

# NIU News

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**FOR IMMEDIATE RELEASE**

Attention: Editor

## **NICADD celebrates \$2 million grant**

**DeKalb, Ill.**— The Northern Illinois Center for Accelerator and Detector Development (NICADD) has received a congressional appropriation of nearly \$2 million to continue its development of next generation particle accelerators and detectors.

NICADD was established two years ago with the university's largest federal grant ever. The laboratory supports experimental physics being developed at Fermi National Accelerator Laboratory in Batavia.

"The latest grant will allow us to solidify our research and development of accelerator techniques and detectors," said NIU Physics Professor Gerald Blazey, NICADD co-director. "The center is now on sound footing, and we can look forward to a successful future."

NIU President John Peters said the support of U.S. Speaker of the House Dennis Hastert was instrumental in securing NICADD funding.

"We're thankful that Speaker Hastert recognizes the significant role of NICADD," Peters said. "This grant is important for the entire northern Illinois region. Fermilab is a world-class laboratory, a major employer and a source of pride for the entire state. The federal dollars enable NICADD to continue its efforts to assist Fermilab as the laboratory plans for its future."

Located near Batavia, about 30 miles east of DeKalb, Fermilab boasts more than 2,000 employees, including many preeminent physicists and engineers. The laboratory also has more than 2,300 visiting scientists and students from universities and institutions worldwide.

Particle physicists at Fermilab are trying to understand the nature of nature at its smallest scales. Scientists use powerful accelerators to create high-energy collisions between protons and antiprotons. The collisions produce different, more massive and more exotic particles of matter.

Detectors are the instruments that count particles, visualize tracks, measure particle energies, record time-of-flight and identify different particles.

Fermilab's Tevatron Collider, a facility that includes a four-mile underground ring, is the world's most powerful particle accelerator. The Tevatron uses almost 2 trillion volts of electric power to hurl protons and antiprotons toward each other at nearly the speed of light.

Fermilab's research advances scientists' understanding of the subatomic world, but it also has practical applications. It has led to new technologies used in the medical and imaging industries. Accelerator scientists also have developed machines for cancer therapy.

While Fermilab has demonstrated itself as a world leader in experimental particle physics, the Tevatron will be surpassed in its research capabilities in 2007 by a collider under construction in Europe. By developing new technologies and expertise, NICADD will help Fermilab develop its future role in particle physics exploration.

Blazey and Steve Holmes, Fermilab associate director for accelerators, serve as co-directors of NICADD. The center's laboratories are located in NIU's Faraday West building. Thirteen full-time particle and accelerator physicists and thirteen graduate students from NIU contribute to NICADD research. These scientists collaborate with a number of physicists from around the world.

Since its startup, NICADD has:

- Completed prototypes of linear collider detectors.
- Formed an internal collaboration with the NIU Department of Mechanical Engineering to support detector development.
- Contributed to muon beam research at NIU and Fermilab.
- Attracted peer-reviewed grants from the U.S. Department of Energy and National Science Foundation.
- Purchased and assembled a 70-foot, custom-built extruder line at Fermilab. The extruder line produces scintillating detectors – plastic devices injected with dye so they glow when struck by high-energy particles or photons. The tool will help scientists capture data on the basic building blocks of the universe.

NIU is one of only three Illinois-run universities offering a Ph.D. program in physics and is a full member of University Research Association Inc., a non-profit consortium of leading research universities. URA operates Fermilab under a contract with the U.S. Department of Energy.

