



## A Message from the Director of the National Science Foundation

Shorter days and cooler temperatures may signal the end of the growing season, but they also remind us of how much we rely on the land. To feed a growing global population, estimated to reach 9.5 billion by 2050, it is imperative that we develop practical approaches to produce more food of high quality while sustaining the environment.

For nearly two decades, National Science Foundation (NSF) funding has provided critical resources to improve multiple aspects of plant research that in turn has helped revolutionize the future of agriculture. For instance, plant genome research has led to next-generation breeding strategies, a type of molecular breeding that relies on genomic information. These new techniques will offer new ways to make economically important crops, such as corn, wheat, soybeans and tomatoes, more resistant to pests and more readily adaptable to local and changing environments.



To handle the enormous amount of data generated by plant researchers, NSF has supported key efforts such as the former iPlant, now [CyVerse](#), to build cyberinfrastructure that allows access to powerful computing resources to solve plant science challenges. Aware of the fact that agricultural problems know no boundaries, nor do their solutions, NSF has worked diligently with other federal agencies such as the U.S. Department of Agriculture, foundations, and international partners to develop collaborative opportunities for plant researchers.

This is just a snapshot of NSF's many contributions to agricultural research. Moving forward, NSF will continue to foster opportunities both in research and training to ensure the global harvest keeps pace with human needs.

*Dr. France A. Córdoba*  
*Director, National Science Foundation*

## Where Discoveries Begin...



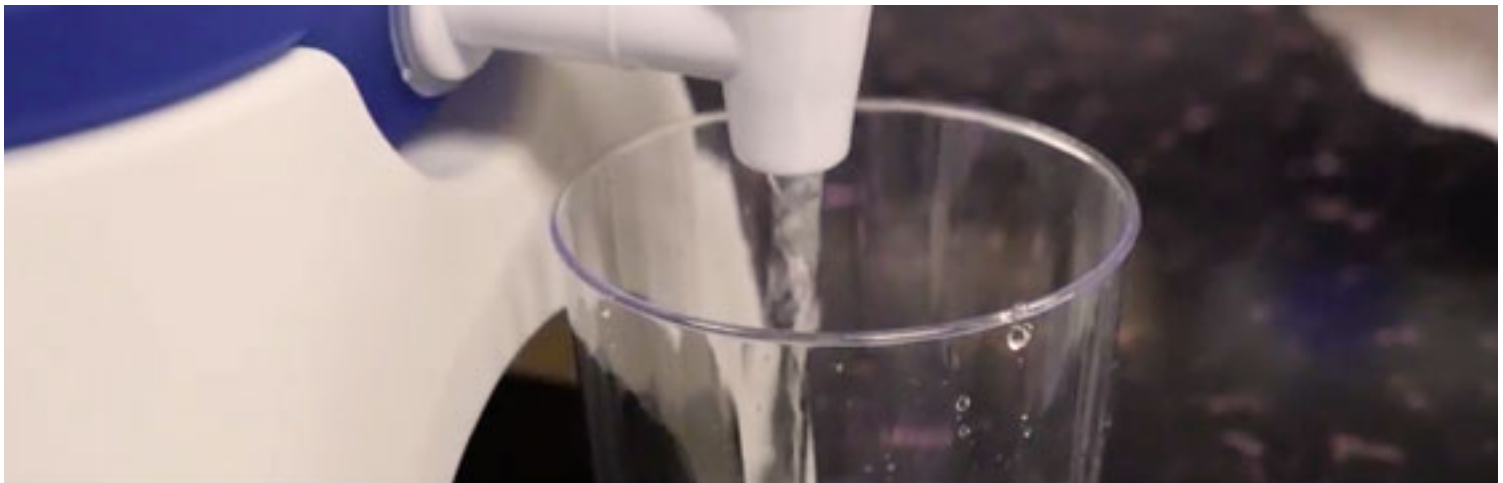
### [The web of disease transmission](#)

Scientists will study disease transmission among humans, animals and the environment.



### [High-tech harvest: Engineering agriculture's future](#)

NSF funding has led to new tools and understanding of increasingly complex agricultural systems.



### [Producing sustainable clean water for developing nations](#)

Using biomass nanofibers, NSF-funded researchers have created a way to make clean water more accessible and affordable.

## What's Next?

Oct. 5 - NSF launched [Generation Nano: Small Science, Superheroes](#) for the second year, in partnership with the [National Nanotechnology Initiative](#). This competition challenges high school students to use

nanotechnology to power a unique superhero and create a comic strip and video to tell their hero's story.

**Oct. 14** – NSF in partnership with the American Association of Community Colleges will launch the [Community College Innovation Challenge](#) for a third year. This challenge charges teams of community college students to propose STEM-based solutions to real-world problems.

**Oct. 26** – [See The Future of AI in DC](#). Presented by NVIDIA, the GPU Technology Conference (GTC) is the world's most important event series for GPU developers. Dr. Córdova will deliver the keynote address.

## Learn More...

[View the infographic](#) to see how NSF cultivates the seeds of agricultural advances.

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