

## How to go from Research Ideas to Research Dollars Ten Key Steps to Getting Your Ideas Funded

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As the geologists say, “if you don’t ask the right questions the rock won’t answer.” This expression has its analog in the pursuit of research funding. If you don’t ask the right questions about yourself, your potential funder, the funding solicitation, the process of identifying funding opportunities, and the process of planning, developing, writing and submitting a successful proposal, then the funding agency is unlikely to answer your request for funding in a positive way. In order for you to build a successful portfolio of research awards, you will have to satisfactorily answer many of the following questions. The questions listed below are essentially the critical touchstones that will transition you from a research idea to a funded research idea. You must answer some of these questions about yourself and your research readiness before submitting a successful proposal. Others are questions you must ask about the depth of your understanding of the funding agency, research solicitation, review and selection process, and the grant-writing process itself to determine whether you are prepared to write a competitive proposal.

1. **Know yourself** (as Ann Landers once said “*Know yourself. Do not accept your dog’s admiration as conclusive evidence that you are wonderful.*”)
  - a. What are my research strengths?
    - i. How do I most effectively characterize my research strengths, expertise, experience, background, and future directions?
      1. Can I do this succinctly, clearly, and simply?
      2. Can I explain my research and make a convincing case for the importance of my research to a scientifically literate (intelligent or “informed” reader) reviewer who is a nonexpert in my field?
    - ii. What is the significance of my research expertise to my disciplinary field and can I explain this citing the appropriate literature?
    - iii. How will my research contribute to my disciplinary field or other disciplinary fields and advance them in some important way?
    - iv. Is my research disciplinary, multidisciplinary, interdisciplinary, transdisciplinary?
      1. Do I understand how these terms are used by specific agencies, e.g., by NSF?
    - v. Is my area of expertise addressed in the agency’s strategic plan?
      1. How would my research advance the agency strategic plan?
    - vi. Does my research bring value-added benefits to the agency and program?
    - vii. Does my research advance the mission priorities of the agency?
      1. Do I clearly understand the difference between basic research agencies (e.g., NSF, NIH, DARPA) and mission specific agencies (e.g.,

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- DOD, NOAA, DOE) and how different agencies characterize value-added benefits?
- viii. Have I prepared a convincing and brief (perhaps 1 page) white paper that serves as a very concise and clearly stated overview of my research goals, objectives, rationale, experience, and expertise that would be of interest to a potential funder? Also, does this white paper (abstract, project summary, executive summary, “elevator speech,” etc.) make a compelling case for the value-added benefits my research would bring to the critical mission areas of the agency, or to the research field, or to other research fields?
- b. What are my research weaknesses?
    - i. Do I lack preliminary data; if so, how will I address that?
    - ii. Do I lack publications on the research topic; if so, how will I address that?
      - 1. Do I lack the appropriate peer-reviewed publications that will help convince reviewers of the importance of my research and my capacity to perform?
      - 2. Are my publications too weighted towards non-peer reviewed proceedings, book chapters, conference presentations, etc. that will leave reviewers unconvinced about the importance of my research and my capacity to perform?
    - iii. Do I lack experience and expertise in the field; if so, how will I address that?
    - iv. Do I need research collaborators; if so, how will I address that?
  - c. Do I have a strategic plan for my research?
    - i. Where am I going and how do I plan to get there?
      - 1. Why is it important that I do this research?
    - ii. How do I best characterize the significance of my current research/expertise
      - 1. To the field?
      - 2. To other fields?
      - 3. To the agency?
      - 4. To an agency mission?
    - iii. Where will my research be in five years, or even ten or twenty years?
    - iv. Does my research require my engagement in “team science” and research collaborations?
  - d. Can I define my disciplinary domain of interest (e.g., education, engineering, science, social science, humanities, education, health and biomedical sciences, etc.) with sufficient clarity to begin the process of identifying potential funders of my research?
  - e. Can I clearly characterize the nature of my research interests within my disciplinary domain, e.g., is my research predominantly basic or applied, or perhaps applications or contract based?
  - f. Have I identified funding agencies whose mission, strategic plan, and investment priorities are aligned with my research interests and expertise?
  - g. If required, do I know how to develop the research and/or educational partnerships and research collaborations with other researchers in other disciplines or at other

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- institutions needed to be competitive at a specific agency or for a specific program area?
- h. Have I gone through the process to further align my research interests with funding agency opportunities by:
- i. Reviewing past funding solicitations by the agency,
  - ii. Reviewing abstracts of recently funded proposals by the agency in my disciplinary area
    1. Reviewing abstracts (aka project summary or executive summary) of recently funded projects gives researchers yet another source of information about the interests of a funding agency by presenting review panels' and program officers' selections of successful proposals. Reading the abstracts of funded projects will give you a more nuanced understanding of the funding agency culture and expectations specific to a solicitation, or cluster of solicitations, within a disciplinary domain. Abstracts from the two most current past funding cycles are typically the most informative because annual grant solicitations often evolve over time. Most agencies post the abstracts of funded projects on their websites.
    2. Reviewing agency mission statements. Many avenues lead to gaining a more substantive and nuanced understanding of the mission and culture of the funding agency, including:
      - a. Visiting the agency website and reviewing the mission, strategic plans, and research and educational roadmaps of both the agency and the programmatic areas within the agency;
      - b. Reviewing online postings of agency reports, presentations, and research and/or educational workshops given by agency program officers;
      - c. Talking to colleagues that have been funded by the agency;
      - d. Identifying researchers on your campus that have served as agency program officers (e.g., NSF rotators) and talking to them;
      - e. Identifying researchers on your campus that have served as reviewers for specific agencies and programs and talking to them;
      - f. Reading agency online abstracts of currently funded projects and asking (by email or phone) whether the PI is willing to talk to you about the agency;
      - g. Reading current agency solicitations in your disciplinary area and identifying any reports, presentations, or technical workshops identified in the solicitation as motivating the agency's funding of particular research areas;

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- h. Subscribing to agency RSS feeds and email alerts that keep you current on new solicitations, reports, presentations, technical workshops, and general agency news related to mission and research priorities.
- 3. Analyzing the funding agency will help you better understand several key elements common to every competitive proposal narrative:
  - a. Who is the audience (e.g., agency program officers and reviewers) and how are they best characterized in terms of the expertise they bring to the review process?
  - b. What is the best way to address them?
  - c. What is a fundable idea, and how does it support the agency's research investment priorities, or mission-critical objectives?
  - d. How are claims of research uniqueness and innovation best supported in the proposal text and how well do they agree with the agency's research objectives, or mission focus?
  - e. How do you best communicate your passion, excitement, commitment, and capacity to perform the proposed research to review panels and program officers using the language of the funding agency?
- iii. Reviewing the agency strategic investment plans, research roadmaps, and related documentation,
- iv. Exploring the agency website,
- v. Reviewing agency workshops on funding, e.g., NSF regional grants conferences, or agency webinars specific to a particular solicitation or general webinars on writing proposals to that agency, e.g., DoED/IES,
- vi. Reading the agency guidelines on submitting proposals to the agency,
- vii. Reading agency guidelines on submitting unsolicited proposals to the agency, e.g., Department of Energy Guide to Submitting Unsolicited Proposals.

## **2. Know your funder**

- a. What kinds of research does the agency fund?
- b. What is the agency mission(s)?
- c. What is the agency culture?
- d. What is the agency trying to accomplish with this specific program solicitation, or suite of related program solicitations?
- e. How are proposals reviewed at the agency?
- f. Who makes the funding decisions?
- g. What is the role of the program officer in funding decisions?
- h. Talk to the program officer(s), but keep these questions in mind:
  - i. Do I have specific, well thought out questions I want answered?
  - ii. Have I read and reread the solicitation?
  - iii. Have I informed myself about the agency's mission and culture?
  - iv. Have I informed myself on the mission and culture of the program area?

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- v. Have I carefully read information posted to the agency website?
- vi. Do I have an idea whose fittedness I want to discuss with the agency?
- vii. Do I understand I will not be asking about the likelihood of being funded?
- viii. Do I understand the call will not be a meandering fishing expedition?
- ix. Do I understand I will not be asking questions that are easily answerable by a close reading of the solicitation or documents referenced in the solicitation?
- i. Never be hesitate to contact a program officer for clarification—any ambiguities in your understanding of the agency mission priorities or in the funding solicitation need to be resolved; otherwise, it will be impossible to write a successful proposal.
  - i. Timidity is NEVER rewarded in the competitive proposal process!
  - ii. Ambiguities are ALWAYS punished!

### 3. Identify a funding solicitation

- a. Develop search protocols to fit your research interests
- b. Know relevant agencies likely to fund your research
- c. Learn the agency's grant cycles
- d. Use agency email alerts and RSS feeds to keep you informed of upcoming funding opportunities and relevant reports, workshops, webinars, etc. that can help you write a more competitive proposal
- e. Know the process for unsolicited proposals
  - i. Proposals may be initiated in two general ways by the university researcher:
    - 1. in response to a published solicitation (solicited proposal, RFP, BAA, PA); or
    - 2. by the investigator (unsolicited proposals and white papers).
      - a. ~50% of NSF and ~80% of NIH proposals are unsolicited—learn the process specific to agency
- f. Review open BAAs (Broad Agency Announcements) for program funding opportunities and the process of submitting proposals, included such “multigate” quad charts, white papers, preliminary or preapplication proposals.
  - i. BAAs are commonly used by mission agencies (e.g., DOD, DOE, NOAA). They remain open for some period of time, typically least a year but often longer. The BAA lists the mission priority research areas of interest to the agency along with all information needed to submit a proposal in response to the BAA.
- g. Consider transagency research funding opportunities
  - i. Transagency funding opportunities represent solicitations published jointly by two or more federal research agencies. For example, NSF has published joint solicitations with such agencies as USDA, DOE, DOD, among others, to address key research areas that are interdisciplinary and are common to the core mission of the partnered agencies. For example, NSF and USDA have partnered on the research topic related to water sustainability and climate.
- h. Keep in mind that a funding solicitation is an invitation by a funding agency to submit a proposal focused on addressing **research topic areas of interest to the**

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**agency**, i.e., your proposal must map tightly to agency mission and bring value-added benefits to that mission. **Bottom line:** it is your task to fit and be fully responsive to the research interests of the funding agency; it is not the task of the research agency to be responsive to your research interests. Moreover, keep in mind that:

- i. The solicitation is a non-negotiable listing of performance expectations reflecting the mission goals and research objectives of the funding agency.
- ii. The solicitation is not a menu or smorgasbord offering you a choice of addressing some research topics but not others, depending on your interest, or some review criteria, but not others.
- iii. The solicitation contains or references all the key information you will need to develop and write a competitive proposal that is fully responsive to an agency's mission, for example, the agency's:
  1. submission process,
  2. research objectives,
  3. review criteria, and
  4. budget requirements.
- iv. Review referenced documents in the funding solicitation, for example:
  1. Understand funding opportunities at all scales: RFP, Program, Division, Agency, Field, National, etc.
    - a. The solicitation resides at the fine grain scale, but it also resides in a larger context, or scale, of how the agency defines its mission at the larger scales, e.g., the agency strategic plan or research roadmap, as well as at the national level, e.g., perhaps a solicitation starts with a workshop or report from the National Academies on some "grand challenge" research topic and, therefore, your success in writing a proposal to a specific solicitation can be significantly influenced by how well you understand the agency's motives for investing in the specific research topic.
  2. Reports, workshops, conferences, webinars, etc.
    - a. This is a key point to keep in mind because successful grants are those that gain a marginal advantage over the competition. You are always competing at the margins or boundaries of excellence, and to do that well means that every opportunity you have to write a better proposal needs to be fully exploited. Viewing a webinar or reading a report that gives you a deeper and more nuanced understanding of the funding agency's reasons for supporting a program will provide critical information when crafting the arguments you will put forward to convince program officers and reviewers to fund your proposal.
  3. Agency mission, culture, investment priorities, strategic plan, etc.

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- a. Agency websites are now very robust and information rich in terms of helping you better understand the mission interest of the agency.
- v. Understand the agency language used in solicitation, for example:
  - 1. Team science (aka partners, collaborators...)
    - a. Complexity of the scientific problem
    - b. Disciplines required to solve the problem
    - c. Value-added benefits
    - d. Integration and synergy
    - e. Technology development
    - f. Innovation ecosystems (e.g., NSF)
    - g. Commercialization partnerships
  - 2. Value added benefits
  - 3. Interdisciplinarity
  - 4. Transformational research
    - a. NSF, for example, uses this term to describe a range of endeavors that promise extraordinary outcomes, such as revolutionizing entire disciplines, creating entirely new fields, or disrupting accepted theories and perspectives.
  - 5. Synergy not silos
  - 6. Societal Goals
  - 7. Broader impacts
- i. Solicited
- j. Unsolicited (investigator initiated)
- k. Identify your research and education interests and goals
- l. Learn about the types of grants and agencies that fund research in your area
- m. Understand interdisciplinarity and team grants
- n. Learn how to find funding opportunities that fit your goals and interests
- o. Learn how various agencies fund research and education projects, both solicited and unsolicited
- p. Understand the agency's investment priorities/mission
- q. Learn role of BAAs (Broad Agency Announcements) in Your Funding Strategies
  - i. They describe the agency's research interest, either for an individual program requirement or for broadly defined areas of interest covering the full range of the agency's requirements;
  - ii. Describe the application and submission process, particularly any requirements for approval waypoints, such as quadcharts, white papers, preliminary proposals, and preapplications required to be invited to submit a full proposal;
  - iii. Describe the criteria for selecting the proposals, their relative importance, and the method of evaluation;
  - iv. Specify the period of time during which proposals submitted in response to the BAA will be accepted;

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- v. Designate a Point of Contact (POC) specific to agency research topic areas. BAAs typically encourage potential applicants to contact the agency POC to discuss the relevance of their research to the agency mission priorities before preparing proposals
- r. Develop a long-term strategy for funding your research

## 4. Map your research to agency opportunity

- a. Make sure your research fits the research interests of the funding agency, either as defined in a specific solicitation or by fitting a list of agency research priority research topics, for example, as listed in an agency BAA.
- b. Talk to a program officer about your research and how well your research fits the interests of the agency.
- c. Talk to colleagues who have been well funded by the agency, served as reviewers for the agency, or have served as rotating program officers at the agency to gain an additional insight into how well your research and your “research readiness” maps to mission of the funding agency.

## 5. Analyze the solicitation

- a. Does my research expertise fit the goals and objectives of a specific solicitation?
  - i. How well do I understand the agency goals and objectives in the solicitation?
  - ii. Can I address all the research goals and objectives required by the solicitation?
    - 1. Do I need research collaborators for a competitive submission?
  - iii. Am I understanding the solicitation for what it is--**not what I want it to be**?
  - iv. Is there sufficient time to plan, develop, and write a competitive proposal?
- b. Can I make a compelling case for the significance of my research to the solicitation?
  - i. Why is my research significant?
    - 1. Why should an agency want to fund my research?
      - a. Can I explain why my research is exciting and novel?
  - ii. What are my research objectives?
    - 1. Is my research hypothesis-driven?
      - a. If so, can I state the hypothesis clearly?
    - 2. How will my research lead to new knowledge?
      - a. Will my research advance the field in some important way?
    - 3. Is my proposed research based on prior research support?
      - a. What were the outcomes of my past funded research?
    - 4. Do I have preliminary data that bolsters my case for funding?
      - a. Do I have sufficient preliminary data to be competitive?
  - iii. Do I have a realistic research plan?
    - 1. Can I make clear what I propose to do?
    - 2. Can I make clear why I propose to do it?
    - 3. Can I make clear why it is important to do it?
    - 4. Can I make clear that I have the expertise to do it?

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5. Can I demonstrate that my research plan is believable and not overly ambitious?
6. Can I present a research plan based on a stepwise, logical approach?
7. Can I instill in reviewers a confidence in my capacity to perform?
- iv. Is my research basic or applied?
  1. Do I know the difference between basic and applied research?
  2. Is the agency a basic research agency or a mission agency?
  3. Do I know the difference between a basic and a mission agency?
  4. Do I know how this distinction is made at the agency of interest?
    - a. Does the agency fund both basic and applied research?
    - b. Do I know what program offices at a specific agency fund basic research and which fund applied research?
- v. Am I considering the appropriate agency program for my research?
  1. Is there more than one agency program for which my research is fitted?
  2. Does the agency accept unsolicited proposals?
    - a. Do I know the process for submitting an unsolicited proposal?
  3. Have I had sufficient discussions with a program officer to ensure there are no unanswered questions I have about the agency that are key to my competitiveness, and that I have resolved any ambiguities in my understanding of the research funding solicitation, or agency priority areas if I am submitting an unsolicited proposal?

## 6. Develop a proposal production schedule

- a. The end point of the proposal production schedule is the proposal due date and the beginning point is the date you decide you will submit a proposal—these two points bracket your production activities, including scheduling:
  - i. Multiple draft iterations of the research narrative (project description)
    1. If there are multiple authors then draft sections need to be assigned to team members for completion
  - ii. Drafting the proposal budget, writing the budget justification, and preparing or managing the collection of related documents, commitments, and other proposal components not part of the research narrative, e.g., cost sharing commitments, current and pending support, biographical sketches, data management plans, post-doc mentoring plans, letters of support, etc.
  - iii. Task and performance assignments for all team members
    1. Good proposal team members do what they say they will do when they say they will do it and provide material of sufficient quality to enhance the competitiveness of the overall effort.
- b. A poorly planned proposal has little likelihood of success. Walt Kelly's Pogo once famously observed, "***We have met the enemy and he is us!***" That observation perfectly fits a poorly planned proposal development effort.

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- c. A well-planned proposal development effort cannot turn ideas of modest importance into ideas of compelling significance, but it can give your ideas a chance to be realized through a well-crafted proposal rather than disguised by a poorly crafted one.

## 7. Use the solicitation as a draft proposal template

- a. Copy and paste the solicitation's key sections, research objectives, and review criteria into a beginning draft narrative as an organizational template for the full proposal. This ensures that subsequent draft iterations of the research narrative are continuously calibrated to the guidelines and fully responsive to all of the sponsor's requirements:
  - i. fully responds to all requested information,
  - ii. offers information in the order requested,
  - iii. provides the required level of detail,
  - iv. integrates review criteria into the narrative, and
  - v. makes a complete and compelling case for the significance of your research, i.e., why it has valued-added impact on the agency's mission.
- b. Do I understand how the agency will review my proposal?
  - i. Do I understand the overarching review criteria used by the agency?
    - 1. Do I understand how basic research agencies review proposals?
    - 2. Do I understand how mission agencies review proposals?
      - a. Do I understand the role of mission-critical priorities in the review process?
  - ii. Do I understand the program or solicitation's specific review criteria?
  - iii. Do I understand the role of the program officer in the review process?
    - 1. Are reviews binding on the program officer?
    - 2. Can the program officer consider some reviews advisory only?
  - iv. Will my proposal be peer reviewed and by what format?
    - 1. Will there be a panel review?
    - 2. Will there be a mail review?
    - 3. Will some other process be used?
  - v. Specific review criteria and review processes differ from agency to agency, as well as by program within an agency, or by type of solicitation. ***But the core, generic questions program officers and reviewers want answered can be simply stated:***
    - 1. What do you propose to do?
    - 2. Why is it important—what is its significance?
    - 3. Why are you able to do it?
    - 4. How will you do it?
    - 5. How does it contribute to and advance the research interests of the agency or the field?
  - vi. Do I understand "***how to write for reviewers***" and program officers?

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1. Unless you are confident you know otherwise, when writing to reviewers, **write for the intelligent reader and not the expert**. Remember you are most likely writing to a panel of reviewers, each member of which will be selected for a needed expertise. In all cases:
  - a. You must craft a persuasive argument presenting the merit, significance, rigor, and relevance of your research that makes the reviewers want to fund it;
  - b. You must convince reviewers you have the capacity to perform, and the institutional infrastructure to support your research;
  - c. You must extend your argument to discuss the likely impact your research will have in advancing the field and creating new knowledge, both in your research area and possibly in other research fields as well; and
  - d. When writing to federal mission agencies, you must demonstrate to the program managers and reviewers that your research advances the mission of the agency.
2. The author of a funded proposal has accomplished the following basic goals of writing for or with reviewers in mind:
  - a. Ensured the reviewers were intrigued and excited about the proposed research;
  - b. Understood its significance to the agency mission or field;
  - c. Understood that existing research enhances the likely success of the proposed effort;
  - d. Understood how the proposed research will be accomplished;
  - e. Had confidence in the researcher's capacity to perform.
3. Writing for Reviewers—**Generic Narrative Tips**
  - a. Sell your proposal to a good researcher but not an expert;
  - b. Some review panels may not have an expert in your field, or panels may be blended for multidisciplinary initiatives, so write to all the reviewers on the panel;
  - c. Recall that proposals are not journal articles; proposals must be user friendly and offer a narrative that is compelling and memorable to reviewers;
  - d. Proposals are not mystery novels. Reveal the significance of your research early, not at the conclusion;
  - e. Reviewers will assume that sloppy errors in language, usage, grammar, and logic will translate into sloppy errors in your research;
  - f. Write a compelling project summary (or abstract) and narrative introduction:
    - i. This is where you must capture the interest of reviewers and win them over by making them

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intrigued enough to want to read your entire proposal closely and with interest;

- ii. Define the significance of the core ideas early, clearly, and concisely;
- iii. Describe the connectedness of the core ideas to specific research activities and outcomes, and advance your ideas with sufficient detail to make your research memorable after the proposal is read.

## 8. Draft the project description

- a. Use the solicitation as a template to draft the project narrative;
- b. Make sure all members of the research team have read and understand the expectations of the solicitation;
- c. Answer in narrative form all the questions asked in the solicitation in the order they are asked;
- d. Plan on the use of graphics, visuals and milestone charts to complement the narrative text
  - i. Narrative text is linear. It is grounded on a logical sequence of explanation made coherent and persuasive by the author's writing skills. Graphics, however, function as a "**visual language**" able to capture complex relationships in a simple and unifying way by synthesis, integration, and synergy, the holy grail of the successful narrative.
- e. The generic underpinnings of a successful research grant include five key persuasive elements: **the research vision, goals, objectives, rationale, and specific outcomes**. These five key components are strengthened by preliminary data, results from prior research support, publications in the field, and patents, among other prior performance information that validates your capacity to perform. Depending on the solicitation, these elements may or may not appear in the order described here, but they typically provide the critical mass of the persuasive argument in successful proposals. They also provide clarity through a logically-tiered framework that allows reviewers to differentiate your research at multiple levels of specificity and detail, from the macro-vision to micro-performance details.
- f. Recognize what a successful research narrative **is not**.
  - i. A research plan cloaked in a fog of poorly written text.
  - ii. A vague research vision lacking focus, or reading, as H.L. Menken once observed, "*like an army of words marching across the page in search of an idea.*"
  - iii. A research narrative focusing heavily on general statements about past and planned research, but failing to give details and specifics that help readers understand the importance of the research, or its significance in advancing the field through questions, hypotheses, or solutions.
- g. Recognize what a successful research narrative **is**.

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- i. Starts with an important research idea stated clearly and simply so reviewers can quickly grasp the research questions or hypotheses.
- ii. Explains why your research is unique and supports this with sufficient specificity and detail to make your case.
- iii. Explains the importance, significance, or value-added benefits of your research to advancing the field, or advancing the research mission of the funding agency.
- iv. Provides reviewers with a clear statement of the significance of the project from a precisely written project description that is supported by specificity and detail.
  1. Specificity grounds the research vision and goals in the key performance details unique to your research objectives, and thereby illuminates the importance of your research for reviewers.
  2. Specifics serve to both test and prove the value of your ideas, and when they are lacking, it tells a reviewer that your ideas may also be lacking, or have yet to become fully developed.
  3. Stating a goal without then offering compelling specifics that make clear the process you will use to transition a goal to reality, i.e., a research outcome, is the domain of politicians and bumper sticker slogans and not that of the successful research proposal.
- v. Conversely, generalities seem to escape many authors' notice, yet appear as glaring flaws to readers and reviewers alike, especially those searching for the specificity needed to make an informed critical judgment on the project's merit. The experience of reading a narrative laced with generalities leaves the reader and reviewer alike with a foreboding and increasingly exasperating sense of uncertainty about specifically what the proposer actually plans to do.
- vi. Moreover, ambiguity introduces significant uncertainty into the research narrative, although ambiguity in the narrative does offer one certainty—an unfunded proposal. ***This is because ambiguity in the project description imposes unwanted riddles on program officers and reviewers alike*** that may lead them to believe reading the research narrative is an experience somewhat akin to attempting to interview Schrödinger's Cat without opening the box to determine its state, either dead or alive. However, narrative ambiguity exists in only one state—confusion.

## 9. Ask colleagues to critique your drafts

- a. Too often, the first – and final – substantive outside review of a proposal narrative occurs when the funding agency makes the funding decision. ***This is too late in the process to ensure success!***
- b. Ask colleagues to review your proposal prior to submission and with sufficient time remaining for you to make narrative changes. Let them know upfront that you want

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the “***brutal, frank and honest***” review option and not the “***nice and sensitive to your feelings***” review option. Ask them to:

- i. Find weaknesses, deficiencies, and ambiguities in the proposal text;
- ii. Identify inconsistencies and omissions between the proposal narrative and the requirements of the solicitation and review criteria;
- iii. Play the devil’s advocate when necessary;
- iv. Challenge the vision, assumptions, and other statements in the text that are not well supported or clearly stated, or are poorly argued;
- v. Make observations on the persuasiveness of the arguments you put forward describing the uniqueness of your research;
- vi. Offer suggestions that both correct identified deficiencies in your research narrative and better amplify identified strengths.

### **10. Converge on narrative perfection**

- a. The key to a successful proposal represents the outcome of a process of continuous iteration and improvement of the project narrative that, over a sufficient amount of time, ***converges on perfection***.