NSF Proposal Submissions

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Supplemental Requests

- Should be <u>unanticipated</u>; otherwise include in original proposal (to strengthen it, particularly the broader impacts)
- All requests to be made in Jan./Feb. (unless exceptional circumstances, e.g., time sensitivity)
 - July-Sept.: CAREER proposals sent for review
 - Sept.-Dec.: new proposals are sent for review
 - Jan.-Feb.: supplemental requests to CER
 - Mar.-Apr.: recommendations
 - May-Aug.: generally \$0 available
- Must be <u>compliant</u> or will be returned without review
- Instructions in Grant Proposal Guide (GPG)

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Characteristics of Supplements

- Currently <u>abstract is not modified</u>, so not reflected on website
- International Supplements: often funded in part by our Office of International Science and Engineering (OISE)
- GOALI: often funded in part by MPS' Office of Multidisciplinary Activities (OMA) to promote collaboration with industry
- CER Program: Not supported via supplemental funding:
 - REU students
- <u>Re-budgeting</u> to accommodate different priorities is okay, often approval is not required by NSF

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Examples from FY10 (8 in total)

- 2 ACI Fellowships (recognition award)
- 1 MIPR Army Office; Army Office supplied funds
- 1 Small supplement to work with national laboratory;
 Sandia co-funded
- 3 GOALI supplements including one emergency (one-year extension with extenuating circumstances)
- 1 Other emergency: equipment failure

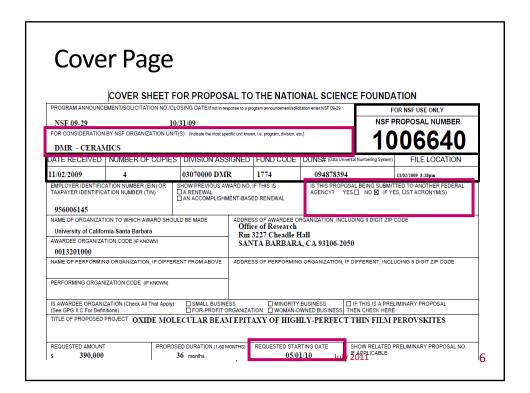


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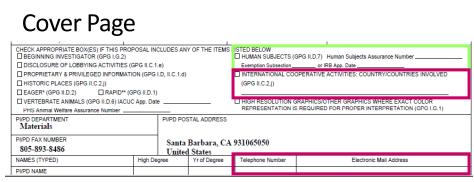
Submitting New & Renewal Proposals

- Window: opens in Sept., submit early to allow the most time for review, an early decision, compliance issues, etc.
- Consider 4 years, unless a shorter duration makes more sense
- <u>Include all broader impacts upfront</u>, rather than planning on a supplemental request
- Equipment <\$100K may be included, it should be well justified
- New and Renewal proposals are treated the same
- Pick your best project, team, etc.
- Options: unsolicited, GOALI, FRG, RUI, GOALI/FRG

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Regulations give grantee institutions responsibility for setting up "Institutional Review Boards" (IRBs) to review research protocols & designs to ensure protection of rights of human subjects. The fundamental principle is that people should not (in most cases) be involved in research without their <u>informed consent</u>, & that subjects should <u>not incur increased risk of harm from their research involvement</u>, beyond the normal risks inherent in everyday life.

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Compliance

- Automatic check
- Grant Proposal Guide (GPG) very restrictive about changes to proposals after a deadline.

COMMON ISSUES:

- Failure to address both merit review criteria separately in Project Summary
- Omitting Results from Prior NSF Start (within 5 years)
 for PI and any co-PIs in prescribed that;
- Omission of journal article title from a ferences Cited;
- Incomplete information in Current & Pending Support;

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Compliance (cont'd)

- Incomplete Biographical Sketches (i.e., failure to include the list collaborators within 4 years, co-editors within 2 years, graduate advisors, postdoctoral sponsors, postdoctoral scholar within 5 years, and all prior graduate students)
- Each proposal that request funding to support postdoctoral researches must include a mentoring plan (not exceeding one age) in Suplementary Documentation section. The mentoring plan will be evaluated during the merit review process, under the Broader Impacts criterion.
- Data Management Plans needed in 2011⁺

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Reviewer Suggestions

- Suggest 3 to 5 reviewer names with each proposal
- From ceramics, glasses & inorganic carbon-based materials communities
- <u>At arms length</u>: no former students, supervisors or postdoctoral fellows; no recent collaborators (from the past 4 years); no relatives, etc
- Provide full names, e-mail addresses (to facilitate electronic review), affiliation, & their key areas of expertise
- Industrial and international reviewers and those from underrepresented groups are particularly welcome.
- Used to establish a broader database for reviewers in CER

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Reason to Suggest Reviewers

- I use suggested reviewer list arrival order to determine order to send proposals out for review;
- funds are spent continuously,
- so this is one of the advantages of
 - (a) submitting early
 - (b) with a reviewer list
- Not as critical if I am using panels, but you get to influence my panelist selections

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Where to submit

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Materials World Network: Cooperative Activity in Materials Research between US 
Investigators and their Counterparts Abroad 
CHE-DMR-DMS Solar Energy Initiative
Small Business Technology Transfer Program - FY 2011
Research Experiences for Teachers (RET) in Engineering (Program Description)
Interdisciplinary Research (IDR)
Energy for Sustainability
Emerging Frontiers in Research and Innovation - Office Information
Materials Processing and Manufacturing
NanoManufacturing
Materials and Surface Engineering
Mechanics of Materials
Nano and Bio Mechanics
RELATED URLS
Time Window for submitting unsolicited proposals to DMR Programs
Science Nation Highlight: co-funded with BMAT (Antlers, Shells and Beaks at UCSD)
ACerS listing of funding opportunities in ceramics
Nanoceramics (Nanoscale Science and Engineering)
NSF-AFOSR Joint Workshop on Future Ultra-High Temperature Materials, January 13-14, 2004
<u>First Industrial Workshop in Ceramics: Data Storage Technology, Arlington, VA, January 22-23, 2004</u>
Aerospace, Chemical and Material Sciences (AFOSR)
Bio-ceramics (NIH)
Composite Materials, Cellular Materials, etc. (ONR)
Fibers (DARPA)
Fuel Cells - Hydrogen Program (DOE)
Fuel Cells - SECA (DOE)
High Temperature and Aerospace Materials (AFOSR)
High Temperature Ceramics (NASA)
Petroleum or Alternate Energy Research (Petroleum Research Fund)
 Lynnette Madsen, DMR July 2011 12 Local intranet
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Materials World Network (MWN)

- Cooperative Activity in Materials Research between US Investigators & their Counterparts Abroad, Solicitation
- Full Proposal Deadline Date: Fall?, 2011
- An investigator may serve as PI or Co-PI in either

 (a) a proposal submitted in response to MWN or,
 (b) an unsolicited proposal submitted to DMR within FY2011 submission window,
 but not both. Limitation does not apply to networks of investigators & their associated activities

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Descriptive Resources

- http://www.nsf.gov/mps/dmr/bios/lmadsen.jsp
 - "Transforming Universities and Colleges in the United States with Federal Government Support
 - "NSF recognizes 3 Asst. Profs. with 2009 CAREER Awards in Ceramics"
 - "Advances in Ceramics through Government-Supported Research"
 - "The Next Generation: Education & Broadening Participation in Science & Engineering"
 - "Ceramic Collaborations around the World"
 - "Basic Ceramics Research and the NSF"
 - "Grand Challenges for Ceramics & Related Areas and the Critical Enablers"
 - "A Guide to NSF Success"

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Common Mistakes

- Not addressing broader impacts; it comes across as an afterthought
- Not integrating education with the research
- Too many ideas; a lack of focus (young investigators)
- Renewals: failure to publish in quality journals, failure to establish themselves as leader in field and make an impact
- Ideas not described in detail. Not being specific what will YOU do?
- Mistakes in English/grammar, figures, references, etc.
- Failure to appreciate background of field (references, originality)

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Common Mistakes (continued)

- Already well-funded at the NSF for similar activities, not applying to the most appropriate program
- Large grants: inappropriate budget request, forgetting under-represented groups (URG's)
- Instrumentation: not enough users planned what is the impact, justifying a replacement, justification for top-of-the-line
- Incremental rather than cutting edge what new insight is expected? Why is it important?
- Few ideas (<20%) are 'bad', but in some cases it is difficult to tell

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Interactions with NSF

- Have a history of innovative & brilliant science and/or significant contribution/s in a broad sense
- Convey enthusiasm and knowledge
- Be a great reviewer / panelist
 - Volunteer (send me an e-mail to express your interest)
 - Respond to requests
 - Provide detailed, timely and thoughtful comments on both criteria and any additional criteria for the specific solicitation/announcement
- Questions: the www, your university's Sponsored Research Office (SRO), your colleagues, and PDs

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CAREER Resources

- A Ph.D. Is Not Enough: A Guide to Survival in Science by Peter J. Feibelman; 1993
- Becoming Leaders: A Handbook for Women
 in Science, Engineering and Technology
 by F. Mary Williams & Carolyn J. Emerson; 2008
 http://catalog.asme.org/books/PrintBook/Becoming_Leaders Practical.cfm
- The Black Academic's Guide to Winning Tenure

 Without Losing Your Soul

 by Kerry Ann Rockquemore & Tracey Laszloffy; 2008
 http://www.rienner.com/title/The_Black_Academic_s_Guide_to_Winning_Tenure_Without_Losing_Your_Soul

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