National Science Foundation

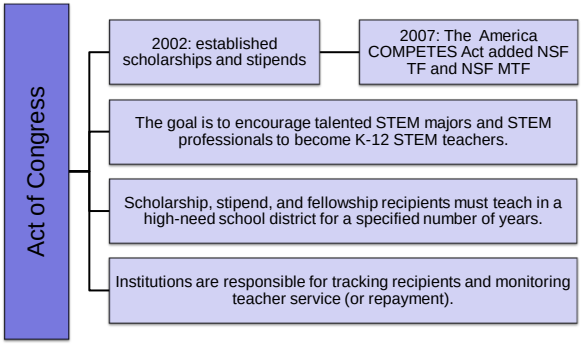
Robert Noyce Teacher Scholarship Program

Proposal Writing Webinar

February 2015

National Science Foundation

Robert Noyce Teacher Scholarship Program



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Eligibility for a Grant in NSF15530

Proposals may be submitted by

- Universities and two- or four-year colleges (including community colleges, tribal colleges, and minority- serving institutions) accredited in, and having a campus located in, the United States, or consortia of such institutions, or U.S. nonprofit entities that have established consortia among such institutions of higher education.
- In addition, for Track 4: Research on the Preparation, Recruitment, and Retention of K-12 STEM Teachers, professional societies and similar organizations that are directly associated with educational or research activities.

In solicitation 15-530, there are no restrictions on the number of proposals per organization or on the number of proposals per PI or Co-PI.

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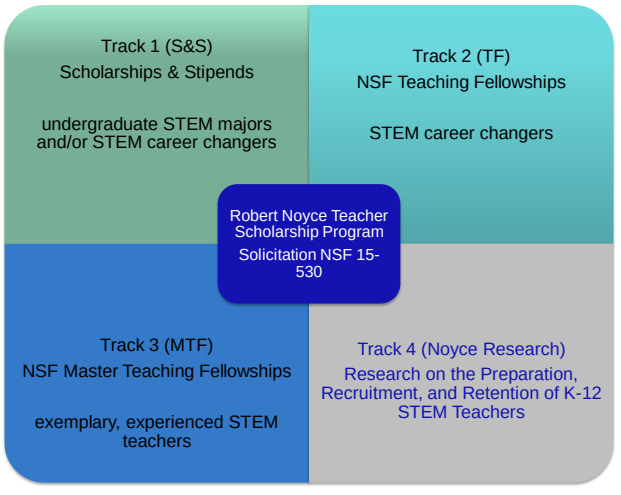

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Robert Noyce Teacher Scholarship Program

Program Solicitation NSF 15-530

- Proposals must provide evidence of exemplary teacher preparation and development efforts.
- Proposals must provide evidence of genuine collaboration between faculty in STEM and faculty in education.
- Every project is expected to be grounded in and contribute to the knowledge base.
- Proposal Due Dates
  - March 17, 2015 for FY 2015 funds
  - August 4, 2015 for FY 2016 funds

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Comparison of Phases in Tracks 1, 2, 3

(for 15-530 and not an exhaustive list of expectations)

	Phase 1	**Phase 2**	**Capacity Building**
Provide Scholarships/ Stipends/ Fellowships	Yes	Yes	No
Evidence-based Models and Strategies	Yes	Yes	Develop
Strong Partnerships	Yes	Yes	Develop
Evaluation and Research	Yes	Yes and Longitudinal	Yes
Contribute to Knowledge Base	Yes	Yes	Yes
Cost-sharing	Tracks 2, 3	Tracks 2, 3	No
60% on *F1. Stipends*	Tracks 1, 2, 3	Tracks 1, 2, 3	No

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Definitions of Terms

Scholarship

In S&S Track, funds awarded to

- An undergraduate STEM major (≥ junior status)
- A post-bac (when the program requires a fifth year)

Stipend

In S&S Track, funds awarded to

- A STEM professional who enrolls in a teacher certification program

Fellowship

A title and funds awarded to

- In TF Track, a STEM professional
- In MTF Track, a STEM teacher

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Definitions of Terms

High-Need Local Educational Agency (LEA)
(e.g., a high-need school district)

A high percentage of individuals from families with incomes below the poverty line;

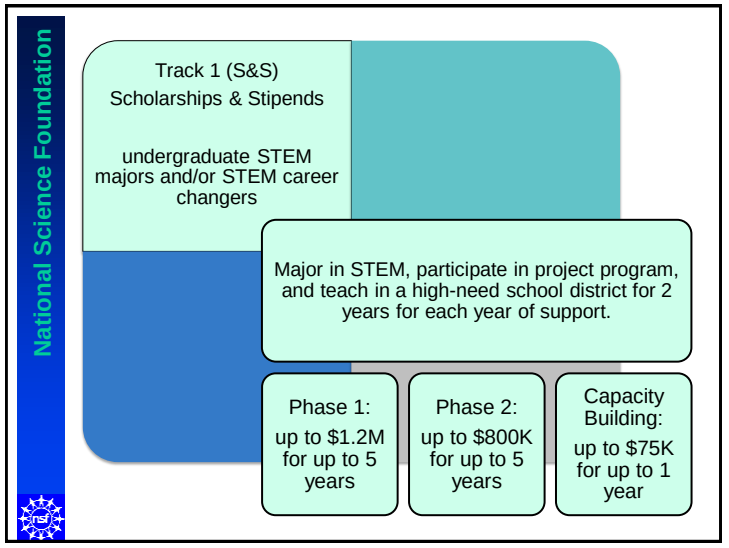
or

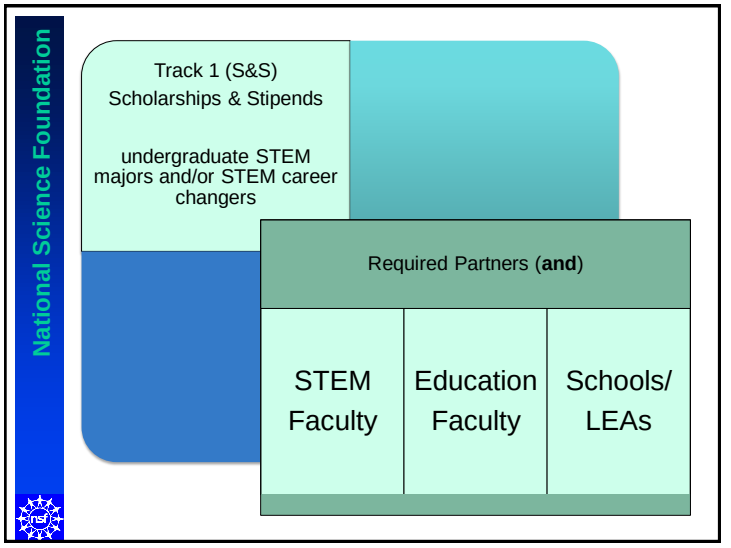
A high percentage of secondary school teachers not teaching in the content area in which they were trained to teach;

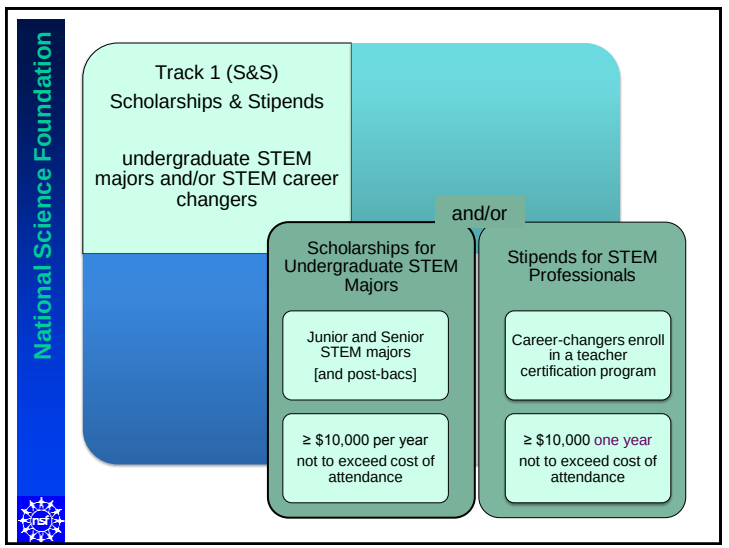
or

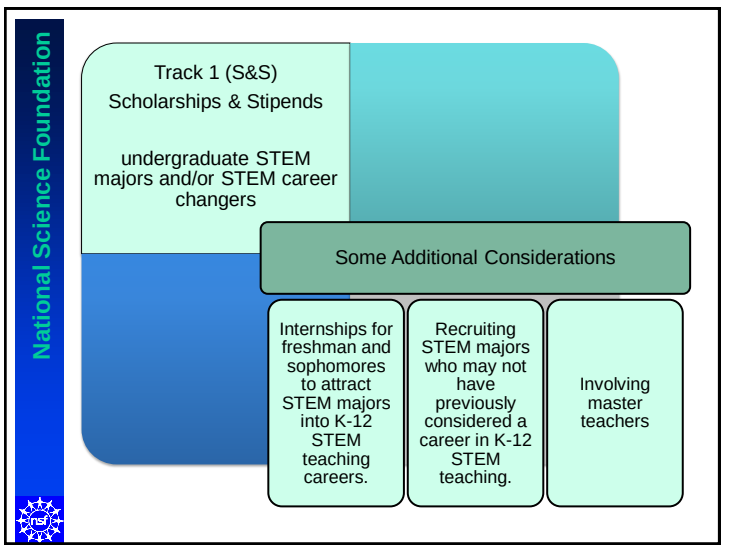
A high teacher turnover rate.

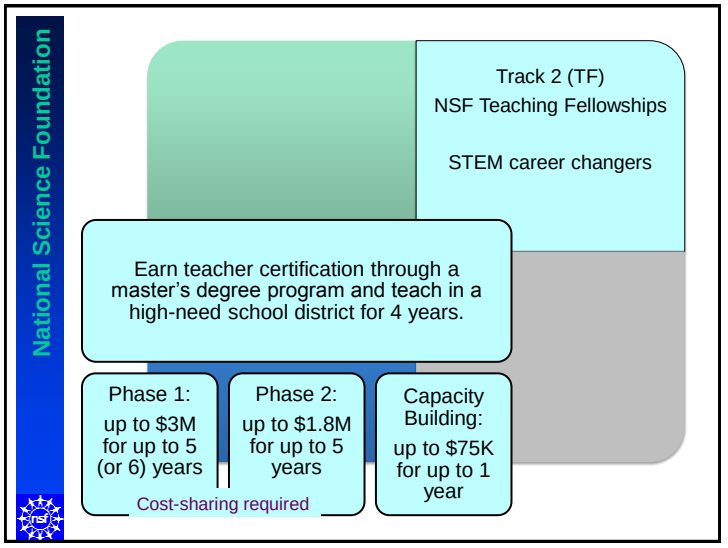
http://www2.ed.gov/policy/highered/leg/hea98/sec201.html

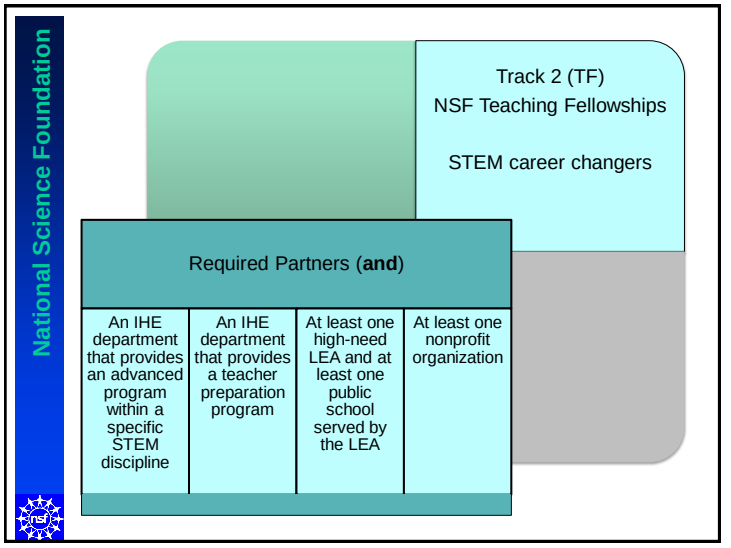

National Science Foundation
Track 1 (S&S)
Scholarships & Stipends
undergraduate STEM majors and/or STEM career changers
Major in STEM, participate in project program, and teach in a high-need school district for 2 years for each year of support.
Phase 1:
up to $1.2M for up to 5 years
Phase 2:
up to $800K for up to 5 years
Capacity Building:
up to $75K for up to 1 year

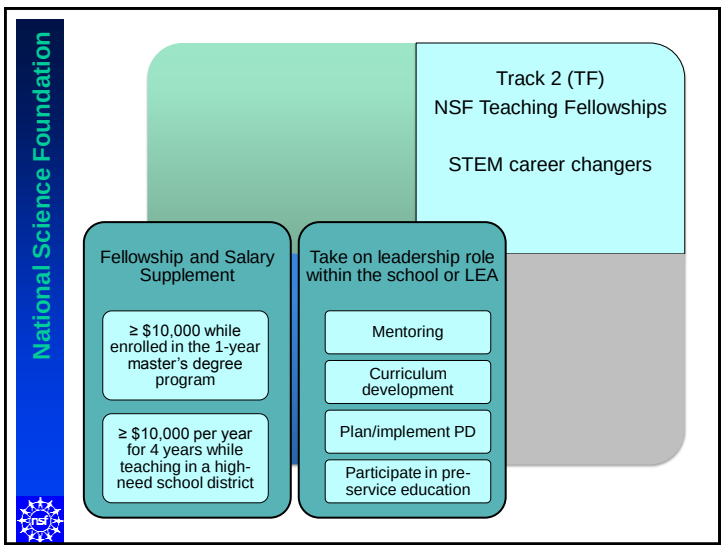

National Science Foundation
Track 1 (S&S)
Scholarships & Stipends
undergraduate STEM majors and/or STEM career changers
Required Partners (and)
STEM Faculty
Education Faculty
Schools/ LEAs

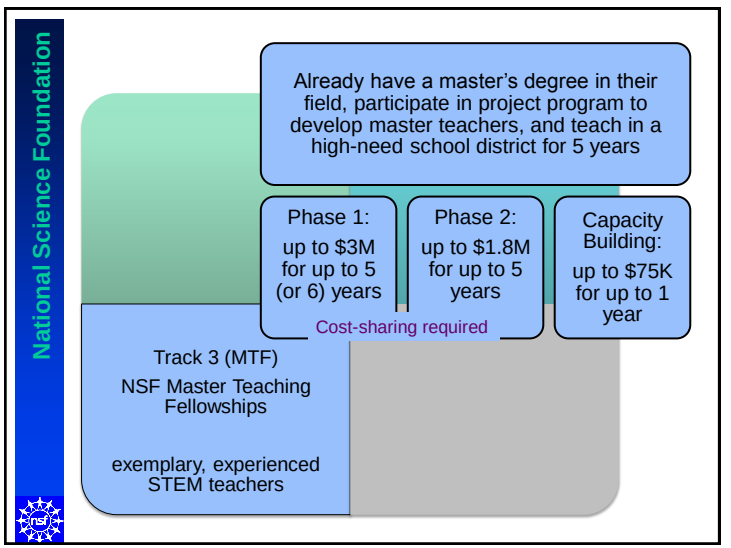

National Science Foundation
Track 1 (S&S)
Scholarships & Stipends
undergraduate STEM majors and/or STEM career changers
and/or
Scholarships for Undergraduate STEM Majors
Junior and Senior STEM majors
[and post-bacs]
≥ $10,000 per year
not to exceed cost of attendance
Stipends for STEM Professionals
Career-changers enroll in a teacher certification program
≥ $10,000 one year
not to exceed cost of attendance


National Science Foundation
Track 1 (S&S)
Scholarships & Stipends
undergraduate STEM majors and/or STEM career changers
Some Additional Considerations
Internships for freshman and sophomores to attract STEM majors into K-12 STEM teaching careers.
Recruiting STEM majors who may not have previously considered a career in K-12 STEM teaching.
Involving master teachers


National Science Foundation
Track 2 (TF)
NSF Teaching Fellowships
STEM career changers
Earn teacher certification through a master's degree program and teach in a high-need school district for 4 years.
Phase 1:
up to $3M for up to 5 (or 6) years
Phase 2:
up to $1.8M for up to 5 years
Capacity Building:
up to $75K for up to 1 year
Cost-sharing required


National Science Foundation
Track 2 (TF)
NSF Teaching Fellowships
STEM career changers
Required Partners (and)
An IHE department that provides an advanced program within a specific STEM discipline
An IHE department that provides a teacher preparation program
At least one high-need LEA and at least one public school served by the LEA
At least one nonprofit organization


National Science Foundation
Track 2 (TF)
NSF Teaching Fellowships
STEM career changers
Fellowship and Salary Supplement
≥ $10,000 while enrolled in the 1-year master's degree program
≥ $10,000 per year for 4 years while teaching in a high-need school district
Take on leadership role within the school or LEA
Mentoring
Curriculum development
Plan/implement PD
Participate in pre-service education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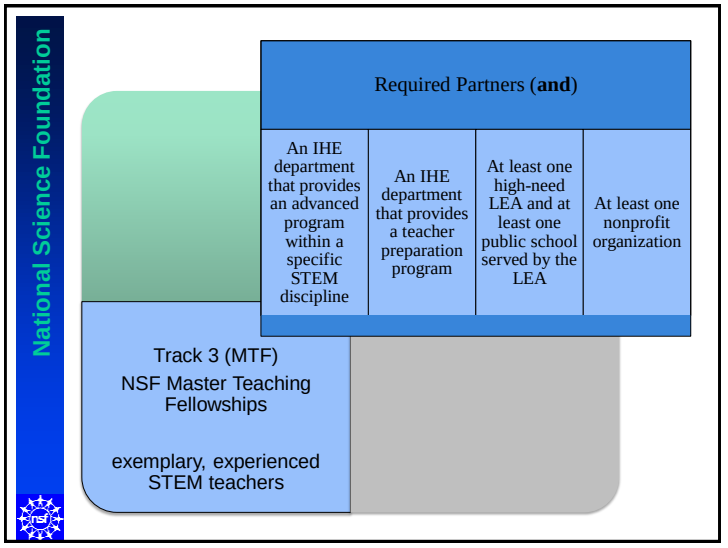
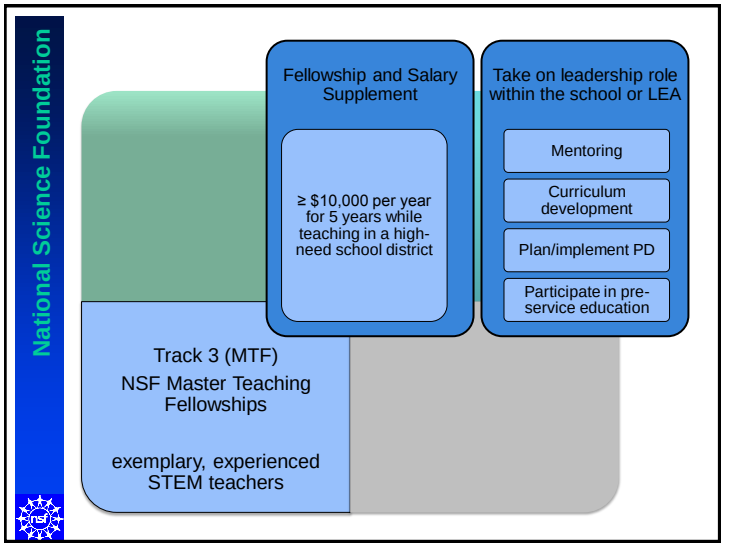
Already have a master's degree in their field, participate in project program to develop master teachers, and teach in a high-need school district for 5 years
Phase 1:
up to $3M for up to 5 (or 6) years
Phase 2:
up to $1.8M for up to 5 years
Capacity Building:
up to $75K for up to 1 year
Cost-sharing required
Track 3 (MTF)
NSF Master Teaching Fellowships
exemplary, experienced STEM teachers





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Scholar/Fellow Obligations for Tracks 1, 2, and 3

- Provide the institution with annual certification of employment.
- Participate in activities (including surveys) conducted as part of institution project-level and NSF program-level evaluation.
- Complete the teaching commitment or repay the scholarship/stipend/fellowship as a loan.

See the solicitation for additional expectations and details.

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Institutional Obligations for Tracks 1, 2, and 3

- Ensure the scholarship/stipend/fellowship recipients accept the terms.
- Monitor (including tracking) and report on the compliance of recipients (including repayment if necessary).
- Supply relevant statistical and demographic data as requested.
- Cooperate with NSF third-party project monitoring.

See the solicitation for additional expectations and details.

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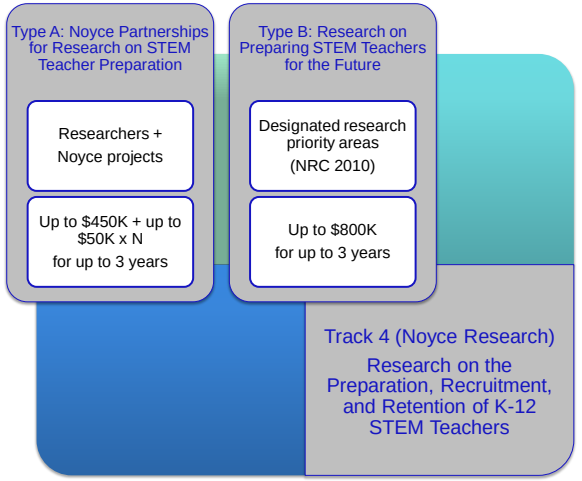

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Track 4 Noyce Research
NRC (2010) Research Priority Areas

NRC 2010

- features that make programs and/or pathways effective and attractive to academically accomplished teacher candidates in STEM fields;
- characteristics of clinical experiences that affect STEM outcomes (1) for teacher candidates and (2) for the students of those candidates;
- aspects/characteristics/components of induction programs that make them attractive and effective in retaining academically accomplished STEM teachers in high-need educational settings;
- ways that teachers' knowledge (e.g., STEM content knowledge, STEM pedagogical competence, effectiveness of teacher candidates) and non-cognitive factors (e.g., commitment to teaching in high-need schools) affect outcomes for those preparing to be teachers and students who are taught by these new teachers.

http://www.nap.edu/catalog/12882/preparing-teachers-building-evidence-for-sound-policy

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Track 4: Noyce Research
Some Additional Comments

- The NRC research priority areas are not the only interesting issues that need to be addressed.
- The program would like to have a portfolio that includes a wide range of methodological approaches.
- There are other programs that accept education research proposals related to STEM teacher preparation (e.g., DRK-12, ECR, IUSE, STEM+C). To determine best fit, contact relevant program officers.

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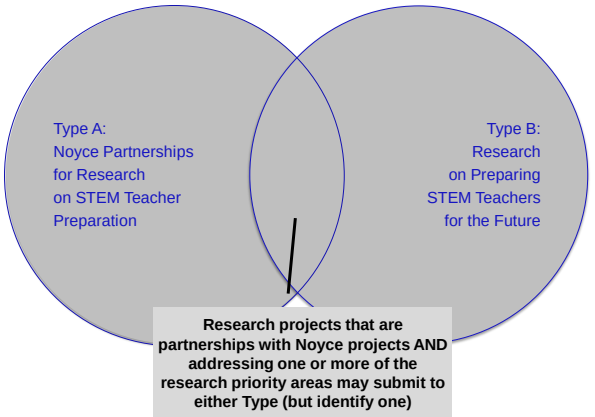
Track 4 Noyce Research



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15-530 changes from 14-508

- Separates the previous TF/MTF track into two tracks and adds a research track:
  - Track 1: Scholarships & Stipends (S&S)
  - Track 2: NSF Teaching Fellowships (TF)
  - Track 3: NSF Master Teaching Fellowships (MTF)
  - Track 4: Research on the Preparation, Recruitment, and Retention of K-12 STEM Teachers
- Revises the previous additional budget limitation information to stipulate that:
  - Budgets for Tracks 1, 2, and 3 must allocate at least 60% of the total requested Direct Costs to scholarships, stipends, fellowships, or salary supplements.

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15-530 changes from 14-508

- Makes Phase 2 projects in Tracks 1, 2, and 3 eligible (along with Phase 1 and Capacity Building) to request additional funds if the project involves a significant collaboration among two-year and four-year institutions. For more information see the Budget Limitations sections in each track.
- Eliminates the Phase 2 Monitoring and Evaluation project option.
- Includes a Definitions of Terms section.
- Establishes the full proposal due date for FY16 funded projects as August 4, 2015.
- Eliminates letters of intent (previously optional).

Preparing the Proposal

Solicitation Section V

Project Summary (1 page)

Overview: The first sentence must:

- indicate the specific Track and category of the proposal (e.g., S&S Phase 1); and
- name all institutions, including high-need local educational agencies and non-profit organizations as appropriate, that are involved in the proposal.

Intellectual Merit

Broader Impacts

Project Description (15 pages)

Tracks 1, 2, and 3 (S&S, TF, MTF)
Be sure to include descriptions of the proposed

- strategies for recruitment,
- strategies for monitoring and enforcing compliance with the teaching commitment/repayment,
- evaluation and research plan,
- plans for dissemination of the results of the project and for contributing to the knowledge base.

See Section V of the solicitation for additional details.

Project Description (15 pages)

Track 4 (Noyce Research)
Be sure to include descriptions of the proposed

- linkages to the literature base,
- well-focused research questions/hypotheses,
- methods aligned with the theory and questions/hypotheses,
- contribution to/implications for implementation,
- contribution to knowledge and theory,
- strategies for dissemination,
- plans for objective external feedback.

See Section V of the solicitation for additional details.

Additional Resources

nsfnoyce.org

NSF 15-001: *NSF Proposal and Awards Policies and Procedures Guide* (PAPPG)

- includes the *NSF Grant Proposal Guide*
- includes detailed instructions on items such as required biosketches, required Data Management Plan, IRB approval, allowable budget items, etc.

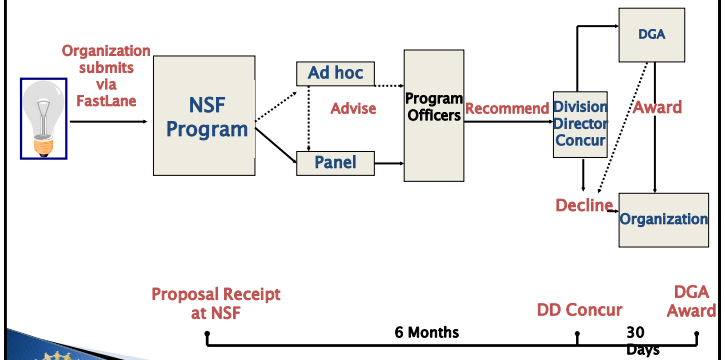
NSF 13-126: *Common Guidelines for Education Research and Development* (ED and NSF)

- and NSF 13-127: *Related FAQs*

Proposal Processing and Merit Review Criteria

Solicitation Section VI

Proposal Processing and Timeline

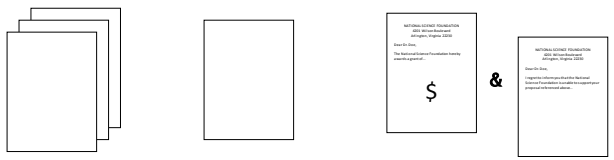


Who reviews?

Experts in

- STEM education
- STEM content
- research/assessment methodology
- cognitive science, psychology, sociology, anthropology
- school-based experts
- others as appropriate for the set of proposals submitted

The Proposer Receives…



Reviews

Panel Summary
(if applicable)

Context statement
&
Award/Declination letter

NSF Merit Review Criteria
Guiding Principles

- All NSF projects should be of the highest quality and have the potential to advance, if not transform, the frontiers of knowledge.
- NSF projects, in the aggregate, should contribute more broadly to achieving societal goals.
- Meaningful assessment and evaluation of NSF funded projects should be based on appropriate metrics, keeping in mind the likely correlation between the effect of broader impacts and the resources provided to implement projects.

NSF Merit Review Criteria
Required

•**Intellectual Merit**: The intellectual Merit criterion encompasses the potential to advance knowledge; and

•**Broader Impacts**: The Broader Impacts criterion encompasses the potential to benefit society and contribute to the achievement of specific, desired societal outcomes.

NSF Merit Review Criteria
(unpacked)

Intellectual Merit

- Importance to advancing knowledge and understanding
- Creative, original, and/or potentially transformative
- Proposers' qualifications
- Sufficient access to resources
- Proposed activity well-conceived and organized
- Data management plan
- Post-doc mentoring plan, if applicable
- Evaluation

NSF Merit Review Criteria
(unpacked)

Broader Impacts

- Promote teaching, training, and learning?
- Broaden the participation of underrepresented groups? New institutions? Influence on field? Etc.
- Enhance the infrastructure for research and education? Partnership development?
- Disseminate results broadly?
- Benefit society?

NSF Merit Review Criteria *Elements*

The following elements should be considered in the review for **both Intellectual Merit & Broader Impacts:**

1. What is the potential for the proposed activity to:
   a) advance knowledge and understanding within its own field or across different fields (Intellectual Merit); and
   b) 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 institution to conduct the proposed activities?
5. Are there adequate resources available to the PI (either at the home institution or through collaborations) to carry out the proposed activities?

Additional Solicitation Specific Review Criteria

In addition to the above criteria, for Phase 1 and Phase 2 proposals in Track 1 (S&S), Track 2 (TF), and Track 3 (MTF), reviewers will be asked to consider the evidence of the following central issues (including results of prior Noyce awards, if applicable):

- The extent to which the proposed work attends to the expectations and requirements discussed in *Section II Program Description* relevant to the track to which the proposal is being submitted.
- The potential of the project to recruit, prepare, and retain STEM majors and/or STEM professionals (for S&S and TF) or develop and retain NSF Master Teaching Fellows (for MTF), in teaching careers in high-need local educational agencies.
- The quality of the academic requirements and other components of the program, the extent to which the proposed preparation, recruitment, and retention strategies reflect effective practices based on research.
- That the institution is committed to sustaining the program beyond the period of NSF funding (with the possible exception of funds for scholarships/stipends/fellowships).

Additional Proposal–Writing Tips

What Makes a Proposal Competitive?

- Original ideas
- Succinct, focused project plan
- Realistic amount of work
- Sufficient detail provided
- Cost effective
- High impact
- Knowledge and experience of PIs
- Contribution to the field
- Rationale and evidence of potential effectiveness
- Likelihood the project will be sustained
- Solid evaluation plan

Common Weaknesses: Scholarship Track

- Proposal does not follow guidelines for Noyce Program
- Failure to indicate students will complete STEM major (not change to Science Education or Math Education major
- Little information about teacher preparation program
- Unrealistic projections
- Recruitment and selection strategies not well described
- Lack of support for new teachers
- Lack of involvement of STEM faculty (or education faculty)
- Lacks plans for monitoring compliance with teaching requirement
- Weak evaluation or lacks objective evaluator
- Does not address Prior Results or Lessons Learned
- Lacks details

Common Weaknesses of TF/MTF Proposals

- Insufficient details for preservice and induction program for Teaching Fellows and professional development program for Master Teaching Fellows
- Vague recruitment plans
- Selection plans do not follow guidelines
- Master Teacher roles and responsibilities not discussed
- Matching funds not identified
- Role of non-profit organization not clear
- School district partnership not strong
- Evaluation weak

Tips for Success

- Be aware of other projects and advances in the field
- Cite the literature
- Provide details
- Discuss prior results as applicable
- Include evaluation plan with timelines and benchmarks
- Put yourself in the reviewers' place
- Consider reviewers' comments if resubmitting proposal
- Have someone else read the proposal
- Spell check; grammar check
- Call or email NSF Program Officers

National Science Foundation

Contact Information

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