

F N E R W M S I

F E R M I L A B A U.S. DEPARTMENT OF ENERGY LABORATORY



Batavia **10**

Photo by Reidar Hahn

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5,000 Thousands Tons of STEEL in a Tiny Elevator Shaft



Six tons of thin sheets of steel make up one plate in the MINOS detector, and one elevator load down into the Soudan mine.



Photos by Reidar Hahn

Sheets of steel are laid out on this stop-sign-shaped frame, called a strongback, and scintillator is welded onto the surface.



A layer of steel and scintillator is raised on a strongback, in a simulation of operations for assembling the MINOS detector.

by Sharon Butler

It's sort of like fitting a square peg into a round hole—only worse.

Physicists working on the MINOS (for Main Injector Neutrino Oscillation Search) experiment need to cart a giant 5,400-ton detector down into the bowels of the earth, into a mine dug a half mile below the surface in Soudan, Minnesota. The detector is the instrument they'll use to test whether any of the muon neutrinos in a beam from Fermilab have oscillated into tau or electron neutrinos. If the particles have morphed from one kind into another, then, drawing on the theory of quantum mechanics, physicists can safely deduce that neutrinos have mass.

The problem is: The only vehicle the physicists have for transporting the monster detector underground is an antique elevator shaft with two double-decker cages barely able to hold 10 people on each level. Little changed since the days when Soudan was a working iron ore mine decades ago, the aging elevators rattle and shake as they descend a pitch-black hole into the mine, which they share with a large bat population.

The detector can be broken into modular components, but even then the task of loading and unloading is a topological problem that defies mental picture.

That's why the MINOS scientists decided they needed a mockup of the shaft and the elevator cages, and a full-size prototype of the detector. The pieces are now nearly completed out in the New Muon Lab at Fermilab.

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Rob Plunkett, a Fermilab physicist and MINOS scientist, says the lowering of the detector into the cavern is complicated by a number of factors.

For one, no radical reconfigurations are allowed to accommodate the detector components because the Soudan mine is a National Historic Monument, overseen by the Minnesota Department of Natural Resources and managed by the University of Minnesota.

Luckily, the two elevator cages, which are raised and lowered by a pulley system, are not the original design anyway, says Bill Miller, who oversees the Soudan 2 laboratory currently in the mine. They no longer have "skips," the buckets with wheels used to lift the iron ore. And they now have two decks instead of one. Consequently, minor changes have been permitted. In particular, each cage will have one extra deck, giving it an extra 11 feet in length. When the floors of the decks are removed, the extra length will accommodate the 24-foot-long sheets of steel that make up one of the stop-sign-shaped plates of the detector. One six-ton plate is loaded into the cage at a time, disassembled into long rectangular sheets that look like bookcase shelving.

The MINOS collaboration has estimated that it will take about 1,000 trips to get the layers of steel down into the mine, plus another 200 for the scintillator, the fiber-optic cables that look like fluorescent fish line.

Those trips will take an estimated 22 months, in part because—a second complication—the mine is open to tourists from Memorial Day through Labor

THE MINOS DETECTOR

NEEDS TO FIND A WAY

INTO THE SOUDAN MINE.

Day. The collaboration has agreed to use the elevators only at night during the summer tourist season.

Limited space down in the MINOS cavern will further complicate the operation. As the pieces of the detector are being lowered into the mine, workers will have to assemble the machine because there is little space for storage.

Assembly itself is difficult. The four slabs of steel that make up one plate have to be laid down on a frame known as a strongback. A second plate is welded to the first, and scintillator is attached. The entire layer—steel plus scintillator, like the noodles and tomato sauce of a lasagna dish—is then stood on end, with the strongback connected, and moved into place on rails. The strongback is required because the steel, only an inch thick, is not rigid. “It’s like standing sheets of tissue paper on their edges,” said Plunkett.

As the layers are assembled, they will each have to be tested because, once built, the detector cannot be taken apart.

Plunkett said that all these interlocking operations have required intricate choreography, detailing how many people and what equipment need to be where and when. Those procedures are still being refined to ensure that as little time as possible is lost. “If things get mixed up, the line stops,” Plunkett said.

To assist in the choreography, the scientists are videotaping the loading, unloading, and assembly of the detector components. That will give them a better understanding of the time required for each step in the process.

Enactments have already helped. The loading of a piece of plywood in the shape of one of the steel slabs pointed out the need for another piece of equipment—a powered winch.

When the construction of the detector begins in earnest in the Soudan mine, The Minnesota Department of Natural Resources plans on offering a daily tour of the MINOS cavern, along with the usual tour of the old iron ore operations. Thousands of people will be able to watch, as, piece by piece, the MINOS physicists assemble their multiton detector for an era of new physics. 🧪



A 5,400-ton detector will be loaded, piece by piece, into this elevator, and carried down into the Soudan mine, 2,400 feet below ground.



In exhibits at the Soudan Underground Mine State Park, dummy miners push carts of iron ore. When construction of the MINOS detector begins, visitors will also be able to watch its assembly and learn a little about neutrino physics.

Mock-up of Soudan elevator shaft.



A DISTINGUISHED CONTRIBUTION



Photo by Reidar Hahn

Fermilab Director Emeritus John Peoples, who will be presented with the Alumni Merit Award of CMU, is now CEO of the Sloan Digital Sky Survey, headquartered at Fermilab.



Photo courtesy of Carnegie Mellon University

Carnegie Mellon University in Pittsburgh was formed by the 1967 merger of Carnegie Institute of Technology and the Mellon Institute. Carnegie Tech was founded by Andrew Carnegie in 1900.

by Mike Perricone

Though he has left an indelible mark on one of the world's leading science laboratories, John Peoples has an ironic confession about his undergraduate days at Carnegie Tech in the early 1950s.

"Toward the end of my senior year I actually thought that labs were interesting, as opposed to before then, when I wouldn't go to them," said Peoples, Fermilab's Director from 1989 to 1999, and now the CEO of the Sloan Digital Sky Survey headquartered at Fermilab.

Peoples admitted he often focused on extracurricular activities such as intramural athletics. He also danced in the annual "Scotch and Soda" review, before graduating in 1955 with an Electrical Engineering degree. But the academic environment made a significant impact, whether in the classroom or at the kitchen sink of a fraternity house.

"There were courses that forced you to think, courses that presented real problems you had to analyze on your own," he recalled. "A course called Engineering Analysis forced you to teach yourself certain kinds of mathematics to solve a problem—to frame the problem, to figure out your approach and what approximations you needed to solve it. That was extremely valuable."

Then there were the happy accidents produced by an inevitable immersion in the surrounding atmosphere of ideas.

"Several of my fraternity brothers were quite involved in physics," he said. "I remember once we were washing dishes, and one of these brothers told me about the experiment that Reines and Cowan were going to do. He told me what a neutrino was, and I thought that was fantastic. He told me how the neutrino was 'invented' to save the conservation of energy, and I thought that was neat. Then somebody else told me about cyclotrons, and I thought that was really neat."

The rest, as they say, is history.

Fred Reines and Clyde Cowan found direct evidence of the neutrino at the Savannah River nuclear reactor in South Carolina, eventually winning a Nobel Prize. Peoples earned a Ph.D. in physics at Columbia University. Beginning as an experimenter in the earliest days of Fermilab (then the National Accelerator Laboratory), he went on to manage the construction of the Antiproton Source.

HAS HAD HISTORIC INFLUENCE ON FERMILAB.

His tenure as Director produced the design and construction of the Main Injector accelerator and the Antiproton Recycler, preparing the Lab for Collider Run II and the next millennium of particle physics.

On October 1 at the Pittsburgh campus, Peoples will receive the Alumni Merit Award of Carnegie Mellon University, formed in 1967 when the Carnegie Institute of Technology merged with the Mellon Institute.

"It's a very satisfying thing to happen," Peoples said, adding with a grin: "especially since I was not the most serious student."

But there's no arguing with the quality of the results.

Founded in 1900 by industrialist and philanthropist Andrew Carnegie, the university is not especially large (7,500 students, 3,000 faculty and staff); yet it exerts a large influence in many fields, including computer science, robotics and engineering. Prominent in the fine arts since its earliest days, the university awarded the first drama degree in

1917. Peoples met his future wife, Nancy, when she was a painting and design student in Fine Arts at Carnegie.

Carnegie Mellon carries more than its weight in physics and astrophysics

Astrophysics professor Richard Griffiths developed the detectors for the main camera at the focus of the Chandra X-Ray Observatory Telescope, which was launched aboard the space shuttle in July as part of NASA's "Great Observatories" series.

Physics professor Fred Gilman, who has done significant research in the weak decays of *b* mesons and *k* mesons, was recently named chairman of the High Energy Physics Advisory Panel, a critical source of guidance for the policy of the Department of Energy. Gilman formerly chaired a group called the Gilman Subpanel, which charted the course for high-energy physics in the uneasy times after the dismantling of the Superconducting Super Collider. The Gilman Subpanel followed up on the subpanel report of Sidney Drell assessing the state of the field.

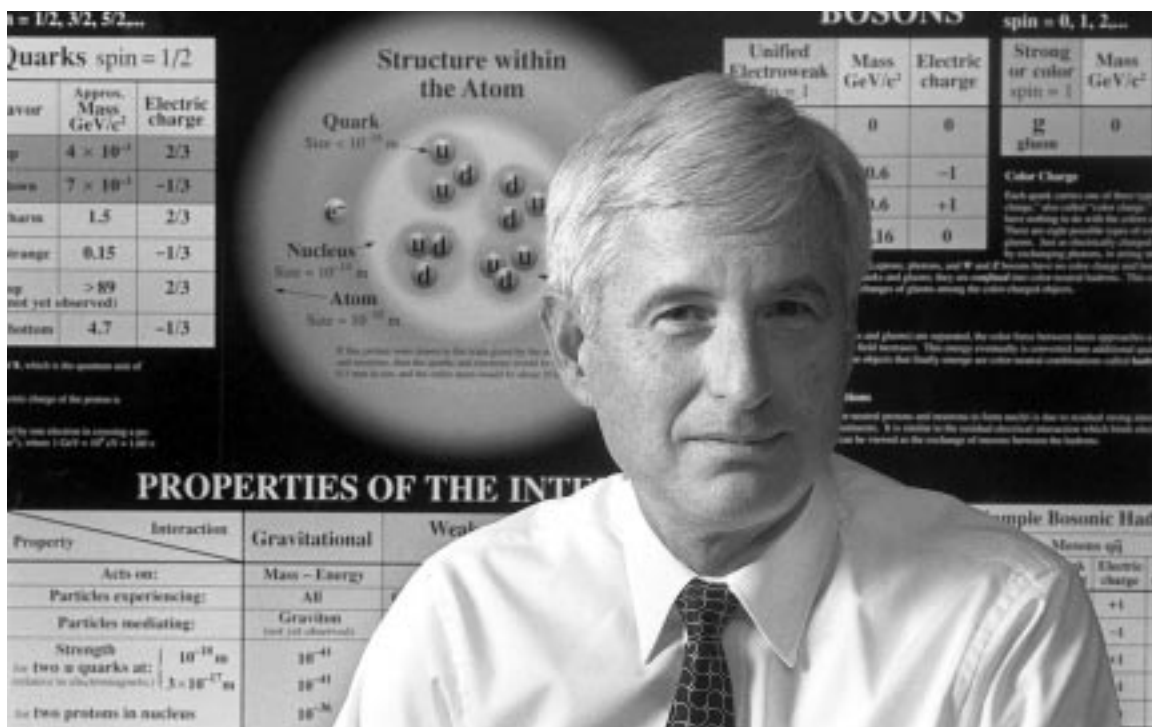


Photo courtesy of Carnegie Mellon University

Fred Gilman, the new chairman of the High Energy Physics Advisory Panel, in his office at CMU's Wean Hall.

CARNEGIE MELLON UNIVERSITY

“Collaboration resonates strongly at Carnegie Mellon.

“The Gilman Subpanel was extremely important in shaping the direction of the field, at a time when funding was very difficult,” said Peoples, who directed the SSC’s decommissioning. “We were still recovering from the SSC collapse. The Drell panel stabilized the patient, and the Gilman panel addressed the recovery. Fred Gilman will be an exceptional chairman of HEPAP. He’s a very thoughtful man, and when we were both involved with the SSC, I found him to be one of the most effective administrators. He is a tremendous asset to that department at Carnegie Mellon.”

Carnegie’s strength in fine arts and design has also made a major contribution to Fermilab’s symbolic presence. The architect of record for Wilson Hall is Alan Rider, a 1952 Carnegie Tech Fine Arts graduate and a fraternity brother of Peoples. In his report on the completion of the High Rise in 1974, Rider wrote:

“Soaring upward, the twin towers enclose a vast interior atrium filled with permanent trees and planting. Huge glass walls on the north and south and skylights overhead provide an ever-changing variety of natural sunlight and shade throughout the seasons.”

During an August 30 visit to Fermilab, Carnegie Mellon president Jared Cohon emphasized the university’s commitment to the field of particle physics.

“Our group is not big, but it is substantial,” Cohon said. “We have just hired one new faculty member in particle physics, and we are planning to hire another. Fred Gilman does a great job—and she does a great job of getting me excited about high-energy physics.”

Cohon also stated that “collaboration resonates strongly at Carnegie Mellon. It is our strong suit, across all fields.”

The Carnegie Mellon collaboration at Fermilab bears out that description. With just 19 members, the collaboration makes substantial contributions in three major experimental areas:

■ **SELEX**, the Segmented Large X baryon Spectrometer, a fixed-target experiment at Fermilab designed to make high statistics studies of charm baryons;

■ **BTeV**, the effort to design a spectrometer, triggering system, and data acquisition system for exploring the physics of bottom quarks, including CP violation, the spectroscopy of heavy states, and rare decays (also working on this experiment is Fermilab physicist Patty McBride, a CMU alumna);

■ **US-CMS**, the U.S. effort coordinated by Fermilab contributing to the Compact Muon Solenoid detector for the Large Hadron Collider at CERN, the European particle physics laboratory in Geneva, Switzerland. For CMS, the Carnegie collaboration is developing electronics systems for the endcap muon chambers, and for beam analysis.

SELEX spokesman and CMU professor Jim Russ (who has a 20-year association with Fermilab) said the majority of the university’s collaboration effort at the Lab for the last decade has been devoted to SELEX. That effort was involved in the earliest stages of designing and building the experiment’s hardware, and has included work on the development of the SVX readout chip, critical to the silicon vertex detector also used at CDF and being installed at D Zero as part of the upgrade for Run II.

And one of Peoples’ colleagues on SDSS is CMU Astrophysics Professor Bob Nichol, who spent the past year as spectroscopic commissioner shuttling between Pittsburgh, the New Mexico observatory and Fermilab. In June, one of the Sloan spectrometers obtained the spectra of nearly a thousand galaxies.

Said Congressman William J. Coyne, of the 14th District in Pennsylvania: “Pure scientific research like the work that CMU has been conducting at Fermilab provides us with greater understanding of the world around us. Such research also serves to inspire and train future generations of scientists. It is important that the federal government continue to fund such research.”

Andrew Carnegie founded an institution nearly a century ago with the motto, “My heart is in the work,” and the work of Carnegie Mellon University—and of its distinguished alumni—goes to the heart of Fermilab’s past, present and future. 🇺🇸



CMU president Jared Cohon gets a chuckle from the penguin mascot at the Sloan Digital Sky Survey computing facility in the Feynman Computing Center, as John Peoples looks on.

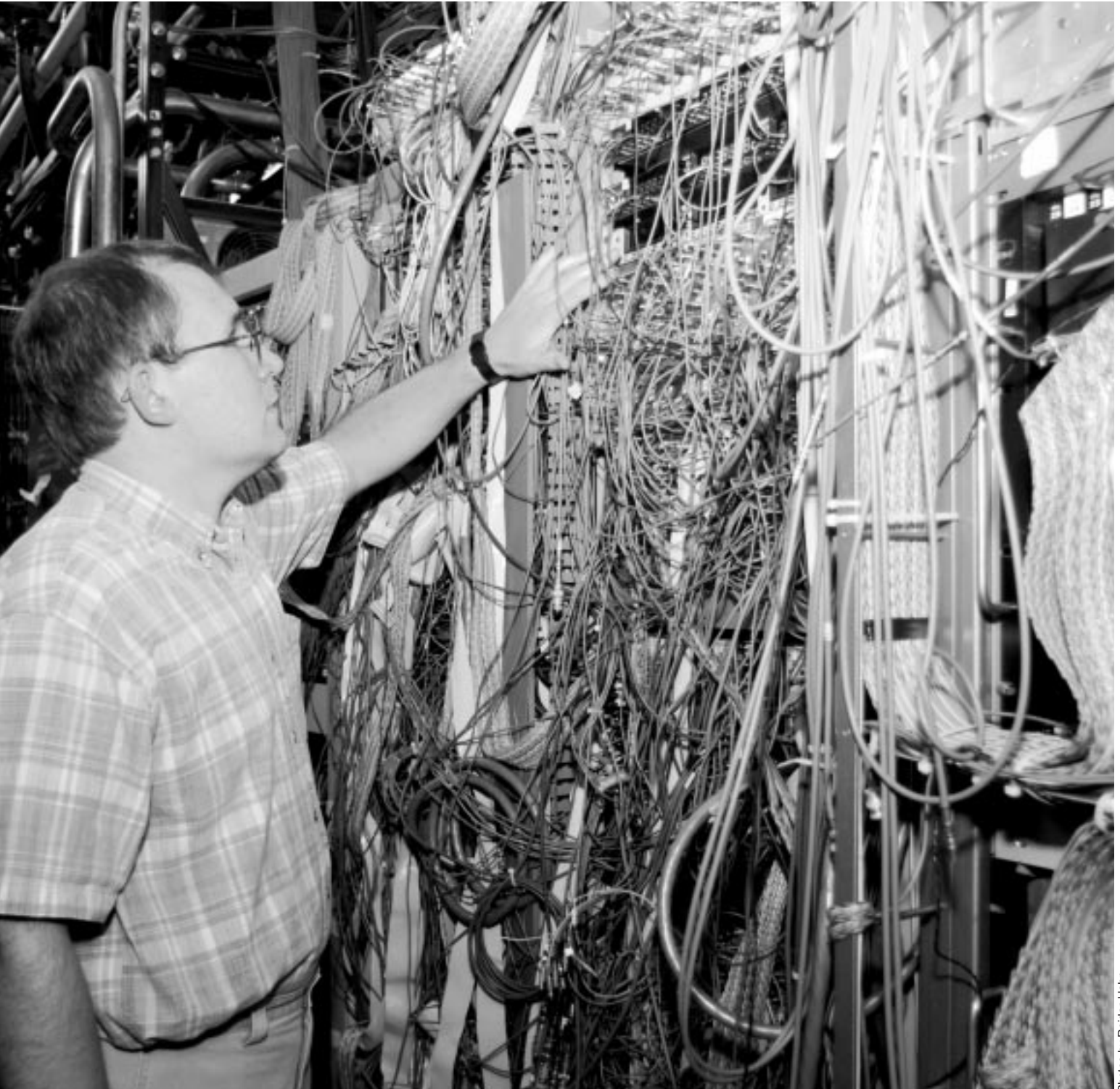


CMU collaborators (from left) Alex Kulyavtsev, Mark Mattson, Soon Yung Jun and Jianming You with part of the apparatus for SELEX, a fixed-target experiment designed to make high statistics studies of charm baryons.

Jianming You views the inner workings at SELEX, which has made up the majority of the CMU collaboration effort at Fermilab over the last decade.



It is our strong suit, across all fields.”



Alex Kulyavtsev examines the mass of wires for collecting SELEX data.

Photos by Reidar Hahn

SAFETY

FIRST, LAST and ALWAYS

SAFETY

by Mike Perricone

The numbers say Fermilab's injury rate is at an all-time low, perhaps the lowest in the 30-year history of the Laboratory.

"We've repeatedly asked our safety officers in each of the divisions and sections if they're hedging on the reporting and classifying of our injuries, the answer is an emphatic 'No,'" said Bill Griffing, head of the Lab's Environment, Safety and Health Section. "Beyond any question of statistics, what's most important is that people are not getting hurt.

"We're seeing a genuine change in behavior throughout the Lab," Griffing continued. "People know management takes the safety issue seriously. People are taking more time to plan work properly. And they realize it doesn't necessarily add time to do a job safely. In fact, it probably saves time, because you don't have to go back and re-do a job. It really amounts to working smarter."

Griffing emphasized the role of communication by the heads of Fermilab's four divisions (Beams, Computing, Particle Physics and Technical) and four sections (Facilities Engineering Services, Business Services, Laboratory Services and ES&H), but the importance of communication is underscored again and again in the places where the day-to-day work of the Lab is conducted—especially in places where that work includes some heavy lifting.

In the Technical Division, as of September 10, 1999, the Material Control Department has gone 1,551 days without a lost workday injury—that is, more than four years without an injury serious enough to cause an employee to miss a workday.

"I think we've been able to do that because our employees are listened to, we take pride in what we're doing and we have a sense of ownership in what we're doing," said department head Gregg Kobliska. "We try to make safety a part of our routine."

That record is all the more impressive considering the kind of work the department does. The bulk of those four years were spent handling the hundreds of magnets that went into the construction of the Main Injector accelerator and the Antiproton Recycler. Those magnets can weigh up to 20 tons each, and even their component parts—such as pole tips, coils, plates, halfcores, bricks and laminations—are heavy enough to require lifting by crane, sling or forklift, and transport by tractor-trailer.

There are three groups within the department: Acquisitions, which orders magnet parts and tooling; Quality Control, which inspects all parts, tooling and supplies coming into the Technical Division; and Magnet and Component



Photos by Jenny Mullins

The Material Control Department has gone 1,551 days without a lost-workday injury, as of September 10, 1999.

Communication and awareness lead the way to **NEW** Fermilab safety records.

Storage, which handles the magnets and parts from receiving through assembly and installation.

Kobliska emphasized that there is no “typical” day for the groups, but a composite picture of their responsibilities might include receiving and inspecting shipments at Industrial Building 4; gathering and issuing the various components to the Engineering and Fabrication Department; moving magnets to the Magnet Test Facility in Industrial Building 1; and then perhaps sending a fully-assembled magnet to the Main Injector for installation there.

All done safely, for more than four years, with no one losing a workday because of an injury.

“We held some meetings recently to get our people’s ideas on why we were able to achieve this record,” Kobliska said. “Many people listed communication...as a key element of our safety program this involves encouraging our employees to participate and to provide input. And we listen to our employees. Listening is so important. They’re the people doing the work every day. They’re the people facing the hazards every day, and this is their record. I’m a facilitator. My job is to make sure they have the proper training and equipment; to back them up as much as I can in doing the right thing; and to listen to them.”

Helping set an example, other groups within the Technical Division have also established strong safety records: the Magnet Test Department has gone 800 days without a lost-workday injury, and Engineering and Fabrication Department recently completed a year without a lost-workday injury.

These records, and the heightened awareness throughout the Lab, attest to the effectiveness of the ongoing Integrated Safety Management process: 1) Define the scope of the work;

- 2) Identify the hazards; 3) Identify the controls;
- 4) Do the work using the hazard controls;
- 5) Evaluate the work just completed, and look for opportunities to do the job better in the future.

The Labwide safety focus was summed up in a recent message from Director Michael Witherell, which concluded: “Though the numbers are important, it is the people at the Laboratory who really matter. We owe it to each other to keep our Laboratory a safe place to work.”

Kobliska cited the constant challenges posed by new projects and new situations, all requiring new solutions. But he said the goal remains the same: “I want to be able to talk about this two or three years from now, and say that we still haven’t had anybody hurt.” 📌



In the foreground, Ted Beale (right) and Steve Merkler use a laser system to measure the flatness of a CMS Endcap Muon Chamber panel. In the background, Gary VeZain (left) and Doug Kelley direct a slings carrying a crate of the panels.



from WINDMILLS

by Sharon Butler

That Batavia is Fermilab's home address is a quirk of history.

Fermilab might have been in West Chicago, but Fermilab's founding director chose a post office box in Batavia instead. He was afraid that an address in West Chicago might confuse foreign visitors—they might think Fermilab was located on the outskirts of the Second City.

Nevertheless, the choice was particularly apt. For, in one way or another, both are, or have been, in the business of energy:

Fermilab, of course, is in the business of high-energy physics, splitting protons open at energy levels of a trillion electron volts to figure out what makes matter tick.

And Batavia used to be in the business of wind engines, or windmills, used for pumping water and later for generating electricity. The town's windmills appeared all across the American landscape, and still dot Batavia's lovely Riverwalk.

Last year's city sticker, on the windshield of every registered car in Batavia, featured a picture of the town's windmill, and of Fermilab's Wilson Hall.

The town began with a solitary log cabin in 1833, and two years later became Batavia, when the property was purchased by Jude Isaac Wilson. Batavia was the name of Wilson's home town back in the old country.

Blessed with a river to supply power and irrigation and surrounded by the rich farmland of the Midwest prairie, Batavia grew rapidly. By the middle of the eighteenth century, it had become a prosperous industrial center.

About a dozen companies manufactured windmills, among them Challenge Windmill and Feed Company, U.S. Wind Engine and Pump Company, and the Appleton Manufacturing Company.

Batavia was also rich in limestone. After Chicago's Great Fire, Batavia's 10 quarries supplied the stone to rebuild the city. Many buildings in Batavia's own downtown area are constructed from the rough-cut stone.

This prairie town played an interesting role in the nation's history.

Following the assassination of President Abraham Lincoln, his widow, Mary Todd Lincoln, spent three months in Batavia's Bellevue Place, then a sanitarium and rest home for the mentally ill.

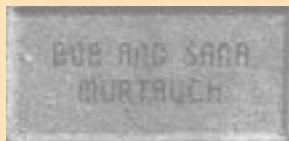
Here in Batavia, the first self-regulated automatically adjustable windmill was developed. Here, too, the now-ubiquitous flat-bottomed paper bag was invented, as well as a process for grinding grain against a metal rather than a stone surface.

The nation's annual observance of Flag Day began in Batavia, credited to one of its dentists, Bernard J. Cigrand.

And, of course, here in Batavia the top quark was discovered in 1995, at Fermilab.



The brick path along Batavia's Riverwalk was the work of many town volunteers.



to ACCELERATORS



Batavia's government building, with windmills on the lawn.



Windmills grace Batavia's skyline.



Downtown Batavia...



...with fishing close at hand.

Photos by Reidar Hahn



Photos by Reidar Hahn

Batavia claims lovely views along the Fox River.



Batavia Mayor
Jeff Schielke

Today, Batavia's population is over 21,000, including many who work at the national laboratory, and the Lab is viewed as a welcome neighbor.

"If Fermilab hadn't arrived, the whole area would be a subdivision now," said Batavia Mayor Jeff Schielke. "Fermilab has never smoked, polluted, blown up, smelled or caused traffic jams. Most people would say it's the best thing that ever happened to Batavia."

Luann O'Boyle, administrative assistant for the Sloan Digital Sky Survey group, has lived in Batavia for almost 20 years, and loves its small-town feel, a place where neighbor knows neighbor and volunteers help build staunch timber overlooks along the town's Riverwalk. "It's not so big that you feel lost," O'Boyle said. And Fermilab is just around the corner, contributing not only to the community's economy but to its annual cultural calendar with its Art Series offerings, like Ahmad Jamal and the Jellyeye Drum Theatre.

The only downside, O'Boyle wisecracked, is that she has no excuse for arriving late at work: "I can't very well say I was stuck in traffic."

Bill Koncelik, in the Procurement Office, also likes the small-town feel. He moved here from congested Long Island 10 years ago, and never regrets it. He has no commute to speak of (one recent bright summer morning, he biked to work). And he enjoys all the family activities the community offers for his four- and eight-year-old.

In the time he's lived in Batavia, however, he's seen a lot of growth beginning to threaten the way of life out here on the prairie. It's a constant theme of residents all across the Fox River Valley.

Roger Dixon, who does research on cold dark matter, has the same complaint.

He's been watching the town fight to maintain its community identity as it struggled to "stem the tide of surging urban sprawl and the invasion of Pave-all Creatures from the planet Mall-eron." He figures "the town can't win in the end because Steven Spielberg didn't write or direct this script."

The wide open spaces at Fermilab, though, are a palliative, he said, and keep development somewhat at bay—at least for now. 🌱

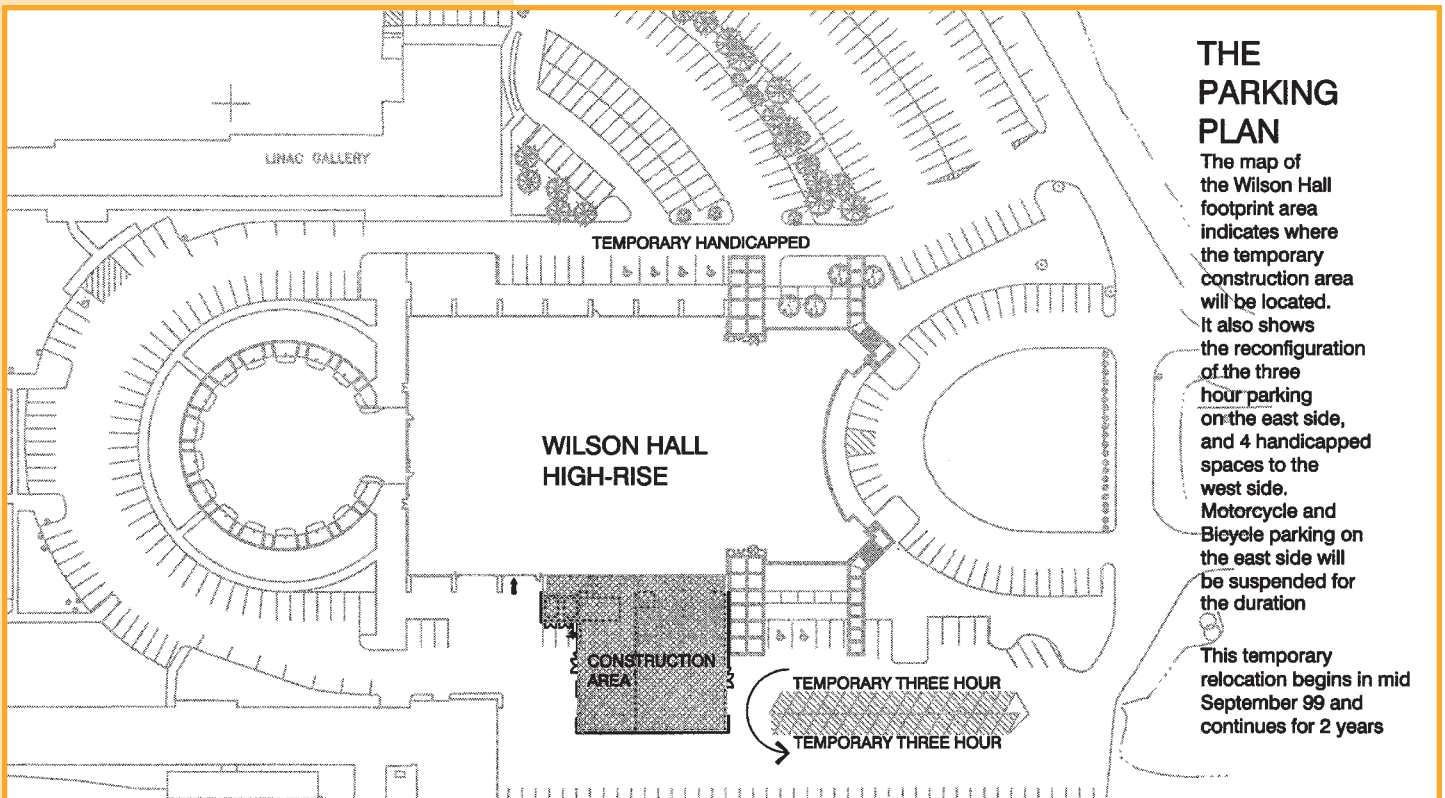
The Parking Chronicles, Part IV

by Judy Jackson

We know that there is nothing FermiNews readers crave more than a good parking story. Weeks have passed since our last article on parking, so we are particularly pleased to bring you the latest news on where you may and may not park at Fermilab.

The text for today's story is taken from the book of Matthew, Chapter 25, verse 29: "...from him that hath not, even that which he hath shall be taken away."

When we left our story last July, Fermilab had redistricted the parking spaces around Wilson Hall to provide more short-term (and, consequently, fewer long-term) parking spots in the vicinity of the High Rise. Now officials of the Facilities Engineering Services Section have announced that the imminent commencement of Wilson Hall renovation will further reduce the number of long-term spaces on the east side of the High Rise. Quite a few long-term spots will disappear, to make room for the construction activities that will put Wilson Hall back on the list of Tall Buildings of Northeastern Illinois that Are Not Falling Apart. Westside parking will be reconfigured to add four handicapped spaces, and motorcycle and bicycle parking on the east side will be suspended for the duration. All of these changes are temporary—if two years can be called temporary—and will begin on Monday, September 20. 🚧



the

Plant of the Week

It's yellow season on the Fermilab prairie. Three or four kinds of goldenrod, coreopsis, species of prairie sunflower and compass plant seem to distill the September sunshine and reflect it back to the late summer sky. The purples and blues of June and July are scarce now among the gold.

Pollination prompts the prairie's color palate, says Fermilab ecologist Rod Walton. Flower colors cluster by season because the insects that are active at the time of bloom

tend to stick with the tried and true. The bees that are currently working the prairie have good luck with yellow; and, conservative creatures that they are, opt to stay with a good thing. Thus, a plant that wants to attract the bees' attention for purposes of reproduction in September would do well to go with the flow and burst out in golden flowers.



This week's plant of the week, the obedient plant, *Physostegia virginica*, on view in the Office of Public Affairs, bucks the trend. It's purple. Purple flowers, Walton says, are usually pollinated by different insects (flies, for example) and often have a more complicated structure than the daisy-like yellow composites. Indeed, the obedient plant's spikes of rose-violet blossoms look like the heads of a flock of tiny purple dragons, which no doubt accounts for their other common name, false dragonhead. The obedience in the plant's name comes from the flower's tendency to stay put—sort of—when nudged by a finger to one side or the other.

Obedient plant is the second entry in the Plant of the Week project, a collaboration of the Office of Public Affairs and the prairie experts in the Laboratory's Roads and Grounds Department, to give a higher profile to botanical residents of the Fermilab site. Last week the spotlight fell on six-foot stalks of big bluestem and Indian grass, now waving over hundreds of acres of the Fermilab prairie. Similarly, obedient plant, once virtually extinct at Fermilab, has now established itself in great purple patches among the grasses. Which must mean that wearing purple in a yellow season can't be all bad.

—Judy Jackson

Power Pole Ecology

The pi-shaped wooden power poles supporting the lines that bring thousands of megawatts of electric power from Commonwealth Edison to the Laboratory's energy-hungry accelerators are a Fermilab landmark. Robert Wilson, Fermilab's first director, designed them in 19xx and convinced a reluctant Com Ed to allow their use on the Laboratory site.

If Com Ed didn't care for Wilson's power poles, another local group is crazy about them. The woodpeckers known as northern flickers, *Colaptes auratus*, find them irresistible. The xx-year-old pine poles make the condominium of choice for the flickers, who hollow out nest-sized holes, all precisely aligned along the vertical pole faces, as the perfect spot to raise families of baby woodpeckers.

"Northern flickers are the white-tailed deer of birds," says physicist Peter Kasper, aka the Birdman of Fermilab, in a reference to the species' ubiquity in Northern Illinois suburbs. When the house-hunting flickers peck on the power poles, the ring of the xx-year old timber, seasoned in many an Illinois summer and winter, sounds like real estate to them, and they bore right in.

It sounds like trouble to David Nevin, of Fermilab's Facilities Engineering Services Section, who is responsible for keeping the power poles on the job for as long as possible. The woodpecker's nest holes weaken the wooden poles, but replacing them with peck-proof metal would not be cheap.

So Nevin is looking for ways to convince the birds to move to another neighborhood. Kasper, an experimental physicist, suggests investigating ways to make the poles sound wrong to nest-minded flickers. Perhaps Nevin could try playing the BeeGees at high volume at 2 a.m. during nesting season. It couldn't hurt, could it?

—Judy Jackson



CALENDAR

September 24

Fermilab International Film Society Presents: *Crazy Stranger* Dir: Tony Gatlif (France, 100 min 1997). A young Parisian ethnomusicologist (Romain Duris) arrives at a Romanian gypsy village in search of a mysterious singer. Film at 8 pm., Ramsey Auditorium, Wilson Hall, \$4. (630) 840-8000.

September 25, and October 23

Fermilab Prairie Harvest. 10 am to 2 pm. Bringing a large group? Call ahead (630)-840-3303.

October 2

Art Series Presents: *Ahmad Jamal*, \$22. Performance begins 8:00 pm Ramsey Auditorium, Wilson Hall. For more information call (630) 840-ARTS.

First Ever Squash and Racquetball Tournaments

The Fermilab Squash and Racquetball League will debut with tournaments in both sports starting October 4, 1999. All are welcome to compete! Registration closes September 30. To join

Racquetball—Merle Haldeman (haldeman@fnal.gov, x3958)

Web site for Fermilab events: <http://www.fnal.gov/faw/events.html>

Squash—Stephen Parke (parke@fnal.gov, x4517)

See Web site for details: http://www-ese.fnal.gov/Recreation/SquashRacketball/squash_league.html

ONGOING

English Classes, Thursday at the Users' Center, 10-11:30, free classes. NALWO coffee for newcomers & visitors every Thursday at the Users' Center, 10:30-12, children welcome. In the auditorium, International folk dancing, Thursday, 7:30-10 p.m., call Mady, (630) 584-0825; Scottish country dancing Tuesdays, 7:30-9:30 p.m., call Doug, x8194 or e-mail folkdance@fnal.gov.

Vicinity'99 Opens the Norris Gallery of the Norris Cultural Arts Center in St. Charles. Beginning September 18 through October 30. Gallery hours are weekdays 10am to 5pm, Saturdays 12 noon to 4pm. Artists' Reception on Sunday, September 26 from 1 to 4pm offers music, refreshments and a 3pm lecture. Selected artists present the finest in painting, drawing, photography, sculpture, printmaking, ceramics and mixed media.



CORRECTION: Stephanie Butler, a Fermilab summer student, attends Glenbard East High School, not Glenbard South as *FERMINEWS* erroneously reported.

Glenbard East HS

LUNCH SERVED FROM
11:30 A.M. TO 1 P.M.
\$8/PERSON

DINNER SERVED AT 7 P.M.
\$20/PERSON

CheZ Léon MENU

FOR RESERVATIONS, CALL X4512
CAKES FOR SPECIAL OCCASIONS
DIETARY RESTRICTIONS
CONTACT TITA, X3524

[HTTP://WWW.FNAL.GOV/FAW/EVENTS/MENUS.HTML](http://www.fnal.gov/faw/events/menus.html)

LUNCH
WEDNESDAY, SEPTEMBER 22

DINNER
THURSDAY, SEPTEMBER 23

LUNCH
WEDNESDAY, SEPTEMBER 29

DINNER
THURSDAY, SEPTEMBER 30

F E R M I N E W S

F E R M I L A B
A U.S. DEPARTMENT OF ENERGY LABORATORY

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The deadline for the Friday, October 1, 1999, issue is Tuesday, September 21, 1999. Please send classified advertisements and story ideas by mail to the Public Affairs Office MS 206, Fermilab, P.O. Box 500, Batavia, IL 60510, or by e-mail to ferminews@fnal.gov. Letters from readers are welcome. Please include your name and daytime phone number.

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CLASSIFIEDS

FOR SALE

- '99 Goldwing SE (Silver) 9K mls, runs great \$16,850 obo. Has Markland Receiver Hitch (5 pin) OEM trailer wiring kit, Markland flrbds, foam grips/extra windshield, also 2 headsets for the intercom one full-face helmet model and one that can be used either full-faced or opened faced. Call x4572, or skweres@fnal.gov.
- '98 Chevy Malibu, automatic 35K taking bids min \$15,5K. ANL E 630-252-5851.
- '96 Ford Explorer, Eddie Bauer 4 dr, V8 all wheel drive 27K mi., lady driver, green/tan interior loaded. \$23K. Mike @ (847) 426-1596 or x3924.
- '90 Honda Civic Si Hatchback, 5speed shift, 92k, A/C, Power Sunroof, new brakes, timing belt and life warranty muffler, recent tires and tune-up, VG cond't, \$3,600 chendi@fnal.gov or 630-355-1253.
- '87 Buick Regal 2 dr., V6 74,500K, good condition. Call Bob at 630-665-5660.
- '89 Honda Accord LXi Sedan 4D 4-Cyl. Automatic, 105K loaded. Blue Book \$5,575 obo, and a '91 Toyota MR2 Coupe 2D loaded... 64K miles, \$7,000 obo. Li-Ming Chen (liming@lucent.com <mailto:liming@lucent.com>).
- '89 Ford Taurus Sedan 94k miles, auto, loaded, original owner, good condition, new brakes, \$2,500. Mail to chou@fnal.gov or call x5489.
- '86 Mercedes-Benz Model 190-D, 5 cylinder 4 spd. Automatic Grey w/grey interior, sun-roof, power seats, lots of extras, average mileage asking \$2700 obo. Mike @ (847) 426-1596 or x3924.
- PC 386, 33Mhz, 130MB, 8MB RAM, Math Processor, Windows 3.11, Microsoft Word, Excel and more; Viewsonic color monitor; Panasonic Matrix Printer KXP 1123; Works great. \$200. mail to chendi@fnal.gov or 630-355-1253
- 1 king bed frame, 1 queen brass bed headboard, footboard, and frame. Have picture. 1 twin motorized hospital bed. Prices negotiable Robin@3377
- Sony CFD454 portable CD/Radio/Cassette-Corder. CD and cassette needs work. Great fixer-upper for electronic enthusiast! Will accept best offer. Call Shelley, ext. 5809 or krivich@fnal.gov
- Golf Clubs, King Cobra driver, regular flex graphite shaft \$95. Custom Fairway drive graphite shaft \$90. Jerry @x8779.

RECREATION FACILITY

Recreation Facility Y2000 memberships are available this month in the Recreation Office, Wh15W, from 8:30-5:00 Monday – Friday. You may renew your 1999 membership through the mail by sending a completed application form and waiver

(copies can be found at <http://fnal.pubs.fnal.gov/benedept/recreation/facility.html> and a check payable to Fermilab to M.S. 126. New members that purchase their memberships the beginning of September receive 13 months for the price of 12.

Membership costs are \$70.00 for student memberships (visiting graduate students only). All 1999 memberships expire October 1. There will be an open house on October 8th and 15th from 8:30-5.

MILESTONE

RETIRING

J. Finks, I.D. #2145 will retire September 30, from BS-AD section. His last day of work will be September 3, 1999.

http://www.fnal.gov/directorate/public_affairs/ferminews/



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