

# NSF CAREER



## Ten Things to Know

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# #1: CAREER is About YOU

- From Program Solicitation 15-555
  - “...the National Science Foundation’s most prestigious award in support of junior faculty who exemplify the role of **teacher-scholars**, through outstanding research, excellent education, and the integration of research and education...Such activities should build a firm foundation for a lifetime of leadership in integrating education and research...”

## Translation:

- The focus of this grant is on you, and your contributions to science and education. NSF wants to invest in the most promising junior faculty who have the highest potential to contribute to their field, throughout their careers.
- Your proposal needs to sell them on why YOU are among the most promising junior faculty, your research and education plans are innovative, and **how this award will set you up for a lifetime of contributions.**
- Career development plan, not just a research proposal.



## #2: Integrate the Research and Education Components

- NSF CAREER supports **teacher-scholars**
- Do not neglect the education component, and be creative with it.
  - No “canned answers” or generic plans.
- Think about how the research and education components impact each other, i.e. how will research results influence the educational aspect?
- **How will you measure the impact/success of the educational component?**



## #2: Integration of Research and Education

- **Good:** The dynamical robots used in this study will also be used as part of a new program "Robots and Rovers: Getting a Leg Up" to connect the robotics community in the Tallahassee area. This program will connect university students both in person and through online social networks to members of the local maker community, to high-school participants in the FIRST program, and to students in over a dozen local middle and elementary schools.
- **Bad:** The PI will work with students at a local high school to describe the results of the research.



## #3: Work with Your Senior Faculty Mentor

- They know your field, know your research, and know YOU
- Are invested in your success
- Most likely have successful NSF experience, either as a reviewer or awardee, or both



# #4: Be SMART

- **Specific:** Clear and focused to avoid misinterpretation. Should include assumptions and definitions and be easily interpreted.
- **Measurable:** Can be quantified and compared to other data. It should allow for meaningful statistical analysis.
- **Attainable:** achievable, reasonable, and possible under conditions expected (i.e. budget and timeframe).
- **Relevant:** Fits with NSF's, FSU's, and your own career and research goals.
- **Timely:** The work is doable within the performance period of the award.



# #4: Be SMART

- **SMART:** This project will conduct a statewide survey of 1,047 mathematics teachers and 35,304 students in 6th through 8th grades in 201 middle schools, and case studies of eight middle schools in Missouri to address the following research and educational objectives: 1) examine the nature of mathematics teachers' opportunity to learn for instructional improvement, 2) examine how work contexts influence the quality of teacher learning opportunities, 3) examine the impact of teacher learning opportunities on changes in student mathematics achievement over four years, and 4) work with district and school administrators to promote instructional improvement and student achievement by effectively providing learning opportunities to mathematics teachers.



# #4: Be SMART

- **Not SMART:** This project will examine middle and high school teachers to see how they learn, what influences their teaching, and will use the results to help them be better at their jobs.





## #5: Contact your NSF Program Officer

- NSF Program Officers **expect** you to do this
- **Email** a 1-page briefing on yourself and proposed topic, including intellectual merits and broader impacts.
- Ask for advice on whether this fits their directorates mission, or if it should go somewhere else.
- **Be specific** in your email, make sure there is an “ask”
- **Don't** cold call or pester them



# #6: Know the Review Criteria

- Review Criteria from Program Solicitation:
  1. What is the potential for the proposed activity to
    - Advance knowledge and understanding within its own field or across different fields (Intellectual Merit); and
    - Benefit society or advance desired societal outcomes (Broader Impacts)?
  2. To what extent do the proposed activities suggest and explore creative, original, or potentially transformative concepts?
  3. Is the plan for carrying out the proposed activities well-reasoned, well-organized, and based on a sound rationale? **Does the plan incorporate a mechanism to assess success?**
  4. How well qualified is the individual, team, or organization to conduct the proposed activities?
  5. Are there adequate resources available to the PI (either at the home organization or through collaborations) to carry out the proposed activities?



# #6: Know the Review Criteria

Reviewers also must consider:

## 1. The Departmental Letter

1. Should demonstrate an understanding of, and commitment to, the effective integration of research and education as a primary objective of the proposed CAREER award
2. Must establish how the institution (department) will commit to professional development and mentoring of the PI
3. Certify that PI is eligible for CAREER

## 2. Data Management Plan

## 3. Post-Doc Mentoring Plan (if applicable)



## #6a: Make sure a reviewer can answer :

- Who are you, and what do you want to do?
- Why do you want to do it, and why should we care?
- How will you do it?
- How will you know if you are successful?
- What benefits will accrue if you are successful?
- Are you qualified, and do you have the resources necessary, to be successful?



# #7: Follow the Required Proposal Format

- NSF Grant Proposal Guide (GPG) and Program Solicitation 15-555
  - Program Solicitation takes precedence if conflicts
- New GPG released January 2016
  - Refer to “Summary of Significant Changes” on OPD website
- Intellectual Merit and Broader Impacts are required to be separate, labeled, sections within the Project Description
- Refer to NSF CAREER Proposal Contents Checklist
  - Part of NSF CAREER Toolkit
  - Goes into specific detail about requirements of each section of the proposal, including FSU requirements.



# CAREER Proposal Elements

- ❑ FSU Proposal Transmittal Form
- ❑ Cover Sheet
- ❑ Project Summary
- ❑ Table of Contents (generated automatically)
- ❑ Project Description (15 pages)
- ❑ References Cited
- ❑ Biographical Sketch of PI
- ❑ Budget and Budget Justification
- ❑ Current and Pending Support
- ❑ Facilities, Equipment, and Other Resources
- ❑ “Additional Supplementary Documents”
  - ❑ Departmental Letter
  - ❑ Letters of Collaboration
  - ❑ Data Management Plan
  - ❑ Post-Doc Mentoring Plan (if applicable)



# #8: If You Are Rejected...

- You are allowed three attempts at CAREER
  - Many proposals are not funded on first or even second attempt
- Remember why you are doing this
  - Secure funding for 5 years
  - Will go a long way in your effort for tenure
- Read your comments
  - Focus on recurring themes, not individual comments
  - Think about what you can change
  - Get to work on next year's proposal



# #9: DO NOT DO THESE THINGS

- Don't list any Co-PIs or Senior Personnel
- Don't provide letters of support
  - Letters of Collaboration must follow very specific format
- Don't include any appendices
- Don't duplicate another NSF award/proposal
- Don't use URLs in the Project Summary or Description
- Don't deviate from the solicitation or GPG
- Don't start writing your proposal in July





# #10: Plan Around These Dates

- **Today:** Decide if you are applying for CAREER this year
- **Next Week:** Finalize your idea, and write a 1 page briefing on you, and your proposed topic, decide what Directorate
- **Sometime in March:** Email the NSF Program Officer
- **Beginning of May:** Project Description First Draft Completed
  - Ask senior faculty/ subject expert and OPD to review
- **Beginning of June:** Start assembling required documents
  - Departmental Letter, Budget, Letters or Collaboration, Biosketch, etc
- **Beginning of July:** Project Description “Final” Draft
- **July 14<sup>th</sup>:** Proposals due to **SRA**
  - Full proposal package (all required documents) due to SRA
  - Can edit Project Summary and Project Description until NSF Deadline
- **July 20<sup>th</sup> – July 23<sup>rd</sup>:** Proposals due to **NSF**
  - Refer to NSF 15-555 for specific directorate due dates



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