



10 Quick Reads From NSF.gov

January 30, 2017

01

NSF Director speaks at Washington Auto Show

NSF Director France Córdoba highlighted the essential role that federal, basic research funding plays in current and future automobile-related innovations at “Mobility Talks International,” a public policy forum on Jan. 24. The event, hosted by the Washington Auto Show, brought together international leaders to discuss best practices related to emerging trends that are changing transportation. NSF supports “the fundamental research that sets the stage for breakthroughs, some of which have transformed the existence of the automobile as we know it,” Córdoba said. The NSF Director also gave the government keynote speech at the auto show’s Public Policy Preview Day on Jan.26. NSF arranged for an autonomous vehicle developed by Carnegie Mellon University professor Rajraj Kuma, with support from the foundation, to be available at pre-show events. Find out more in this NSF [press release](#).



02

Study finds gender stereotypes about intellectual ability affect girls as young as age 6

Women account for more than half the U.S. population but only 30 percent of those employed as scientists and engineers in the country. Researchers are investigating several possible factors that contribute to this disparity, including the impact of a societal stereotype that associates intellectual talent more closely with men than women, according to a new study published in the journal *Science*. This stereotype affects girls as young as 6 years old, influencing their activity choices, the study noted. The study’s authors, supported by NSF’s Social, Behavioral and Economic Sciences Directorate, used a series of experiments to evaluate the beliefs of 5-, 6- and 7-year-old boys and girls about gender and brilliance. Read more in this NSF [press release](#).



03

Gen Nano competition submission deadline nears

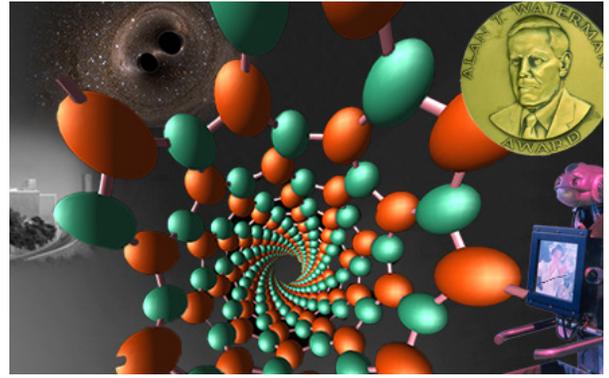
The deadline for high school students to submit their entries for the “Generation Nano: Small Science Superheroes” competition is almost here. Entries are due by midnight, Jan. 31, 2017. Sponsored by NSF and the National Nanotechnology Initiative, the competition asks high school students to choose a societal area to focus on and then design nanotechnology-enabled gear for an original superhero. This is the second year for the competition. Check out this [special report](#) with the details.



04

NSF history website, revamped

Americans recognize that scientists and engineers had helped win World War II. With the coming of peace, politicians and researchers alike faced a challenge: how to ensure that science and engineering would continue both to expand the frontiers of knowledge and serve the American people. The answer was the National Science Foundation (NSF). Since it was established in 1950, NSF continues to be the only federal agency dedicated to supporting fundamental research and education in all scientific and engineering disciplines. Read about the agency’s history and see videos of some past leaders in the revamped NSF [History](#) website.



05

Brain prints reveal children’s reading difficulties

Researchers are developing a new approach to identifying children who are struggling with reading early on. Cognitive neuroscientist Sarah Laszlo and her team at Binghamton University are working on a test that uses children’s brain activity to pinpoint reading difficulties. The test is essentially a computer game, played while the child’s brain activity is being monitored by electroencephalography (EEG) that detects electrical activity in the brain. If a child struggles with answers, it shows up in his or her EEG signals. The researchers read the signals and can tell where a child might be having difficulties. Laszlo’s reading research may also have applications in biometrics, the measurement of people’s physical or behavioral characteristics. Find out more in this episode of the NSF video series, [Science Nation](#).



06

Your ‘anonymized’ web browsing history may not be anonymous

Researchers at Princeton and Stanford universities have released a study showing that a specific person’s online behavior can be identified by linking anonymous web-browsing histories with social media profiles. The researchers wrote computer programs that found patterns among anonymized data about web traffic and used those patterns to identify individual users. Read more about the research in this News From the Field item that links to the Princeton [press release](#).



07

Teaching a computer to ‘learn like an infant’

Neuroscience and artificial intelligence experts from Rice University and Baylor College of Medicine have taken inspiration from the human brain in creating a new “deep learning” method that enables computers to learn about the visual world largely on their own, much as human babies do. The researchers’ new image processing system is a departure from conventional “supervised machine-learning” and instead uses “semi-supervised” learning. Hear more about it in this Discovery Files [podcast](#).



08

Scientists develop genetic path to tastier tomatoes

Do you wish the tomatoes sold in the supermarket tasted better? Your wish may be answered soon. Scientists at the University of Florida Institute of Food and Agricultural Sciences and their partners have found a way to get tomatoes to produce the compounds that make the fruit more flavorful. The findings were published in the journal *Science*. The researchers, supported by NSF's Division of Integrative Organismal Systems, looked at tomato alleles (one of two or more alternative forms of a gene that arise by mutation and are found at the same place on a chromosome). Read about the researchers' analysis in this NSF [press release](#).



09

NSF Director presents Durand Lecture for Public Service

NSF Director France A. Córdoba was awarded the Durand Lectureship Award by the American Institute of Aeronautics and Astronautics (AIAA). She gave the Durand Lecture for Public Service at AIAA's Science Forum in Grapevine, Texas, on Jan. 9, 2017. The lecture, named for William Durand, a pioneer in the field of aeronautics, emphasizes "notable achievements by a scientific or technical leader whose contributions have led directly to the understanding and application of the science and technology of aeronautics and astronautics for the betterment of mankind." In remarks titled "NSF's 10 Big Ideas: Understanding Science, Discovering Breakthroughs and Influencing Public Policy," Córdoba discussed NSF's big ideas for future investments. She also talked about the significance of basic research in sustaining innovation and highlighted a number of NSF investments that led to incredible breakthroughs. Read more and see images from the forum in the NSF [Multimedia Gallery](#).



10

White House honors 19 NSF-supported early career researchers

The White House included 19 NSF early career researchers among the 102 scientists and engineers who were named recipients of the Presidential Early Career Award for Scientists and Engineers (PECASE) on Jan. 9, 2017. Established in 1996, PECASE is the U.S. government's highest award honoring scientists and engineers in the early stages of their research careers who show the potential for exceptional leadership. The NSF-supported awardees came from universities across the country. All have received five-year grants through the NSF Faculty Early Career Development (CAREER) program after their research proposals went through NSF's rigorous peer Merit Review process. Read about the NSF-nominated awardees and their research in this [press release](#).

