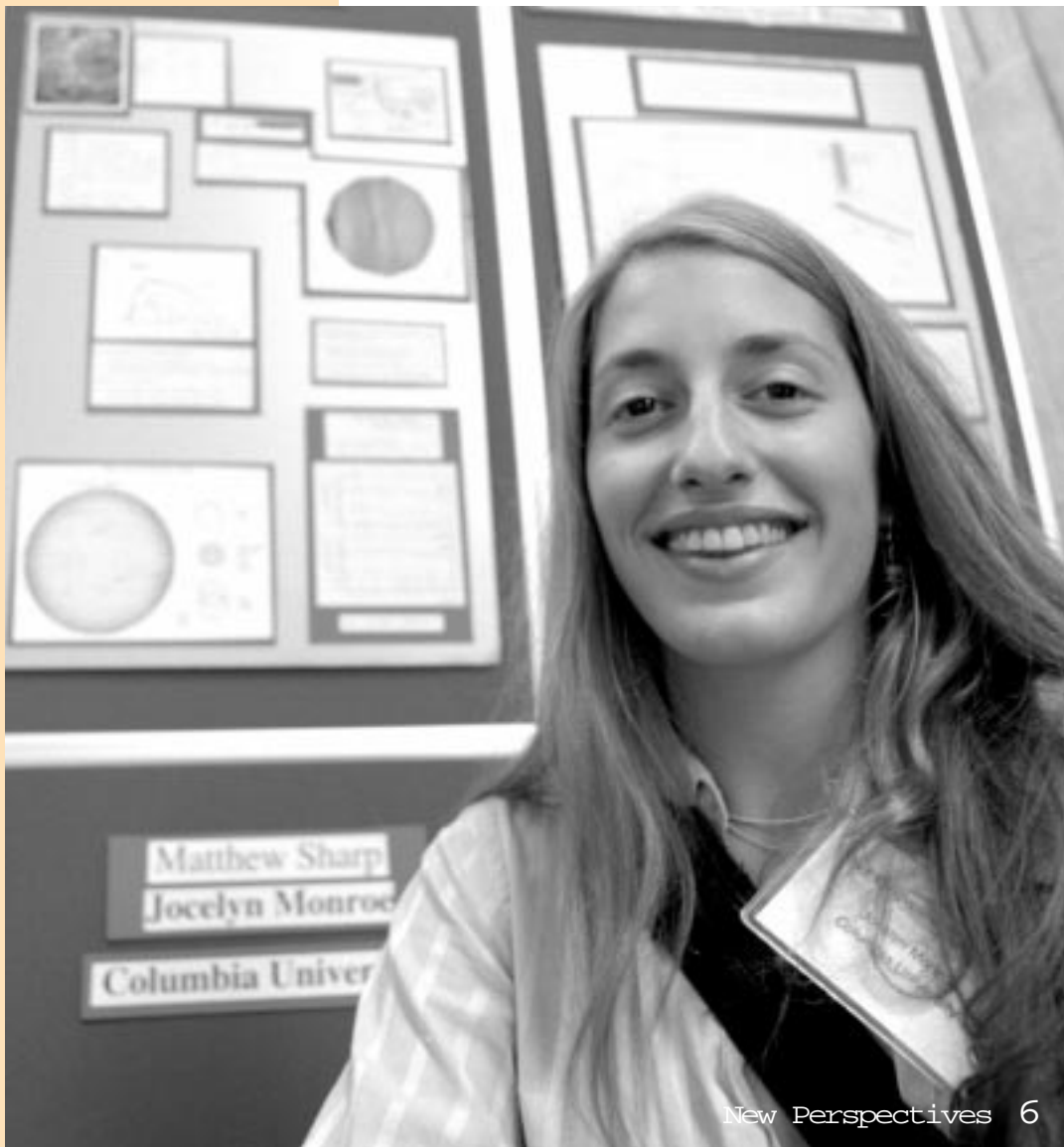


# F E R M I N E W S

F E R M I L A B A U . S . D E P A R T M E N T O F E N E R G Y L A B O R A T O R Y



New Perspectives 6

Photo by Reidar Hahn

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## Fermilab Users

# MEET THE FUTURE

by Judy Jackson

At their annual meeting on July 6 and 7, Fermilab's users expressed widely differing views on many topics, but on one subject they were nearly unanimous: it was the best users' meeting in years—maybe the best one ever.

"It was a great meeting," said University of Chicago physicist Ed Blucher, a KTeV collaborator. "The focus on the future was good, and we had a lively and interesting exchange of views."

Users praised the event's organization by Users' Executive Committee Chair Greg Snow and meeting organizer Dan Amidei. What made it such a good meeting, many said, was the opportunity to come together and begin to talk about the things on everyone's minds: excitement and optimism about Run II, shadowed by concerns about what will come next, both for Fermilab and for U.S. particle physics. The meeting's first day, devoted to a discussion of the future, was a chance to speculate about discoveries that may lie just ahead in what many see as a golden age for physics at Fermilab in the next few years. It was also an opening dialogue in what promises to be a long, continuing conversation about the future of high-energy physics in the United States.

The meeting provided the first opportunity for Fermilab users to hear formally from the Laboratory's new director, Mike Witherell. In his opening remarks, Witherell told users he is excited to be at Fermilab, "a laboratory with a remarkable record that has changed the way we look at the structure of the world around us." He cited the central physics questions that confront the field—supersymmetry, a Standard Model Higgs boson, the discovery of "something else," CP violation and neutrino mass—and noted that "Fermilab is addressing all these important issues with experiments that are the best or among the best in the world."

The director repeatedly stressed that the Laboratory's highest priority is getting the collider detectors CDF and DZero ready for Run II as well and as quickly as possible.

"The best chance for a discovery in the next six-plus years that would change the direction of particle physics is at the Tevatron," Witherell said. "Our challenge now is to advance the field of high-energy physics and to make sure that Fermilab has a future. The two are closely linked. High-energy physics will prosper if Fermilab does."

Witherell was among many speakers who regretfully acknowledged a current lack of support in Washington for construction of a major new facility for high-energy physics. He shared with users some of the difficulty of obtaining new



Photo by Reickar Edlin

University of Nebraska physicist Greg Snow, chair of the Users' Executive Committee, organized this year's Users' Annual Meeting.

federal funding and emphasized the importance of communicating the value of particle physics research to legislators.

"I know my congressman, Dennis Hastert, was up here on this stage a couple of weeks ago saying that Fermilab was his highest priority," Witherell said. "So let's see what you can do with yours."

The Department of Energy's Peter Rosen quoted a recent Science article by James Glanz, to ask "Will the



#### Higgs Particle

Make an Early Entrance?" Rosen, along with nearly everyone in the audience, clearly hoped so—and via the Tevatron's front door.

"Dove vai, cacciatore di quark?" (Where are you going, quark hunter?) Rosen asked, referring to a 1996 headline from the Italian newspaper *Corriere della Sera*, which in turn paraphrased a line from the opera *Don Giovanni*, on the discovery of the top quark at Fermilab. "Vò cercando la giugulare," was Rosen's response, identifying the jugular with the Higgs boson, in perhaps the meeting's most colorful metaphor. Rosen also noted the "sticker shock" from a recent review at SLAC of the proposed future linear collider, at which the cost of the NLC was estimated at nearly \$8 billion. Rosen said the NLC's cost would need to be reduced by 25 to 50 percent before the machine could receive serious consideration.

# *Vò cercando la giugulare!*

# "Today's SCIENCE influences tomorrow's ENGINEERING."

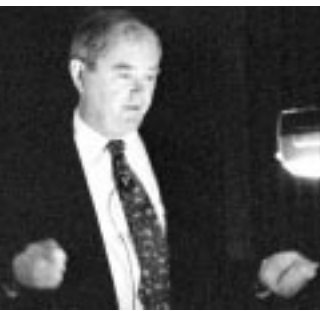


Photo by Jerry Williams

Fermilab theorist  
Chris Quigg.

Fermilab theorist Chris Quigg took up the theme of a possible Higgs discovery if the Tevatron can achieve a high enough number of collisions in Run II.

"It's fine to build exclusion plots," Quigg said. "It's even better to find stuff. And there's lots of opportunity to find stuff. If we can achieve 30 inverse femtobarns [a measure of collision number] before the LHC turns on, there is a real possibility for a light Higgs. Once you get higher luminosity, you get the possibility of a discovery that will change the agenda of high-energy physics... I believe that what is claimed for the Tevatron's ability to discover a Higgs with a mass up to 130 GeV might actually extend to 180 GeV, although 130 is more certain. All the indications are for a light Higgs."

Looking farther ahead, Quigg discussed the strengths and challenges offered by each of the three most frequently proposed options for future U.S. accelerators: the NLC, a muon collider, and a very large hadron collider. He emphasized the importance of responding to discoveries in planning for the future of particle physics research.

"Nimbleness is the key for Fermilab and for the field," he said. "Today's science influences tomorrow's engineering."

Physicist Paul Grannis of the State University of New York proposed a series of "Circle Line" workshops, a sort of traveling Chataqua on future accelerators, to explore the various options for future machines.

Stanford Linear Accelerator Center's director-designate, Jonathan Dorfan, addressed the users by videotape, assuring them that he would be thinking of them from his poolside location in Tuscany, where he is vacationing before taking

up his new duties. Dorfan wished his colleague Witherell "a long and successful sojourn at Fermilab" and said that SLAC and Fermilab must collaborate, rather than duplicate each other's efforts, for U.S. high-energy physics to succeed. He extended an enthusiastic welcome to Fermilab scientists to collaborate in work on the Next Linear Collider, one of the options under consideration as a possible future U.S. accelerator.

"Business as usual will not work," Dorfan said. "I pledge to work with you."

Following more detailed presentations on each of the future accelerator options, a panel took the stage to discuss the future, and users took the opportunity to raise questions and express their views.

Panelist and Cornell physicist David Cassell stressed the need to reach consensus about the future of particle physics—a consensus, he said, that he does not yet sense. As ways of reaching consensus, Cassell suggested honest consideration, increased R&D on future accelerators, and workshops for all, "including skeptics."

Skeptics there were aplenty, including University of Michigan physicist Dick Gustafson who, later in the meeting, asked bluntly, "Is the fix in? Has it already been decided that the NLC will be the next machine?"

Witherell responded.

"The fix is not in," he said. "Fermilab needs to be in on the decision process of what comes next. We need to do that work. The community does not yet have a consensus. But we will need to make an up or down decision on the NLC relatively soon."



DZero collaborator Paul Grannis, of the State University of New York at Stony Brook, proposed "a series of extended talks... to help guide defining scenarios"—a Circle Line series.



Photos by Jerry Mallins

Fermilab physicist Jim Strait asked if SLAC scientists would be joining accelerator R&D efforts now underway on muon colliders and the options for a future VLHC. Witherell replied that they had been invited.

The auditorium grew quiet as Harvard University's Melissa Franklin stood to ask a question.

"As well known," Franklin said, "that lab directors have too much power. Meanwhile universities are

struggling. What are you going to do about that?"

"Well," said Witherell, who until the previous week had been a university professor himself, "I used to think lab directors had too much power, too."

The room dissolved in laughter, including Franklin's, and the meeting adjourned. 🍷

Columbia University physicist Janet Conrad and DOE's Peter Rosen at the users' evening reception.





# NEW

# Perspectives

by Judy Jackson

Masashi Tanaka's poster on the search for radiative B decays at CDF won third prize in the New Perspectives poster contest. Tanaka is from the University of Tsukuba, Japan. Jocelyn Monroe (cover photo) shared first prize with Matthew Sharpe for a poster on MiniBooNE; Monroe and Sharpe are from Columbia University.

**N**ew Perspectives, the annual conference of Fermilab's graduate students, got underway at an evening reception on July 8, with the first annual poster contest, organized by the Fermilab Graduate Student Association. Named in honor of the late George Michail, a Fermilab graduate student from Harvard who was killed in a car crash in 1996, the contest brought together the work of students from all corners of the Laboratory. Their posters addressed subjects from the flavors of charm to the measurement of magnetization in

superconducting wire and drew a large and interested audience in the Wilson Hall atrium. A team of five Fermilab physicists chose first-, second- and third-place winners, who received certificates and cash awards contributed by Universities Research Association, Inc.

In presenting the awards at the conference next morning, Director Michael Withereff told the students that one reason high-energy physicists are in demand to work in other fields is that they are trained to make the case for their ideas to their colleagues. He cited the poster contest as a case in point.

New Perspectives '99, organized by the GSA's Maria Spiropulu of Harvard University, drew some 65 students as well as several of their elders, and featured invited talks by well-known physicists and reports on research by the students themselves.

"It's a good opportunity to talk about your work informally, even if you don't yet have a result that's been blessed [by the experiment collaboration]," said Purdue University's Arnold Pompos. "Other people are interested in what you're doing at the lab."

Two dozen students presented talks on subjects including boson production at DZero, searches for supersymmetry at CDF, and recent results on CP violation from KTeV. Fermilab theorist Chris Quigg introduced his former thesis advisor and the conference's keynote speaker, Professor J.D. Jackson of the University of California at Berkeley. Jackson is well known to generations of physicists as the author of the classic text, "Classical Electrodynamics." Jackson said he is concerned about a tendency



Photo by Residar Hahn

toward increasing specialization and its impact on the unity of physics, calling for both university faculty and students to widen their focus by, for example, attending physics colloquia on diverse topics. In a live demonstration, Jackson poured honey from a plastic bear. He squeezed the bear to change the rate of honey flowing out and explained how to derive the frequency of the resulting coils of honey using dimensional analysis.

"I thought his talk was exhilarating," Spiropulu said. "It made me wish I would be like Professor Jackson one day!"

Other invited speakers included Quigg, Fermilab astrophysicist Rocky Kolb, DZero spokesperson Hugh Montgomery, Harvard graduate student Marc Hill, and University of Wisconsin physicist Francis Halzen. CDF's Alvin Tollestrup made an extemporaneous plea to the students not to neglect the study of accelerator physics.

The conference's final speaker, theorist Joe Lykken, told the students that high-energy physics is exciting and will remain exciting precisely because it exists in a state of permanent revolution.

"Something is out there," Lykken exhorted them. "Go find it." 🍷

Cristian Boffo of the University of Udine, Italy, shown working with advisor Emanuela Barzi of the Technical Division, won second prize in the poster contest for a display on magnetic measurement in superconducting wire. Theorist J.D. Jackson, right, gave the conference's keynote address.



Photos by Jerry Mallins



# Ready to make Music

by Mike Perricone

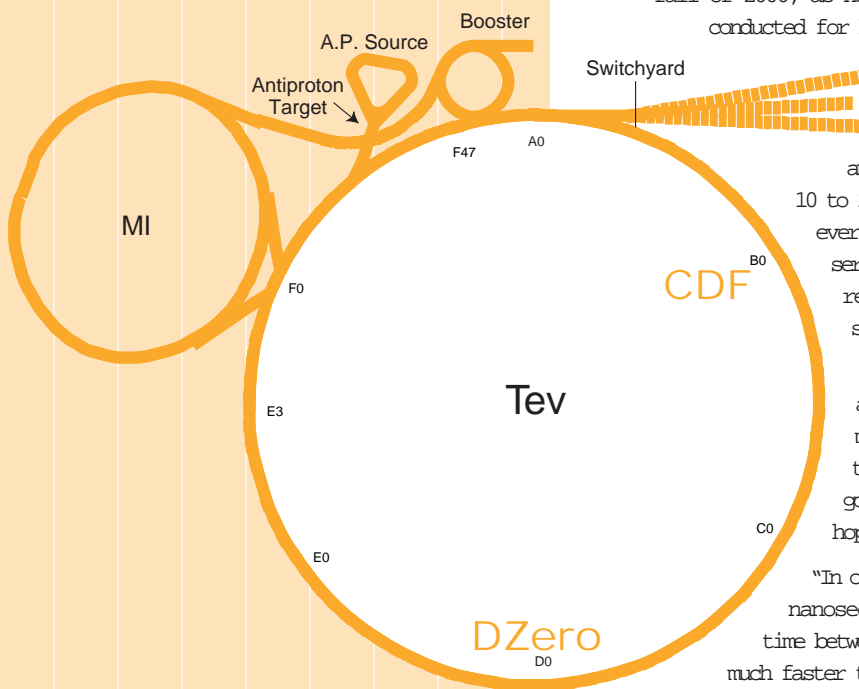
Tap the baton on the podium, get the orchestra's attention, and prepare to launch into a symphony such as you've never witnessed before.

Musical instruments usually range in size from a flute to a piano, with over a hundred instruments for a large symphony orchestra. The individual instruments playing this symphony at Fermilab can vary from a fiber detector smaller than the head of a pin to a "moveable counting house" three stories tall and mounted on wheels, with cascades of thousands of miles of wire and cable running through and around the entire assembly. These instruments number close to a million, and they may be arriving from North or South America, Europe or Asia.

All these instruments and connections—and the new computer software to coordinate them—will come together to form Fermilab's two mammoth particle detectors, CDF and DZero, the 5,000-ton systems that will track and analyze the results of proton-antiproton collisions in the Tevatron when Run II begins in 2000.

"The activity in the detector will increase exponentially as we get close to the end of the year, with everyone trying to get their systems in and commissioned and running," said Mike Tuts, co-project manager for the DZero upgrade project. "The commissioning really will be like conducting an orchestra, trying to get everyone playing together—and playing the same song."

Planning for the detector upgrades began in 1990, and proceeded along with the experimental runs of the Tevatron and the Main Injector project. The first notes from particle collisions could appear sometime in the late summer and fall of 2000, as noted in the Department of Energy Lehman Reviews conducted for both detectors in mid-June.



With the new Main Injector and Antiproton Recycler combining with upgrades throughout Fermilab's accelerator complex, the beams of protons and antiprotons will reach new levels of intensity and will create 10 to 20 times more particle collisions than the Tevatron has ever before produced. Those new performance levels have seriously raised the stakes for the particle detectors poised to record hoped-for discoveries in new physics: the electronic systems will be recording more events in less time.

"The time between collisions at the Tevatron is getting a lot smaller," said Cathy Newman-Holmes, co-project manager for the CDF upgrade with Bob Kephart. "Formerly, the time between collisions was 3.5 microseconds. Now it's going to start off at 396 nanoseconds, and eventually we hope it will decrease to 132 nanoseconds."

"In other words," she continued, "it will be going from about 3,500 nanoseconds down to 132 nanoseconds. This dramatically shorter time between collisions means we have to make our trigger decisions much faster than before, determining which events we want to keep and which ones we don't."



# CDF and DZero detectors

## move on to the next stage in upgrades for Run II



Cathy Newman-Holmes, co-project manager for the CDF upgrades, says the changes at the detector are driven by the much shorter times between particle collisions at the Tevatron in Run II.



Harry Weerts, co-project manager for the DZero upgrades, says, "Building a detector is not like building a car. Everything we do has to be developed from scratch."

At the heart of the data and tracking systems for both huge systems are new silicon microstrip detectors. They're being built at SiDet, the Fermilab Silicon Detector Facility, which DZero co-project manager Harry Weerts described as the "biggest silicon facility in the world."

These silicon vertex detectors, because of their design and the materials used, are highly resistant to damage from the particle beam and produce a high ratio of signal to noise. They will permit observations of what's going on very close to the particle collision point, almost like cranking up the power of a microscope.

"The proton-antiproton collisions may produce particles that don't live very long," Newman-Holmes explained. "These particles travel a short distance and then decay into other particles. With a silicon detector placed close to the interaction point, we are able to detect these very short-lived particles."

Both the CDF and DZero collaborations encompass experimenters and equipment from around the world in completing their upgrades. The silicon for the detectors comes from England, Japan and Russia; the fiber for the pinhead-sized readout devices (originally developed for military applications) comes from Japan, as does the superconducting magnet at DZero.

Also at DZero, several components are being supplied by institutions in Russia; they appear to be coming in on time despite the vagaries of the Russian economy. International politics have also come to bear on components provided by the Tata Institute in Bombay, India; the U.S. State Department prohibits Tata experimenters from coming to Fermilab because of India's atomic

weapons tests last year. Fortunately, the components were delivered before the ban on visits, and other collaborators are trying to take up the slack for the installation. But the loss of Indian colleagues is being felt.

As hectic as the next stages of completion promise to be, they can also be seen as proof that the development stage has reached a satisfactory completion.

"Building a detector is not like building a car," Weerts said. "Everything we do has to be developed from scratch. When you start out, you're very uncertain of what you're doing. You're struggling and struggling, trying to make things work, solving one problem after another, and you know there are no guarantees."

"I think the Lehman review confirmed that we have everything in place. We have all the components. Now we have to put them together and make them run."

Newman-Holmes has to put an additional set of components into place. She is married to Steve Holmes, who was the project manager for the Main Injector from its inception. Coordinating schedules for themselves and their two children has been like conducting their own family symphony.

"Steve and I have really had to focus on making sure our children get picked up when they're supposed to be," she said. "There have been a few times when both of us showed up because we didn't know the other was going to be there. I'm happy to say there hasn't been a time when neither of us showed up." 📅

# A 3<sup>rd</sup> OPTION

by Mike Perricone

It all started with an idea by then-Director John Peoples in the spring of 1996.

Looking ahead to the Lab shutdown for construction of the Main Injector, Peoples instigated a month-long workshop inviting anyone interested in a new colliding beam experimental area to discuss what kind of physics they wanted to do, and what facilities would be needed.

Out of that workshop came a sketchy prototype proposal, along with the scheduling of another meeting at the Lab: the December 1996 Workshop on Heavy Quark Physics at CZero, which sounds straightforward enough, except that there was still no place to do any kind of physics at CZero at the time. That December workshop was held to gauge the level of interest in moving ahead to build what was called a modest experimental hall at the Tevatron's CZero straight section.

"There was a lot of enthusiasm," Peter Garbincius recalled, "and John and DOE said, 'Go ahead and build it.'"

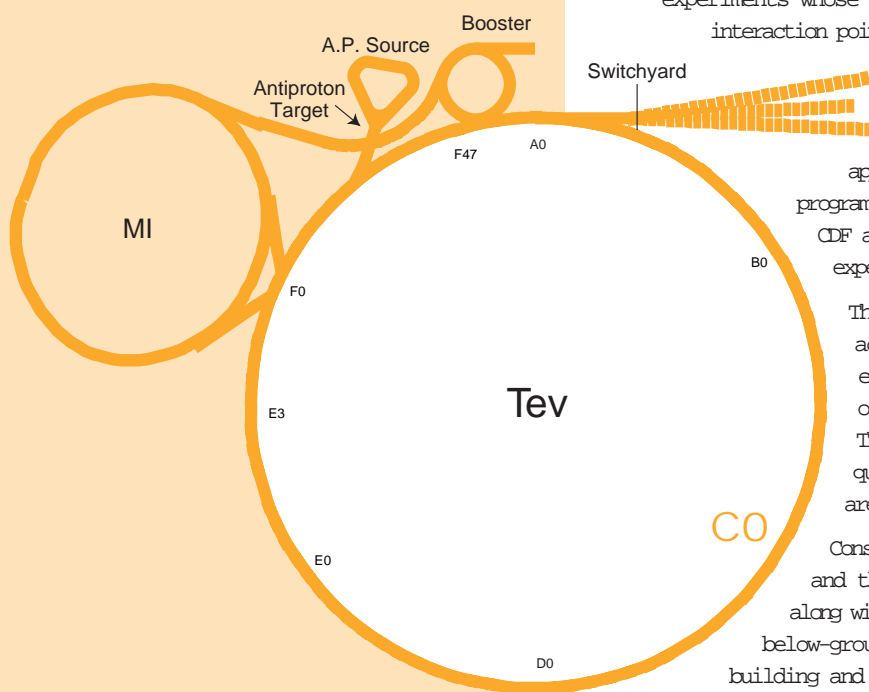
Less than three years later, the \$5 million project has been completed to the stage of having an experimental hall below ground and an assembly building above ground. Garbincius, who helped organize the initial workshop, recently received a Fermilab Employee Recognition Award for his work as project manager on the CZero Area Experimental Hall construction.

The CZero enclosure will be used for testing new detector technologies; for fixed target experiments; and for "modest-sized" collider experiments. A modest-sized example would be studying heavy (charm and bottom) quarks, using existing equipment recycled from several 800 GeV fixed target experiments whose runs have ended. The new area will give the Lab a third interaction point for collider experiments, along with CDF and DZero.

"One of the most valuable things in particle physics is a place to do experiments," Garbincius said. "These are 'physics spigots.' Data flows from them. It became apparent with the reduction of the conventional fixed-target program, and with only two locations for the collider program at CDF and DZero, that there would simply be fewer places to do experiments."

The enclosure was designed in a manner that would accommodate the detector for the proposed BTeV experiment at the Tevatron, investigating the properties of the bottom quarks for CP violation and rare decays. The bottom quark is the second heaviest after the top quark, and many physicists feel that these heavy hadrons are the most promising for discoveries in new physics.

Construction of the new area began in January 1998, and the existing CZero spectrometer room was demolished along with the Tevatron tunnel segment. In its place are the below-ground experimental hall, an above-ground assembly building and an equipment access.



# CZERO ADDS AREA FOR TESTING DETECTOR TECHNOLOGY AND FOR A POSSIBLE FUTURE EXPERIMENT.

The new experimental area is about the size of a tennis court at 80 feet long by 30 feet wide, with a 22-foot ceiling. The Tevatron tunnel was also demolished and reconfigured for a distance of 120 feet upstream and downstream from the planned interaction point, allowing for future experimental apparatus and for an equipment bypass tunnel around the experimental hall.

A high-bay staging hall is equipped with a loading dock and a 30-ton capacity bridge crane. The shielding door is a major feat on its own: 400 tons of concrete, measuring 20 feet high by 20 feet wide by 13 feet thick, moved by rollers and jacks, and modeled on the system used at CDF. Opening or closing the door, to move equipment in or out, or to prepare for beam, will take about half a day.

"It's not something we'll want to do very often," Garbincius remarked dryly.

At the time Fermilab was seeking funds for CZero, projects of that size had to appear as Line Items in the President's budget, with review by both Congress and the Office of Management and Budget.

"It had to appear the same way as the Main Injector project," Garbincius said, adding that those budgetary constraints were no longer the case for a project this size.

Plenty of work remains before physics data can flow from this new spigot. Final steps include: completing utility connections up to the assembly building, adding power and water, and adding the "counting room" facilities where data is collected.

"We did as much as we could underground, and we deferred finishing off the utilities and the building," Garbincius explained. "When an experiment is approved, we'll have to find the money to complete these later phases."

Besides the approval and preparation of a new experiment, CZero will also need a major effort to design and implement a plan for proton-antiproton collisions at the location.

Like all projects, this one required a large cast of key people to make it happen. Garbincius said the list included many from the Facilities Engineering Services Section and from the Beams Division:

project engineer Tom Lackowski, design coordinator Paul Lahn, construction coordinators Jeff Moecher, Ron Foutch and Tony Ramos; retiree John Grimsen returned part-time to work with Jeff Sims on the shielding door; Bill Wickenberg coordinated the groups removing and replacing the accelerator; Alex Martinez and the Beams Division Cryogenics Support Department installed the cryogenics; Tom Moreland designed and managed the electrical power bus and water piping; Rob Reilly designed component supports and oversaw installation; Dave Augustine and the BD/Mechanical Support Department performed the tunnel installation.

"I'm sure there are people I forgot to acknowledge," Garbincius said, "but these are the people who were with the project for a long time and really made it work. I'm especially pleased that we were able to accomplish this heavy construction without a single lost-time injury." 🍀



Photos by Reidar Hahn

Garbincius (left) surveys the high-bay in the CZero assembly building with some of the key members of the project: Tom Lackowski, Ron Foutch, Paul Lahn.



Fermilab Employee Recognition Award winner Peter Garbincius was the project manager for the new CZero experimental hall and assembly building.

# Business as (Uh)usual

by Mike Perricone



In 1996, the people who work in the Business Services Section had a lot of on-the-job injuries. They strained themselves lifting heavy loads. They cut themselves on sharp objects. They had vehicle accidents. They got hurt so often, in fact, that people in BSS missed a total of 39 days of work due to on-the-job injuries, and had 260 days of restricted work, when people couldn't do their regular jobs due to medical work restrictions. BSS had a "lost workday case rate" of 7.4 cases for every 100 person-years worked, and their injuries cost Fermilab 58.1 cents per hour worked. As Business Services Section Head Jim Finks reviewed the latest accident statistics for his section, near the worst at the Laboratory, he decided he and his section could do better. Much better.

Finks was right.

In 1998, Business Services employees missed only two days of work due to injuries, and they had just one day of restricted work. Their lost workday case rate dropped to 1.6, and the cost of injuries per hour worked was 4.1 cents, the lowest of any division or section at Fermilab.

On June 15, Fermilab officially recognized just how much better the section had done, when Deputy Director Ken Stanfield presented to Finks and the entire 146-member Business Services Section the award for "Most Improved Safety Performance of 1998."

"You all did this," Stanfield told the section's staff, assembled for a celebration picnic at Site 38. "You went 347 days without a single accident serious enough for someone to miss work. You are an example for all the divisions and sections at the Laboratory."

Department of Energy Fermi Group Manager Bob Wunderlich echoed Stanfield's praise.

"When you have a safety problem, I have a problem too," Wunderlich said. "Your group has shown what happens when a group understands that safety is everyone's responsibility!"

As the crowd munched hamburgers, fried chicken and brats in the bright sunshine, Environment, Safety and Health Section Head Bill Griffing gave particular credit to Finks' leadership in turning around the section's injury record.

"I found in Jim Finks a leader who believed in safety and shared his vision," Griffing said. "Now other divisions and sections have seen what you did; you are a trendsetter. I am very proud of what you have done."

In crediting and thanking his staff for their accomplishment, Finks also cited the support that he had received from Laboratory management and the ES&H Section in reversing the section's safety record.

"We can never say we don't get enough resources to work safely," he said, "because we can always get them." ❄️

Photos by Jerry Mullins



Business Services Section employees Tony Villa, Dwayne Foster, Ken Peterson and Wayne Smith display their section's "Most Improved" safety award, presented to section Head Jim Finks (above).

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# talk

## Hacksaw Award for Bureaucratic Zeal

It was a week for awards at Femilab. There was the Best Thesis Award, the Best Posters Awards—and the Hacksaw Award.

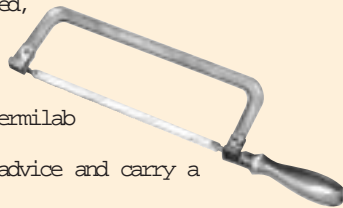
Last spring, when Femilab grad student Maria Spiropulu conceived the new grad student Web 'zine, "Acqua alle Funi," she turned for its inaugural essay to one of Femilab's best-known prose stylists, theorist Chris Quigg. Quigg obliged with an online piece quoting another master of the snappy comeback, Femilab's first director, Robert Wilson. Quigg's essay told the story of an eminent university professor who publicly attempted to excuse his experiment's slow construction progress with the explanation that the Femilab stockroom was padlocked on weekends. Wilson was unimpressed.

"Carry a hacksaw," Wilson advised, or so the story goes.

Quigg's "Acqua" intro counseled Femilab grad students to follow Wilson's advice and carry a hacksaw to cut through obstacles in the path to getting things done at the Laboratory. It made a graceful and spirited introduction to a lively new Web site.

Enter the heavy hand of bureaucracy.

As prescribed by lab Web policy, Spiropulu submitted "Acqua" to the Femilab webmaster for review before linking it to the Femilab main page. The webmaster liked what she saw—until she saw the saw. That bothered her. What if Femilab's grad students took Quigg's injunction literally? What if they really did hacksaw their way into a locked storeroom or—God forbid—took



the hacksaw advice as license to override a safety interlock? What if—the thought caused her bureaucratic knees to quake—the Department of Energy construed the hacksaw to mean that Femilab officially sanctioned such sawing, on an approved Web page? How would it look in the post-Tiger Team environment of Integrated Safety Management? Her bureaucratic soul recoiled.

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"Love the site, hate the hacksaw," she told Spiropulu and Quigg, who added a disclaimer ("We don't mean REALLY use a hacksaw.") to the page.

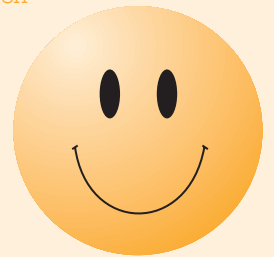
Bureaucracy was satisfied. And on July 9, it was rewarded. During his opening remarks at the New Perspectives '99 grad student conference last week, Quigg presented a real hacksaw to the Femilab webmaster, who accepted it as the First Annual Hacksaw Award for Outstanding Zeal in the Application of Bureaucratic Principles to Laboratory Management. The recipient, who is also the author of this column, suspects that she may have witnessed the birth of a Femilab tradition, but warns others who may aspire to the Hacksaw Award in future years that competition is likely to be stiff

— Judy Jackson

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Have a nice day!

As the month of June wound down and the month of July approached, people at Femilab began to ask themselves what they should do to welcome their new director, Mike Withersell, on July 1, his first official day of work.



# lab

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Recent back-to-back labwide celebrations to dedicate the Main Injector and honor retiring director John Peoples had temporarily sated the Fermilab appetite for big parties in the Wilson Hall atrium. Should the Laboratory organize a colloquium? Hold a special coffee hour? What if ...we all showed up at the front door on the morning of July 1 to welcome Witherell and wish him well on his first day of work at his new job? Let's do it.



The word went out to the Fermilab community: July 1, 8:30 sharp, Wilson Hall front door-be there!

The word also went out to Witherell's wife, Beth: on Thursday morning, make sure he comes in the front door at 8:30. Don't let him show up at 8:00, and don't let him go in the back door.



Photos by Reidar Hahn

By 8:25, the Wilson Hall atrium was filled with people. And at 8:30, Beth Witherell delivered her husband right on time. Everyone cheered as they came through the door. Everyone shook the director's hand and wished him the best. Then everyone went to work: Mike Witherell to his new office on the second

floor, Beth Witherell to her new job at Northern Illinois University, and everyone else back to the job of operating a high-energy physics lab at the energy frontier.

It felt like a good way to start the day.

— Judy Jackson

### New Entry in Fermilab Lexicon: "Plan A"

At the Annual Fermilab Physics Advisory Committee meeting last month, the committee devoted much time and thought to the long-term future of the Laboratory and, by extension, to the future of the field of high-energy physics. It's a subject much on the minds of many at Fermilab—indeed of the entire high-energy physics community—and it raises questions whose answers are, as yet, far from clear.



"We should at least consider the idea..." one PAC member began, "we should at least think about the possibility that Run II at the Tevatron might discover a light Higgs Boson, or supersymmetry, or some other new fundamental physics that will revolutionize our field and make the case for exploiting the Tevatron for many years to come."

"I have already considered that possibility," interjected then-soon-to-be-director Mike Witherell, "and we now refer to it as Plan A."

The PAC burst out laughing, and "Plan A" was born. Two weeks later, by the time of the Fermilab Users' Annual Meeting, "Plan A" had firmly entered the Fermilab vocabulary. Everyone knew not only what the term meant, but what it might mean for Fermilab if Plan A actually happened.

An only partly tongue-in-cheek transparency at the Users' Meeting summed it up: "We refer to this scenario as Plan A. We are still working on Plan B."

— Judy Jackson

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## CALENDAR

JULY 12

Academic Lectures: Statistics for Particle Physicists: Problems Class by Louis Lyons, University of Oxford, 11 a.m. in Curia II.

JULY 23

NALWO Potluck Supper at the village barn. Drinks at 6 p.m. dinner 6:30, barbecue, soda provided. For more info call Maria (630) 231-5047.

International Film Society Presents:

Men with Guns (Hombrews armados)

Dir: John Sayles, (USA, 1997, 127 mins).

Film at 8 p.m., Ramsey Auditorium, Wilson Hall, \$4. (630) 840-8000.

[http://www.fnal.gov/culture/film\\_society.html](http://www.fnal.gov/culture/film_society.html)

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

AUG 2-13

The Graduate Student Association and Mike Syphers have organized an Accelerator Summer School, to be held each day from 10:00 a.m. to 12:30 p.m. in Curia II, Wilson Hall. Information, application forms and the program are available on the GSA Web page (<http://www.fnal.gov/orgs/gsa/>) under "classes and training."

AUG 14

Art Series presents: Marco Granados & Un Mundo Ensemble, \$15. Performances begin at 8 p.m. in Ramsey Auditorium, Wilson Hall. For tickets call (630) 840-ARTS.

ONGOING

An English conversation circle for foreign visitors, led by Kay DiVerde meets every Thursday from 10 to 11:30 AM at the Users' Center. The class is free and can be joined at any time. For more info, call Day DiVerde at: 761-9815.

NALWO coffee for newcomers & visitors every Thursday at the Users' Center, 10:30-12, children are welcome. In the auditorium, International folk dancing, Thursdays, 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](mailto:folkdance@fnal.gov).

## MILESTONES

RETIRING

Donald Byrd, I.D. # 2143, on July 30, from the Beams Division/ESH.

George Reichhardt, I.D. #1405 on July 31, from ESH/Fire Group.

APPOINTED

Albrecht Wagner, the new chairman of the directorate of the German Electron Synchrotron DESY in Hamburg, on July 8.



DIED

Martha Hollingsworth Hanlon, wife of Jim Hanlon (PPD/CMS) on July 6.

Loine Marofske, wife of Chuck Marofske (formerly LSS) on July 6.

Jean Poore from the BD/Support on June 28.

## LAB NOTE

The "Free Speech" bulletin board is back up.

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

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

# Chef Léon

MENU

LUNCH  
WEDNESDAY, JULY 28

Closed

DINNER  
THURSDAY, JULY 29

Grilled Portabello and  
Red Pepper Salad  
with Rosemary Dressing

Stuffed Flank Steak  
Orzo Risotto  
Peach Cardinale

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)

# F E R M I

N E W S I

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F E R M I L A B

A U.S. DEPARTMENT OF ENERGY LABORATORY

The deadline for the Friday, August 6, 1999, issue is Tuesday, July 27, 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](mailto:ferminews@fnal.gov). Letters from readers are welcome. Please include your name and daytime phone number.

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## CLASSIFIEDS

### FOR SALE

■ '96 Honda Civic CX Hatchback. Silver, 89K miles, two newer tires, new brakes, good condition, \$7,000. Call Janet at 630-840-2059, or e-mail mackay@fnal.gov.

■ '95 Honda Civic 4Dr LX Sedan, Graphite, 49k miles, 5 spd, dual air bag, am/fm cassette, cruise control, power brakes/locks/steering/windows/mirrors, child safety lock, tilt steering wheel, velour/cloth seats, very economic. \$8,000 obo. mail to:gilvan@fnal.gov or x8344/4794.

■ '95 Dodge Neon 4dr sedan, 60K miles, 5 speed, 2 airbags, A/C, power doorlocks/windows/mirrors, very good condition. \$5,500 Andreas x5016 or heiss@fnal.gov.

■ '93 Olds 88 Royal, Blue-green, 80K miles, a/c, am/fm cassette, abs brakes, power windows, seats, mirrors very clean, \$8,500. Tom, x8187 or 630-690-2583.

■ '87 Mazda RX7, GXL, 58K miles, red, sunroof, new tires, rear window louvers. Garage kept, looks and runs great. \$5,000 obo. 1992 24" Tioga Montara Class C motor home, 26K miles, Ford 460 engine, new 4KW generator, awning, bike rack.

\$21,000 O.B.O. Contact Dean at X2799 or 630-879-2630, deconn@fnal.gov.

■ Springsteen Tickets, United Center, September 28th, Section 306, Row 14, Seats 1A - 6A(6 seats). \$100 each. Call Bill. X-4173

■ Goodyear Eagle ST tires, size P235/60R14, raised white letters, like new. \$100. Bill Pritchard, x3370, 630.859.8596, pritchard@fnal.gov.

■ Honda Scooter 3,900 miles \$800 Primus Propane 2 burner camping stove \$20, and 14x15x30 bird cage plus stand \$25. Call Bruce at x6657 or 630-858-7860.

■ Brinkmann Gourmet electric smoker and grill. Brand new condition, used once, asking \$45. Ed Dijak work x6300, home 665-6674, dijak@fnal.gov.

■ Condominium for sale, Glendale Heights, 2 bedrooms, 1 bath, 1 car garage, freshly painted. Available immediately. Asking \$85,900 Jim, x3305 or 630-665-8022 or jchammer@fnal.gov. For details visit WEB site: <http://ourworld.compuserve.com/homepages/jchammer/1263b.htm>.

■ Pine bed frame, w/ headboard, queensize, light finish, 6 underdrawers, mattress and boxsprings included, \$75 obo. Call Pam at x3275 or noyes@fnal.gov.

■ W eight bench, \$10, and free-standing weights and bar, \$10. Light truck tires. Two P195/70R14 unmounted tires - free. One P185/75R14 tire mounted on Ranger wheel, good for spare - free. Call lee at x8236.

### RENT

■ Apartment in Batavia, 1st floor non-smoking building, 2 bedrooms, 1 bath, living & dining rooms, eat-in kitchen, 3 season porch, cable & parking. Complimentary laundry, on 1/2 acre. Pets o.k. Rent \$800/mo (\$775 if willing to mow & shovel). Available August 1. Call 630-208-0481 for appointment.

### WANTED

■ House, prefer brick or aluminum ranch (then bi/tri-levels), unincorporated area, over 1/2 acre fp, basement, prefer wooded/rustic, somewhat flexible on area. Pre-approved, no contingencies. FSBO or realtor welcome. 630-243-1125, evenings. needs to be working. Call Alma, x3452.

## LETTER TO THE EDITOR

In the aftermath of stories on the completion of the Main Injector in both the June 1 and July 2 issues of the FERMINews I would like to acknowledge the steadfast support that we received from the DOE Office of High Energy and Nuclear Physics, and the Division of High Energy Physics in particular, during both the planning and execution stages of the Main Injector Project. The Main Injector Project was continuously given very high priority by the DOE's High Energy Physics Advisory Panel and their advice was

reflected in the support of the Office of HEP/NP, first under Wilmot Hess and later under Peter Rosen. The Division of HEP, as the primary steward of the U.S. high energy physics program, held oversight responsibility for the project during the entire design, construction, and commissioning phase. As head of the Division of HEP John O'Fallon continually pressed the case for the Main Injector and made it the centerpiece of the US HEP program for the future. The DOE Project Liaison within the Division of HEP, Phil

Debenham, followed the project closely and worked directly with the local DOE and Fermilab management to see that the project was completed successfully. He was also instrumental in getting the Recycler integrated into the project—an act of true foresight on the part of the DOE. They all have our thanks.

Steve Holmes

Main Injector Project Manager Emeritus

[http://www.fnal.gov/directorate/public\\_affairs/ferminews/](http://www.fnal.gov/directorate/public_affairs/ferminews/)



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