National Science Foundation (NSF)

Research Experiences for Teachers (RET) in Engineering & Computer Science


This Funding Opportunity Brief summarizes key information regarding a funding opportunity. If you would like more information regarding the RET program, Trivium Consulting will be happy to provide you with a comprehensive summary of the program’s priorities and application requirements. Please contact us to discuss the alignment of this funding opportunity with your organization’s capabilities and interests.

**SUBMISSION DEADLINE**
- Full Proposal Deadlines: October 1, 2012 & October 7, 2013 (due by 5 p.m. proposer's local time)

**FUNDING and ELIGIBILITY**

There are two mechanisms of support in standard or continuing grants under this announcement. Standard NSF award conditions apply.

- **RET SITE awards**: Maximum total request is $500,000 for duration of up to 3 years, approximately $165,000 per year. Applicants to RET Site awards also have the Option of applying for an additional $4,000 per year funding for carefully designed, clearly articulated activities focusing on ethics in science and engineering. See Full Announcement for details.

- **RET SUPPLEMENT awards**: Funds normally available for 1-2 teachers; Maximum of $10,000 per teacher for duration of one year.

Estimated total RET program funding: $5,500,000. Estimated number of awards is eight.

**Eligibility**: Proposals may only be submitted by accredited U.S. universities and 2- and 4-year colleges, including community colleges. Small businesses with an active SBIR or STTR grant are eligible to apply for an RET Supplement. PIs must have a faculty appointment in engineering or computer science, and are limited to one submission. Institutions/colleges/departments are limited to three site proposals.

**PROGRAM SUMMARY**

The Research Experiences for Teachers (RET) in Engineering activity aims to involve middle and high school teachers and community college faculty in engineering research in order to bring knowledge of engineering and technological innovation to the classroom. This is achieved by building partnerships between teachers and community college faculty and researchers working together on engineering and computer science research projects. Encouraging active participation of teachers and community college faculty in NSF projects is an excellent way to reach broadly into the teacher talent pool of the U.S. so that they can teach engineering and computer science concepts to their students to encourage and stimulate them to pursue engineering and computer science careers. The RET in Engineering and Computer Sciences aims to:

- Build collaborative relationships between in-service and pre-service (education majors still pursuing degrees) K-12 STEM teachers, community college faculty, and the engineering and computer science research community;

- Support participation of these teachers and faculty in projects funded by NSF;

- Facilitate professional development of K-12 STEM teachers and community college faculty through
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- Encourage engineering and computer science researchers to build partnerships with STEM teachers and community college faculty.

There are two mechanisms to support these activities: 1) the RET Site awards, and 2) the RET Supplement awards. ENG and CISE strongly encourage all of their grantees, including grantees from the Small Business Innovation Research (SBIR) and the Small Business Technology Research (STTR) programs, to make special efforts to identify talented teachers and community college faculty for participation in this RET opportunity.

**RET in Engineering and Computer Science SITE AWARD:** Site projects provide groups of in-service and pre-service K-12 STEM teachers and/or community college faculty with discovery and technology-based learning experiences in engineering and computer science laboratories and facilities, which will then be incorporated into their classroom activities during the school year. A RET Site project may be conducted during the summer, academic year, or both, and must have a well-defined focus, with clearly articulated projects and activities for teachers and/or community college faculty. Proposals must address the approach to research training being undertaken, and must provide detailed descriptions of examples of research projects that the teachers and/or community college faculty will pursue. These research projects must be relevant to the subjects taught by the participating teachers and/or community college faculty during the academic year.

RET Site participants must be currently teaching a STEM subject at their institution in order to participate in this program. The overall quality of the participant recruitment and selection processes and criteria will be an important element in proposal evaluation. An orientation session must be included at the program’s start, as well as a plan for sustained follow-up by the RET project team with participants to ensure that the research experience is translated to the classroom during the academic year, and also, a detailed plan for evaluation of the proposed project and the classroom impact.

A RET Site proposal must be submitted by a College, School, or Department of Engineering, Engineering Technology, or Computer/Information Science within the submitting U.S. academic institution and the PI must have a faculty appointment within the same. The project must involve teachers and/or community college faculty for a duration of at least 6 weeks. (See full program Announcement for allowable exceptions to program’s length.)

**RET in Engineering and Computer Science SUPPLEMENT AWARD:** A request for funding of a RET Supplement should be made under an existing NSF ENG or CISE award or within a proposal for a new or renewed NSF ENG or CISE award. The description of the RET activity must clearly articulate in some detail the form and nature of the prospective K-12 STEM teacher and/or community college faculty member's involvement in the Principal Investigator's ongoing or proposed research. For example, the teacher or community college faculty member may participate in the design of new experiments, modeling and analysis of experimental data, algorithm and software development, and other activities that will result in intellectual contributions to the project.

It is expected that the RET in Engineering and Computer Science supplement experience will also lead to the transfer of new knowledge to classroom activities. Therefore, the RET supplement description must also indicate what type of sustained follow-up will be provided during the academic year to help in
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translating the teacher's research experience and new understanding of engineering and computer science concepts into classroom practice. Projects may be carried out during the academic year, summer, or both, and RET supplements are for 1-year duration.