Hi Everyone, this is Claire Hemingway. I'm a Program Director in the Division of Graduate Education and a member of the NSF Research Traineeship Program Team.

This informational video provides an overview of the Traineeship Track that is one of two tracks in the NRT program. The goal of the video is to help you prepare your proposal and respond to the program announcement by emphasizing several key features and requirements of the program. Of course, I encourage you to read the solicitation carefully. I also invite you to participate in one or more of the online question and answer sessions with NRT program officers so we can address any lingering questions that you have about the program after viewing this video.

NRT Goals

- Catalyze and advance cutting-edge interdisciplinary research in high priority areas.

- Prepare STEM graduate students more effectively for successful careers within and outside academe.

- Develop new models and knowledge that will promote transformative improvements in graduate education.

The NRT program encourages the development and implementation of bold, new, potentially transformative, and scalable models for Science, Technology, Engineering and Mathematics (STEM) graduate education training. The Traineeship track promotes building on the current knowledge to more effectively train graduate students.

Thus, it seeks proposals that will
Catalyze and advance cutting-edge interdisciplinary research in high priority areas

Ensure that graduate students in research-based master's and/or doctoral degree programs develop the skills, knowledge, and competencies needed to pursue a range of STEM careers.

Develop models and knowledge that will promote transformative improvements in graduate education.

Key Features

- Advance interdisciplinary research.
- Develop and test potentially transformative and scalable traineeship models.
- Provide broad training for multiple career paths.
- Extend program elements to non-NRT trainees.
- Include robust assessment to inform and improve practice.
- Communicate outcomes and insights.
- Rely on existing evidence of effective practices.

Thus, the Traineeship track seeks proposals that develop a comprehensive traineeship model that is innovative, evidence-based, scalable, and aligned with changing workforce needs and interdisciplinary research needs.

The Traineeship track is distinguished from other NSF graduate training initiatives by inclusion of both master's and doctoral students, rotating priority research themes, a broader definition of trainees, and greater programmatic and budgetary flexibility.

Some of the key features of the Traineeship Track include:
The advancement of interdisciplinary research in areas of high priority to the nation
The development of potentially transformative and scalable traineeship models that rely on existing evidence of effective practices
The comprehensive training of graduate students and preparation for multiple career paths
The extension of NRT program elements beyond trainees to benefit a larger population of graduate students across an institution
The use of robust formative assessment that routinely informs and improves practice in the traineeship model
The use of evidence-based strategies to broaden participation of students from diverse backgrounds
The dissemination of outcomes and insights from the NRT training approaches to others across the nation

There are three priority research areas in the 2016 call for proposals and two priority research areas in the 2017 call for proposals. Additional themes may be added in future calls.

2016 priority areas are

Data-Enabled Science and Engineering (DESE) recognizes that all areas of science and engineering are facing challenging computation problems and data of massive scale and complexity, as well as the need to support and train the next generation of researchers in this area.

Innovations at the Nexus of Food, Energy and Water Systems(INFEWS) looks for training a workforce to understand the multifaceted interactions the impact physical, chemical, biological, social, cultural, behavioral, and economic processes involved with INFEWS

Understanding the Brain (UtB)'s goal is to enable scientific understanding of the full complexity of the brain in action and in context.

But we also welcome proposals on other crosscutting, interdisciplinary themes that align with research areas of importance to the nation and have a high potential to foster the development of new,
innovative practices of graduate training.

Priority research areas for the FY2017 competition will be (1) UtB, (2) INFEWS, and (3) any other interdisciplinary research theme of national priority.

Before I highlight some of the things that we encourage you to think about when constructing your program and writing your proposal, I'd like to start off by describing what we mean by a trainee – at least the definition of a trainee within the context of NRT. This is one of the key differences between NRT and other traineeship programs at NSF, such as IGERT.

A trainee is any STEM graduate student who is accepted into the institution's NRT program and is expected to complete all the required program elements as described in the proposal. A student does not have to receive an NRT stipend or cost of education allowance to be an NRT trainee. Consequently, a NRT Trainee may be supported by a TA, RA, scholarship, or fellowship. They do not have to be supported directly with NRT funds.

This broader definition of a trainee allows for a broader range of students, including international students, to benefit from training activities. Trainees supported by NRT stipends, however, must be a US citizen or permanent residents in a research-based degree program that requires a thesis or dissertation.

Please note that there's a new requirement in the current solicitation to specify, in the Project Summary, the number of students expected to receive an NRT stipends as well as total number of trainees that are projected to participate in the program during the period of the award.

What is a "Traineeship"?

- Focused on students and their technical and overall development as STEM professionals.
- Includes strong commitment to mentoring and career pathway awareness and preparation.
- Provides transferable skills training, including:
  - Technical
  - Communication
  - Other Professional Skills.
- Logically phased over the duration of a degree program.

It might also be helpful to define what we mean by a "Traineeship" in the context of NRT.

NRT proposals should articulate a comprehensive traineeship model that is:

Focused on the students and their overall development as STEM professionals

Includes strong commitment to mentoring and career pathway awareness and preparation

Provides transferable skills training, including technical, communication, and other professional skills training.

The communication training should outline minimum competencies and rubrics for measuring progress and mechanisms for students to receive regular structured feedback.

NRT training is expected to span the duration of a master's or doctoral program.

Thus, proposals should include a timeline of logically phased, progressive training elements over the degree program.

Things to Think About

How will the proposed project:

- Incorporate evidence-based approaches?
- Complement and/or build upon other institutional efforts?
- Convey benefits broadly to graduate students?
- Use strategic collaborations to add value?
- Communicate and disseminate the outcomes of the program?
- Sustain successful elements post funding?

As you plan your project and write your proposal, we recommend that you think about several key questions – and determine whether your proposal address each of these..

What is the evidence for the training approaches and models that your plan to include in your comprehensive traineeship?

How does the proposed project complement or build on other ongoing or prior institutional efforts to improve graduate education?

How will the training program be of broad benefit to graduate students beyond the NRT trainees at your institution?

Does the project include collaborations with the private sector, ngos, government agencies, national labs, field stations, museums and others that add value to the proposed research and training program?

What types of data will you collect to evaluate the training program? What plans will you develop to disseminate lessons learned from program, both within the institutions involved and with others across the nation who are interested in graduate education?

And finally, have you included plans and a strategy for institutionalizing successful elements of the program? How will these elements be sustained?

Let me now comment briefly on the Budget.

Traineeship Track projects may have a duration of up to 5 years and a maximum budget of $3 million.

Budgets can include support for faculty during the academic year and summer. It can also include funds to support faculty professional development, travel for trainees, equipment and supplies that are directly needed or related to the training provided to students.

Projects are expected to budget for a half or full time project coordinator.

However, keep in mind that direct costs for trainee stipends, cost of education, and programmatic elements must be commensurate with the goals of the proposal.

Also keep in mind that stipends are intended to be for trainees whose research is aligned with the project's research theme and must be a minimum of $34,000 for a consecutive 12-month appointment. Students cannot be charged for tuition or any other required costs while receiving an NRT stipend.

Limitations on Submissions

- Institutions may submit 2 proposals to the track
- Proposers must designate either DESE, UtB, INFEWS or other cross-cutting, interdisciplinary theme at the time of submission.
- An individual may serve as Principal Investigator (PI) or Co-PI on only 1 proposal
- A PI or Co-PI may serve as a core participant, other than PI or Co-PI, on another Traineeship Track proposal

As I mentioned in the overview video, there are some limits on the number of proposals that can be submitted to NRT –both the Traineeship track and the IGE track.

An organization may submit a total of 3 proposals to the NRT program: 2 in the Traineeship Track and 2 in the IGE Track.

If an institution submits 2 proposals to the Traineeship track, at least one must be on the DESE theme. If submitting to the DESE theme, remember to indicate this in the title.

An individual may serve as PI or Co-PI on only one proposal submitted to the NRT program. A PI or Co-PI on a Traineeship Track proposal may, however, serve as a core participant on another Traineeship Track proposal.

We address some of the other common eligibility questions in the NRT FAQs that are posted on the Division of Graduate Education's website.

Final Notes and Reminders

Review Criteria
- Intellectual Merit
- Broader Impacts
- Solicitation Specific Criteria
  - Integration of Research and Education
  - Interdisciplinarity
  - Professional Development
  - Integrating Diversity into NSF Programs, Projects, and Activities
  - Evaluation

2016 Deadlines: December 9th 2015 **Mandatory** LOI; February 9th 2016 Full Proposal
2017 Deadlines: December 9th 2016 **Mandatory** LOI; February 7th 2017 Full Proposal

---

In closing, we want to remind you to prepare your proposal with the review criteria in mind. Reviewers will be asked to consider not only the Intellectual Merit and Broader Impacts of your proposal, but also the Solicitation Specific Criteria.

For the Traineeship track, reviewers will consider the following questions:

Does the proposal address training needs that are not currently available and are there clear and compelling connections between the training elements and the interdisciplinary research theme?
What is the degree of interdisciplinarity and the potential for high impact synergies among the disciplines?
What is the breadth and quality of the plan to provide NRT trainees with professional development training for a range of research and research-related career pathways within and outside academia?
What is the quality of the recruiting and mentoring plans to broaden participation?
Does the evaluation plan include outcomes, performance measures, benchmarks, and an evaluation timetable? Also, does the proposal describe how formative evaluation will improve practice?

In reading the solicitation, you will likely have noticed that proposals submitted to the Traineeship Track now have a limit of 20 pages for the Project Description.

And finally, I want to remind you of some key deadlines. Optional Letters of Intent is due March 25 and Full Proposals are due May 6.

For additional information on the Traineeship track, we recommend that you to take part in one or more of the online Question and Answer sessions with NRT program officers on the dates and times listed on this slide. Please note that time are Eastern Daylight Savings Time but we tried to pick times that would be reasonable for folks joining us from more western time zones.

We encourage you to send questions prior to the Q&A session to nrt@nsf.gov.

On behalf of the NRT team, I'd like to thank you for your interest in the program and wish you luck with preparing your proposals.