ITEST Solicitation Information Webinar

Hosted by:

STELAR, Education Development Center, Inc.

National Science Foundation

Agenda

- Welcome and Introductions
- STELAR & ITEST Program Overview
- ITEST Solicitation Overview
  - Types of ITEST Projects
  - Proposal Preparation and Guidelines
  - Selection and Review Process
- Q & A

STEM Learning and Research (STELAR) Center

- Former ITEST Learning Resource Center (2003-2012)
- EDC, Inc. + EdLab Group + Goodman Research Group, Inc.
- STELAR supports projects and NSF in achieving program goals
- Core areas of work:
  - Technical Assistance
  - Dissemination
  - Outreach

NSF's ITEST Program

stelar
STEM Learning and Research Center

EdLab Group

EDC Learning transforms lives.

Portfolio of Funded Projects

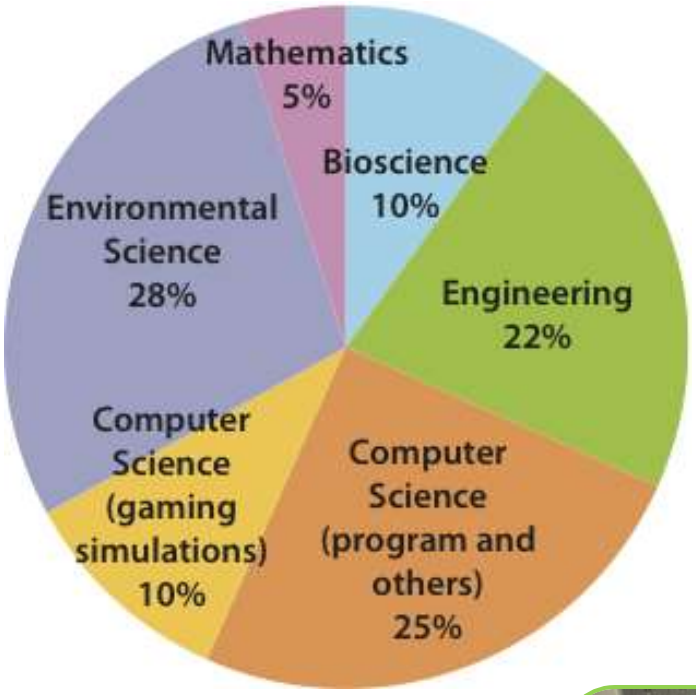
- The ITEST experience—over 200 projects across more than 40 states—helps young people and teachers build the STEM skills and knowledge needed to succeed in a science-technologically-driven world

- Since 2003, the NSF ITEST program has involved more than:
  - 227,500 K–12 students
  - 8,000 educators
  - 3,000 parents and caregivers

ITEST Portfolio

Computer Science – Gaming & Simulations
use and creation of gaming and simulations in formal & informal education

Computer Science – Programming
programming; web development; multimedia – audio, video and animation; computer hardware; general skills



Environmental Science
GIS/GPS, remote sensing technology, climate modeling, and ecological research and analysis

Bioscience
bioinformatics, biotechnology, DNA analysis/sequencing, and biomedicine

Engineering
aerospace, astronomy, design, robotics and nanotechnology

Innovative Technology Experiences for Students and Teachers (ITEST) Program

Division of Research on Learning in Formal and Informal Settings

Program Solicitation: NSF 14-512

Important Dates

Full Proposals Due

February 11, 2014

November 6, 2014

Changes For This Solicitation

- Letters of Intent no longer required.
- Scale-up Strand replaced by SPrEaD Strand.
- Research Strand eliminated, but all proposals are to have a research component.
- Revised requirements for project evaluation.

Aim of the ITEST Program

Ensure a high-quality STEM workforce by supporting projects that:

- Increase student awareness of career opportunities in STEM and cognate fields.
- Motivate students to pursue appropriate educational pathways to STEM-related careers.
- Provide technology-rich experiences that develop disciplinary knowledge, practices, and non-cognitive skills needed in STEM fields.

STEM Workforce & Cognate Fields

- Traditional STEM Disciplines
- Information and Communications Technology (ICT)
- Computing, Computer Sciences, Data Analytics, and related fields.
- Professionals at all levels, including technicians, technologists, scientists, engineers, computer scientists, and mathematicians.

ITEST Projects…

- Must involve students.
- Are informed by relevant research.
- Will focus on workforce development for youth or school-to-work transitions.
- Will conduct foundational or design-based research of conditions and contexts that improve student STEM learning pathways and STEM-focused career preparations and mentorships.

ITEST is especially interested in…

- Broadening participation of student groups underrepresented in STEM-related education and career domains.
- Projects that examine the effectiveness of adult volunteers with relevant disciplinary expertise.
- Projects that improve students' critical thinking skills that transfer across disciplines and into career settings.
- Projects that directly involve students with business and industry through partnerships.

"Encouraged" are Projects that…

- Bring together researchers in STEM education, STEM disciplines, career development, psychology, sociology, anthropology, and related fields.
- Engage students in use of cutting-edge technological tools, the computer sciences, or innovative applications of technology for work/problem-based learning.

Two Types of Projects Supported

Strategies projects that address the creation and implementation of innovative technology-related strategies.

- Awards of up to $1,200,000 for projects lasting up to 3 years.
- Approximately 15-20 projects to be supported.

SPrEaD (**S**uccessful **Pr**oject **E**xpansion **a**nd **D**issemination) projects that support the wider and broader dissemination and examination of innovative strategies.

- Awards for up to $2,000,000 for projects lasting 3 to 5 years.
- Approximately 5-10 projects to be supported.

Questions

Strategies Projects must clearly address one or more of the questions listed in the solicitation

- Experiences that foster student competency
- Instructional and Curricular Models
- Roles of business and workforce members
- Strategies for parents, mentors, & caregivers
- Strategies for principals, counselors, & other school administrators
- Engaging diverse underrepresented populations

➔ See page 6 of the solicitation for details.

Proposals should…

- Draw on existing theory and evidence to design and develop strategies.
- Describe the questions, instruments, methods, and analyses to be used to study the effects of the strategies.
- Describe how the project will collect and interpret evidence that the strategies were implemented as planned and goals achieved [evaluation].

Strategies projects…

- Should include pilot testing to determine if the new strategies lead to desired outcomes.
- That expand and extend our notions of learning environments are encouraged.
- That include partnerships with schools, colleges, informal learning institutions, businesses, government labs, and community-based organizations are encouraged.

Project Expansion and Dissemination (SPrEaD Projects)

- Study innovative strategies across a wider range of contexts and settings.
- SPrEaD projects document factors that may enhance, moderate, or constrain the effects of strategies designed to enhance student knowledge or disposition toward STEM-related education pathways or careers.

SPrEaD proposals must…

- Describe the innovation and the contexts and conditions for broadening and scaling.
- Present evidence on the feasibility of impacts.
- Explain how the proposed project builds on previous implementations.
- Identify anticipated contributions to knowledge.
- Present a study design capable of generating robust evidence of the strategy's potential.
- Include plans to document the implementation.
- Involve a partnership with another type of institution.

Questions

Proposal Preparation

- **ITEST Solicitation: NSF 14-512**

  (Section V. Proposal Preparation and Submission Instructions)
- Proposals must be prepared in accordance with the **NSF Grant Proposal Guide (GPG 13-1)**

Common Guidelines for Education Research and Development

- Potential PIs and grant writers are encouraged to use the information in the *Common Guidelines for Educational Research and Development* and the set of NSF FAQs regarding them to help in the preparation of proposals
- The section on "Foundational, Early Stage or Exploratory, and Design and Development Studies" is most relevant to this solicitation.

What are the *Common Guidelines*?

- NSF 13-126 - Joint effort between NSF and the Institute for Education Sciences at the U.S. Department of Education

http://www.nsf.gov/pubs/2013/nsf13126/nsf13126.pdf

- NSF 13-127 - Set of FAQs

http://www.nsf.gov/pubs/2013/nsf13127/nsf13127.jsp

Proposal Preparation

Project Description Should Include…

- Project overview
- Project goals and objectives
- Summary of effectiveness and impact of prior support
- Explanation of principles that guided the project design, informed by the literature
- Detailed work plan with a timeline
- Qualifications of key personnel who will be coordinating the project
- Anticipated results
- Research plan (if appropriate)
- External review or evaluation process
- Dissemination plan

Project Summary Suggestions

- **First Sentence**
  - Type of Proposal – Strategies or SPrEaD
- **Second Sentence**
  - STEM or STEM Cognate areas of emphasis
  - Grade or Age level (s) addressed
- **The strategy to be designed, implemented, and evaluated.**
- **Intellectual Merit and Broader Impacts**
  - Must include separate statements on each of these two NSB criteria

Goals and Objectives

- Why is this project important?
- How will the project attract students or prepare them for the STEM workforce?
- How will it advance knowledge?
- What are the anticipated outcomes and/or products of this project?
- How might these products or findings be useful on a broader scale?

What Have You and Others Done?

- Describe the theoretical and research basis on which the proposal is based.
- Discuss how the proposal is innovative and different from similar research and development projects.
- If you have been funded by NSF, provide evidence about the **effectiveness** and **impact** of that work.

How Are You Going To Do It?

- State clear research questions or hypotheses that the project will test.
- Describe the plan for developing, adapting or implementing the proposed innovative strategy.
- Describe the research methods, including data analysis plans, sampling plan, and assessments.
- **Briefly** describe the work plan and timeline.

Who Will do The Work?

- Briefly describe the expertise of the persons included on the proposal and why they are needed:
  - Education researchers and evaluators
  - Teachers
  - STEM-related content experts
- Upload two page bios for all senior personnel

External Evaluation

A proposal must describe appropriate project-specific external review and feedback processes.

- The review might include an external review panel or advisory board or a third-party evaluator.
- The review must be independent and rigorous.
- The proposal must
  - Describe the expertise of the external reviewer(s);
  - Explain how that expertise relates to the goals and objectives of the proposal;
  - Specify how the PI will report and use results of the project's external, critical review process.
- There can be different groups providing formative and summative evaluation.

How Will Others Learn About The Project?

- Plan and specific strategies for **Dissemination** of products and/or findings to researchers, policy makers, practitioners, and other relevant constituency groups.
- Requirement to provide project data as requested by the STEM Learning and Research (STELAR) Center.

Supplementary Documents

- Letters of *commitment* from project partners*
- Evaluation results from prior NSF support as appropriate (Max. 2 pages)
- Data Management Plan
- Postdoctoral Mentoring Plan
- NO OTHER DOCUMENTS

*be careful not to include attachments to the letters

Budget

- **Should be consistent with level of work** – you do not have to request the maximum!
- **Two months salary:** No more than two months of salary for senior personnel with **academic** positions on all NSF grants unless justified.
- **Indirect cost rates:** Set by the institution and auditors and is non-negotiable.
- **Direct costs**: Not allowed for secretary or services provided through indirect costs.
- **No cost sharing**
- Limited equipment; no undergraduate tuition

Where to Submit

- NSF's FastLane:

https://www.fastlane.nsf.gov/index.jsp

- Grants.gov:

http://www.grants.gov

Note:

- Collaborative proposals must be submitted through FastLane.
- Fastlane will check for required sections of proposals.

Reasons for Return Without Review

- Violation of formatting rules of the Grant Proposal Guide (e.g. font, page length etc)
- Failure to address specifically intellectual merit **and** broader impacts in the project summary and description
- Unauthorized documents/data in the appendix or supplementary document section
- No post doc plan if post docs are included on budget
- No data management plan

Review Criteria

All proposals are reviewed under two criteria: Intellectual Merit and Broader Impact

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?

For Further Information

- Call **(703) 292-8628**
- Email: **DRLITEST@nsf.gov**
- Contact an ITEST Program Director

Watsonville Tecnología-Educación - Comunidad (TEC)

NSF grant no. 0929676

Jacob Martinez, Principal Investigator

Project Goals:

I. **Test a "Bridged Intensives" model of out-of-school youth IT education designed to increase the IT interests, readiness and career orientation of rural Latino/a students.**

II. **Test a Parent Engagement and Leadership model designed to build a network of support for Latino/a students' interest, readiness and career orientation toward IT.**

Project Activities:

Development of a Community Leadership Committee which was created to increase the community's understanding of the importance of IT education and to increase the level of community ownership over, and leadership of, the WTEC project.

bio-itest

new frontiers in bioinformatics and computational biology

NSF grant no. DRL-0833779

Principal Investigator: Jeanne Chowning, MS, NWABR

Co-PIs: Karen Peterson, MEd, EdLab Group & Sandra Porter, PhD, Digital World Biology

Program Manager: Dina Kovarik, MS, PhD, NWABR

Goals:

- Increase student and teacher understanding of **bioinformatics** and the **ethical issues** related to the acquisition and use of biological information.
- Increase the number of high school students who are interested in bioinformatics and related **STEM careers**, with particular emphasis on students from underserved populations.

Project Activities:

- Curriculum Development & Career Resources, Teacher Professional Development

EdLab Group

NWABR.ORG
Northwest Association for Biomedical Research

Q/A

Thank you!

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