I. WINS PROGRAM SUMMARY

The Women in IT Networking at SC (WINS) program is a three-year program funded by the National Science Foundation* and DOE/ESNet. It was developed as a means for addressing the prevalent gender gap that exists in Information Technology (IT) particularly in the fields of network engineering and high-performance computing (HPC). It was originally introduced as a pilot program** in November 2015 at the SC15 conference in Austin, Texas. The program enables five talented early to mid-career women from diverse regions of the U.S. research and education community IT field to participate in the ground-up construction of SCinet, one of the fastest and most advanced computer networks in the world. WINS is a joint effort between the Energy Sciences Network (ESnet), the Keystone Initiative for Network Based Education and Research (KINBER), and University Corporation for Atmospheric Research (UCAR).

SCinet, the Supercomputing Conference’s (SC) dedicated high-performance research network and backbone of information and communication, is seeking qualified female U.S. candidates in their early to mid-career to join the SCinet volunteer workforce for SC17. Selected candidates will receive full travel support and mentoring by well-known engineering experts in the research and education community.

SCinet provides an ideal “apprenticeship” opportunity for engineers and technologists looking for direct access to the most cutting-edge network hardware and software, while working side by side with the world’s leading network and software engineers, and the top network technology vendors.

There are 15 teams that comprise SCinet, all focused on specific areas of expertise involved in setting up and operating a research network. Selected candidates will be matched with a mentor in one of these areas based on interest, background, and team availability. Learning and training opportunities include (but are not limited to):

- Operating and maintaining traditional “IT” services for SCinet;
- Installing fiber optic network connections;
- Installing and configuring wireless access points;
- Installing and configuring wired network devices for conference meeting rooms;
- Managing internet routing protocols;
- Configuring wide-area network connections to national telecom providers;
- Supporting conference attendees, high-performance computing (HPC) and high-performance network demonstrations;
- Participating in cybersecurity activities focused on prevention, detection, and countermeasures to protect the resources of the conference.

II. SC BACKGROUND

SC is an annual conference co-sponsored by the Association for Computing Machinery (ACM) and the Institute of Electrical and Electronics Engineers (IEEE) Computer Society. The conference focuses on the science and application of HPC and communication technologies. Since 1988, volunteers funded from academic, government and corporate organizations in the HPC industry have worked together to produce the SC Conference series. The conference attracts over 12,000 technical program attendees, exhibitors and exhibit visitors. SC has been the breeding ground for the technologies that now underpin services ranging from cloud computing, high-speed Internet services, and current ubiquitous computing architectures.

Attendees are primarily computer engineers, computer scientists, computational scientists and managers/executives of computing facilities who use high-speed and high-performance computers for research and other technical applications. Executives, sales and engineering managers from companies involved in producing and selling HPC products and services also attend and participate.

SCinet provides the essential advanced and commodity networking capabilities the conference needs to support large-scale HPC demos. In recent years, SCinet has delivered bandwidths exceeding 3 terabits per second and has had the opportunity to utilize new services and technology, such as pre-production software-defined networking and intrusion detection systems.

III. TRAVEL FOR SCinet TRAINING

This grant funds selected participants to travel for the staging (if applicable), setup, and attendance of the SC conference as a SCinet volunteer. Travel could include up to three weeks (or some portion of these three weeks) depending on the SCinet team needs. SC17 will take place in Denver, CO and the setup and conference have been scheduled for the following dates:

- SCinet Staging: October 23-27
- SCinet Setup: November 6-11
- SC17 Exhibit Show, Conference, and SCinet teardown: November 12-17

IV. PROJECT MEASUREMENT

After completion of the conference, participants will be asked to report on their experiences and touch on topics such as: what part of the training was new or useful, which learning experiences were not effective or valuable, and other targeted questions that will help drive the future of gender diversity outreach efforts. This reflection will be shared with their home institution, SCinet leadership, project PIs, the Department of Energy and the National Science Foundation.

V. SELECTION CRITERIA

Candidates will be reviewed by a panel of experts from the research and education community for current job relevance, stated support from applicant’s employer, ability to attend the conference (we will take care of the travel costs but you must be able to set aside time to attend), areas of interest (see application form), and desire to participate in SCinet!

The review committee will select up to five candidates to receive funding to set up SCinet at the SC conference in Denver from October 23-27 and November 6-17, 2017. Selection notifications will be sent to applicants by mid to late May 2017.

Please contact the WINS Management team if you would like additional information or have questions:

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The International Conference for High Performance Computing, Networking, Storage, and Analysis