

USDA chooses Cornell as site for national gene data research center

By Blaine Friedlander Jr.

The U.S. Department of Agriculture (USDA) will establish a national gene data research center, the Center for Bioinformatics and Comparative Genomics, at Cornell.

The announcement was made Jan. 17 by Judy St. John, an associate deputy administrator with the USDA's Agricultural Research Service, at the Plant and Animal Genome VII Conference in San Diego.

The new genomics center is expected to open this spring on the Cornell campus. It will be linked to the College of Agriculture and Life Sciences, the Department of Plant Breeding and the Theory Center, as well as to the Agricultural Experiment Station and the USDA's Plant Genetics Resources Unit in Geneva, N.Y.

"The USDA-funded center will aid researchers around the country and the world in the quest to discover all the genes in grains -- like corn, wheat and rice -- and plants in the family that includes tomatoes, potatoes and peppers," said St. John. "[The USDA's] Agricultural Research Service (ARS) and Cornell already maintain the foremost computerized, publicly accessible databases for information about the structure of genes in grains, tomatoes, potatoes and peppers. The center will establish a new partnership to strengthen this effort."



Garza

Cutberto Garza, Cornell vice provost, said, "Cornell is very pleased to strengthen its partnership with the USDA through this collaborative effort. We expect it to provide an internationally valuable resource for research storage of genetic data on key crops and to enable important advances for producers and consumers."

Samuel Cartinhour, a USDA-ARS molecular biologist with expertise in informatics, has been named director of the new genomics center. "Bringing Cornell's Theory Center, Cornell's Department of Plant Breeding and the ARS together on this constitutes a new, higher level of research infrastructure. The new center will make the day-to-day research easier and more effective by making data and analysis tools more accessible to investigators," Cartinhour said.

The new genomics center will be established through increased ARS funding and staffed by several of the service's bioinformatics specialists. The ARS already has research laboratories both in Ithaca and Geneva. Cornell faculty in the Department of Plant Breeding and the Theory Center also will help staff the new facility. Currently, plant breeding faculty and ARS bioinformatics specialists maintain gene data banks known as GrainGenes, SolGenes (for solanaceous crops, like tomatoes) and RiceGenes.

The new facility will be part of the implementation of the proposed Cornell Genomics

Initiative, an interdisciplinary effort by the university to use increasingly sophisticated equipment and techniques for obtaining and analyzing genetic data. ARS researchers helped formulate proposals for the initiative.

Genomics refers to the study of the gene map, and bioinformatics is the use of computers to help researchers answer life-science questions. The center will work in conjunction with the newly formed Cornell Theory Center Institute for Computational Genomics, which is under the interim direction of David Schneider.

Once a gene's structure is mapped, scientists can use computers to look for similar structures in genome databases of plants, humans, mice and other life forms. Similar structure often connotes similar function, and now it will take scientists less time to learn how a gene performs. Once a gene's function, such as disease resistance, is identified, biotechnologists can begin experiments to see if that gene can be rebuilt in a way to make it more effective.

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