FermiNews

The Newsletter of the Fermi National Accelerator Laboratory

U.S. AND JAPAN GAIN FROM JOINT COLLABORATION

Highlights from 1993 collaborative high-energy physics programs and plans for 1994 activities were discussed recently at the 16th Meeting of the U.S./Japan Committee for Cooperation in High-Energy Physics, held at Fermi National Accelerator Laboratory May 25-26, 1994.

Japanese delegates from the National Laboratory for High Energy Physics (KEK) in Japan, Osaka University and the Japanese Ministry of Education, Science and Culture (MONBUSHO) were in attendance, along with U.S. delegates from the Department of Energy, Brookhaven National Laboratory (BNL), Fermilab, Lawrence Berkeley Laboratory (LBL) and the Stanford Linear Accelerator Center (SLAC).

The committee was established in 1979 by an agreement signed by DOE and MONBUSHO to foster collaborative joint research and development in high-energy physics between physicists of the two countries. The committee meets annually to discuss developments in the field and make decisions on the direction for further joint programs.

The cooperative program gives many top-notch Japanese scientists the opportunity to participate in U.S. experimental physics programs with their U.S. colleagues and to conduct research and development on accelerators and detectors, said Jeffrey Mandula (DOE), executive secretary of the committee for the U.S. The contacts between the Japanese scientists and high-quality Japanese industry can also be valuable to the collaborating U.S. scientists.

Members of the U.S./Japan Committee at the signing of the meeting record (standing, l to r) M. Kobyayashi, K. Takata, S. Iwata, S. Ozaki, K. Okada, J. O'Fallon, A. Maki, S. Olsen, H. Suzuki, D. Leith, Y. Kimura, P. Oddone, J. Peoples, K. Stanfield, G. Loew, R. Rubinstein, D. Lowenstein, J. Mandula. (sitting, l to r) Y. Nagashima, W. Iwamoto, H. Sugawara, W. Hess.

This year's meeting was co-chaired by Wilmot Hess, director of the DOE Office of High-Energy and Nuclear Physics and Hirotaka Sugawara, director-general of KEK. Among the many collaborative achievements discussed at the meeting was the recent announcement of evidence for the top quark by experimenters at Fermilab. Of the nearly 400 CDF collaborators who authored the paper that presented the first direct experimental evidence for top, 24 were from Japanese institutions.

W. Iwamoto, MONBUSHO representative, said this cooperative program has produced remarkable scientific achievements, including this most re-

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FermiNews

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TOPICS IN MODERN PHYSICS INSITUTE HELD AT LAB

IN THIS, THE LAST IN A SERIES OF ARTICLES ON FERMILAB'S EDUCATION OFFICE SUMMER PROGRAMS, WE EXAMINE THE TOPICS IN MODERN PHYSICS INSTITUTE.

The Topics in Modern Physics Institute (TMP) is a three-week program in which teachers learn about the particles that are the basic building blocks of matter and the forces that control their behavior. Since 1987 the TMP project has brought together physicists and teachers to produce and disseminate instructional materials that allow the "sprinkling" of the modern physics concepts into high school courses. TMP uses the excitement of today's "frontier" developments in particle physics as a stimulus for student pursuit of other areas of physics.

The TMP Institute is a unique opportunity for continuing education for high school physics teachers who wish to enhance their knowledge of physics.

From July 18 to August 6, Fermilab physicists meet with the teachers to provide background information and to discuss current research in particle physics. In-depth tours of accelerators, detectors and materials development areas show participants how physicists understand the small and complex world of subatomic structure. Instructional activities incorporate a hands-on approach that translates leading-edge scientific research to the high school classroom.

During the program participants collaborate to:

- Enhance in-depth content knowledge.
- Model the scientific process as an effective instructional strategy.
- Explore basic objectives and problems in modern science as they relate to important science policy questions facing students as future citizens.
- Develop individual curriculum designs and dissemination plans.

The TMP project began in 1987 with a grant to Friends of Fermilab from the National Science Foundation. The current Fermilab Education Office TMP program is funded by the National Council for Science, Engineering and Technology through a grant to the Department of Energy.

U.S./JAPAN

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cent announcement of evidence for the top quark.

In addition, Director-General Sugawara noted the achievements made in the past year by Japan and the U.S. at SLAC including the measurement of the left-right asymmetry and the small beam size achieved at SLAC's Final Focus Test Beam Facility. Both successes, said Sugawara, are excellent examples of international collaboration.

At the meeting, participants were also presented with the results of a recent DOE Office of High-Energy and Nuclear Physics review of the collaboration, five years after the previous such review. The review panel concluded that the U.S./Japan program has produced an impressive amount of important and high quality work. The collaborative effort between the U.S. and Japan has stimulated important new ideas, a number of identifiable advances and has strengthened the ties between the two scientific communities. Based upon the review, the committee recommended that the program be continued, strongly encouraged and, if at all possible, intensified.

M. Kobayashi of KEK presented a summary of the Japanese review and strongly recommended that the program be extended beyond 1995 and the cooperation be promoted with a broader point of view.

The committee, in addition, approved a broad program of collaborative activities for 1994 and 1995. "The activities already planned for future U.S./Japan (collaboration) promise to play an important role in the next decade's high-energy-physics research," Sugawara added.

Among the collaborative projects outlined for the future are the continued running of CDF at Fermilab, SLD at SLAC, heavy ion collisions at BNL and rare kaon decays at BNL and Fermilab.

The next meeting of the committee is scheduled to be held in Japan in the Spring of 1995.

FERMILAB HOSTS A WORKSHOP WITH CHARM

On June 7 through 9, 1994 over 100 attendees heard 35 plenary talks on the future of high-sensitivity charm experiments at the Workshop on the Future of High-Sensitivity Charm Experiments (CHARM 2000) held in Ramsey Auditorium. Twelve working groups focused on the physics opportunities and technical challenges facing this field.

Speakers representing the CLEO, BES, SLAC B-Factory, Fermilab E653, E687/831, E769/791, E781 and CERN WA82/92 and WA89 collaborations reviewed the current status and future prospects. Exponential growth in charm sensitivity during the past decade, along with the rapid pace of advance in technology and computing, suggests the goal of 10^8 reconstructed decays (three orders of magnitude beyond current samples) for an experiment to run in the year 2000. This served as a unifying theme for the diverse areas of charm physics surveyed: spectroscopy, semileptonic decays, QCD tests, baryons, rare and forbidden decays, charm mixing and CP violation.

In contrast with beauty, for which the most exciting prospects are detailed tests of CP violation in the Standard Model, the grail for charm is physics beyond the Standard Model, for which the rates of flavor-changing neutral currents, mixing and CP violation expected in the Standard Model present negligible backgrounds. Observable effects in one or more of these areas are expected in theories which make useful predictions about the fermion masses and mixings, such as supersymmetry, technicolor and left-right-symmetric, grand unified and multiple-Higgs theories. Also discussed were progress in pixel and diamond detectors, scintillating-fiber tracking, vertex triggers and other new techniques which make the promise of a 10^8-charm experiment realistic.

Organizers JOHN CUMALAT of the University of Colorado, DAN KAPLAN of Northern Illinois University and SIMON KWAN of Fermilab and attendees were enthusiastic about the prospects for advancing the "programmatic" production, spectroscopy and decay physics by three orders of magnitude and achieving sensitivities of order 10^{-5} for mixing, 10^{-7} for rare decays and 10^{-3} for CP asymmetries. A follow-up session is contemplated for the HQ94 heavy-quark workshop at Virginia, with ongoing work towards a technical proposal in the long term.
—Dan Kaplan

MOVING TOWARD METRIC

Drawing on employees from all divisions and sections, a Metric Transition Committee has assembled to guide the Lab's conversion to the metric system of measurement.

Over the course of the upcoming months, committee members under the direction of chairman RAY STEFANSKI will look at all aspects of Laboratory operations with an eye toward metrication. The ultimate goals include developing a metric transition plan and recommending specific methods to implement the plan. In addition to overall metric transition management, the committee's areas of oversight include construction, education, electronics, equipment, public affairs, procurement, safety and standards.

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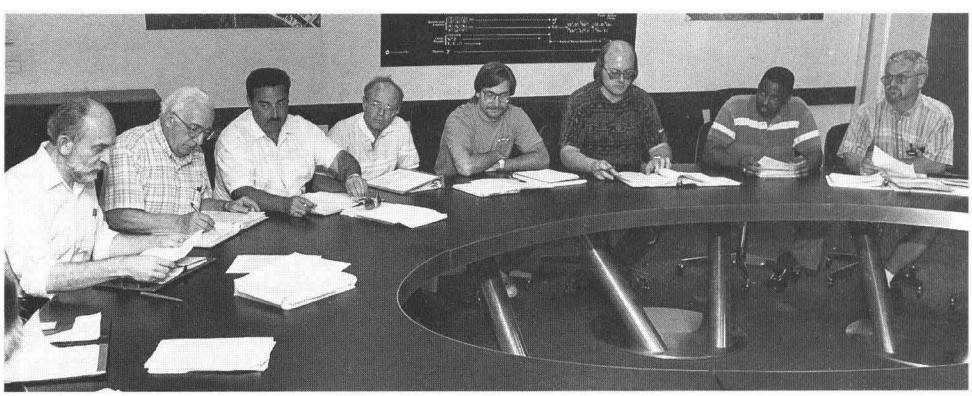


Members of the Metric Transition Committee's nine task groups charged with converting the Laboratory to the metric system of measurements, from left to right are Ray Stefanski (chairman), Chuck Andrle, Frank Cesarano, Leonard Mack, Gregory Vogel, Todd Johnson, Nelson Sample and Dan Snee.

Not pictured are Jim Monaco, Brian Charles, Hans Jostlein, Vic Kuchler, Lou Kula, Charles Matthews, Tim Miller, Mike Romani, Kurt Schurecht and Jim Volk.

PHYSICS CLASS KEEPS COMING BACK FOR MORE

Members of the Roosevelt High School tour group receive a firsthand overview of the CDF control room from CDF postdoc Dave Stewart (right). Dave and Steve Delchamps of Technical Support led the group this year on the different site tours.

If you were to ask a student from Jon Secaur's physics class to name one of the most memorable times he or she has had while in high school, you might not get the answer you would expect. These students probably won't say the prom, spring break or skip day, instead they are more likely to say that trip to Fermilab in June.

For the last 15 years, Jon, a physics teacher at Roosevelt High School in Kent, Ohio, has been bringing his students to Fermilab for a two-day tour, and he says, without exception, his students see the trip as one of their most memorable times from high school.

"I can't say that it alone convinced anyone to major in physics, or to avoid physics, as kids' plans seem well set by then, (but) I know that many students who made the trip in previous years have fond and positive memories of the experience," said Jon.

Jon began bringing groups of his students to the Lab in 1979 after discussing the possibility with his friend PAUL MANTSCH of Technical Support.

"I approached Paul about the possibility of bringing a group of students, thinking that there was probably some regulation prohibiting high school kids from nosing around. What a delightful surprise to find that we were made so welcome. So we got a group of three teachers and about 15 kids together for a visit in April of 1979."

Jon said he originally was planning to visit the lab every two years, and he brought a group to visit in 1981, 1983 and 1985. "Everyone seemed so genuinely pleased to show us around, though, that we made the trip an annual event from then on."

Generally, the students that Jon brings have completed his advanced topics, modern physics course. The trip, he said, is "a wonderful culminating experience" and allows his students to see all of the topics that were discussed over the school year come together. For the last few years the trip has been scheduled for just after the end of the school year, and according to Jon, the side effect has been that only the very interested students attend. "That makes for exceptional groups," he emphasized.

Paul has been instrumental in arranging the details of the visit and has led the groups on most of the site tours over the last 15 years. He said he finds these students extraordinary. "These are unique groups," said Paul. "They are very good students, interested and prepared. Many come after graduation, so they are obviously very interested. It is too bad that more of this doesn't happen."

Over the years, the number of students in the tour groups has ranged from around nine to nearly 30. This year, approximately 10 students came with Jon on June 9 and 10 for the annual tour. The students, who pay their own way for the trip, were treated on their first day to a tour of Wilson Hall, CDF and DØ. The next day, the group visited a fixed-target experiment and learned about upgrades made to CDF.

Jon said that he gained many good experiences over the years from the now-annual tours, but his favorite remembrance stems from an incident that occurred in 1992. An industrious group of students took it upon themselves to design t-shirts to commemorate their tour and sent one to founding Fermilab director ROBERT WILSON. The shirt featured the Fermilab logo on the front and the words *Alle Acqua Funi* on the back—Latin for water to the ropes, a favorite saying of Dr. Wilson's meant to summon inspiration in the face of adversity. It is the same phrase found on Dr. Wilson's Hyperbolic Obelisk that rises out of the reflecting pond in front of his namesake building.

For their thoughtfulness, the students received in return a "delightful" letter from Dr. Wilson who had been amply impressed with the students' consideration for his life's work. There can be little doubt that those students developed a fond appreciation for the significance of an old Latin phrase, and they will carry with them memories of an inspirational correspondence with one of science's pioneers and of their visit to Fermilab. It is that kind of once-in-a-lifetime experience that makes many of Jon Secaur's students answer that their favorite high school experience was a visit to Fermilab.

EMPLOYEES RECEIVE SERVICE AWARDS

25-Year Award

Deputy Director Ken Stanfield presented 25-year service awards to 38 Fermilab employees at a luncheon held May 20, 1994 at Chez Leon. Pictured are: (Row 1, l to r) Fred Browning, Joy Thomas, Herm Stredde, Rich Janes, Roy Justice, Roger Braun, Jeffrey Ruffin, Charles Schmidt, Ron Cudzewicz, Cutchlow Cahill. (Row 2, l to r) Ken Stanfield, Nelson Sample, Johnny Green, Ed Arko, Dan Snee, Theo Gordon, Dick Carrigan, Jack Upton, Win Baker, John Barry, Tom Wilson, Halbert Landers. (Row 3, l to r) Jack Layman, Ed LaVallie, Frank Cesarano, Leon Bartelson, Larry Chiplis, Don Carpenter, Terry Hendricks, John Zuk, Mike Shea, Robert Goodwin, Arthur Gilbertson, Tom Schmitz. (Not pictured) Alan Guthke, Robert Haring, Roger Hiller, Patricia McDonald, Donald Szarzynski.

20-Year Award

Associate Director Tom Nash presented 20-year service awards to 31 Fermilab employees at a luncheon held April 29, 1994 at Chez Leon. Pictured are: (Row 1, l to r) Vivian Villegas, John Elias, Don Sorensen, Joe Morgan, Jim Richardson, Don Rohde, Sharon Koteles. (Row 2, l to r) Holly Clark, Ernie Villegas, Elaine Moore, Connie Grubba, John Hackemer, Imre Gonczy, Tom Nash, David Kindelberger, Jo Gordon. (Row 3, l to r) Mel Magnuson, Gordon Koizumi, Howard Casebolt, Jim Seeman, Kenneth Kittelson, Don Connor, Cecil Needles. (Not pictured) Gerald Bellendir, Denis Bowron, David Erickson, William Finstrom, Timothy Giehart, Thomas Groves, Dave Hornback, Clara Morton, George Villa.

People Events

ROBLEY BERMEL RETIRES

ROBLEY BERMEL, a long-time employee in BSS/Support Services, retired today, July 15. Robley started working at the Lab on July 29, 1968, assigned with I.D. number 236.

Robley said he has not made any definite plans for his retirement, other than enjoying it. As for his 26 years at the Laboratory, Robley said it was "a pretty good time in a lot of ways."

ACCOUNTING COMMENDED BY IRS

Fermilab's Accounting Department was recently recognized by the Internal Revenue Service as an IRS Quality Supplier for accuracy in electronically filing W-2 and 1099 forms.

Quality Suppliers are organizations that filed up to 500,000 information documents without any formatting or validity errors for the 1991 and 1992 tax years.

T. O'Brien, acting director of the Martinsburg Computing Center of the IRS, said in a letter to Universities Research Association that the Laboratory's efforts helped taxpayers file more accurate returns and helped the IRS reduce unnecessary contacts with them. Fermilab's work, he added, also contributed to more effective tax administration.

Congratulations!

To KATHLEEN STREETS (DØ) and JONATHAN STREETS (CD/OLS) on the birth of their son Joseph Turner. Joseph was born on June 16, 1994 at 1:01 a.m. at Delnor Community Hospital in Geneva. Joseph weighed seven pounds, 11 ounces and was 20 inches long. Joseph is welcomed by his three-year-old sister Amy.

To Bonnie and KERRY EWALD (TS) on the birth of their daughter Kiley Danielle. Kiley was born on June 14, 1994 at 11:50 a.m. at Ottawa Hospital. Kiley weighed eight pounds. She is welcomed by brother Kerry, Jr., 22, and sisters Kristin, age seven and Kourtney, age two.

MONOGRAPH AVAILABLE FROM ORTA

The proceedings of the 1993 Fermilab Industrial Affiliates Roundtable on Beyond the Cold War: The Changing Arena of Science is available from the Office of Research and Technology Application. The recently published monograph is the eleventh in a series of "Roundtable" publications based on FIA meetings.

The 1993 monograph features a presentation on the changes in science in the east and west by Roald Sagdeev, professor of physics at the University of Maryland and former director of the Institute for Space Research of the then Soviet Union's Academy of Sciences, and a presentation from Richard Slansky, leader of the Theory Division at Los Alamos National Laboratory, entitled Changes in Science: an Example. Also included in the monograph are talks by Lewis R. Franklin, visiting scholar at the Stanford Center for International Security and Arms Control on industry and science after the Cold War, and a speech by Director Emeritus Leon Lederman on global science. Also included is text from the panel discussion on the direction of science.

Interested employees, users or visitors can obtain a copy of the 1993 monograph by visiting ORTA, WH2SW or contacting PAT OLECK at x3333.

TOP ARTICLE PUBLISHED

The Evidence for Top Quark Production, announced by CDF on April 26, is now officially published in the July 11, 1994 issue of *Physical Review Letters.*

NALWO

NALWO is sponsoring a trip to Santa's Village, a huge amusement and water park in Dundee, IL, on Aug. 3, 1994. A bus leaves from the Users' Center at 9 a.m., returning there by 3 p.m. Thirty participants will insure the reduced admission of $10 per person (children under 3 are free), so please call TANUJA MISHRA at x2034 or 708-406-0430 or BRENDA KIRK at x 3440 to register as soon as possible.

NALWO is planning a visit to the historic Naper Settlement, a village showing life in Illinois over 100 years ago. Car-pool from the Users' Center at 9:30 a.m. on Aug. 11, 1994. Cost of the private guided tour of the village is $5 per adult and $3 per student. Children under 5 are free. Please call BRENDA KIRK at x3440 or MADY NEWFIELD at 708-584-0825 to register.

Join lab employees, guests, visitors and associates from around the world at NALWO's potluck tonight, July 15, at the Village Barn at 5:30 p.m. Please bring a dish to share and some meat to grill. If you cannot bring food please contribute $3 at the door. Help with setup and cleanup is always appreciated. Meet new and old friends, and make your plans to join NALWO's trips next month.—*Sue Mendelsohn*

Harper's Index

Percentage of all humans who have ever lived past the age of 65 who are alive today: **20**

Number of handbags equipped with gun pouches sold in 1992 by Feminine Protection of Dallas: **3,000**

MOVIE SCHEDULE ANNOUNCED

The Fermilab International Film Society presents movies from all over the world. Movies are shown at 8 p.m. Fridays in Ramsey Auditorium. All foreign films have English subtitles. Admission is $3 for adults, $.50 for children 12 and under. Coffee and cookies will be served on the second-floor mezzanine following each film.

July 15: *Archangel*, A one-legged soldier is sent to the Russian Arctic town of Archangel during World War I and becomes involved in a love triangle. Experimental B&W film. Guy Maddin, director, Canada, 1991, 90 minutes.

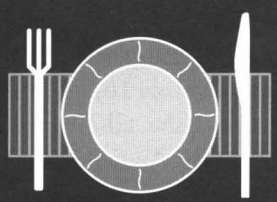
July 29: *The Four Feathers*, Tale of cowardice, courage and redemption in the British military. Set in turn-of-the-century Egypt. One of the all-time great adventure films. Zoltan Korda, director, Britain, 1939, technicolor.

WILSON HALL STOCKROOM HOURS REDUCED

Effective July 11, 1994 the Wilson Hall stockroom will be operating under new hours. The new operational hours will be 1 p.m. - 4:30 p.m., Monday through Friday, until further notice.

If operational problems occur, this stockroom will continue to be subject to closure without notice.

Chez Léon Menu



Lunch (Wed) $8.00 • Dinner (Thurs) $20.00
Reservations: x4512

Wednesday, July 20 • *Garden fresh tortellini salad, ricotta cheese cake*

Thursday, July 21 • *Beef and Roquefort salad w/walnuts, grilled beef and vegetable kabobs, nutted wild rice, blueberry pie*

Wednesday, July 27 • *Cold red pepper soup, pasta primavera, bisquit tortoni*

Thursday, July 28 • *Fresh garden salad, flank steak w/garlic-ginger sauce, vegetable of the season, ginger cake w/whipped cream*

ART SERIES COMING ATTRACTIONS

RAMSEY AUDITORIUM WAS ROCKING ON JUNE 25 WHEN THE ARTS & LECTURE SERIES PRESENTED QUEEN OF THE BLUES, KOKO TAYLOR AND HER BLUES MACHINE. THIS CONCERT, PROGRAMMED TO BRING IN AN AUDIENCE WHO HAD PERHAPS NOT ATTENDED A FERMILAB ARTS EVENT BEFORE, DID JUST THAT.

Due to her health, Koko Taylor performed one long set rather than the usual two with an intermission. Her barrelhouse voice showed no signs of ill health, however, as she tore through music from her new album as well as hit some of her signature hits like "I'm a Woman." By the time she reached the last song of the evening, her smash hit "Wang Dang Doodle" the audience was on its feet and screaming for more. Remarked MARK CHAMPION of the Accelerator Division, "I thought it was great, although completely out of character for Fermilab. We need to have more performances like that!"

If you haven't attended a Fermilab Arts concert, why not check it out? Koko Taylor is over, but the Fermilab Arts Series has many more great concerts to come. On July 16, Fermilab's Favorite Bitchin' Babe, Christine Lavin returns to Ramsey Auditorium. This cynical singer/songwriter has been hitting close to home with songs like "Sensitive New Age Guys" and "What Was I Thinking?" since the early 70s. She'll be performing with John Forster, a singer/songwriter/satirist who has been recently making waves on the Dr. Demento show. The Irish band Altan performs on August 27. Called "the hottest group in the Celtic realm" by the *Boston Globe*, this group has also been lauded in traditional music polls such as *Q* Magazine and Billboard. Legendary jazz pianist Ahmad Jamal comes to Ramsey Auditorium on September 10, performing in an intimate trio setting. This amazing musician's influence on jazz artists such as the late, great Miles Davis serves as a testament to his unique style and incredible musical skill.

Coming just in time for Halloween, on October 29 Ballet Theatre Pennsylvania performs their setting of Dracula. This company of 12 dancers will also present Bolero, set to the seductive music of Ravel. In November, the first of three concerts in the Classical Series. The Young Artists Showcase on November 19 features three outstanding young musicians who are making big waves: Jennifer Koh, violin; DeMarre McGill, flute and Eric Gargrave, saxophone.

The Throat Singers of Tuva, a group of five musicians from the former USSR have burst onto the world music scene. Employing a technique discussed in Feynmann's film footage about Tuva, these amazing performers are capable of producing two or three notes at the same time. Since the dissolution of the Soviet Union, these musicians have received much attention from ethnomusicologists, jammed with the late Frank Zappa, performed with the Kronos Quartet and appeared on MTV's "John Stewart Show." Their performance is on January 28.

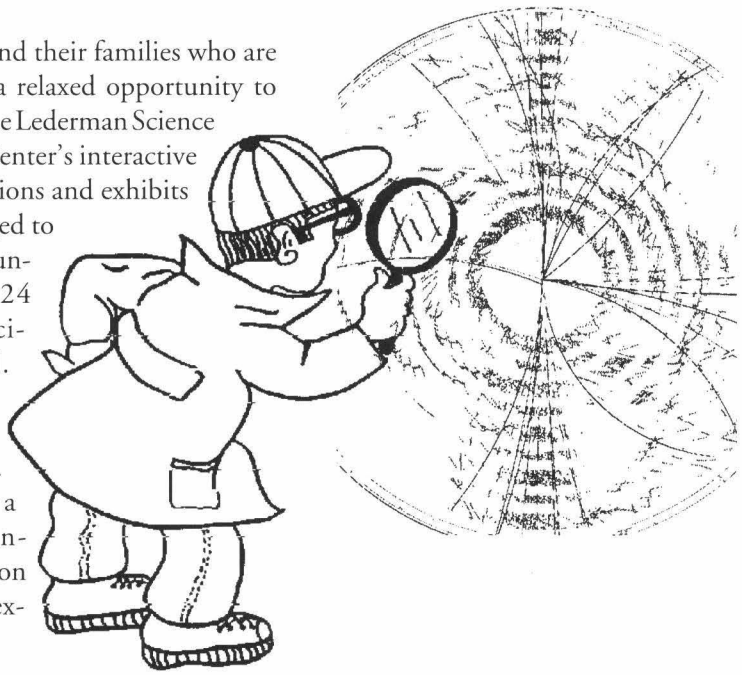
The second of the Classical Series is on February 18. The Amsterdam Loeki Stardust Quartet is a recorder consort of unparalleled virtuosity. This ensemble has been performing together since 1978, yet continues to bring a fresh and unconventional approach to recorder music. Their first two albums on the L'Oiseau Lyre label both received the Edison Award, Europe's most prestigious prize. Their latest recording, Concerti di Flauti, features the Quartet with The Academy of Ancient Music under the direction of Christopher Hogwood.

Two consummate actors, Roscoe Lee Browne and Anthony Zerbe, present some of the greatest writing of the 20th Century in *Behind The Broken Word*, on March 25. Experience Auden, Cumming, Giradoux, Yeats and others in a chilling performance. Pilobolus, the ground breaking dance company, presents its rare blend of physicality, gymnastic ability, theatrical complexity and, not least, humor when they come to Ramsey Auditorium on April 22. Finally, Peter Schickele brings his songs and stories to Fermilab on May 20. If you're not familiar with his show, Schickele Mix, or his musical scores now numbering in excess of 100, you may be familiar with his alter ego, P.D.Q. Bach.

In addition to the regular Saturday evening Fermilab Arts performances, the Auditorium Committee is proud to present its first Quartet In Residence, The Arianna Quartet. In conjunction with Northern Illinois University, The Arianna Quartet will perform four Sunday afternoon concerts in Ramsey Auditorium. Admission to these concerts is $5, but a complimentary pass will be given to anyone purchasing a Classical Series subscription. The Arianna Quartet has been working closely with the Vermeer Quartet, and recently won two major American competitions, the Fischoff and Coleman competitions.

To purchase tickets for any Arts Series event, call Denise at xARTS or stop by her desk in the Wilson Hall Atrium from 9 a.m. to 4 p.m.—*Janet Mackay*

LEDERMAN CENTER TO HOST SUMMER SCIENCE SOCIAL



Employees and their families who are looking for a relaxed opportunity to experience the Lederman Science Education Center's interactive teaching stations and exhibits are encouraged to attend the Sunday, July 24 Summer Science Social. The Center will be open from 1 p.m. to 4 p.m. for a special fun-filled afternoon of science exploration.

The Summer Science Social kicks off the Public Information Office's summer tour season which annually invites employees and the public to unique Laboratory areas and programs on select Sundays. Last year's tour of the Antiproton Source tunnel brought more than 600 people down into the basement of the Tevatron.

This year's traditional "tours" will open with the Summer Science Social and will conclude with a top quark lecture in August. Three exhibit areas inside the Center will be ready for exploration.

In the Accelerators area, guests can command the tools that scientists need to study the smallest objects in the universe — quarks. They can take a personal video tour of the Lab's high-tech accelerators, they can *Race for Energy* or they can use other accelerators to see how these machines give particles oomph.

In the Particle Detectors area, visitors figure out how to study invisible objects. They can detect *Invisible Bullets*, track *Messengers from Space* or play *Thermal Tic-Tac-Toe.*

Visitors to the Collisions and Scattering area can play P*article Pool*, *Particle Pinball* or match wave patterns in the *Ripple Tanks.* They can create their own collisions, identify invisible targets and analyze real particle tracks.

Members of the Fermilab scientific staff and Education Office will be on hand to answer questions about some of today's most intriguing ideas and scientific tools, and refreshments will be served. Don't miss this great opportunity to explore exciting concepts in science and have fun at the same time.

Space at the Summer Science Social is limited so call the Public Information Office today at x3351 to reserve your spot.

USERS' CENTER SATURDAY NIGHT MOVIES

■ JULY 16
Into the West, 7:30 p.m.
Carlito's Way, 9:30 p.m.

■ JULY 23
Addam's Family Values, 7:30 p.m.
Malice, 9:30 p.m.

■ JULY 30
Life with Mikey, 7:30 p.m.
A Dangerous Woman, 9:30 p.m.

The Users' Center is open to all Fermilab employees, users, Village residents and their families, Monday through Saturday, 4:30 p.m. until midnight.

ART GALLERY

Panoramic National Park Photography by Stan Jorstad is showing July 13 through September 30 in the Wilson Hall Second Floor Art Gallery.

METRIC

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The Omnibus Trade and Competitiveness Act of 1988 required the Federal Government to convert to the metric system of measurement in its procurements, grants and other business-related activities — to the extent economically feasible — by the end of 1992. All DOE-funded activities at Fermilab must plan to comply with DOE's metric transition plan.
—Brian Charles

DUPLICATING OFFERS SAME DAY SERVICE

A new service is now being offered in the Duplicating area of Visual Media Services located in the basement of Wilson Hall. The new service will allow requested jobs to be completed the same day. Each job will be done on a first come, first serve basis. A special green form must be filled out for each job requested. Total number of originals and/or copies must not exceed 5,000. If total copies exceed 5,000 and same day service is needed, special arrangements must be made, which may require overtime budget approval. If you have any questions, contact Cindy or Al at x3323.—*Cindy Arnold*

NO DUMPING ALLOWED

Please be aware that the dumping of any garbage from your home into Fermilab dumpsters or anywhere on site is illegal. According to KENT COLLINS (FESS), such action violates Fermilab policy which prohibits the use of Lab resources for personal gain.

CLASSIFIEDS

■ VEHICLES

1979 Buick Electra Limited, 350 V8, yellow, 4-door, full power, 99k miles. Looks good and is reliable. Call Mark at x3160.

1985 Honda Prelude, 86k miles, 5 spd., excellent condition, $3500. Call Jackie at x3027 or Rick at x3030.

1988 Hyundai Excel, 3 door hatchback, white, 68k miles, 4 spd, AM/FM cassette, very good condition, $1550 o.b.o.. Call Juan at x5199 or 708-879-2470.

1989 Honda Accord DX, white, PS, PB, AC, AM/FM/cass. stereo, excell. cond., $7200 o.b.o.. Call Marge at x3800.

Wanted: used ping-pong table. Preferably free. Call Steve at x3743.

■ MISCELLANEOUS

Dining set, $450; Living room set, $250; Go cart, $600; BMX bike, $150; Humidifier, $50; Stereo Speakers, $50; Bike Bags, $25 each. Call Greg at x3011.

Army surplus sleeping bag, extreme cold, with hood, down and polyester filled, excellent condition, $50 o.b.o. Call Mike at x8632 or 708-208-1751.

Computer, 286 IBM AT. Call Rich at x3868 or 708-690-1691.

Attention craft-lovers. Free pine cones! Call Jackie at x3027.

■ REAL ESTATE

The Windings, country living, 7 miles west of St. Char. in 4 bed ranch, 2.5 bath, 3 car garage, full basement, .8 acre, bright & airy w/step saving floor plan. Call 708-377-2336.

Room available, September 1 in large, 4 bedroom house in Naperville, $333 per month + utilities. Call Leslie at x2118 or 708-778-6067.

■ LOST AND FOUND

The Receiving Department has a computer cassette recorder P/N CCR-81 that a Lab employee mailed to Space Telescope Science Institute in Baltimore, MD. There was no addressee or return address marked. It has been mailed back to Receiving. Would the person this belongs to please call Tom Smith or Milton Martin at x3575.

FermiNews

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The deadline for the Friday, Aug. 5, 1994 issue is WED., JULY 27. Please send your article submissions or ideas to the Publications Office.

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