The National Science Foundation & New Jersey

THE NATIONAL SCIENCE FOUNDATION (NSF)

is the only federal agency whose mission includes support for all fields of fundamental science, technology, engineering, and mathematics (STEM).

"If the U.S. is to maintain its competitive edge and attract this talent, the country will have to invest more heavily in STEM education. By building on STEM initiatives and creating public-private partnerships, we can build talent pools that will help reinvigorate the economy while also creating a long-term competitive advantage."

- Anthony J. Orlando, Chairman and CEO
Covanta Holding Corporation (Morristown, NJ)

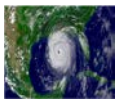
BY THE NUMBERS NEW JERSEY IN FY 2012

$131 Million: NSF funds awarded

30: NSF-funded institutions

NSF-FUNDED RESEARCH IN NEW JERSEY

- **Responding to Hurricane Sandy.** In the aftermath of Hurricane Sandy, a series of NSF Rapid Response grants—including one to Princeton University—brought together multidisciplinary, multi-institution research teams to collect environmental data needed to understand the storm's effects on the Northeast coast.



- **Driving Improvements in the Pharmaceuticals Industry.** Researchers at Rutgers University New Brunswick are developing new technologies to improve the speed, efficiency, and consistency of making drug tablets and capsules. Several companies have expressed interest in adopting fully developed iterations of this technology, including New Jersey-based Johnson & Johnson.

- **Helping Companies Bring Technology to the Marketplace.** A New Jersey Institute of Technology grant will help establish an I-Corps Site, where researchers will provide infrastructure, advice, resources, networking opportunities, training and funding to enable groups to transition their work into the marketplace.

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NSF FOSTERS INNOVATION

- **Spearheading New Approaches to Cancer Research.** NSF is collaborating with public and private partners—including the National Cancer Institute and the nonprofit Stand Up to Cancer—to support a project that brings together theoretical physicists, mathematicians, clinical oncologists, and computer scientists in order to develop novel approaches to fundamental questions in cancer research.

- **Improving the Use of Child Testimony.** Researchers at Monclair State University in New Jersey and Central Michigan University are studying the effectiveness of one common technique for interviewing children who may be victims of a crime or have witnessed a crime. Their research is informing the work of state and national professionals who investigate crimes involving children, illustrating the strengths and limitations of different techniques to elicit child testimony.

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THE NATIONAL SCIENCE FOUNDATION (NSF)

funds cutting-edge research at institutions across the country. NSF education initiatives ensure that the U.S. will remain a global leader in innovation.

NSF supports educational opportunities for undergraduate and graduate students, postdoctoral researchers, and K-12 educators.

Some of the many NSF programs that provide direct or indirect funding for these groups include the Graduate Research Fellowship Program, the National STEM Distributed Learning Program, and the Robert Noyce Teacher Scholarship Program.

EXAMPLES OF NSF AWARDS TO IMPROVE EDUCATION AND TRAINING

- **Supporting Future Engineers.** The Scholarships to Enhance Southern New Jersey High-Tech Workforce program at Rowan University supports academically talented students in financial need who are pursing a bachelor's degree in engineering.

- **Inspiring High Schoolers to Learn Using Hands-On Science.** Through the Conducting Authentic Molecular Biology and Genomics Research in High Schools program—based out of Rutgers University New Brunswick, Johns Hopkins University, and the University of Texas at Austin—scientists and educators teach students how to sequence DNA and analyze their data. Last year, over 1,000 students from 40 different high schools across six states participated in the program.

- **Empowering High Needs Communities with the Skills They Need to Succeed.** The Math and Science Teaching Fellows project at New Jersey City University partners with three high needs school districts and two local nonprofits to develop and retain twenty Teaching Fellows who will be secondary mathematics and science teachers who are highly qualified and use evidence-based teaching innovations in their classrooms.

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"Now is the time to utilize our resources to share our passion for innovation and technology…Our future workforce is reliant on our nation's ability to train and educate future scientists and engineers.

- David Cote, Chairman and CEO of Honeywell (Morristown, NJ)

"STEM education is the best way to ensure more people are devoted to technological advancement, more minds are turning, more parents are seeing their kids learn the skills they need to succeed in a new economy —and more kids are sitting in school dreaming up totally crazy ideas that just might change the world."

- Eric E. Schmidt, Executive Chairman for Google, Trustee for the Institute of Advanced Study (Princeton, NJ)