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PhysTEC receives \$6.5 million award

National teacher preparation program plans to award grants to 18 universities to focus on physics teacher education

The American Physical Society (APS) and the American Association of Physics Teachers (AAPT) recently received a five-year, \$6.5 million award from the National Science Foundation (NSF) to continue work on the Physics Teacher Education Coalition (PhysTEC), a project that aims to improve and promote the education of future physics and physical science teachers. PhysTEC began in 2001 with a \$5.76 million NSF award.

Over the next three years, the project plans to award grants to at least 18 universities to improve their teacher preparation programs. These universities will join the 14 institutions that have already received money from the project. These sites have greatly increased the number of high school physics teachers graduating from their programs, as much as tenfold in some cases.

Sites have achieved these successes by increasing teacher recruiting efforts; hiring master teachers to work within physics departments; developing engaging early teaching experiences; improving content and pedagogy courses; and fostering collaboration between physics departments, education schools, and local school districts.

The PhysTEC project is an important step toward filling a critical need for physics teachers in schools around the country. Currently only about a third of the nation's 23,000 physics teachers have a degree in physics. The demand for physics teachers is likely to increase as states boost their high school science requirements and colleges and universities demand that incoming freshmen have more science courses listed in their high school transcripts.

The project has made major strides in engaging physics departments at research universities in teacher preparation. PhysTEC has also received significant recognition from other leaders in science teacher preparation. According to Michael Marder, co-director of the University of Texas at Austin's UTeach science and math teacher preparation program, "PhysTEC leads the way in showing universities how to reform their courses and programs to increase the number of physics majors who become teachers. PhysTEC is a model for every scientific discipline that wants to make deep changes in how much students learn in high school."

Ted Hodapp, Director of Education and Diversity at APS, leads the PhysTEC project. He says, "One of the most rewarding aspects of this project is helping physics faculty and their institutions realize their ability to have a significant impact in this area. We are looking forward to supporting a new cadre of physicists who are engaged in these issues. With this new grant, we are particularly looking to target areas and populations of critical need—those students who have traditionally not had access to a high-quality physics education."

The Physics Teacher Education Coalition is a joint American Physical Society, American Association of Physics Teachers, and American Institute of Physics effort, with National Science Foundation and APS Campaign for the 21st Century funding.