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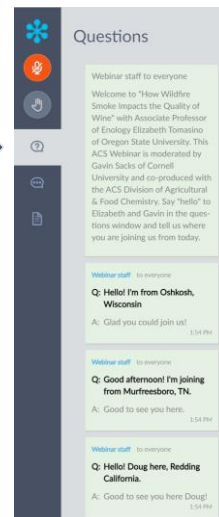
**Questions or Comments?**

Type them into the questions box!



**"Why am I muted?"**

Don't worry. Everyone is muted except the Presenter and the Host. Thank you and enjoy the show.



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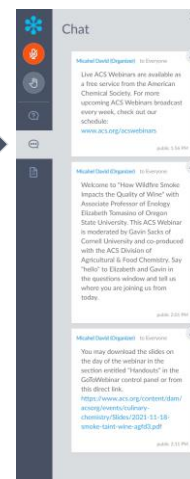
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**Chat**  
Announcements and hyperlinks from our team



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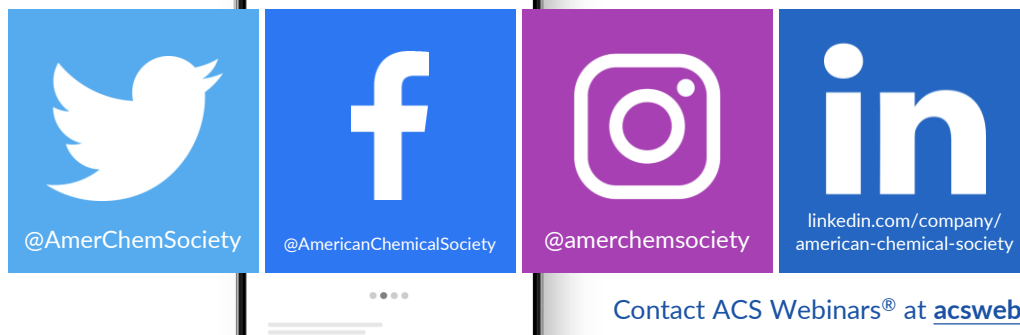


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### All Registrants

Watch the unedited recording linked in the **Thank You Email** for 24 hours.



### ACS Members w/Premium Package

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A science podcast by the American Chemical Society about things small in size but BIG in impact.



Sam Jones, PhD  
*Science Writer & Exec Producer*



Deboki Chakravarti, PhD  
*Science Writer & Co-Host*

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## ACS Industry Member Programs

- **ACS Industry Matters**

ACS member only content with exclusive insights from industry leaders to help you succeed in your career. #ACSIndustryMatters

Preview Content: [acs.org/indnl](https://www.acs.org/indnl)

- **ACS Innovation Hub LinkedIn Group**

Connect, collaborate and stay informed about the trends leading chemical innovation.

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## A Career Planning Tool For Chemical Scientists



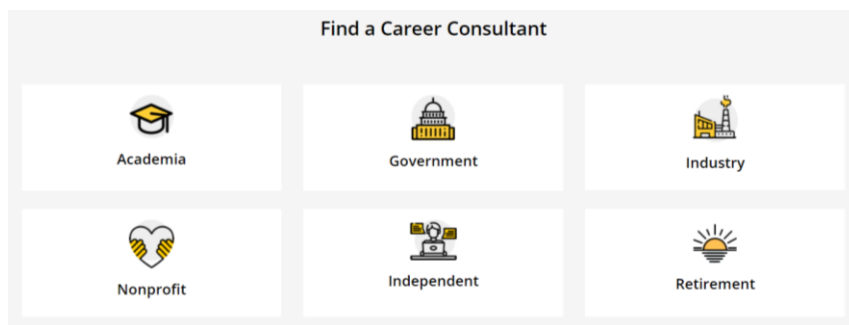
**ChemIDP** is an Individual Development Plan designed specifically for graduate students and postdoctoral scholars in the chemical sciences. Through immersive, self-paced activities, users explore potential careers, determine specific skills needed for success, and develop plans to achieve professional goals. **ChemIDP** tracks user progress and input, providing tips and strategies to complete goals and guide career exploration.

<https://chemidp.acs.org>

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## Career Consultant Directory

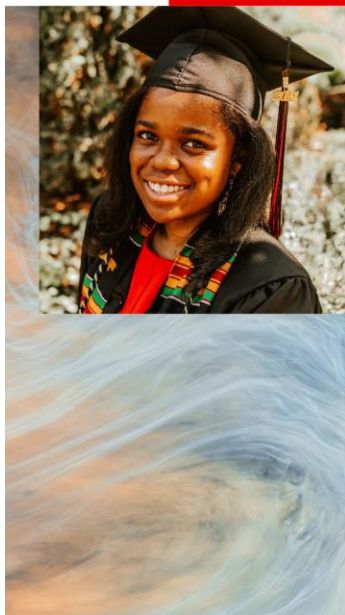


- ACS Member-exclusive program that allows you to arrange a one-on-one appointment with a certified ACS Career Consultant.
- Consultants provide personalized career advice to ACS Members.
- Browse our Career Consultant roster and request your one-on-one appointment today!

[www.acs.org/careerconsulting](http://www.acs.org/careerconsulting)

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## ACS Scholar Adunoluwa Obisesan

BS, Massachusetts Institute of Technology, June 2021  
(Chemical-biological Engineering, Computer Science & Molecular Biology)

*“The ACS Scholars Program provided me with monetary support as well as a valuable network of peers and mentors who have transformed my life and will help me in my future endeavors. The program enabled me to achieve more than I could have ever dreamed! Thank you so much!”*

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## ACS Career Resources



### Professional Development & Education

<p><b>ACS Professional Education</b> Courses and training opportunities from leading experts to help you learn and advance your career.</p>	<p><b>ACS Leadership Development</b> A suite of flexible, self-paced courses for growing your leadership skills to today's global economy.</p>	<p><b>ACS Institute</b> An online learning platform offers a virtual collection of learning and training resources taught by leading experts.</p>
<p><b>Virtual Classrooms</b> Brought to you by ACS Career Pathways™, these online classrooms can provide expertise to help you succeed your career goals.</p>	<p><b>ACS Webinars</b> Hundreds of webinars presented by subject matter experts in the chemical enterprise.</p>	<p><b>Career Events</b> Free webinars and networking opportunities for the career-seeking professional.</p>
<p><b>ACS on Campus</b> These events where students can interact with top professionals, learn and networking from ACS advisors, and gain career tips.</p>	<p><b>Podcast to Faculty Workshop</b> An annual networking for professional faculty transition to faculty positions in the chemical enterprise.</p>	<p><b>Career Kick-Starters Workshop</b> A one-day career development workshop for graduate students and postdoctoral scholars.</p>

### Managing Your Career

<p><b>ACS Career Pathways™</b> Helping leading chemical professionals advance their careers in industry, higher education, government, and working for yourself.</p>	<p><b>Career Consultants</b> Personalized coaching, guidance, and advice to make meaningful career decisions and find solutions to your job search.</p>	<p><b>ChemISP®</b> ACS Institute developed this service for graduate students and postdoctoral scholars.</p>	<p><b>Résumé Review</b> Get in touch with a member of our team who will help you to improve your job search materials.</p>
--	---	--	--

<https://www.acs.org/content/acs/en/careers/developing-growing-in-your-career.html>

### Register for a 2022 Virtual Office Hour

7 APR	How to Write a Resume ○ April 7, 2022	5 MAY	Careers in Government ○ May 5, 2022
2 JUN	Entrepreneurship ○ June 2, 2022	7 JUL	Networking ○ July 7, 2022
4 AUG	Is Grad School Right for Me? ○ August 4, 2022	1 SEP	Leadership and Soft Skills Development - What You Need to Advance in Your Career ○ September 1, 2022

<https://www.acs.org/content/acs/en/careers/personal-career-consulting.html>

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## Get in touch with the Office of Diversity, Equity, Inclusion & Respect

The Office of Diversity, Equity, Inclusion & Respect (DEIR) is the central hub at the American Chemical Society that coordinates, supports, and guides all efforts by staff, members, and governance toward Strategic Goal 5, "Embrace and Advance Inclusion in Chemistry." The Office of DEIR at ACS is committed to empowering everyone, irrespective of lived experience and intersectionality of identities, to fully participate in the chemistry enterprise. The Office of DEIR welcomes comments, suggestions, and questions around issues of diversity, equity, inclusion, and respect from members at any time. Please do not hesitate to reach out to the Office through this form.

Please do not hesitate to reach out to the Office of DEIR at [diversity@acs.org](mailto:diversity@acs.org)

<https://fs7.formsite.com/acsdiversity/ACSMemberFeedback/index.html>



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# ACS Bridge Program

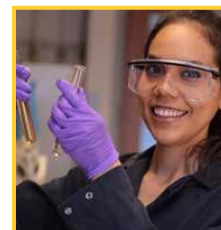


## Are you thinking of Grad School?

If you are a student from a group underrepresented in the chemical sciences, we want to empower you to get your graduate degree!

The ACS Bridge Program offers:

- A FREE common application that will highlight your achievements to participating Bridge Departments
- Resources to help write competitive grad school applications and connect you with mentors, students, and industry partners!



Learn more and apply at [www.acs.org/bridge](http://www.acs.org/bridge)

Email us at [bridge@acs.org](mailto:bridge@acs.org)

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### How Polymeric Materials Protect Our Armed Forces

Co-produced with ACS Division of Polymer Chemistry



Thurs., June 16, 2022 | 2:00pm–3:15pm ET

### Starting a Company: How to Set Up Equity and Securities Structures

Co-produced with ACS Division of Small Chemical Businesses and ACS Division of Business Development & Management



Wed., June 23, 2022 | 2:00pm–3:15pm ET

### How to Approach Gender, Language, and Intersectionality

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👋 Say hello in the  
questions window!



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## How to Plan and Organize Your Competitive Research Proposal



**NANCY JENSEN, PhD, JD**

Assistant Director and Program  
Manager, Office of Research  
Grants, American Chemical Society



**JOERG SCHLATTERER, PhD**

Manager, Student & Postdoctoral  
Scholars Office, ACS Bridge Project  
Director, American Chemical Society

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## Outline of Topics

- Basic planning considerations
- Pointers on Planning and Organizing Relevant Components of a Proposal
- Resources for Information on Funding Agencies
- Final Thoughts



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## The Two Essential Elements of a Successful Grant Application



- A Great Research Idea
- Effective Presentation of the Idea

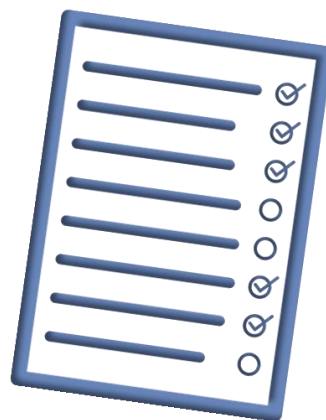


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## The Keys to Converting the Elements into a Successful Proposal

- Thorough Planning
- Careful Organization



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### Audience Survey Question

ANSWER THE QUESTION ON THE INTERACTIVE SCREEN IN ONE MOMENT

**How much experience do you have with the application process for a research grant or fellowship funding?**

- I have never applied
- I am preparing my first application
- I have applied a few times
- I have applied many times

\* If your answer differs greatly from the choices above **tell us in the chat!**

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## Outline of Topics

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## Identify Possible Funding Agencies

- Determine the Agency's mission
- Every funding agency has ideas and rules about what it wants to fund.
- A proposal for one agency typically is not suitable to send to other agencies, because the overall goals are different.
- Don't attempt to contort the agency's mission to fit your research project.



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## Read All Agency Instructions Carefully

**Be sure to follow the instructions.**

### A Common Reviewer's View:

*If the PI can't follow instructions for the proposal, then the PI probably can't follow instructions to do elaborate research.*

Be sure that you have the current version of agency guidelines



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## Do a Thorough Literature Search

No literature search is perfect

- Consider various search combinations
- Not finding much in a search may be a red flag



Be sure to regularly up-date your literature search.



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## Have A Great Scientific Idea

*One that is novel, has relevance to an identified target and can be investigated thoroughly, within the context of the institutional resources available to the PI, and within a reasonable time-frame.*

- Novelty often derives from **detailed study** or **observation** and understanding of a problem or challenge.



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## Program Officer is an Important Resource



- **A Program Officer is the best resource for answering questions**
- **Contact the Program Officer by email or phone**
- **Preferably make initial contact with the Program officer early in the process**



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## Program Officer is an Important Resource



### When to Contact the Program Officer Be Ready to Answer:

- *What is your research objective?*
- *How does this meet the agency's mission?*

*Always be polite, respectful and honest when you speak with a Program Officer*



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## Outline of Topics

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## Questions to Answer in Planning the Work

### What skills are needed to accomplish the task?

- What skills can be reasonably learned?
- What tasks are best accomplished by someone who already has specific expertise or training?

### Who is going to be a part of the research team?

- Undergraduate students?
- Graduate students?
- Post Docs?
- Collaborators?
- Co-PI?
- Instrumentation Service Centers?



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## Questions to Answer in Planning the Work

### What Equipment is need for the Research?

- Do you have access to the necessary equipment?
- Are funds needed for acquisition of equipment?
- If not readily available, can the equipment be reasonably accessed at another facility?
- Have you made specific arrangements for using equipment at another facility? (Do you have a written document verifying that you have access to this equipment?)



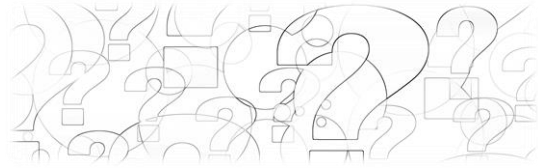
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## Questions to Answer in Planning the Work

### What are the safety concerns?

- Is general safety training and supervision adequate?
- Is special safety training needed?
- Is special safety equipment needed?
- Is special supervision needed?



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## Questions to Answer in Planning the Work

### What factors impact how much time will be required to do the research?

- How much time will be required to accomplish each phase of the research?
- Which activities of the research can be conducted in parallel, and which must be done sequentially?
- What are the contingency plans if the initial plans don't work out as expected?



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## Questions to Answer in Planning the Work

### What is your Budget?

- Does your budget make sense? (Are you asking for what is needed?)
- Does your budget have adequate funding to support the proposed work?
- Can you articulate a reasonable justification for your budget?
- Does your budget comply with the funding agency's budget requirements?



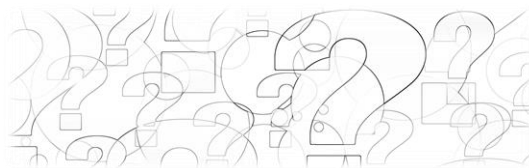
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## Questions to Answer in Planning the Work

### Do your plans meet the funding agency's secondary goals?

These may include expectations of mentoring plans or statements regarding diversity.



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## Audience Survey Question

ANSWER THE QUESTION ON THE INTERACTIVE SCREEN IN ONE MOMENT

### How much experience do you have interacting with an institution's grant office?

- I have never had an interaction with a grant office
- I will be contacting them for the first time
- I have contacted grant offices a few times
- I have contacted grant offices many times

\* If your answer differs greatly from the choices above **tell us in the chat!**

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## Questions to Answer in Planning the Work

### Have you established contact with your institution's grant office?

- Does your proposed research comply with your institution's requirements/guidelines?
- What do you have to provide to your institution's grant office?
- What is the timeline for getting these materials to the grant office for a timely filing of the proposal.
  - Rushing is "deadly"
  - Consider "reverse engineering" the timeline for preparing your proposal



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## Questions to Answer in Planning the Work

### Have you identified individuals that can provide feedback about the proposal?

- Which feedback do you need? (research concepts, language)
- Who has the expertise you are looking for?
- Have feedback providers budgeted time for reviewing your proposal?



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## Organizing Your Proposal

- **Identify all the component pieces need for your proposal submission**
- **Make a list of the component pieces which may include:**
  - An application form
  - A narrative describing the proposed research
  - Letters from collaborators
  - Preliminary results data
  - Bibliography
  - Biographical information
  - Ancillary documentation requested by funding agency
  - Any institution specific required documentation

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## Exemplary Proposal Writing Process

- **Create a topical outline.**
- Develop subtopics and expand the outline.
- **Draft main graphics.**
- Develop the first draft of the text.
- Review, revise, and complete the draft.
- **Submit a copy to administrators for approval.**
- Critical review of graphics and text.
- Finalize text and graphics.
- Complete and submit to agency significantly ahead of the deadline.



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## Clear Presentation

- **State:**
  - The problem or hypothesis.
  - Why the issue is significant.
  - What you are going to do.
- **Explain how you will carry out the proposed work.**
- **Address relevant potential challenges and alternatives.**
- **Address relevant literature**



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## Demonstrate Managerial Skills



- Set forth a clear pragmatic research plan
- Show wise use of resources – **people, money, and facilities**
- Be well organized



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## Outline of Topics

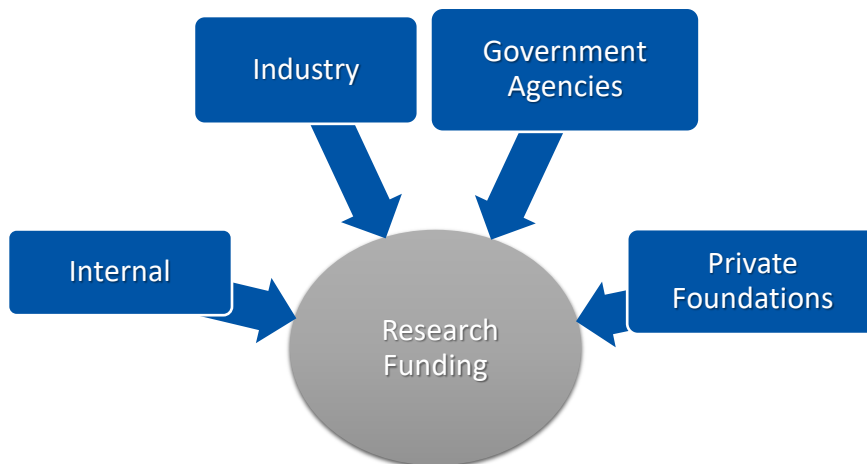
- ✓ Basic planning considerations
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## Funding Resources



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## Information on Federal Grants

Federal funding sources, and application procedures at “grants.gov”:



<http://www.grants.gov>



National Institutes  
of Health

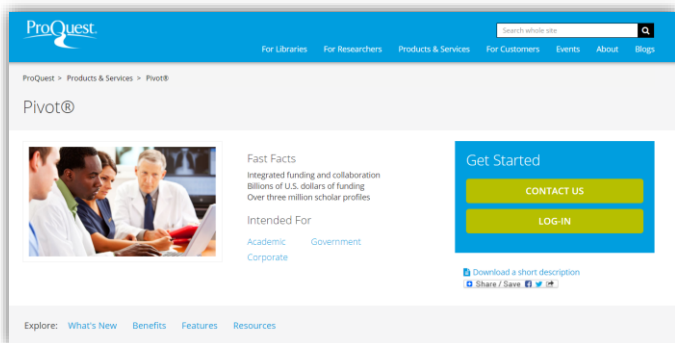


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## Information on Other Funding Sources

**PIVOT** – Web based subscription service with extensive information on funding sources.



General Internet Searches

<http://www.proquest.com/products-services/Pivot.html>



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## Information on other Funding

Funding sources available for Students and Post Docs

[www.acs.org/GradFunding](http://www.acs.org/GradFunding)



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## Sources of Information on Successful Topics



**For Petroleum Research Fund** (see Annual Reports):

<https://www.acs.org/content/acs/en/funding-and-awards/grants/prf.html>



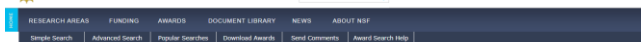
**For Research Corporation for Scientific Advancement**  
(see Awards Database): <http://rescorp.org/awards-database>



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## Sources of Information on Successful Topics



Awards Simple Search

Overview of Award Search Features

Search award for: 

Use double quotes for exact search. For example "water vapor".  
 Active Awards  Expired Awards

**For NSF** (search for funded projects):  
<https://www.nsf.gov/awardsearch>

**NSF Award Search Guide:**  
<https://www.nsf.gov/awards/award-search-guide.jsp>

### Publications

#### NSF Merit Review Reports

These annual reports to the National Science Board includes data on proposals and awards and other pertinent information, as well as descriptions of special activities that NSF has undertaken in support of the merit review process. Longitudinal data are given to provide a long-term perspective. The current funding rate is a significant decrease from the FY 2000 funding rate of 23 percent, but the current rate has been approximately unchanged over the last five years.

The Foundation continues to re-evaluate its "time to decision" goal of informing at least 70 percent of Principal Investigators (PIs) of funding decisions within six months of receipt of the proposal. The National Science Board conducted a review of the NSF merit review process and concluded that the NSF merit review process is fair and effective. It "remains an international gold standard" for review of science and engineering research proposals."

The latest publication of the report is the March Review FY 2016.

**For NSF also see NSF Merit Review Report to the National Science Board (NSB):**  
<https://www.nsf.gov/nsb/publications/pubmeritreview.jsp>



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## Sources of Information on Successful Topics

The screenshot shows the NIH RePORTER website interface. At the top, there is a search bar and navigation links for HOME, ABOUT REPORT, FAQs, GLOSSARY, and CONTACT US. Below this is a menu with categories: QUICK LINKS, RESEARCH, ORGANIZATIONS, WORKFORCE, FUNDING, REPORTS, and LINKS & DATA. The main content area is titled 'NIH RePORTER' and includes a 'FIND PROGRAM OFFICIALS OR SIMILAR PROJECTS' button. The 'RESEARCHER AND ORGANIZATION' section contains several search criteria: Principal Investigator (PI) / Project Leader (Last Name, First Name), City, State, Country, Congressional District, DUNS Number, Organization (with a 'LOOKUP' button), Department Type, and Organization Type. The 'TEXT SEARCH' section includes a search box, a 'Logics' dropdown (All, Or, Advanced), and checkboxes for 'Search in' (Projects, Publications, News) and 'Limit Project search to' (Project Title, Project Name, Project Abstracts). There are also dropdowns for 'Limit Publication search to' (Start Year, End Year).

### For National Institutes of Health

(see Research Portfolio Online Reporting Tool - RePORTER):

<https://projectreporter.nih.gov/reporter.cfm>



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## Outline of Topics

- ✓ Basic planning considerations
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- ☐ Final Thoughts



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## Some Tips: Proposal Guidelines

Carefully follow all instructions provided by the funding agency

- **Page Limit**
- **Word Limit**
- Budget Limit
- Abstract Format
- Reference Format
- PI (Co-PI) Eligibility
- Font Size
- Minimum Resolution
- Table of Contents
- Research Objectives
- Tables/Figures
- Submission Method (file types, size, etc.)



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## Some Tips: Avoid Plagiarism



- Cut and paste copying from published work
- Copying from your own published work
- ✓ Properly note and credit copied passages



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## Some Tips: Review Bibliography

- Did you use the required form?
- Age of References
- Number of Different Research Groups cited

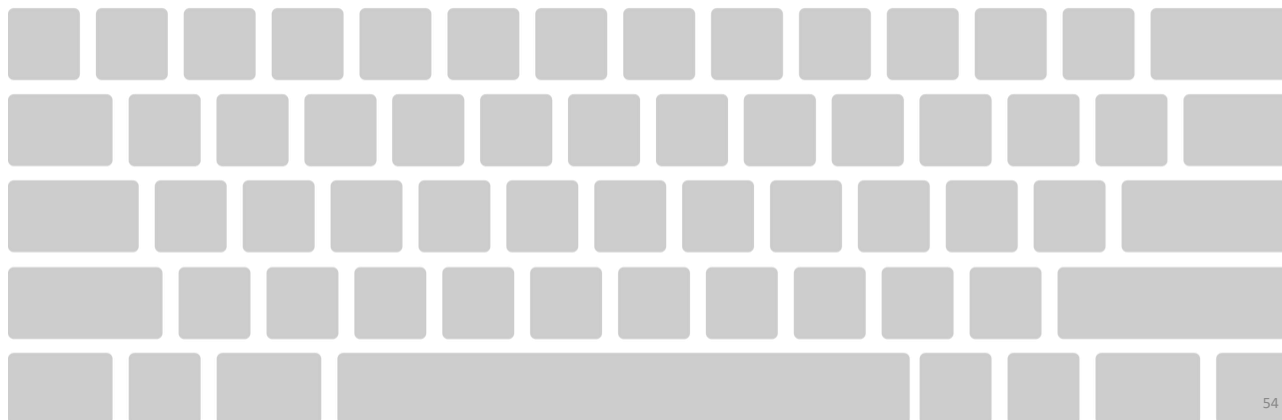


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## Some Tips: Major Pitfall

### **TYographiKal eRros are a biG Pr0blem**



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## Facing Rejection

### Rejected Proposals are Inevitable...

Number of Applications > Available funding



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## Facing Rejection

### Responding to Rejection as a Learning Experience

- Don't be overcome by emotions
- Get Feedback
- Mind the details



**Article:** "After the Fall: What to Do when your Grant is Rejected" Nature, February 20, 2020 Vol578, p 477—479.

<https://media.nature.com/original/magazine-assets/d41586-020-00455-0/d41586-020-00455-0.pdf>

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## Facing Rejection

Learn about Writing Proposals by becoming a reviewer

*Be a  
Reviewer!*

- No better way to see how the system works.
- Not a major time commitment.
- **Web-based *FREE* training with focus on publication reviews at: [acsreviewerlab.org](http://acsreviewerlab.org)**



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## ACS Office of Research Grants: Additional Resources



**Nancy J. Jensen:**  
[n\\_jensen@acs.org](mailto:n_jensen@acs.org)  
 Phone 202-872-6186



**ACS Petroleum Research Fund**

[www.acsprf.org](http://www.acsprf.org)  
 Inquiries: [prfinfo@acs.org](mailto:prfinfo@acs.org)

### Additional Contact Information



• **Dean Dunn:** [d\\_dunn@acs.org](mailto:d_dunn@acs.org)  
 Geochemistry, Geology, geophysics



• **Thomas C. Clancy:** [t\\_clancy@acs.org](mailto:t_clancy@acs.org)  
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• **Askar Fahr:** [a\\_fahr@acs.org](mailto:a_fahr@acs.org)  
 Physical Organic Chemistry and Physical Chemistry/Chemical Physics



• **Burt Lee:** [b\\_lee@acs.org](mailto:b_lee@acs.org)  
 Surface and Materials Science

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# Questions



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Keep submitting your questions  
in the questions window!



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