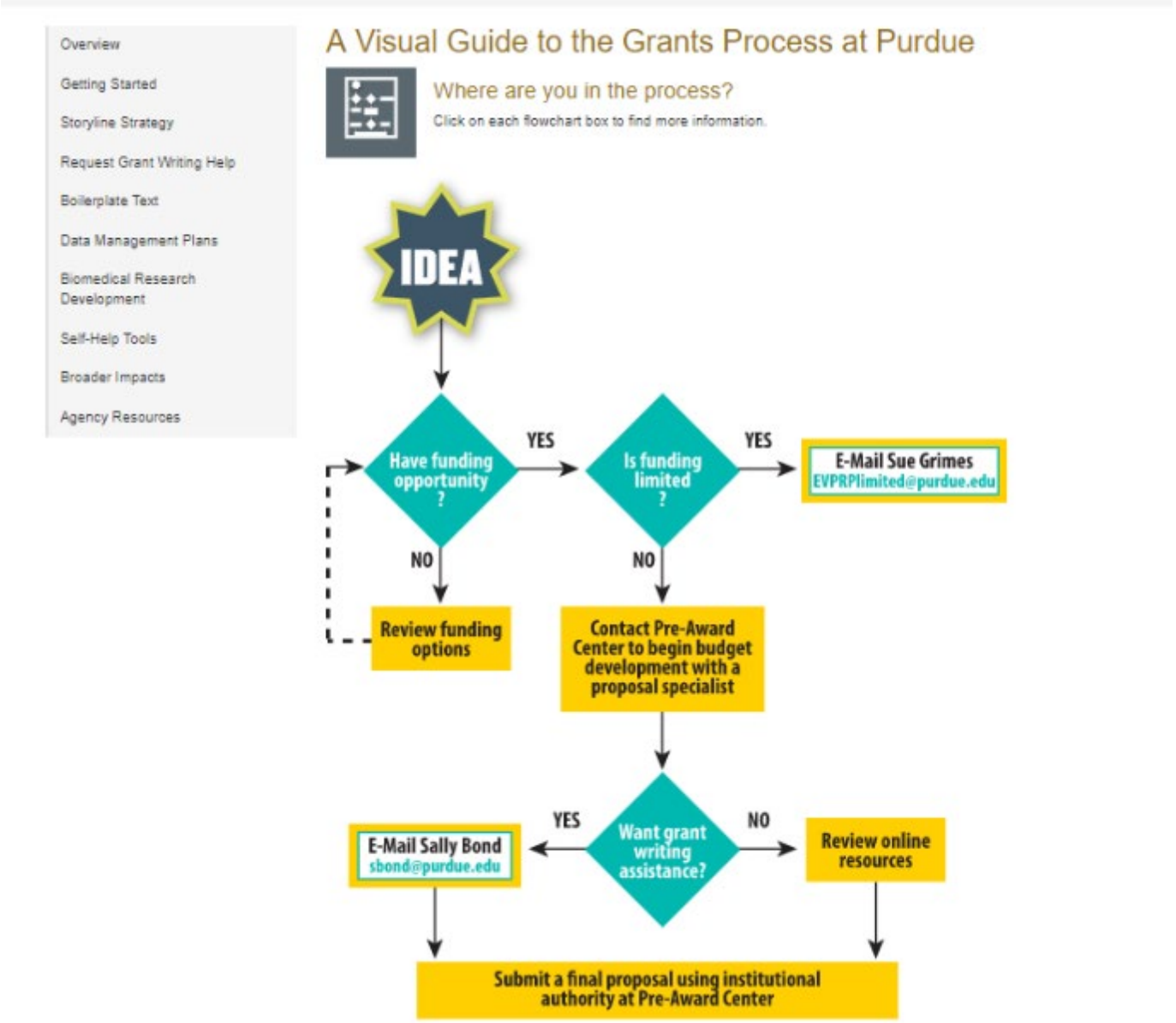
Getting Starting: Quick Overview



Ask for Grant Writing Help

- Any award size
- Any agency
- External proposals only
- When? Sooner is better
- Concept storylines to shop your idea

Proposal Preparation Process

Tailored and intentional plan

General 10-week project timeline:

	1	2	3	4	5	6	7	8	9	10
Analysis and Planning										
Distribute documents noted in RFP										
Identify previously successful proposals										
Identify PI										
Notify Pre-Award Center for assigned budget specialist										
Problem Overview • *What is the problem* • *What has already been done to address problem* • *What gaps remain* • *How we propose to address gaps*										
Vision										
Goals										
Identify proposal win themes/discriminators										
Program Officer Input										
Contact PO	initial									
Team debrief on meeting										
Refine mutual analysis/planning										
Proposed Outline										
Discuss/refine outline structure										
More detailed outline, if needed										
Identify graphics needed										
Partnerships										
Recruit collaborative partners										
Produce "talking points" brochure or website										
Recruit industry affiliates										
Recruit advisory board members										
Collect letters of commitment										
Management and Personnel										
Identify basic management structure										
Collect biosketches										
Proposal Writing and Editing										
Assign writing										
Write section components										
Compile 1st draft										
Project team 1st edit										
Any outside review input/edit										
Editing iterations										
Write summary or abstract										

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

Key Strategies

Strategies for the strongest proposal submission

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

Build the Storyline

Storyline first!

General 10-week project timeline:

	1	2	3	4	5	6	7	8	9	10
Analysis and Planning										
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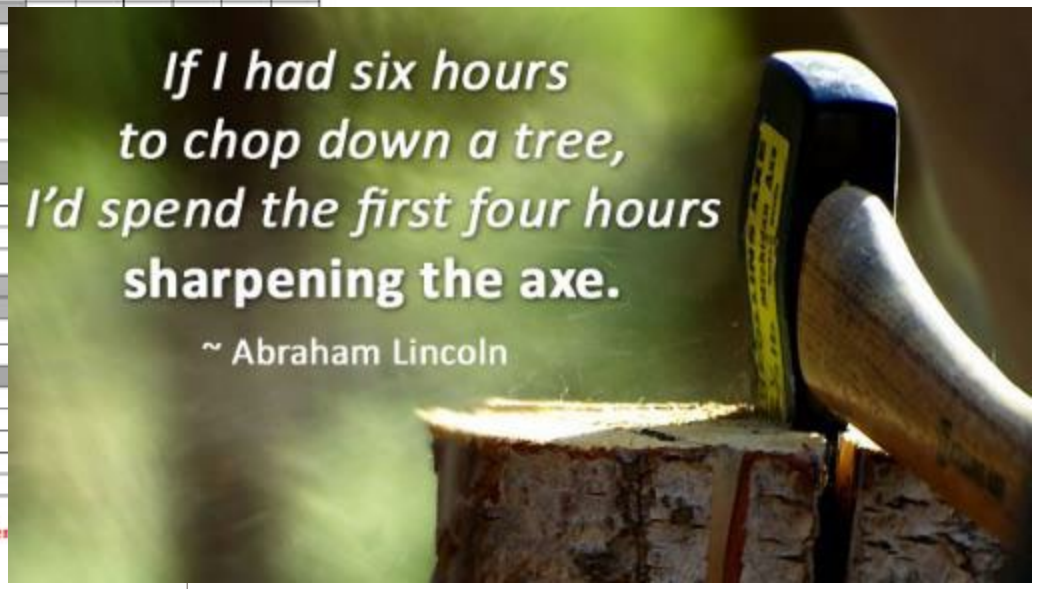


Build the Storyline

Gap analysis

- tell a compelling story
- respond to solicitation
- answer
- know y
- conduc

Good science is a story that…

- begins with a problem
- provides coherence in narrative
- hooks reviewer so weaknesses are not fatal
- sets “north star”

Build the Storyline

Four key questions

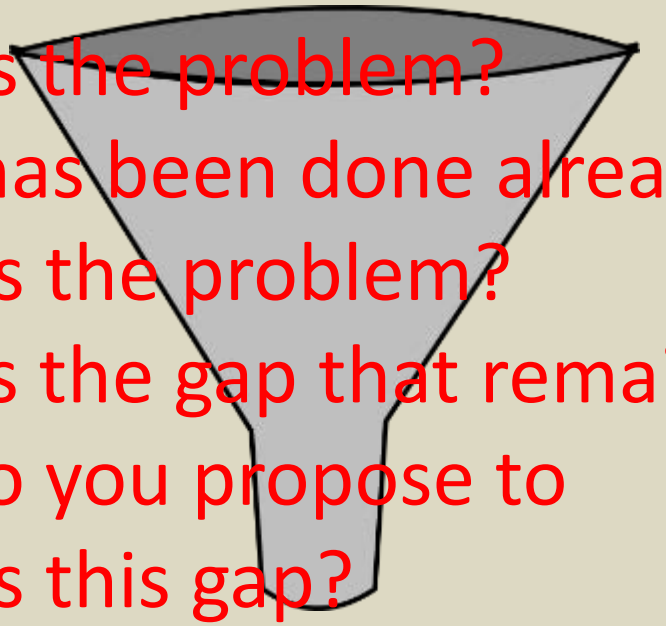
- tell a compelling story
- respond t… …licit ti…
- answe…
- know …
- condu…

- 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

Funnel of logic flow

- tell a compelling story
- respond t… …icit ti…
- answe…
- know …
- condu…



- What is the problem?
- What has been done already to address the problem?
- What is the gap that remains?
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I. Significance and Rationale

Two dimensional (2D) methods such as 2D infrared (2DIR) and 2D electronic spectroscopy (2DES) offer unprecedented insight into the structure and dynamics of complex biomolecules, with applications ranging from photosynthetic energy transfer to peptide structural analysis. Unfortunately, while technical advances have greatly simplified the *collection* of 2D data, its *interpretation* remains difficult and often controversial due to the nonlinearity of the process and the complexity of biomolecular dynamics. This interpretation problem forms a major roadblock against what might otherwise be the most critical applications of 2D methods—from identifying amyloidogenic disease mechanisms to understanding the delicate interplay between vibrational and excitonic interactions in biological light harvesting. To overcome this challenge, an impressive array of quantum dynamics methods has been developed to simulate biomolecular 2D spectra and have contributed greatly to the interpretation of 2D data. Perhaps surprisingly, however, no fully classical framework for 2D spectroscopy has been thoroughly developed. Indeed, even existing *semiclassical* methods rely on the quantum response formalism and introduce classical system dynamics only *between* light-matter interactions. While fully classical *numerical methods* have shown promise for describing 2DIR spectra, the underlying *classical theory* remains complex, numerically intensive, and difficult to interpret. Similarly, fully classical descriptions of 2DES remain almost entirely unexplored despite well-developed classical models for *linear* electronic spectroscopy and encouraging semiclassical beginnings.

This gap in the knowledge base introduces both fundamental and practical challenges in interpreting 2D data. Fundamentally, without a classical "baseline," it is unclear which features in 2D spectra are exclusively quantum-mechanical – this despite a decades-long discussion of quantum coherence in biomolecular 2D spectra. Such an exclusive reliance on quantum theory significantly limits the accessibility of 2D spectroscopy to a broad scientific audience, particularly in the structural biology community where 2DIR can potentially be most useful.

To address these limitations, I propose to develop a robust classical theory for 2D spectroscopy along with a systematic framework for quantum corrections and a suite of experimentally benchmarked computational methods for applying the theory to protein 2DIR spectroscopy. This "classical first" approach is a natural strategy for biomolecular systems whose functional dynamics typically operate in a quasi-classical limit. My key objectives are to:

- Develop a robust, physically transparent theory of classical 2DIR and 2DES by building on recent numerical demonstrations of molecular dynamics (MD)-based 2DIR and accurate classical electronic-oscillator models for exciton dynamics in pigment-protein complexes
- Establish a systematic framework for adding quantum corrections to classical 2D spectra,
- Apply this framework to develop fast, accurate protein 2DIR simulation methods for structural biology applications, using experimentally trained potential energy models, and
- Develop an experimental approach to 2D acoustic spectroscopy (2DAS) as a test for classical 2D theories and for use in science outreach and nonlinear spectroscopy education.

Mike Reppert
Department of Chemistry

Storyline to Concept Paper

Preparing for a Successful Meeting with Your Program Officer

You are more likely to receive valuable insight into the funding potential of your idea if you follow these steps:

- Make contact early (at least several months in advance).
- Do not make a "cold call." Email a one-page concept paper along with your agency biosketch and request a phone appointment to discuss.
- Develop your concept paper using the format below. Grant writers in the Office of Research and Partnerships can help you develop this text. Email sbond@purdue.edu to request help.

Why a one-pager? Distilling your ideas into a brief summary — one that starts with a compelling storyline — will best communicate project relevance, highlight the logic of your approach, and allow targeted rather than general feedback. Many program officers will not read more than one page since multiple pages represent a proposal review rather than an idea review. While you will not be told if you are "fundable," the program officer can assess for program fit.

For NIH Use Specific Aims Page

Start with storyline:

- What is the human health problem?
- What has been done already to address this problem?
- What is the gap that still exists?
- How do you propose to address this gap?

Briefly mention why this team is ideal for the project.

Aim X: Use a bold, concrete objective for each aim. Describe each aim in one to three sentences that convey why this work needs to be done as well as what and how.

End with paragraph on expected outcomes.

For All Other Funding Agencies Use Concept Page

Start with storyline:

- What is the problem?
- What has been done already to address this problem?
- What is the gap that still exists?
- How do you propose to address this gap?

List your goals/objectives.

Describe why this team is ideal for the project.

Overview methodology.

Summarize impact of your success.

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EA/ECU 4/19

Key Strategies

Addressing common trouble spots

- tell a compelling story
- respond to solicitation
- answer "W
- know you
- conduct internal review

  - follow all instructions!
  - outline before writing

Respond to Solicitation

Know the agency guidelines as well as solicitation

NATIONAL SCIENCE FOUNDATION

PROPOSAL AND AWARD POLICIES AND PROCEDURES GUIDE

National Science Foundation
WHERE DISCOVERIES BEGIN

Effective October 4, 2021
NSF 22-1
OMB Control Number 3145-0058

Environmental Convergence Opportunities in Chemical, Bioengineering, Environmental, and Transport Systems (ECO-CBET)

PROGRAM SOLICITATION
NSF 21-596

REPLACES DOCUMENT(S):
NSF 21-527

National Science Foundation
Directorate for Engineering
Division of Chemical, Bioengineering, Environmental and Transport Systems

Preliminary Proposal Due Date(s) (required) (due by 5 p.m. submitter's local time):

October 01, 2021

September 19, 2022

September 17, Annually Thereafter

Preliminary Proposal Deadline Date

Full Proposal Deadline(s) (due by 5 p.m. submitter's local time):

January 31, 2022

January 31, Annually Thereafter

Full Proposal Deadline Date

IMPORTANT INFORMATION AND REVISION NOTES

Revisions to the solicitation include:

- The preliminary proposal and full proposal deadlines have been changed from that defined in NSF 21-627.
- The priority research areas have been updated to reflect current scientific needs and Division priorities.
- Proposal preparation and submission instructions have been updated for added clarity.

Preliminary Proposals submitted in response to the October 1, 2021 deadline should be submitted in accordance with the NSF Proposal & Award Policies & Procedures Guide (PAPPG) (NSF 20-1), which is effective for proposals submitted, or due, on or after June 1, 2020.

Full Proposals submitted in response to this solicitation should be submitted in accordance with the revised PAPPG (NSF 22-1), which is effective for proposals submitted, or due, on or after October 4, 2021.

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

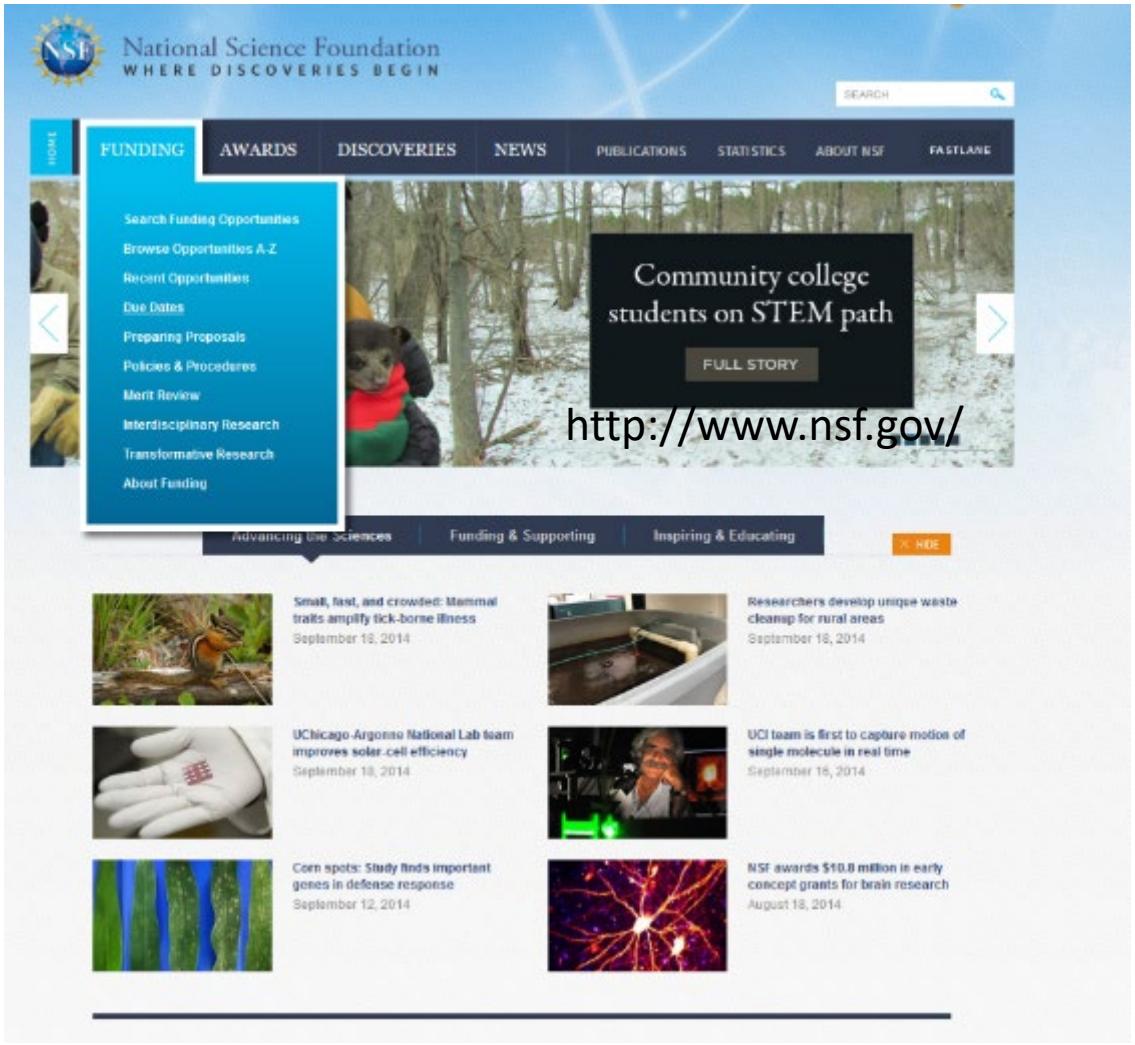
Environmental Convergence Opportunities in Chemical, Bioengineering, Environmental, and Transport Systems (ECO-CBET)

Synopsis of Program:

Creating effective solutions to our most pressing environmental and sustainability challenges requires imaginative thinking - the kind that evolves when researchers from disparate fields, expertise, or perspectives fully immerse themselves in work toward a common goal. The National Academies of Sciences, Engineering and Medicine (NASEM), in their report "Environmental Engineering for the 21st Century: Addressing Grand Challenges," identified five critical challenges we must address as a society: sustainably supply food, water, and energy; curb climate change and adapt to its impacts; design a future without pollution and waste; create efficient, healthy, and resilient cities; and

Respond to Solicitation

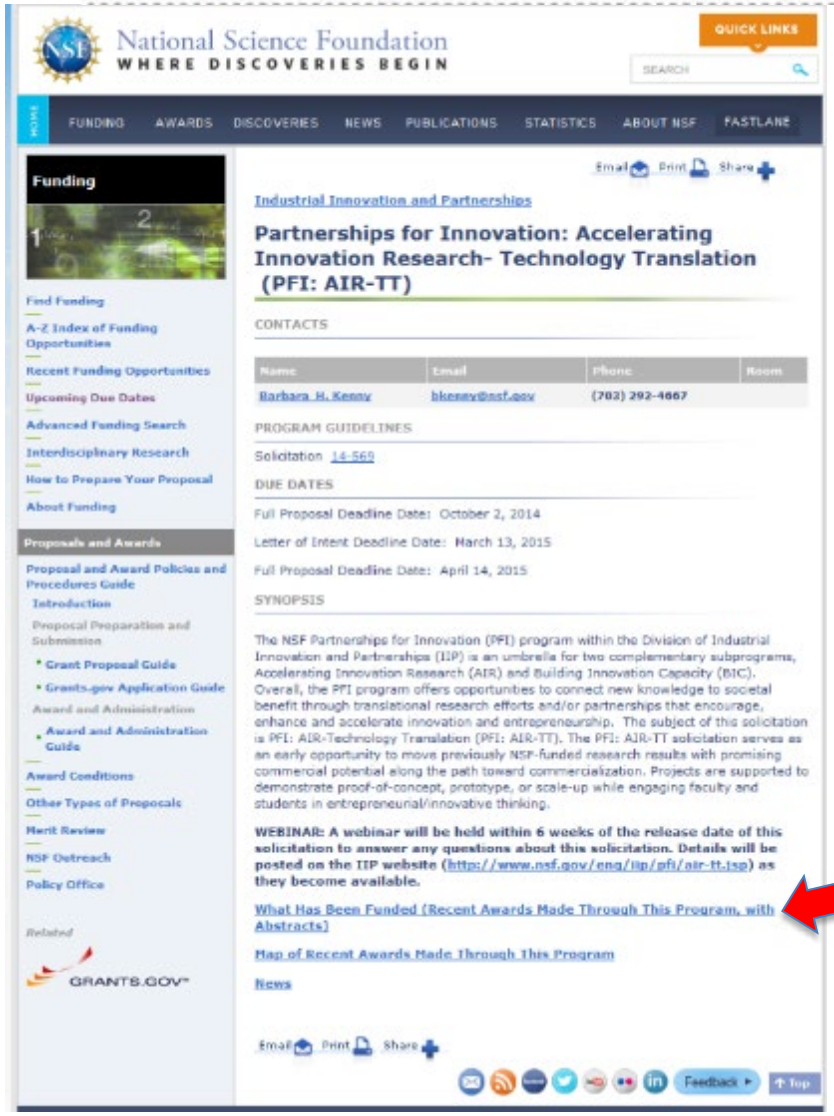
Agency websites often show what was previously funded.



www.nsf.gov

Respond to Solicitation

Each program page has "what has been funded" and map of recent awards.



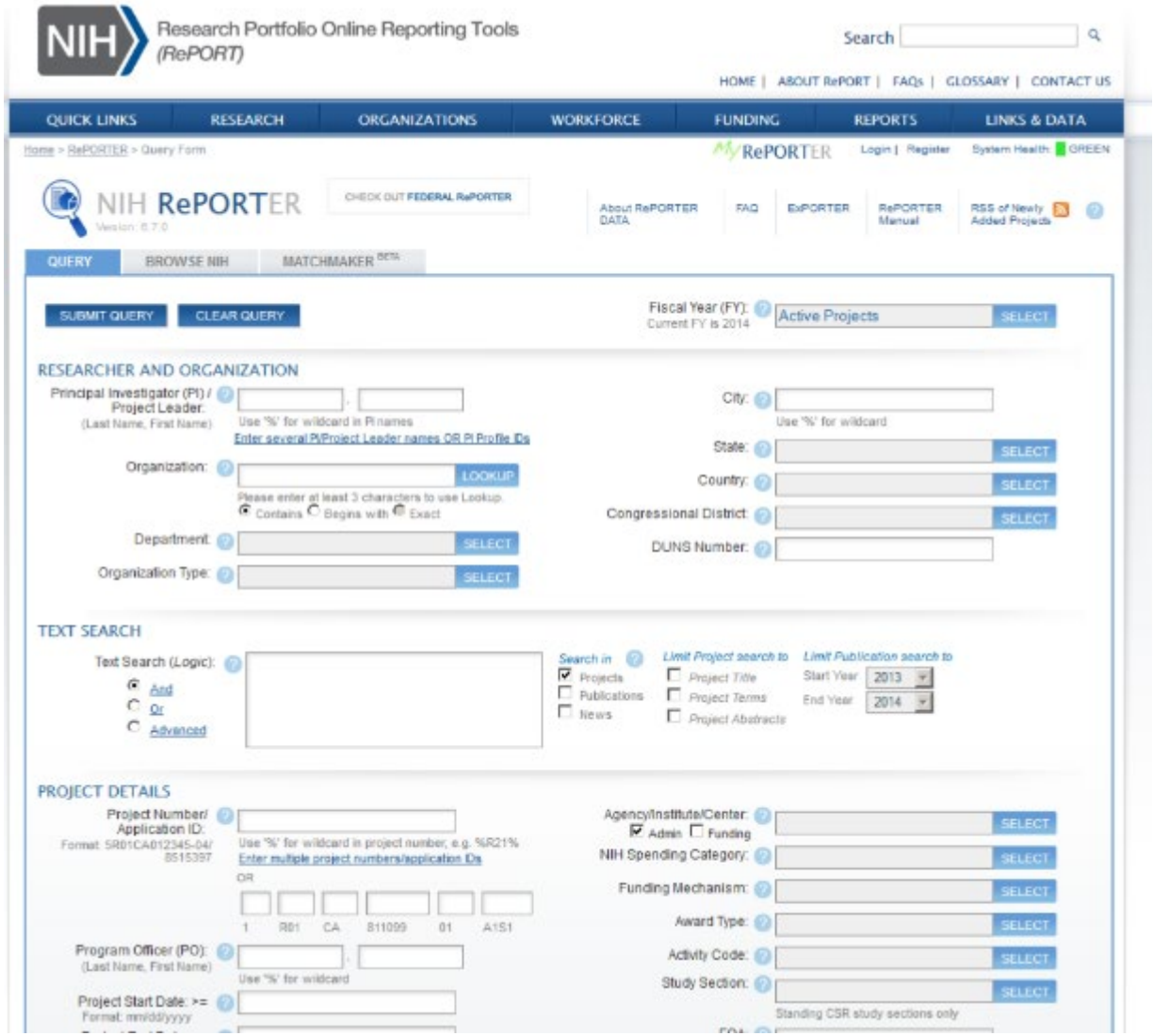
[What Has Been Funded (Recent Awards Made Through This Program, with Abstracts)]

[Map of Recent Awards Made Through This Program]

[News]

Respond to Solicitation

NIH RePORTer http://projectreporter.nih.gov/reporter.cfm.



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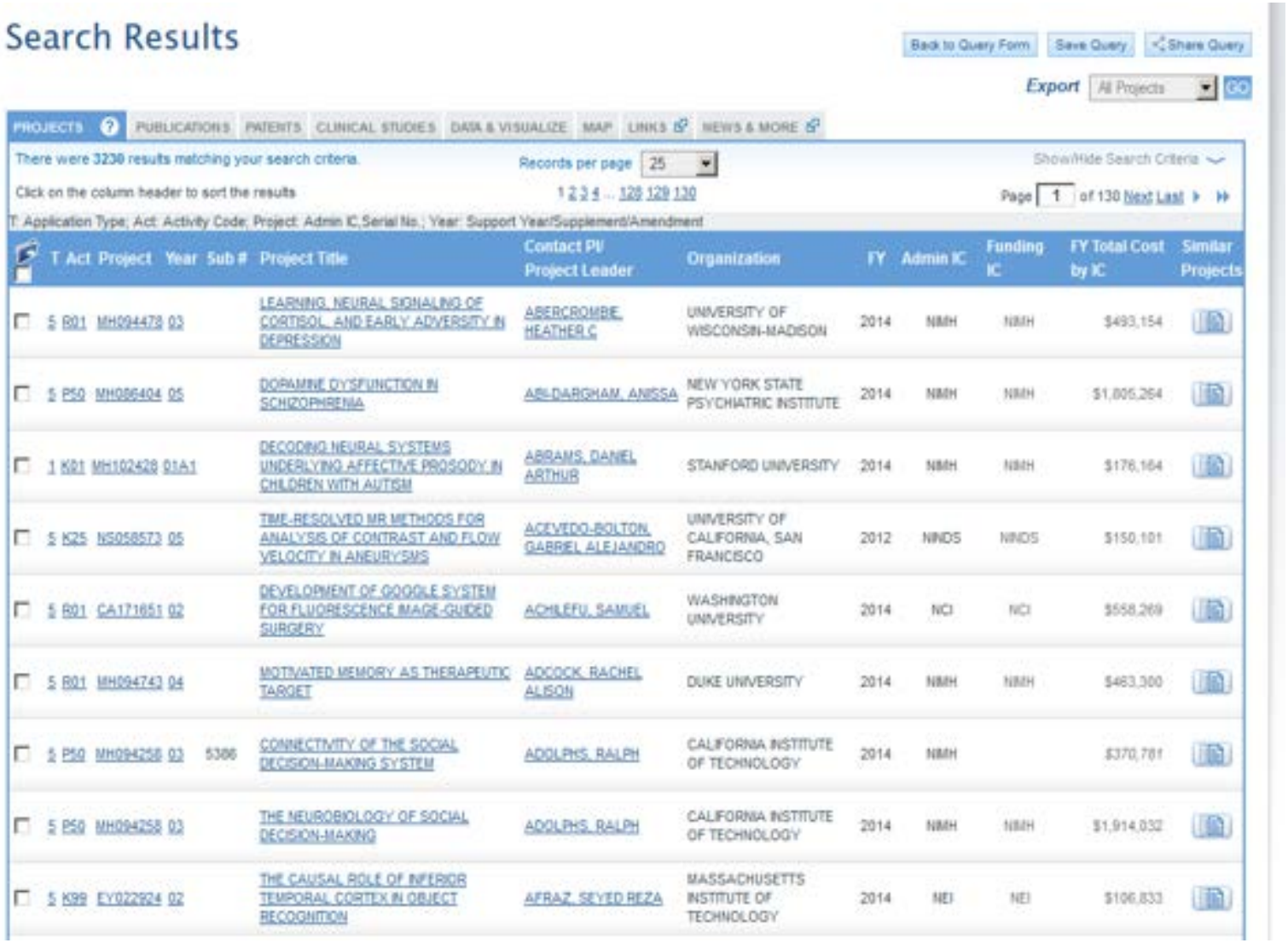

Search Results

Back to Query Form | Save Query | Share Query

Export: All Projects GO

PROJECTS | PUBLICATIONS | PATENTS | CLINICAL STUDIES | DATA & VISUALIZE | MAP | LINKS | NEWS & MORE

There were 3230 results matching your search criteria. Records per page: 25 — Show/Hide Search Criteria

Click on the column header to sort the results — 1 2 3 4 ... 128 129 130 — Page 1 of 130 Next Last

T: Application Type; Act: Activity Code; Project: Admin IC,Serial No.; Year: Support Year/Supplement/Amendment

T	Act	Project	Year	Sub #	Project Title	Contact PI/ Project Leader	Organization	FY	Admin IC	Funding IC	FY Total Cost by IC	Similar Projects
5	R01	MH094478	03		LEARNING NEURAL SIGNALING OF CORTISOL AND EARLY ADVERSITY IN DEPRESSION	ABERCROMBIE, HEATHER C	UNIVERSITY OF WISCONSIN-MADISON	2014	NIMH	NIMH	$493,154	
5	P50	MH086404	05		DOPAMINE DYSFUNCTION IN SCHIZOPHRENIA	ABI-DARGHAM, ANISSA	NEW YORK STATE PSYCHIATRIC INSTITUTE	2014	NIMH	NIMH	$1,805,264	
1	K01	MH102428	01A1		DECODING NEURAL SYSTEMS UNDERLYING AFFECTIVE PROSODY IN CHILDREN WITH AUTISM	ABRAMS, DANIEL ARTHUR	STANFORD UNIVERSITY	2014	NIMH	NIMH	$176,164	
5	K25	NS058573	05		TIME-RESOLVED MR METHODS FOR ANALYSIS OF CONTRAST AND FLOW VELOCITY IN ANEURYSMS	ACEVEDO-BOLTON, GABRIEL ALEJANDRO	UNIVERSITY OF CALIFORNIA, SAN FRANCISCO	2012	NINDS	NINDS	$150,101	
5	R01	CA171651	02		DEVELOPMENT OF GOOGLE SYSTEM FOR FLUORESCENCE IMAGE-GUIDED SURGERY	ACHILEFU, SAMUEL	WASHINGTON UNIVERSITY	2014	NCI	NCI	$558,269	
5	R01	MH094743	04		MOTIVATED MEMORY AS THERAPEUTIC TARGET	ADCOCK, RACHEL ALISON	DUKE UNIVERSITY	2014	NIMH	NIMH	$483,300	
5	P50	MH094258	03	5386	CONNECTIVITY OF THE SOCIAL DECISION-MAKING SYSTEM	ADOLPHS, RALPH	CALIFORNIA INSTITUTE OF TECHNOLOGY	2014	NIMH		$370,781	
5	P50	MH094258	03		THE NEUROBIOLOGY OF SOCIAL DECISION-MAKING	ADOLPHS, RALPH	CALIFORNIA INSTITUTE OF TECHNOLOGY	2014	NIMH	NIMH	$1,914,032	
5	K99	EY022924	02		THE CAUSAL ROLE OF INFERIOR TEMPORAL CORTEX IN OBJECT RECOGNITION	AFRAZ, SEYED REZA	MASSACHUSETTS INSTITUTE OF TECHNOLOGY	2014	NEI	NEI	$106,833	

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 HCBU partner on HUBzone 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 the 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

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:

Mentor Name	Dept/School	Expertise

- Describe institution
  - Include emphasis on cross-disciplinary partnership 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 yo
- conduct

- win differentiators of expertise, facilities, prior work, campus environment

Key Strategies

Addressing common trouble spots

- tell a compelli
- respond to soli
- answer "Why P
- know your reviewer
- conduct internal review

- writing for expert and non-expert
- busy, rushed
- did not choose to read your proposal

Know Your Reviewer

Be kind…you are not writing for yourself.

- use formatting as a roadmap
- be generous with white space
- fix grammar and proof proposal
- write clearly…shorter sentences

Know Your Reviewer

Parallel formatting provides a roadmap to help your reviewer

Goal 1: [title]
Name (lead), Names

- Provide overview of objectives so reviewers have a roadmap
  - Include how objectives integrate

Objective 1.1 [Title] [text in line]

- Technical gap to be addressed
- Preliminary data
- Tasks
- Risk mitigation

Objective 1.2 [Title] [text in line]

- Technical gap to be addressed
- Preliminary data
- Tasks
- Risk mitigation

Objective 1.3 [Title] [text in line]

- Technical gap to be addressed
- Preliminary data
- Tasks
- Risk mitigation

Goal 2: [title]
Name (lead), Names

- Provide overview of objectives so reviewers have a roadmap
  - Include how objectives integrate

Objective 2.1 [Title] [text in line]

- Technical gap to be addressed
- Preliminary data
- Tasks
- Risk mitigation

Objective 2.2 [Title] [text in line]

- Technical gap to be addressed
- Preliminary data
- Tasks
- Risk mitigation

Objective 2.3 [Title] [text in line]

- Technical gap to be addressed
- Preliminary data
- Tasks
- Risk mitigation

Know Your Reviewer

Avoid dense text by adding white space

Format 1

The NEES collaboration created a total of 15 advanced equipment sites for experimental work dedicated to the reduction of the earthquake threat (Figure 4). The current experimental reach of the equipment ranges from the marine to the geotechnical to the structural environments and can address almost any technical question that may arise on issues related to the safety of the built-environment in earthquakes. Development of this massive array of experimental capabilities demanded an intense and sustained effort. In retrospect, it would appear that the leaders of research groups involved in the creation of the 15 sites were totally absorbed, as they should have been, in the proper development of a magnificent experimental capability across the U.S. Unfortunately, there were three unplanned and unintended results: 1) a negative perception among a portion of the research community that equipment access was not equitable; 2) most, if not all, of the research work initiated has not yet been of a quality to transform the engineering community culture; and 3) the information technology infrastructure, which had initially inspired the NEES concept of a network of interconnected laboratories, has yet to reach its potential. The metaphor of a powerful fleet of battleships at anchor is not irrelevant to the current status. Our goal is to get the fleet moving in harmony.

Rapid advance in engineering knowledge and capability requires at least four ingredients: 1) a driving need; 2) a large community of well-educated professionals; 3) financial support; and 4) competing centers of research and development. As emphasized by the tragic disaster in Wenchuan, PRC, in May 2008, there continues to be a critical need for advances in earthquake-loss reduction. Considering the seismic histories of population centers such as San Francisco, Los Angeles, Katmandu, and Istanbul, there is no basis for expecting the earthquake threat to abate in the foreseeable future. In large measure because of the encouragement of the National Science Foundation since the early 1970's, the U.S. is blessed with an impressively large community of professionals well trained in earthquake engineering and related sciences. The first two ingredients are very much in place. As long as the U.S. continues to have a strong economic profile and maintains its proven ability to plan beyond the immediate future, financial support for research and development in earthquake issues will continue. Our mission, then, is for NEES to take the lead in providing the competing centers of research and development to achieve catalysis of the existing essential ingredients as described below.

The seminal idea for the NEES network was the creation of an experimental-research infrastructure with many visions and capabilities at different research centers connected with a single purpose through the opportunity provided by information technology. The objective of creating a successful equipment infrastructure has been achieved. A driving challenge now is to resuscitate what was intended to be the cortex of the system: the information technology (IT) that can enable the required catalysis of ideas.

Our overall strategy is designed to: 1) inspire the NEES researcher to pursue a more ambitious research agenda; 2) entice the rest of the research community to compete for the opportunity to benefit from the sites; 3) encourage academic researchers to interact with the professional engineers in order to accelerate the implementation of new knowledge in practice; and 4) develop a NEES *community* that will include all individuals, institutes, agencies, corporations, professional societies, and non-governmental organizations (NGO) interested in protecting society from the harmful consequences of earthquakes.

A brief look at the history of civilizations will reveal that the nuclear ingredient in their development has been the "agora," or the market. Using the opportunities provided by information technology, we plan to develop the intellectual equivalent of the agora in order to get the "fleet at anchor" moving at an ever-increasing pace. We will employ operational excellence, innovative computational tools, outreach that advances knowledge, and an environment for the catalysis of ideas. Among the qualitative and quantitative performance metrics for measuring our success and developing a compelling basis for continued operation are: 1) the *satisfaction* of users (including both physical and analytical researchers); NEEShub users; and education, outreach and training targets; 2) a *greater diversification* of users, research sponsors, operations sponsors, outreach community, and the NEEShub community; 3) *increased research productivity* in earthquake engineering, including the increased use of NEES equipment by remote users; 4) *greater impact* on codes, technical committees, professional societies, and research directions; and, eventually, 5) *reduced losses* from earthquakes.

Format 2

The NEES collaboration created a total of 15 advanced equipment sites for experimental work dedicated to the reduction of the earthquake threat (Figure 4). The current experimental reach of the equipment ranges from the marine to the geotechnical to the structural environments and can address almost any technical question that may arise on issues related to the safety of the built-environment in earthquakes. Development of this massive array of experimental capabilities demanded an intense and sustained effort. In retrospect, it would appear that the leaders of research groups involved in the creation of the 15 sites were totally absorbed, as they should have been, in the proper development of a magnificent experimental capability across the U.S. Unfortunately, there were three unplanned and unintended results: 1) a negative perception among a portion of the research community that equipment access was not equitable; 2) most, if not all, of the research work initiated has not yet been of a quality to transform the engineering community culture; and 3) the information technology infrastructure, which had initially inspired the NEES concept of a network of interconnected laboratories, has yet to reach its potential. The metaphor of a powerful fleet of battleships at anchor is not irrelevant to the current status. Our goal is to get the fleet moving in harmony.

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Strategic Plan

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Know Your Reviewer

Sloppy writing = sloppy science

Know Your Reviewer

Mechanics matter. Sloppy writing = sloppy science

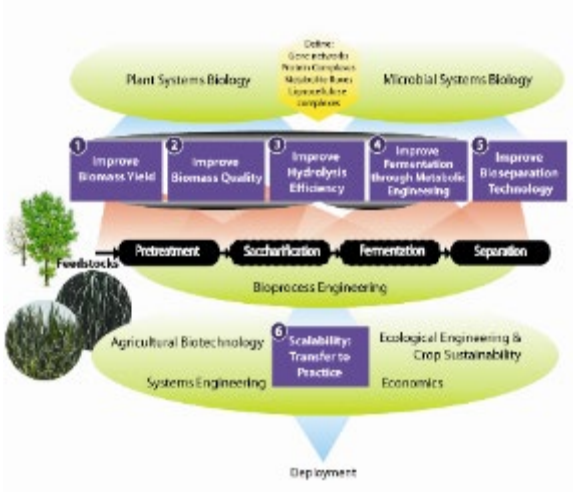
Elemental mapping of animal tissues has been investigated, and results have been documented.

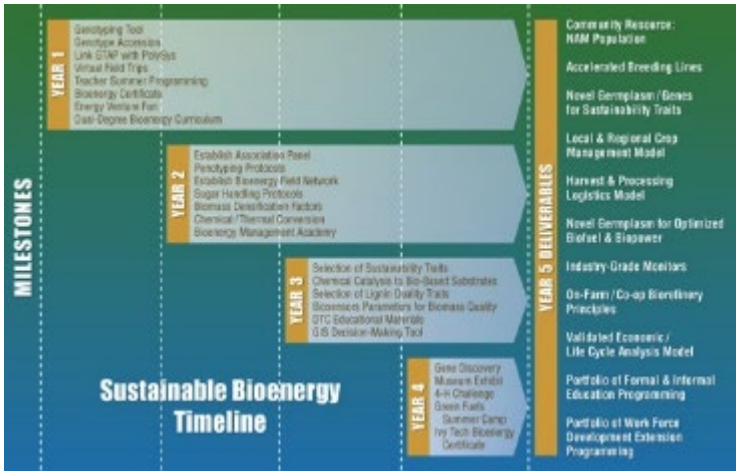
changed to:

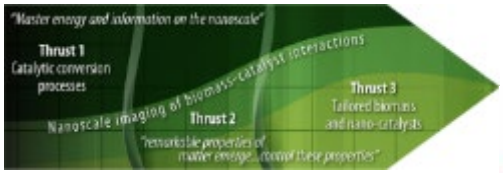
We investigated elemental mapping of animal tissues and documented results.

Know Your Reviewer

Use high-quality, easy-to-read graphics for conceptual and organizational info







Know Your Reviewer

Use visuals to summarize narrative when possible.

Program Initiatives	Year 1	Year 2	Year 3	Year 4	Year 5
Indiana administration					
Membership approved by Executive Council for working committees					
Partner retreat					
Create I-hub					
Create Passport tracking					
External Advisory Board meetings					
Annual Alliance-wide conference					
Goal 1: Alliance-wide practices					
Campus director monthly centralized training					
Augmented training sets					
Faculty/students training on I-hub					
Cross-Alliance recruiting, including veterans					
Goal 2: Effective community college partnership facilitating transfer to four-year STEM programs					
Co-mentored domestic research experience at partner campuses					
Co-mentored international research experience					
Industry guest speakers					
Cross-Alliance teaching symposia and workshops with community college faculty					
Goal 3: Aligning experiences with Tinto's principles of iteration					
Map activities and identify gaps					
Pair scholars with mentors					
Create individualized portfolios					
Map incentives to Passport Badges					
Cross-Alliance international research cohort					
Disseminate model-based best practices					
Goal 4: Research longitudinal model of Scholar development					
Compile a list of Scholar attributes					
Test and validate Scholar attributes					
Collect Scholar data					
Analyze Scholar data and portfolios					
Conduct interviews with Scholars					
Evaluation and Assessment					
Formative site visits					
Formative focus groups/interviews					
Formative web-based surveys					
Formative analysis and reporting					
Summative data plan development					
Summative quantitative data gathering					
Summative analysis and final reporting					

Key Strategies

Addressing common trouble spots

- tell a compelling story
- respond to solicitation
- answer "
- know you
- conduct internal review

- planned from beginning
- formal or informal

Internal Review

New eyes on your draft before submission

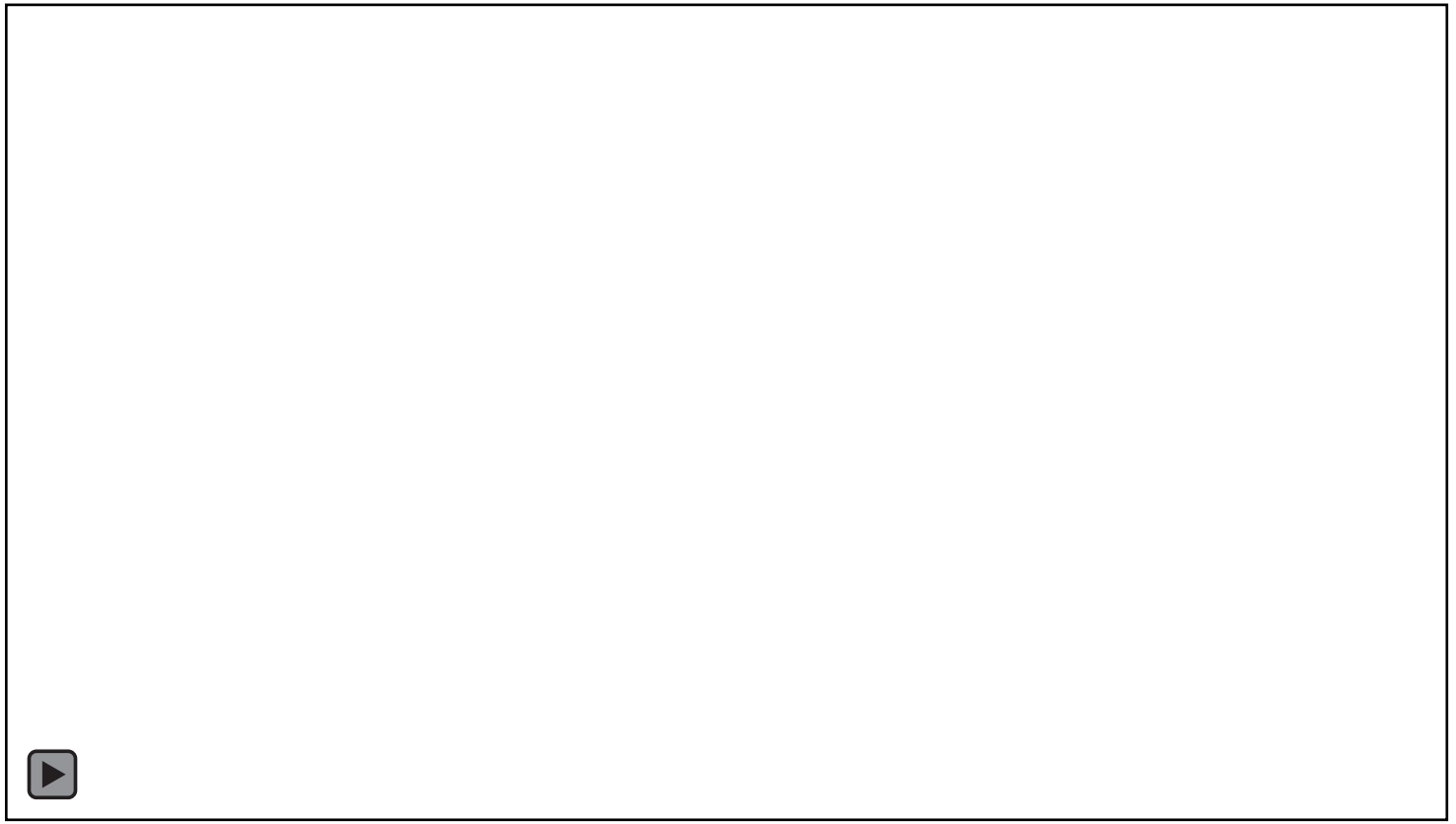
General 10-week project timeline:

	1	2	3	4	5	6	7	8	9	10
Analysis and Planning										
Distribute documents noted in RFP										
Identify previously successful proposals										
Identify PI										
Notify Pre-Award Center for assigned specialist										
Problem Overview • *What is the problem* • *What has already been done to address problem* • *What gaps remain* • *How we propose to address gaps*										
Vision										
Goals										
Identify proposal win themes/discriminators										
Program Officer Input										
Contact PO	initial									
Team debrief on meeting										
Refine initial analysis/planning										
Proposed Outline										
Discuss/refine outline structure										
More detailed outline, if needed										
Identify graphics needed										
Partnerships										
Recruit collaborative partners										
Produce "talking points" brochure or website										
Recruit industry affiliates										
Recruit advisory board members										
Collect letters of commitment										
Management and Personnel										
Identify basic management structure										
Collect biosketches										
Proposal Writing and Editing										
Assign writing										
Write section components										
Compile 1st draft										
Project team 1st edit										
Any outside review input/edit										
Editing iterations										
Write summary or abstract										

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

Internal Review

Because sometimes what is obvious to you is not obvious to others




GETTING STARTED
STORYLINE STRATEGY
REQUEST A GRANT WRITER
BOILERPLATE TEXT
DATA MANAGEMENT PLANS
BIOMEDICAL RESEARCH DEVELOPMENT
SELF-HELP TOOLS
BROADER IMPACTS
AGENCY RESOURCES

Broader Impacts and Education Plans

What are Broader Impacts?

Broader impacts are the potential to benefit society and contribute to the achievement of specific, desired societal outcomes. They may be accomplished through:

1. the research itself
2. activities directly related to research projects
3. activities supported by and complementary to the project

A broader impact **statement** describes benefits and outcomes—not logistics.

"Cords" of research, education and outreach, and diversity-related activities integrate through your project to deliver **broader impacts.** For instance:

- Fuller Participation of Women, Persons with Disabilities, and Underrepresented Minorities in STEM
- Improved STEM Education and Educator Development
- Increased Public Scientific Literacy
- Improved Well-Being of Individuals
- Development of a Diverse, Globally Competitive Workforce
- Increased Partnerships among Academia, Industry, Government, and Non-Profits
- Improved National Security
- Increased U.S. Economic Competitiveness
- Informed Public Policy
- Enhanced Research and Education Infrastructure

(Coming Soon!)

Example Broader Impact Statements from Funded NSF Proposals

Steps to Develop an Education and Workforce Development Plan

Tips for Broadening Participation and Diversity, Equity, and Inclusion Plans

Other Broader Impact Resources

Request a Broader Impact Consultation

* National Science Foundation *Proposal and Award Policies and Procedures Guide*

Drop-in Text for Resource/Facilities

BOILERPLATE TEXT

Data Management Plans

DMP Development Resources

- **Purdue Libraries Data Management Guidelines**
- **Purdue-Affiliated dmptool.org** for data management plans templates, sample documents, and funder guidance.
- **Purdue's Research Repository (PURR)** contains step-by-step instructions for completing the data management plan requirements and citable boilerplate text that can be inserted into your DMP.
- **Data Storage Options at Purdue** explains different data storage options available to the Purdue community

Sample DMPs from funded Purdue projects

NSF Division of Engineering Education and Centers (CISTAR 2017)

NASA Space Technologies Research Institutes (Dyke 2019)

NSF Division of Behavorial and Cognitive Sciences (Ma 2017)

NSF Division of Research on Learning (Ryu 2018)

Questions?

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