NACCTEP Forum Session

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NSF Updates on Teacher Preparation

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Programs to Consider

DUE:
Advanced Technological Education (ATE)
Robert Noyce Teacher Scholarship Program
Math Science Partnership Program (MSP)

DRL:
Innovative Technology Experiences for Students and Teachers (ITEST)
Discovery Research K-12 (DRK-12)
ATE Program

• The Science and Advanced Technology Act of 1992 (SATA) mandated the creation of ATE, with continuing reauthorizations under the *America Competes Act*.

• Program focuses on the education of science and engineering technicians for high-technology fields that drive the nation’s economy.
  • Grades 7-12, 2-year and 4-year institutions can be supported.

• **Community colleges** have leadership roles on all projects.
ATE Program Tracks

- Projects which focus on:
  - Program Development, Implementation and Improvement;
  - Professional Development for Educators;
  - Curriculum and Educational Materials Development;
  - Teacher Preparation;
  - Small Grants for Institutions New to the ATE Program;
  - Business and Entrepreneurial skills for students in technician education programs;
  - Leadership Capacity Building for faculty.

- Centers of Excellence – National, Regional, Resource:
  - Targeted Research on Technician Education
- ATE solicitation (11-692):
  - Formal Proposals: October 17, 2013
- $64 million request FY 2012
- Projects: up to $900,000 for 3-years
  - Small, new to ATE: $200,000 for 3-years
- Centers: $1.6 – 5 million for 4-years
- Targeted Research: up to $1.2 million for 4-years
ATE

- Resources
  - ATE Centers: http://www.atecenters.org
  - Evaluate Center: http://www.evaluate-ate.org
  - ATE Central: http://atecentral.net/
  - www.teachingtechnicians.org (SCATE Center)
  - AACC website
Noyce Program

- Initiated by Act of Congress in 2002
- To encourage talented mathematics, science, and engineering undergraduates to pursue teaching careers
- To encourage STEM professionals to become teachers
- To prepare Master Teachers

**FOR COMMUNITY COLLEGES**
- Internships for freshmen and sophomores
- Career Changers: Stipends for STEM professionals seeking to become K12 teachers
NOYCE Phase I:

Institutions not previously funded under Noyce or for different department/focus from previous award.

- STEM undergraduate majors: Up to 3-years of scholarship support (junior year through 5th post baccalaureate year for credentialing).
- STEM undergraduate students: Summer internships for freshman and/or sophomore in STEM settings to spark interest in teaching.
- STEM professionals and post-baccalaureate STEM majors: Stipend for a 1-year credentialing program.
- Each year of support requires 2-years of teaching commitment in high-needs school district.
- Scholarship/stipend should be at least $10,000, BUT capped at the cost of attendance.
- Maximum award is $1,200,000 over 5-years. Collaborations between 4-year and 2-year IHEs may request additional $250,000.
- At least 80% of total budget direct costs must be for direct support of participants.
NOYCE Capacity Building Proposals:

Establish infrastructure and partnerships for developing requisites for a future Track I or Track II Noyce proposal.

Maximum award is $300,000 over 2-years. Collaborations between 4-year and 2-year IHEs may request additional $50,000 over 2-years.

No cost sharing requirements.
Math Science Partnership

- supports innovative partnerships to improve K-12 student achievement in mathematics and science. 5 types of awards:
  
  - **Targeted Partnerships**
  
  - **Institute Partnerships - Teacher Institutes for the 21st Century** focus on meeting national needs for teacher leaders/master teachers
  
  - **MSP-Start Partnerships** for awardees new to MSP, especially from minority-serving institutions, community colleges and primarily undergraduate institutions,
  
  - **Phase II Partnerships**
  
  - **Research, Evaluation and Technical Assistance (RETA) projects**
Other Programs in EHR

- DRL
  - ITEST  Innovative Technology Experiences for Students and Teachers Program
  - DRK-12  Discovery Research K-12: seeks to enhance learning and teaching of STEM by preK-12 students, teachers, administrators and parents. Teaching Strand: focuses on resources, models and tools for teacher education and the impact of those models on student learning.
ATE 1205013

On-Campus Discoveries in Science: A Science Preparation Program in Biotechnology in Support of New York City Teachers and Students

- 1) basic and advanced Summer Institutes in which middle and high school science teachers expand their knowledge of biotechnology and ability to engage students; 2) development of a graduate course in teaching biotechnology in which pre-service teachers focus on real-world learning; 3) opportunities for middle and high school students to perform experiments in a college laboratory and in their own schools via a new lending laboratory; and 4) creation and implementation of embedded virtual enterprise simulations in which college biotechnology majors improve their workforce skills. Activities are guided by input from biotechnology industry representatives.
The National Research Council (NRC) Board on Science Education, in collaboration with the Board on Higher Education and Workforce, the Teacher Advisory Council, and the National Academy of Engineering, are studying the barriers to completion of two- and four-year STEM degrees and opportunities for overcoming these barriers. The study explores the role of motivation, interest and attitude in shaping undergraduates' trajectories in STEM, especially in the transition from two-year to four-year institutions. Special attention is being paid to factors beyond the quality of instruction that influence diverse students' decisions to stay in or leave STEM majors.
Noyce 1240036
"Communities & Pathways": Cultivating Science Educator Identity for Undergraduates through an Inclusive Physics Learning Assistant Program & STEM Teacher Certification Alignment.

- Capacity building at Texas State University-San Marcos (Hispanic Serving Institution), in collaboration with San Antonio College and Austin Community College, two neighboring two-year colleges. Fosters a community of undergraduate students who identify as science educators. The community is built and supported via two major mechanisms: the "Communities" component, and the "Pathways" component.
Current Teacher Ed Funded Projects

- NACCTEP Colleges
- Sarah Church, Russ Flek, Karen Nave, Ray Ostos (and others)
Hints, Ideas, Tips, and Resources

- On average, proposals are 80 percent planning and 20 percent writing.

- The review, preparation, and creation of partnerships are essential components in developing a quality proposal.

- Reviewers can easily gauge the preparedness of a proposal through its detail, flow, and content. Below are a few hints, ideas, and tips.
• Read the program solicitation in detail. Make sure your institution is eligible, identify the deadlines, and familiarize yourself with all the requirements.

• Contact NSF Program Officers with questions. They are very responsive and welcome questions. This is especially true with colleges applying for their first grant or submitting their first proposal.

• Original ideas make a proposal more competitive. Become familiar with any similar projects in the field. Reviewing previously funded NSF projects will yield extensive information.
• Include partners early on in developing and planning the grant proposal. Numerous ideas can be generated and partners will have ownership in the proposal and the potentially funded project.

• Establish a proposal development timeline. Keeping on track will allow adequate time to plan, develop, communicate, refine, and focus your proposal. This process should occur many times.

• Consider serving as a grant reviewer. This process will give you excellent insight into the grant process and a particular grant program, as well as the opportunity to network with colleagues.
• Assemble a leadership team (PI and Co-PI’s) that leaves no doubt you have the expertise and capacity to make the project successful. Team members’ backgrounds and skills should reflect the goals and objectives indicated in the proposal.

• Indicate how the project will be sustained once funding has ended. How will the knowledge continue? Be sure to include a solid evaluation plan with timelines and benchmarks.
• Contact and work with your Grants Development Department (if you have one). If not, connect with colleagues at your institution who have previously managed and worked with NSF grants.

• Follow directions! Be sure to follow page limit and font size guidelines. Always include the criteria areas of “Intellectual Merit” and “Broader Impacts” in the proposal.
Resources:

- **Become an NSF Reviewer**

- **Proposal and Award Policies and Procedures Guide**

- **Grants.gov**

- **NSF.gov**
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Questions???