

Developing Grant Proposals

Purdue grant writing strategies and assistance

Sally Bond

Assistant Director of Research Development Services

Proposal Coordination

Office of the Vice President for Research
and Partnerships

Purdue Research Development Services

Overview

Funding

Limited Submissions

Grant Writing Support

Site Visits

Events

Cost Sharing

Research Bridge Program

FAQs

Funding and Grant Writing

The goal of the EVPRP Research Development staff is to assist faculty in the development of research and education proposals. **EVPRP staff** provide a broad range of services and resources related to funding and grantsmanship. Below are some of the ways we can assist.



Funding Resources

The funding page provides information on internal, external, seed, and early investigator funding opportunities. Links to helpful funding search tools and e-mail alerts can also be found here.



Limited Submissions

Check here for details on internal competitions including deadlines, templates and submission guidelines.



Grant Writing Support

Research Development staff can provide assistance with both large and small proposals. This page explains our services and provides links to other useful proposal preparation resources.



Site Visits

Our staff can assist with the logistics and coordination of site visits allowing the research team to focus on their science and team. Follow this link to find out more about these services.



Events

The events page provides information on upcoming grantsmanship workshops and events including dates, times, and registration information. Presentations from previous events can also be accessed from this site.



Other Useful Links

Our *Guide to the Grants Process at Purdue University* and information on potential education and outreach partners are available here as well as links to other grantsmanship resources.

Purdue Research Development Services

Overview

Funding

Limited Submissions

Grant Writing Support

Site Visits

Events

Cost Sharing

Research Bridge Program

FAQs

Funding and Grant Writing

The goal of the EVPRP Research Development staff is to assist faculty in the development of research and education proposals. **EVPRP staff** provide a broad range of services and resources related to funding and grantsmanship. Below are some of the ways we can assist.



Funding Resources

The funding page provides information on internal, external, seed, and early investigator funding opportunities. Links to helpful funding search tools and e-mail alerts can also be found here.



Limited Submissions

Check here for details on internal competitions including deadlines, templates and submission guidelines.



Grant Writing Support

Research Development staff can provide assistance with both large and small proposals. This page explains our services and provides links to other useful proposal preparation resources.



Site Visits

Our staff can assist with the logistics and coordination of site visits allowing the research team to focus on their science and team. Follow this link to find out more about these services.



Events

The events page provides information on upcoming grantsmanship workshops and events including dates, times, and registration information. Presentations from previous events can also be accessed from this site.



Other Useful Links

Our *Guide to the Grants Process at Purdue University* and information on potential education and outreach partners are available here as well as links to other grantsmanship resources.



Grant Writing Assistance and Resources

Overview

Getting Started

Storyline Strategy

Request Grant Writing Help

Boilerplate Text

Data Management Plans

Biomedical Research
Development

Self-Help Tools

Broader Impacts

Agency 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**



**STORYLINE
STRATEGY**



**REQUEST A
GRANT WRITER**



**BOILERPLATE
TEXT**



**DATA MANAGEMENT
PLANS**



**BIOMEDICAL RESEARCH
DEVELOPMENT**



**SELF-HELP
TOOLS**



**BROADER
IMPACTS**



**AGENCY
RESOURCES**

Quick Overview

Overview

Getting Started

Storyline Strategy

Request Grant Writing Help

Boilerplate Text

Data Management Plans

Biomedical Research
Development

Self-Help Tools

Broader Impacts

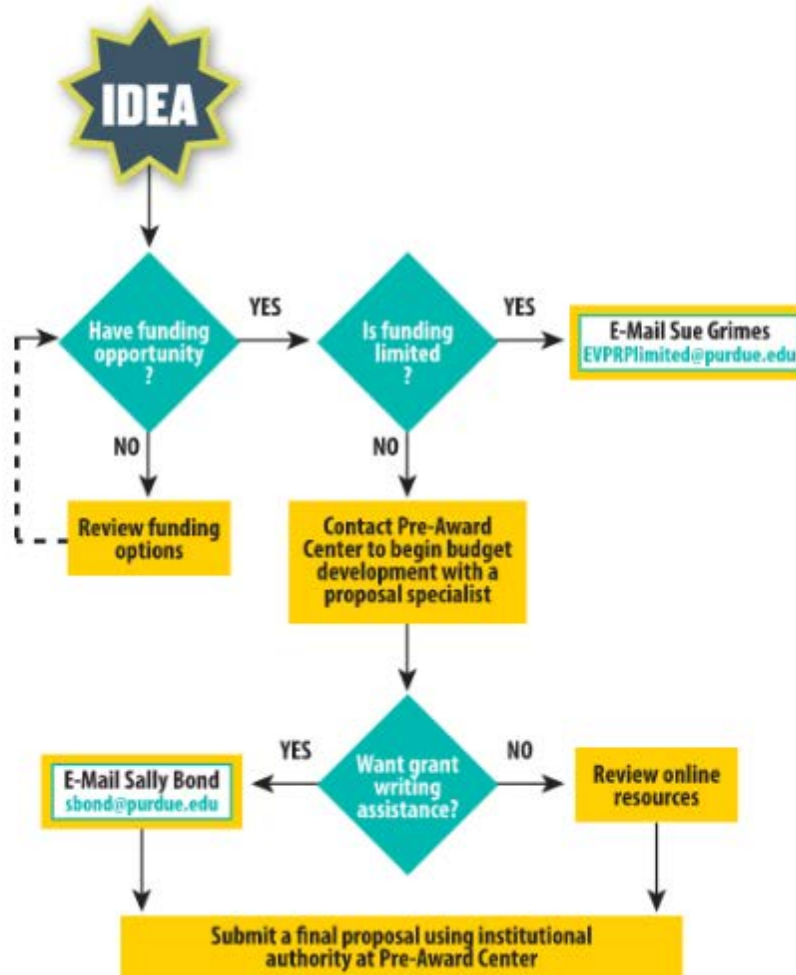
Agency Resources

A Visual Guide to the Grants Process at Purdue



Where are you in the process?

Click on each flowchart box to find more information.



Ask for Grant Writing Help



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

**REQUEST A
GRANT WRITER**

Red Test: Important to have agreement (and explicit test for problem override) prior to proposal writing

**REQUEST A
GRANT WRITER**

Red Text: Important to have agreement (and explicit text for problems overview) prior to go over all writings

Downloaded from <http://www.jstor.org/stable/2346090>

**REQUEST A
GRANT WRITER**

- What is the problem?
- What has been done so far, to address the problem?
- What is the gap that still remains?
- How do you propose to address the gap?

Optic nerve sheath allows direct observation of living axons with remarkable specificity [1], however, the 2-3 micron limit restricts the resolution of conventional light microscopy to ~250 nm [2]. This constraint largely impedes our understanding of axonal function, morphology, and dynamics in the cellular context, because of the importance of nanoscale length scale, and sub-second, axonal transport events.

GCNIR or PALM/GCIRIR has overcome this. Anomalous time, and resolution, enables resolution of biological processes occurring below 100 nm.

However, both custom-built and commercially available GCNIR is still far from being a standard tool. Significant results with this approach have been achieved by the following:

- 1) Size access.** Traditional GCNIR systems have minutes to hours to acquire an image, whereas many cellular events occur at the second time scale [3].
- 2) Limited to 2D and thin specimens.** Many biological processes happen deeper in the cellular volume or in thick tissue samples, which cannot be reached with conventional GCNIR [3].
- 3) Brightness.** Traditional GCNIR requires laser intensity in the range of ~1-10 MW/cm² generating large tissue sample electron populations and the threat from radical species, damaging cells and tissues [4].
- 4) Strong reliance on user's expertise.** GCNIR captures abundant critical information from pixels with varying background and requires extensive user expertise. Data analysis and visual capabilities computational support are not time consuming [5]. This lack of an automatic acquisition method, and visualization, software, reduces scientific productivity, efficiency, among sample

Using **Handcopy** (We combine light-sheet microscope with speed algebra). We will provide you and dynamics in a

**REQUEST A
GRANT WRITER**

General 10-week project timeline:										
	1	2	3	4	5	6	7	8	9	10
Analysis and Planning										
Identify the problem to be solved in 100+										
Identify previously successful projects										
Identify PI										
Read the Five Areas of the Curriculum										
Identify open areas										
ZeroKata Overview										
- What is the problem? - How has it already been solved in previous projects? - How does it connect? - What are potential challenges/risks?										
Start										
Goal										
Identify proposal you think is the most serious										
Program Officer Input										
Finalized PI?										
Finalized										
Team defined and meeting										
Secure name / analysis / planning										
Proposed Timeline										
How activities can be done										
How detailed activities if needed										
How many people are needed										
Partnerships										
Identify and evaluate partners										
Produce "taking pains" brochure or website										
Identify industry affiliates										
Identify and recruit board members										
Collect letters of commitment										
Management and Personnel										
Identify how management resources										
Collect business plan										
Proposal Writing and Editing										
Assign writing										
Write one hour manuscript										
Complete 1 st draft										
Project team 1 st edit										
Assign additional responsibilities										
Editing responses										
Write summary or abstract										
Test Important to have agreement (and explicit list for previous overview) prior to proposal writing										

1. Test: Important to have agreement (and explicit test for preclinical members) prior to proposal writing.

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

- **Large, heterogeneous, and often unstructured** data of being appropriate with reasonable accuracy [3]. However, the data from this research has not been comprehensively analyzed and interpreted [29-30]. This could potentially be realized by understanding of protein function, interaction, and dynamics in the cellular environment. The analysis of the web-based data requires a large-scale, high-throughput approach. The **MINER of Protein-Genetic Interactions** (MGI) is a web-based tool for analyzing such data [31].
- **Integration** of web-based data with other data sources, such as **genomic data**, is an important step in the analysis of the data. However, the need for web-based tools for analyzing genomic data is still a challenge [32].
- **Size aspect**: The traditional MGI systems have to make 10 hours to acquire an image. Whereas, many cellular events occur at the second time scale [33].
- **Time delay and data storage**: Many biological processes happen during a few minutes or seconds, which are not captured by the traditional MGI systems [34].
- **Phototoxicity**: The slow MGI system requires lower intensity in the range of $\sim 1-10$ mW/cm² for generating the fluorescence emission population and therefore less radiation sources (damaging cells and tissues) [35].
- **Strong reliance on user's expertise**: MGI requires abundant sophisticated skills from people with different backgrounds to perform the required image acquisition, data analysis, and visualization. Besides computational expertise and is time consuming [36]. The lack of an autonomous acquisition

PROGRAM SOLICITATION
NSF 19-564

REPLACES DOCUMENT(S):
NSF 18-520



National Science Foundation

Directorate for Computer and Information Science and Engineering
Division of Computer and Network Systems
Division of Information and Intelligent Systems
Division of Computing and Communications Foundations

Directorate for Education and Human Resources
Research in Learning in Formal and Informal Settings

Directorate for Engineering
Division of Information and Manufacturing Innovation
Division of Electrical, Communications and Cyber Systems

Directorate for Social, Behavioral and Economic Sciences
Division of Behavioral and Cognitive Sciences

Order of Interest Due Date(s) (required) (due by 5 p.m. submitter's local time):
January 05, 2010

Full Proposal Deadline: May 15, 2016, 5:00 p.m. (submitter's local time)

December 26, 2019

light microscopy. We combine light-sheet microscopy with speed of light. We will provide you and dynamics in a

- 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 brochure 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 broshouse@du.edu to request help.
- Why a one-pager? Distilling your ideas into a brief summary—one that starts with a compelling storyline—is what best communicates project relevance, highlighting the logic of your approach, and allows targeted staff to give informed feedback. Many program officials will not read more than one page since multiple pages represent a proposal review rather than an idea review. While you can be told if you are "fundingable," the program officer can assess for interest first.

- 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.

- 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.

**REQUEST A
GRANT WRITER**

[illegible]

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

- **Key challenges** which stood out:
 - **Integration of data** from different sources (e.g. imaging, molecular, clinical, etc.)
 - **Model validation** (e.g. comparing model results with experimental data)
 - **Model interpretation** (e.g. understanding the underlying mechanisms)
- **Future research** (e.g. developing new models, improving data collection, etc.)

Conclusion: The review highlights the importance of mathematical models in understanding the underlying mechanisms of cancer and the challenges associated with their development and validation. It also identifies key areas for future research.

References:

1. Smith, J. D., & Jones, K. L. (2018). *Mathematical models of cancer: A review of the literature*. *Journal of Mathematical Biology*, 76(1), 1-25.
2. Smith, J. D., & Jones, K. L. (2018). *Mathematical models of cancer: A review of the literature*. *Journal of Mathematical Biology*, 76(1), 1-25.
3. Smith, J. D., & Jones, K. L. (2018). *Mathematical models of cancer: A review of the literature*. *Journal of Mathematical Biology*, 76(1), 1-25.
4. Smith, J. D., & Jones, K. L. (2018). *Mathematical models of cancer: A review of the literature*. *Journal of Mathematical Biology*, 76(1), 1-25.
5. Smith, J. D., & Jones, K. L. (2018). *Mathematical models of cancer: A review of the literature*. *Journal of Mathematical Biology*, 76(1), 1-25.
6. Smith, J. D., & Jones, K. L. (2018). *Mathematical models of cancer: A review of the literature*. *Journal of Mathematical Biology*, 76(1), 1-25.
7. Smith, J. D., & Jones, K. L. (2018). *Mathematical models of cancer: A review of the literature*. *Journal of Mathematical Biology*, 76(1), 1-25.
8. Smith, J. D., & Jones, K. L. (2018). *Mathematical models of cancer: A review of the literature*. *Journal of Mathematical Biology*, 76(1), 1-25.
9. Smith, J. D., & Jones, K. L. (2018). *Mathematical models of cancer: A review of the literature*. *Journal of Mathematical Biology*, 76(1), 1-25.
10. Smith, J. D., & Jones, K. L. (2018). *Mathematical models of cancer: A review of the literature*. *Journal of Mathematical Biology*, 76(1), 1-25.

izing **Microscopy** (We combine light-sheet microscopes with speed of analysis. We will provide you with a list of references in a

PROGRAM SOLICITATION
NSF 19-564



National Science Foundation

- Directorate for Computer and Information Science and Engineering
 - Division of Computer and Systems Sciences
 - Division of Information and Intelligent Systems
 - Division of Computing and Communication Foundations
- Directorate for Education and Human Resources
 - Research on Learning in Formal and Informal Settings
- Directorate for Engineering
 - Division of Civil, Mechanical and Manufacturing Innovation
 - Division of Electrical, Communications and Cyber Systems
- Directorate for Social, Behavioral and Economic Sciences
 - Division of Behavioral and Cognitive Sciences
 - Division of Social and Behavioral Sciences

Required for Integrative Research Grant Proposals

© 2004 Blackwell Publishing Ltd *Journal of Internal Medicine* 255: 103–110

- You are more likely to receive valuable insight into the funding potential of your ideas 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 grantwriters@du.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 also targeted toward general feedback. Many program officers will not read more than one page; some multiple pages represent a proposal *rather* than an idea *renewal*. While you will not be told if you are "fundingable," the program officer can assess for program fit.

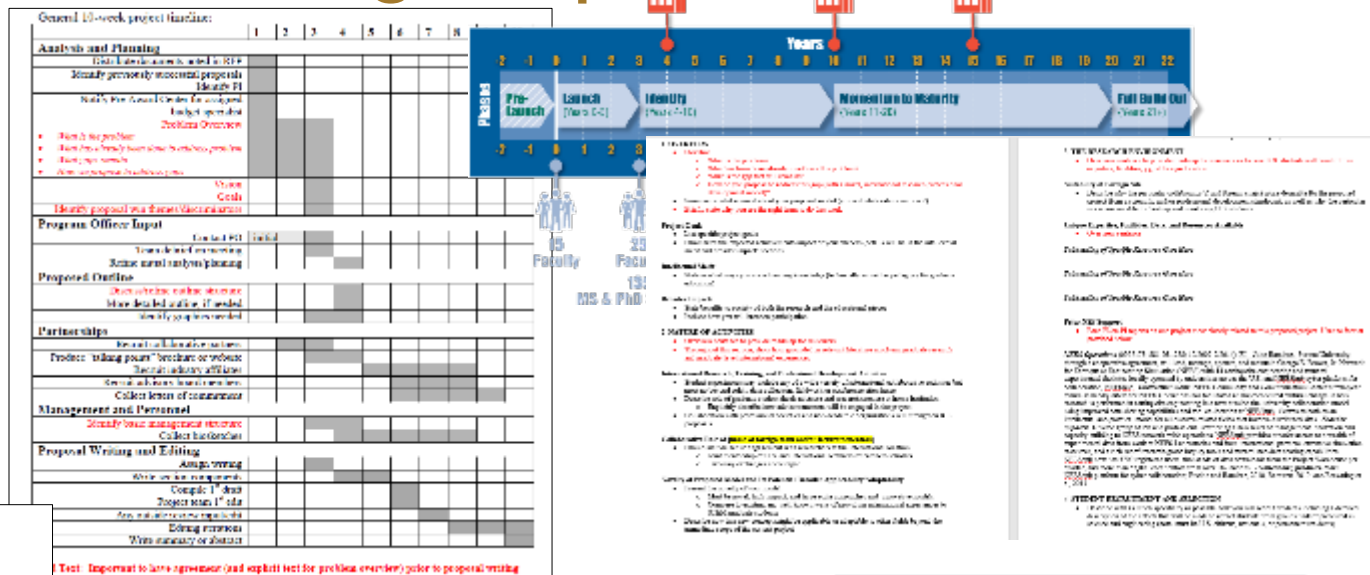
- What is the human health problem?
- What has been done already to address this problem?
- What is the gap that still exists?
- How do you propose to address this gap?

- 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.

- 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.

**REQUEST A
GRANT WRITER**



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

Light microscope allows direct observation of living specimens with molecular specificity [1]. However, the diffraction limit restricts the resolution of conventional light microscopy to ~ 250 nm [2]. The century-old barrier has restricted our understanding of protein function, interactions, and dynamics in the cellular context, particularly at the sub-nanometer to nanometer length scale. Single-molecule imaging microscopy (SMIM or PALM/STORM) has overcome the fundamental limit and allows visualization of biological processes with precision below 10 nm [3].

[illegible]

1 Test: Important to have agreement (and explicit test for problems elsewhere) prior to proposal writing.

PROGRAM SOLICITATION
NSF 19-564

REPLACES DOCUMENT(S):
NSF 18-520



National Science Foundation

Directorate for Computer and Information Science and Engineering
Division of Computer and Network Systems
Division of Information and Intelligent Systems
Division of Computing and Communication Foundations

Directorate for Education and Human Resources
Research in Learning in Formal and Informal Settings

Directorate for Engineering
Division of Civil, Mechanical and Manufacturing Innovation
Division of Electrical, Communications and Cyber Systems

Directorate for Social, Behavioral and Economic Sciences
Division of Behavioral and Cognitive Sciences
Division of Statistical, Biological, and Environmental Sciences

Larger of instant fee, dataset (checked), blue by 5 p.m., submitter's local time.

Accepted: 2016

Full Proposal Deadline: Nov. 15, 2015, 11:59 p.m. (local time)

See also 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 2681, 2682, 2683, 2684, 2685, 2686, 2687, 2688,

Using fluorescence (W- combines light-sheet microscope with speed of video). We will provide you and the results in a

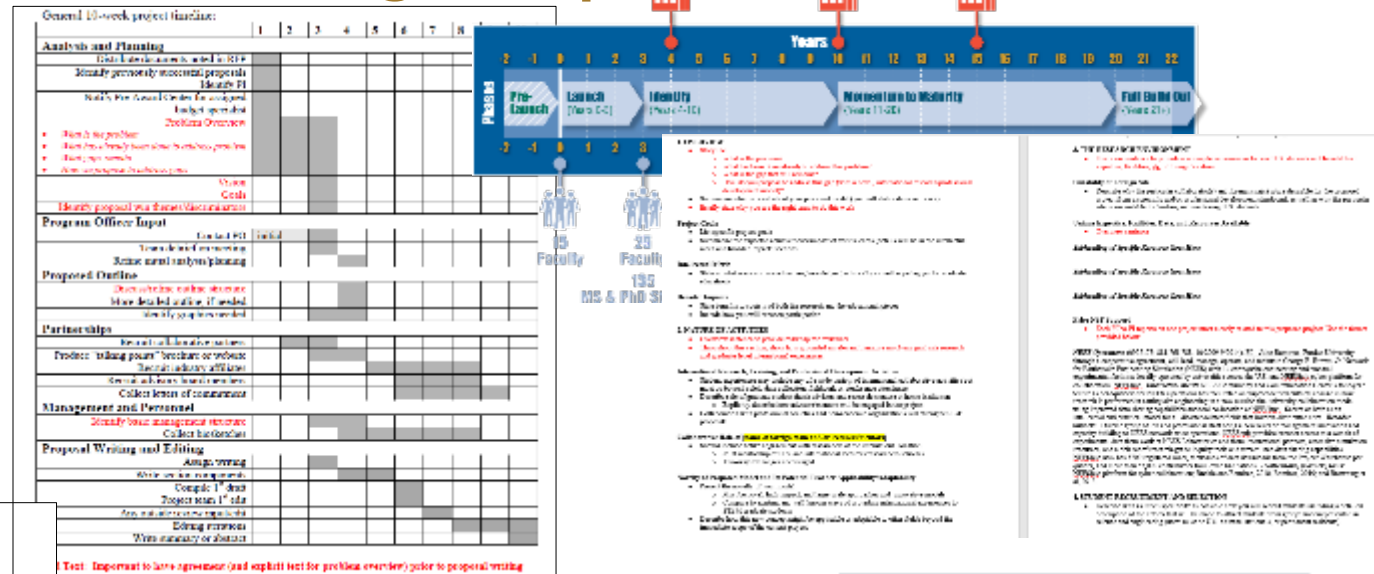
- You are more likely to receive valuable insight into the funding potential of your idea if you follow these steps:
 - Make contact early (at least several months in advance).
 - Do not make a "cold call." Email a one-page concept paper along with your agency brochure and request a phone appointment 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 brochure@duke.edu to request help.
- Why a one-pager? Distilling your ideas into a brief summary—one that starts with a compelling storyline—is what best communicates project relevance, highlighting the logic of your approach, and allows targeted staff to give informed feedback. Many program officials will not read more than one page since multiple pages represent a proposal review rather than an idea review. While you can be told if you are "fundingable," the program officer can assess for interest first.

- 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.

- 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.

- 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.

**REQUEST A
GRANT WRITER**



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

[illegible]

1 Test: Important to have agreement (and explicit test for problems elsewhere) prior to proposal writing.

PERSPECTIVES ON BROADER IMPACTS

PROGRAM SOLICITATION
NSF 19-564

REPLACES DOCUMENT(S):
NSF 18-520



National Science Foundation
 Directorate for Computer and Information Science and
 Division of Computer and Network Systems
 Division of Information and Intelligent Systems
 Division of Computing and Communications Founda-

Directorate for Education and Human Resources
 Research on Learning in Formal and Informal Edu-

Discipline for Engineering
Division of Civil, Mechanical and Manufacturing Innovation
Division of Electrical, Communications and Cyber Systems

Department of Social, Behavioral and Economic Sciences
Division of Behavioral and Cognitive Sciences
University of North Carolina at Chapel Hill

Larger of instant file dates) (rounded) (due by 5 p.m. submitter's local time)

Accepted: 2016

Full Proposal Deadline: Nov. 15, 2015, 11:59 p.m. (local time)

See also 265, 266, 267, 268

- 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 brosketch 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 brosketch@du.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 also targeted output for your general feedback. Many program officers will not read more than one page since multiple pages represent a proposal someone rather than an idea someone. While you will not be told if you are "fundingable," the proposal officer can assess for program fit.

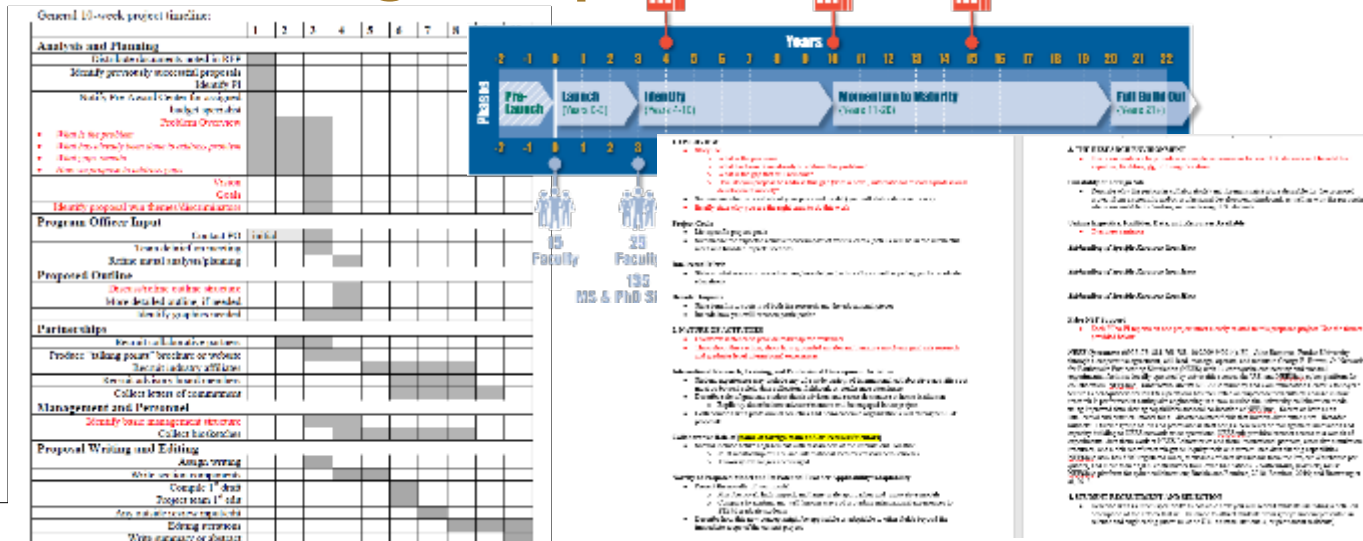
- Start with **storyline**:
 - What is the human health problem?
 - What has been done already to address this problem?
 - What is the gap that still exists?
 - How do you propose to address this gap?
- Briefly mention **why this team is ideal** for the project.
- Aim X: Use a **bold, concrete objective 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.

- 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.

**REQUEST A
GRANT WRITER**

- **Light microscopy** also did not elucidate the timing of processes with resolution needed by (1) between light and the electron microscope. The resolution of conventional light microscopy is ~250 nm (1). This constraint has hampered our understanding of protein function, interactions, and dynamics in the cellular context, particularly for the sub-second to nanometer length scales.
- **Fluorescence switching microscopy (SIM or PALM/STED)** has overcome the constraints (1) and allows visualization of biological processes with resolution and speed that is comparable to electron microscopy.
- However, both custom-built and commercially available SIMS are still far from being a standard tool in biological research with practical problems severely limiting use to:
 - **Slow speed.** Traditional SIMS systems have minutes to hours to acquire an image, whereas many cellular events occur at the second time scale (2).
 - **Limited to 2D and less sensitive.** Many biological processes, however, involve 3D structures and/or low levels of expression of the proteins of interest.
 - **Phototoxicity.** The low-level SIMS requires large fluorescent probe populations and is thus (3).
 - **Strong reliance on user's expertise.** SIMS optical switching behavior and image reconstruction demands computational expertise and is time consuming and labor-intensive solution process.

© 2004 Blackwell Publishing Ltd, *Journal of Internal Medicine* 255: 103–110



Red Text: Important to have agreement (and explicit text for articles standards) prior to an overall meeting

[illegible]

- Office of the Executive Vice President
-
- for Research and Partnerships

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										
• <i>What is the problem</i>										
• <i>What has already been done to address problem</i>										
• <i>What gaps remain</i>										
• <i>How we propose to address gaps</i>										
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 1 st draft										
Project team 1 st 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

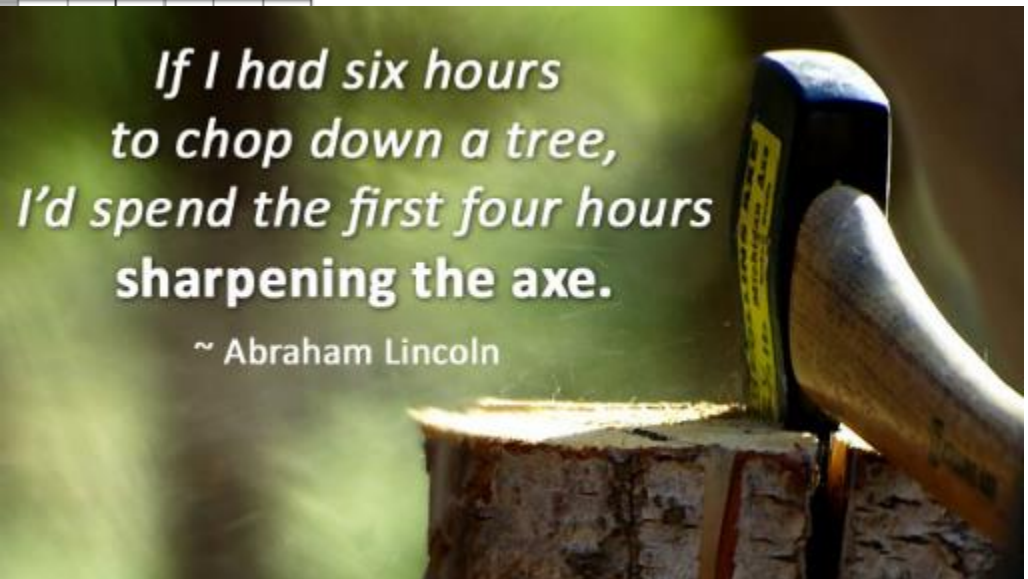
Build the Storyline

Storyline first!

General 10-week project timeline:

	1	2	3	4	5	6	7	8	9	10
Analysis and Planning										
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 1 st draft										
Project team 1 st edit										
Any outside review input/edit										
Editing iterations										
Write summary or abstract										

Red Text: Important to have agreement (and explicit text for problem)



Build the Storyline

Gap analysis

- tell a compelling story

- respond to solicitation

- answer

- know y

- conduct

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 to limitations

- answer

- know

- conduct

- 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

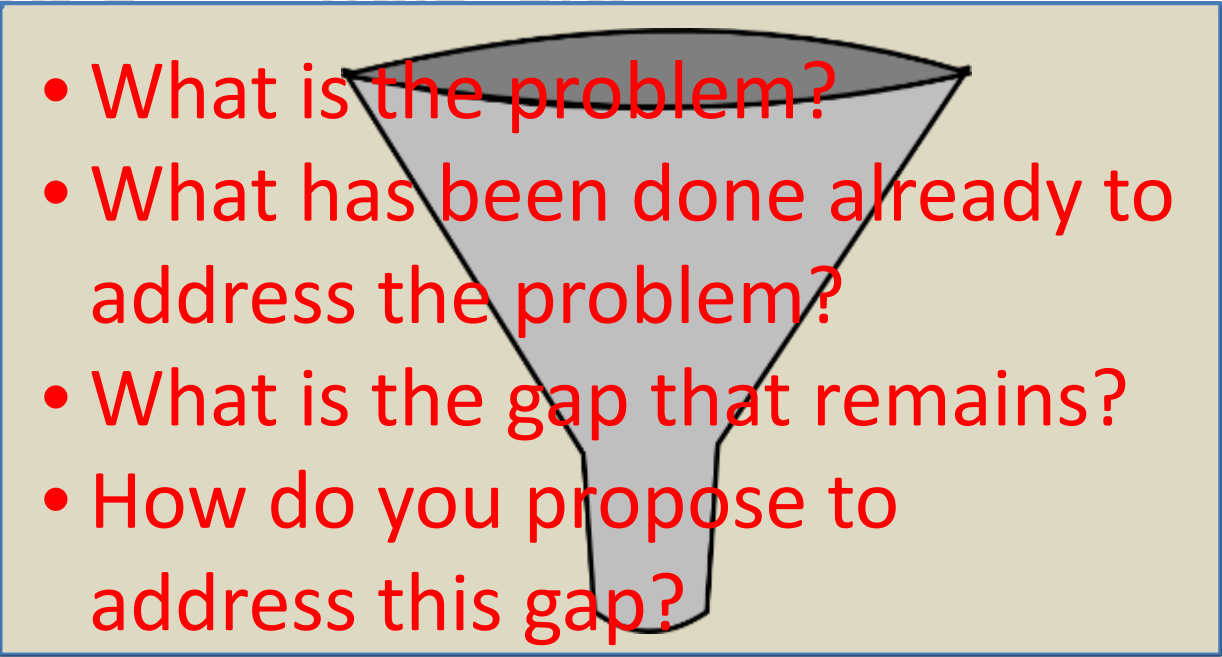
- tell a compelling story

- respond to limitations

- answer

- know

- conduct

- 
- 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 for NIH

A Significance

The NIH is committed to translating basic biomedical research into clinical practice and thereby impacting global human health¹, and Francis Collins identifies high-throughput technology as one of five areas of focus for the NIH's research agenda². For many diseases, researchers have identified successful novel therapeutics or research probes by applying technical advances in automation to high-throughput screening (HTS) using either biochemical or cell-based assays³⁻⁶. 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 targets⁷⁻⁹. 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 exhausted¹⁰. 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 itself¹¹. 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)^{12,13}. *C. elegans* is a natural choice. Manually-analyzed RNAi and chemical screens are well-proven in this organism, with dozens completed¹⁴⁻¹⁶. 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:

Carolina Wählby of the Broad Institute

<http://www.niaid.nih.gov/researchfunding/grant/pages/appsample.s.aspx>

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.**

Build the Storyline

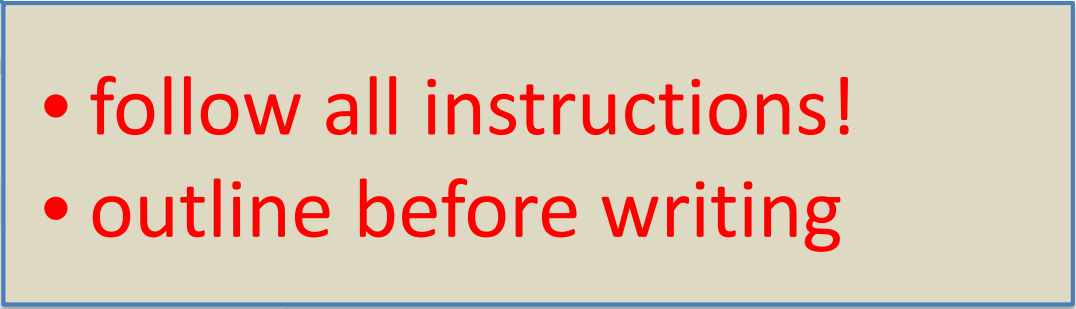
One-page...taste of your entire grant in a single, bite-sized piece

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

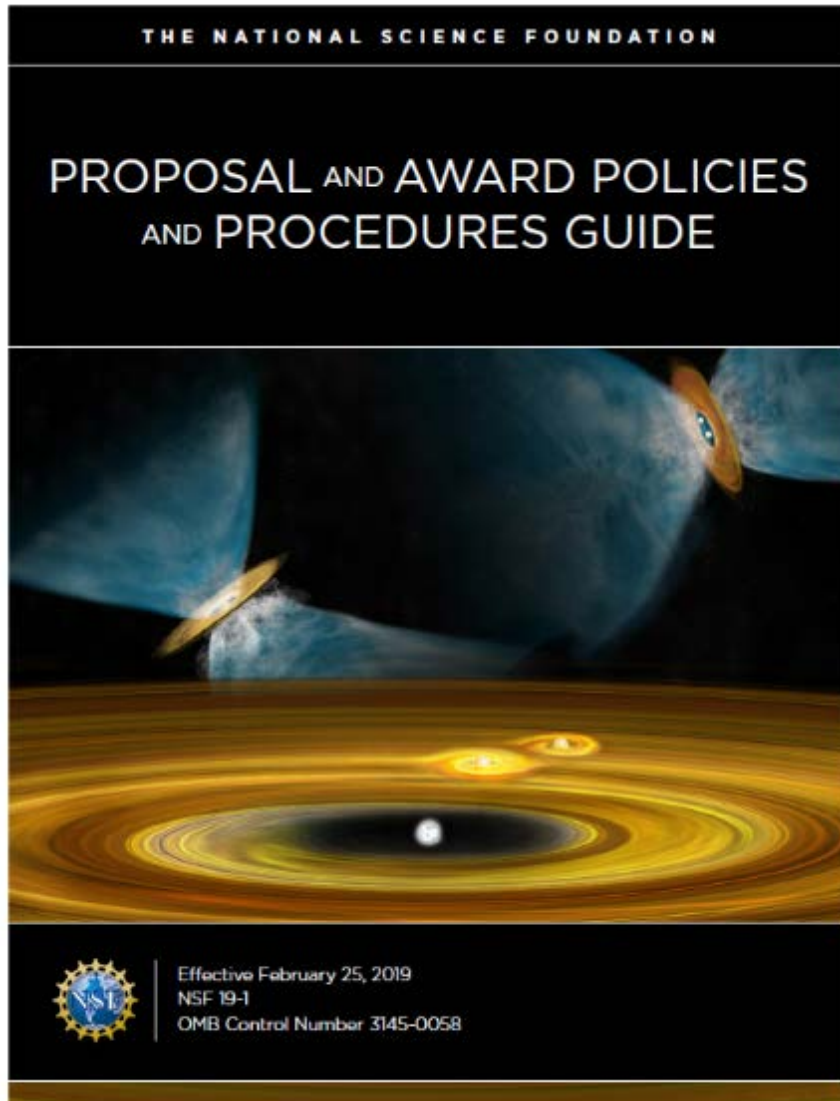
Key Strategies

Addressing common trouble spots

- tell a compelling story
 - respond to solicitation
 - answer “V
 - know you
 - conduct internal review
- 
- follow all instructions!
 - outline before writing

Respond to Solicitation

Know the agency guidelines as well as solicitation



Faculty Early Career Development Program (CAREER)

Includes the description of NSF Presidential Early Career Awards for Scientists and Engineers (PECASE)

PROGRAM SOLICITATION

NSF 17-537

REPLACES DOCUMENT(S):

NSF 15-555



National Science Foundation

Directorate for Biological Sciences

Directorate for Computer & Information Science & Engineering

Directorate for Education & Human Resources

Directorate for Engineering

Directorate for Geosciences

Directorate for Mathematical & Physical Sciences

Directorate for Social, Behavioral & Economic Sciences

Office of Integrative Activities

Office of International Science and Engineering

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

July 19, 2017

Third Wednesday in July, Annually Thereafter

for BIO, CISE, EHR

July 20, 2017

Third Thursday in July, Annually Thereafter

for ENG

July 21, 2017

Third Friday in July, Annually Thereafter

for GEO, MPS, SBE

IMPORTANT INFORMATION AND REVISION NOTES

Eligibility requirements have been revised to clarify the required early-career status of applicants.

Support for senior personnel other than the PI that is commensurate with a limited collaborative role in the project is now allowed in the budget of the proposal or of a subrecipient.

Proposal due dates:

Directorate	2017 due dates	2018 due dates	2019 due dates
BIO, CISE, EHR	July 19, 2017	July 18, 2018	July 17, 2019
ENG	July 20, 2017	July 19, 2018	July 18, 2019
GEO, MPS, SBE	July 21, 2017	July 20, 2018	July 19, 2019

Any proposal submitted in response to this solicitation should be submitted in accordance with the revised NSF Proposal & Award Policies & Procedures Guide (PAPPG) (NSF 17-1), which is effective for proposals submitted, or due, on or after January 30, 2017.

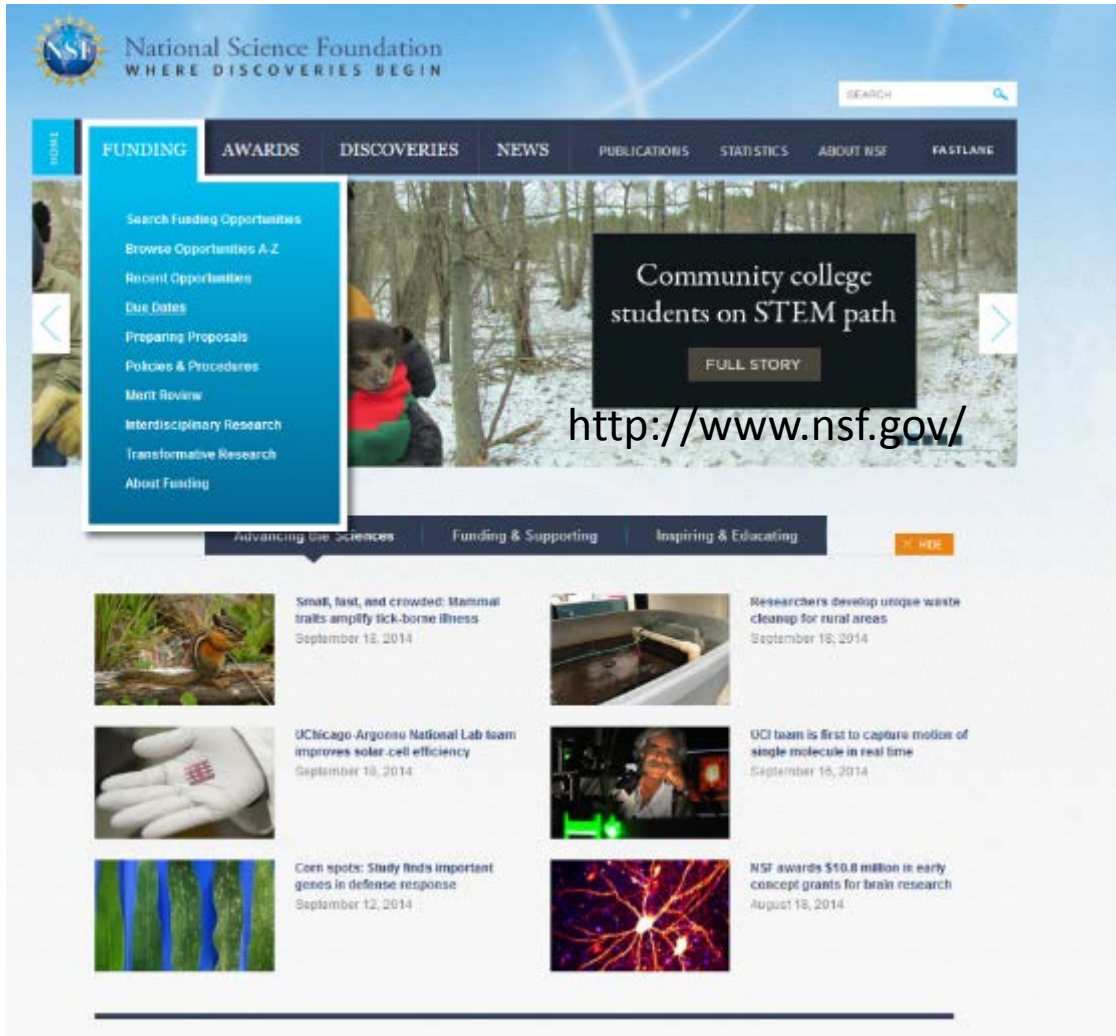
Respond to Solicitation

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.



www.nsf.gov

<http://www.nsf.gov/>

Respond to Solicitation

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

National Science Foundation
WHERE DISCOVERIES BEGIN

Funding

Partnerships for Innovation: Accelerating Innovation Research- Technology Translation (PFI: AIR-TT)

CONTACTS

Name	Email	Phone	Room
Barbara H. Kenny	bkenny@nsf.gov	(703) 292-4967	

PROGRAM GUIDELINES

Solicitation [14-569](#)

DUE DATES

Full Proposal Deadline Date: October 2, 2014
Letter of Intent Deadline Date: March 13, 2015
Full Proposal Deadline Date: April 14, 2015

SYNOPSIS

The NSF Partnerships for Innovation (PFI) program within the Division of Industrial Innovation and Partnerships (IIP) is an umbrella for two complementary subprograms, Accelerating Innovation Research (AIR) and Building Innovation Capacity (BIC). Overall, the PFI program offers opportunities to connect new knowledge to societal benefit through translational research efforts and/or partnerships that encourage, enhance and accelerate innovation and entrepreneurship. The subject of this solicitation is PFI: AIR-Technology Translation (PFI: AIR-TT). The PFI: AIR-TT solicitation serves as an early opportunity to move previously NSF-funded research results with promising commercial potential along the path toward commercialization. Projects are supported to demonstrate proof-of-concept, prototype, or scale-up while engaging faculty and students in entrepreneurial/innovative thinking.

WEBINAR: A webinar will be held within 6 weeks of the release date of this solicitation to answer any questions about this solicitation. Details will be posted on the IIP website (<http://www.nsf.gov/eng/iiip/pfi/air-tt.jsp>) as they become available.

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

Map of Recent Awards Made Through This Program

News

Related

GRANTS.GOV™

[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>.

The screenshot displays the NIH RePORTer website interface. At the top, the NIH logo and 'Research Portfolio Online Reporting Tools (RePORT)' are visible. A search bar is located in the top right corner. Below the header, a navigation bar includes links for HOME, ABOUT RePORT, FAQs, GLOSSARY, and CONTACT US. A secondary navigation bar lists categories: QUICK LINKS, RESEARCH, ORGANIZATIONS, WORKFORCE, FUNDING, REPORTS, and LINKS & DATA. The main content area is titled 'NIH RePORTER' with a version number of 3.7.0. It features a 'CHECK OUT FEDERAL RePORTER' button and links for 'About RePORTER DATA', 'FAQ', 'EXPORTER', 'RePORTER Manual', and 'RSS of Newly Added Projects'. The 'QUERY' section is active, showing 'BROWSE NIH' and 'MATCHMAKER' options. The 'SUBMIT QUERY' and 'CLEAR QUERY' buttons are present. The 'Fiscal Year (FY)' is set to 'Current FY is 2014', and 'Active Projects' is selected. The 'RESEARCHER AND ORGANIZATION' section includes fields for Principal Investigator (PI) / Project Leader (Last Name, First Name), Organization, Department, and Organization Type, each with a 'SELECT' button. It also includes fields for City, State, Country, Congressional District, and DUNS Number, each with a 'SELECT' button. The 'TEXT SEARCH' section has a 'Text Search (Logic)' field with radio buttons for 'Add', 'Or', and 'Advanced'. It also includes 'Search in' options (Projects, Publications, News) and 'Limit Project search to' options (Project Title, Project Terms, Project Abstracts). The 'PROJECT DETAILS' section includes fields for Project Number/ Application ID, Program Officer (PO), Project Start Date, Agency/Institute/Center, NIH Spending Category, Funding Mechanism, Award Type, Activity Code, and Study Section, each with a 'SELECT' button. A 'Standing COR study sections only' link is also visible.

NIH Research Portfolio Online Reporting Tools (RePORT)

Search

HOME | ABOUT RePORT | FAQs | GLOSSARY | CONTACT US

QUICK LINKS RESEARCH ORGANIZATIONS WORKFORCE FUNDING REPORTS LINKS & DATA

Home > RePORTER > Query Form

NIH RePORTER Version: 3.7.0

CHECK OUT FEDERAL RePORTER

About RePORTER DATA FAQ EXPORTER RePORTER Manual RSS of Newly Added Projects

QUERY BROWSE NIH MATCHMAKER

SUBMIT QUERY CLEAR QUERY

Fiscal Year (FY): Current FY is 2014 Active Projects SELECT

RESEARCHER AND ORGANIZATION

Principal Investigator (PI) / Project Leader: (Last Name, First Name) Use % for wildcard in P names Enter several P/Project Leader names OR PI Profile IDs

City: Use % for wildcard

State: SELECT

Country: SELECT

Congressional District: SELECT

DUNS Number:

Organization: LOOKUP Please enter at least 3 characters to use Lookup. Contains Begins with Exact

Department: SELECT

Organization Type: SELECT

TEXT SEARCH

Text Search (Logic): Add Or Advanced

Search in: Projects Publications News

Limit Project search to: Project Title Project Terms Project Abstracts

Limit Publication search to: Start Year: 2013 End Year: 2014

PROJECT DETAILS

Project Number/ Application ID: Use % for wildcard in project number, e.g. %R21% Enter multiple project numbers/application IDs

OR

1 061 CA 811099 01 A151

Program Officer (PO): (Last Name, First Name) Use % for wildcard

Project Start Date: Formatted: mm/dd/yyyy

Agency/Institute/Center: Admin Funding SELECT

NIH Spending Category: SELECT

Funding Mechanism: SELECT

Award Type: SELECT

Activity Code: SELECT

Study Section: SELECT

Standing COR study sections only

Respond to Solicitation

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

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 GOGGLE 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	\$463,300	
☐	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 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 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

Program Initiatives	Year one	Year Two	Year Three	Year Four	Year Five
CICAWEST Administration					
Advisory Board Meeting					
D&I Team and COD meeting					
Mentoring Academy					
Training of coaches chairs					
Mentoring pairs					
Departmental Transformation					
Diversity Forums					
Chairs Dept Heads @ PU					
All Three Institutions					
Transformational Team Visits					
NCWIT Visiting Committees					
Promotion and Tenure Review					
Building Networks					
Summit					
Invited Lectures					
Evaluation and Assessment					
STEM Climate Assessment					
Space Resource Inventory					
Coaching Measures					
Mentor Mentees peer self-adv prod					
Attitudinal Surveys					
Deans and Heads					
Faculty					
Network Analysis					
External Project Analysis					
Dissemination					
Website					
CIC Women in Academia					
Summit Attendees Meetings					
Publications					
National Presentations					

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 your audience
 - conduct a competitive analysis
- win differentiators of expertise, facilities, prior work, campus environment

Key Strategies

Addressing common trouble spots

- tell a compelling story
- respond to solid feedback
- answer “Why Fund This?”
- **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

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 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 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

Program Initiatives	Year one	Year Two	Year Three	Year Four	Year Five
CICAWEST Administration					
Advisory Board Meeting					
DRI Team and COD meeting					
Mentoring Academy					
Training of coaches/chairs					
Mentoring pairs					
Departmental Transformation					
Diversity Forums					
Chairs/Dept Heads @ PU					
All Three Institutions					
Transformational Team Visits					
NCWIT Visiting Committees					
Promotion and Tenure Review					
Building Networks					
Summit					
Invited Lectures					
Evaluation and Assessment					
STEM Climate Assessment					
Space Resource Inventory					
Coaching Measures					
Mentor/Mentee persc self-adv prod					
Attitudinal Surveys					
Deans and Heads					
Faculty					
Network Analysis					
External Project Analysis					
Dissemination					
Website					
CIC Women in Academia					
Summit Attendee Mailings					
Publications					
National Presentations					

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

Know Your Reviewer

Parallel formatting provides a roadmap to help your reviewer

Research Strategy (usually 12 pages) Option 2 with common preliminary studies

A. Significance

B. Innovation

C. Approach

- Overview sentence on the team and the approach

Preliminary Studies (for all the aims together)

- For all the aims together

Title of Specific Aim #1 (verbatim from your specific aims section)

- Introductory paragraph

Research Design

Expected Outcomes

Potential Problems and Alternative Strategies

Title of Specific Aim #2 (verbatim from your specific aims section)

- Introductory paragraph

Research Design

Expected Outcomes

Potential Problems and Alternative Strategies

Title of Specific Aim #3 (verbatim from your specific aims section)

- Introductory paragraph

Research Design

Expected Outcomes

Potential Problems and Alternative Strategies

Timetable

- Use Gantt chart

Future Directions (optional)

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, Kathmandu, 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.

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, Kathmandu, 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.

Strategic Plan

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)

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

Be concise. Less is better.

There are a growing number of scientists **who** believe the system is capable of addressing user demands.

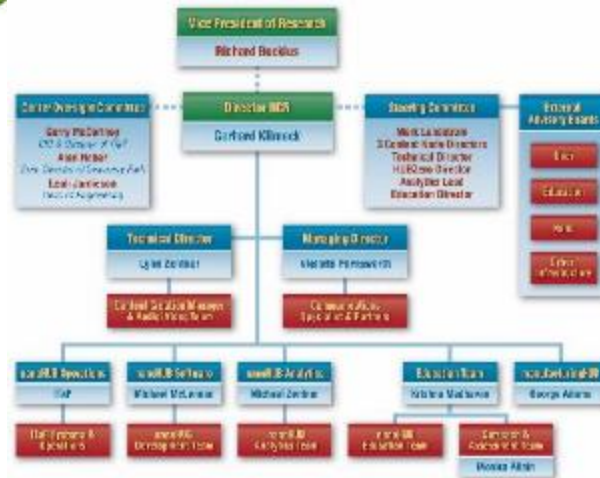
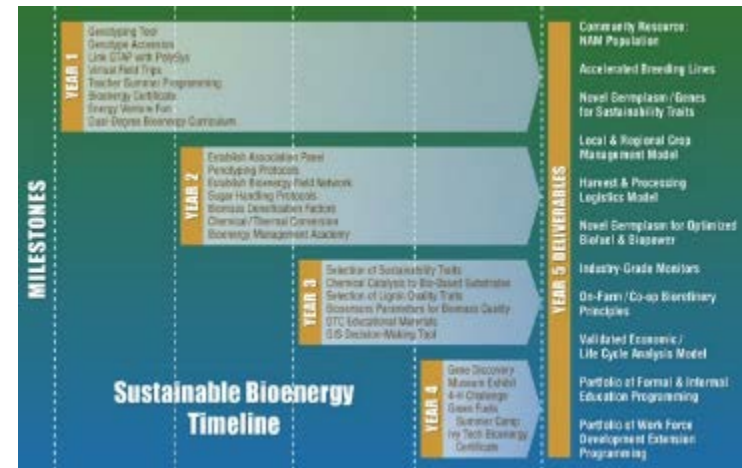
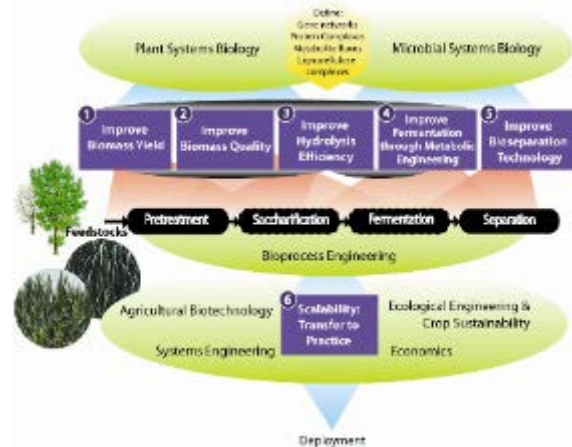
(17 words)

A growing number of scientists believe the system can address user demands.

(12 words)

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 “Why?”
- know your audience
 - planned from beginning
 - formal or informal
- conduct internal review

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 1 st draft										
Project team 1 st 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**

Templates and Step-by-Step Guidance



Drop-in Text for Resource/Facilities



PURDUE
UNIVERSITY

Home About FAQ My Account

Search

Enter search terms:

Search

In this collection ▼

[Advanced Search](#)

Notify me via email or RSS

Links

[Purdue Libraries](#)
[Purdue University Press Journals](#)

Links for Authors

[Policies and Help Documentation](#)

Browse

[Collections](#)
[Disciplines](#)
[Authors](#)

PURDUE
UNIVERSITY

**Libraries and School of
Information Studies**

Purdue e-Pubs

Home > [OVER](#)



OFFICE OF RESEARCH AND PARTNERSHIPS

[The Office of the Executive Vice President for Research and Partnerships \(EVP RP\)](#) supports faculty in all aspects of research, including funding access, proposal development, research integrity, corporate and foundation relations, and interdisciplinary infrastructure. Suresh Garimella, Ph.D. is the current executive vice president for research and partnerships.

[Follow](#)

Browse the *Office of Research and Partnerships* Collections:

[University General Facility Boilerplate Descriptions](#)

[University Research Core Facility Boilerplate Descriptions](#)

Reader from:  Montreal, Quebec, Canada

Macromolecular Crystallography

C Nicklaus Steussy, Tim Schmidt, Purdue University Office of Research and Partnerships

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 Behavioral and Cognitive Sciences \(Ma 2017\)](#)

[NSF Division of Research on Learning \(Ryu 2018\)](#)

Questions?