news release
fermi national accelerator laboratory
Operated by Universities Research Association, Inc. for the U.S. Department of Energy

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**FOR IMMEDIATE RELEASE**

The latest addition to the Department of Energy's Fermilab campus, the Feynman Computing Center, was dedicated Friday, December 2. The new building -- a three story semi-circular structure of 74,000 square feet -- houses the central computing facilities for the laboratory.

The Feynman Computing Center was funded by a Congressional line item in the budget known as the Fermilab "Central Computing Upgrade" project. The project's goals are "to increase five-fold the computing capacity available for scientific applications and to provide new space for these and related activities," according to the Department of Energy's description.

Fermilab is operated for the Department of Energy by Universities Research Association, Inc., a consortium of 66 universities in the U.S. and Canada. These universities are among the 200 institutions whose physicists use the Fermilab research facilities.

"The new building provides growth space, room for growth for a decade and beyond," noted Jeffery A. Appel, Project Manager and Head of Fermilab's Computing Department. "In addition," he continued, "the new facility allows for upgrades without interruption to the current system." Appel went on to explain that it was of critical importance that Fermilab's high energy particle research continue without disruption during the current run of Fermilab's Tevatron collider during which significant discoveries are anticipated.

Overall, Fermilab's new scientific computing system will be composed of three key elements: the front-end subsystem; the general-purpose large-scale scientific

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computer system, and farms of microprocessor computers acting in parallel o computing problems.

The first segment of the triad, a DEC (Digital Equipment Corporation) VAX cluster, provides software development tools and an international communication hub by which Fermilab's computing is networked with physicists worldwide.

In the second element of the computing triad, an Amdahl 5890/300 -- soon to be doubled to an Amdahl 5890/600 -- provides Fermilab experimenters with the high-speed, high-memory computing power necessitated by their complex experiments.

The third component is composed of arrays of microprocessors. It will be used for the bulk processing of raw data from the experiments. This system was developed by the Advanced Computer Program (ACP) at Fermilab headed by physicist Thomas Nash and commercialized by Omnibyte Corporation.

These three cornerstones of the central computing facility will be connected by software and hardware systems designed for physicist/user access to the individual islands in as friendly a way as possible.

In addition to this three-pronged array of computers, the Feynman Computing Center houses several support groups such as the Instrument Repair Groups, the Data Acquisition Hardware Groups and PREP (Physics Research Equipment Pool) which supports the use of electronic modules and computing in the data gathering phases of high energy physics.

At the present time, about 50 employees of the computing department's staff of 130 are housed in the new center. According to Appel, "These many systems and groups have been migrating into the new facility in a step-wise fashion. It is our intent to bring the new facility up to capacity before dismantling the smaller but comparable capacity currently located in Wilson Hall." The facility operates on three shifts daily all year long.

The Fermilab Central Computing Upgrade Project was funded over four fiscal years at a total estimated cost of 24.6 million dollars. About 15 million is being spent on the new computing systems with the remainder covering the cost of the building.

In its visual style and grace, the new computer building continues the Fermilab tradition of innovative, dramatic and practical architecture initiated by the laboratory's first director, Robert R. Wilson. The building's precast concrete backbones are supported on a steel frame, as is the north-facing glass facade.

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The precast panels provide protection from the sun's heat and also duplicate the vertical lines of Fermilab's Ramsey Auditorium located about a quarter-mile to the south.

Dr. Wilson served as architectural consultant for the Feynman Computing Center and Edward Crumpley of Fermilab's Construction Engineering Services prepared the construction drawings based on Wilson's concepts. Primary contractor for construction of the nine million dollar building was A.J. Maggio Company; other contractors on the project included Barcon Corporation and Price Brothers-Midwest, Inc.

Fermilab's new scientific computer building bears the name of Richard Phillips Feynman who, in the words of Fermilab's Director Leon Lederman, "is generally acknowledged to be one of the giants of our age in theoretical physics." Feynman shared the 1965 Nobel prize in Physics for his work in quantum electrodynamics, the modern theory of electricity and magnetism. He formulated the so-called Feynman diagrams as a way of visualizing the intricate mechanisms of sub-atomic physics and as a guide to the calculations required to describe the basic interaction processes. These calculations are among those done on the computers of the new Feynman Center.

In addition to monumental contributions to theoretical physics, Feynman was known as a teacher and communicator par excellence. His Caltech lectures, known as "The Feynman Lectures on Physics," provided inspiration and stimulation to decades of physics students and their professors.

Feynman also participated in applications of advanced computer concepts for research in neural networks and cellular automata.

Most recently, Dr. Feynman was in the public eye because of his service on the Presidential Commission to investigate the 1986 Challenger disaster. Richard Feynman died of cancer in the spring of 1988.

The dedication ceremony was held at noon in the Feynman Computing Center. The assembled guests, including members of Dr. Feynman's family, were welcomed by Dr. Lederman who then introduced Fermilab's Associate Director J. D. Bjorken who spoke of "Feynman the Physicist." Dr. Wilson shared his reminiscences in a brief talk entitled "Early Days with Feynman." The program was rounded out with remarks from Hilary Rauch, Manager of the Department of Energy's Chicago Operations Office, and Dr. Appel who spoke of "Building for the Future."

After the dedication ceremony the attendees joined the festivities commemorating the twentieth anniversary of ground-breaking at Fermilab in 1968.

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