

The Village Voice



fermi national accelerator laboratory

Operated by Universities Research Association Inc.
Under Contract with the Energy Research & Development Administration

Vol. 9, No. 40

October 13, 1977

CONFERENCE STUDIES 'COSMIC CONNECTION'

Over 500 scientists from around the world are expected to attend a conference at Fermilab Oct. 20-22. For the first time, physicists working in two frontier areas of science--particle physics and cosmology--will unite to explore the relationship of the universe to inner space of the atom.

The "Ben Lee Memorial International Conference on Parity Nonconservation, Weak Neutral Currents and Gauge Theories" will be held in the Auditorium. The meeting is dedicated to the late Dr. Benjamin W. Lee, Fermilab Theory Department head killed in an auto accident June 16. Dr. Lee was one of the original organizers of the conference.

A memorial address is set for 5 p.m. on Thursday, Oct. 20, opening day of the session. Dr. C.N. Yang, a 1957 Nobel Prize winner and a former colleague of Dr. Lee at the State University of New York-Stonybrook, will speak.

R.R. Wilson, Fermilab director, will welcome researchers at 9 a.m. on opening day to launch the assembly. Among speakers on 33 topics to be presented are Fermilab experimenters A.K. Mann of the University of Pennsylvania and Leon Lederman from Columbia University.

David Cline, University of Wisconsin physics professor and a colliding beam studies experimenter at the Laboratory, is conference chairman. "We are bringing together an outstanding group of people to lend a lot of good thinking to this meeting," he said.

"This is a conference whose time has come. Two years ago this conference would not have been possible; two years from now it might not be necessary."

He added, "Right now we need to bring the best thinking together from several disciplines to see what we have in common. Many of us who have arranged the conference think there will be some surprises!"

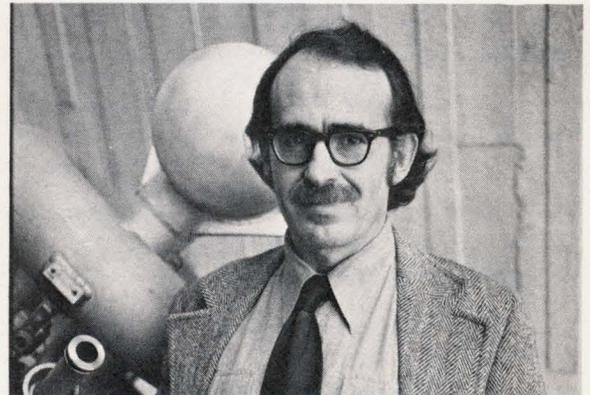
He said visiting scientists will explore the possibility that new discoveries and theories in particle physics might parallel current findings in astrophysics. A conjectural bond between particle physics, atomic physics, nuclear physics and astrophysics will be the meeting's theme.

A startling series of discoveries in the last three years has focused physicists' attention on the first 1/100th second after creation in the "big bang"--an immense explosion, estimated at more than 10 billion years ago, that created the universe.

The "big bang" theory is the common interest that unites particle physicists and astrophysicists.



...Benjamin W. Lee...



...David Cline...

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CONFERENCE STUDIES 'COSMIC CONNECTION' (Continued)

The cosmic connection moved from speculation to a solid field of study with the discovery of tiny pieces of the atom dubbed "quarks." Scientists discovered that quarks are building blocks of the protons and neutrons that make up the atom's nucleus. With the discovery came a deeper understanding of forces that create and transform the tiny bits of matter.

The main question scientists ask is: Why do these particles possess the particular weights that they exhibit? Most physicists suspect that the solution to this riddle lies in that first 1/100 second of creation. To make further progress, particle physicists are enlisting the aid of the cosmologists.

In return, the cosmologists can expect benefits. The weights of quarks, it is believed, are the fossil record of an earlier stage of the "big bang" than previously estimated. Until recently, the earliest fossil record of the big bang went back to about the fourth minute . . . when the universe's supply of hydrogen and helium were formed. Abundances of the gases are leading clues to conditions in the universe at that time

Cosmologists also worry about less dramatic explosions, called "supernovas," that mark the death of stars. Some exotic forces being studied by particle physicists are believed to play a major role in these explosions.

The conference also commemorates the 20th anniversary of a major scientific discovery, "parity violation." This means that atoms, as well as larger objects, make a distinction between right and left symmetry. It is now believed that this distinction has its roots in the same process that fixed the weights of quarks.

Two opening-day sessions will explore weak neutral currents in particle physics and parity violation. Leaders in research in both of these fields will appear on the program.

On Friday, Oct. 21, Madame C.S. Wu of Columbia University will head a discussion of non-conservation of parity at the level of the nucleus. Samuel Ting, 1976 Nobel laureate, will lead the session, "Search for New Particles Beyond Charm."

Also on Friday, M.A. Ruderman, Columbia University, will chair a discussion of weak interactions in astrophysics. A participant is expected to be Cambridge University's Stephen Hawking, originator of dramatic theories about black holes in outer space.

The conference will close Saturday with a summary session by selected outstanding theorists. They will be: Maurice Goldhaber, Brookhaven National Laboratory; David Politzer, Caltech; Frank Wilczek, Princeton University; Sheldon Glashow and Steven Weinberg, Harvard University; Abdus Salam, International Centre for Theoretical Physics, Trieste; and James Bjorken, Stanford Linear Accelerator Center.

Official proceedings of the conference will be published in early 1978.

The conference is the second international proceeding to be held here in Fermilab's 10-year history. High-energy physics topics were explored in the Laboratory's first worldwide meeting held in 1972.

CONFERENCE CAFETERIA HOURS

John Barry, acting cafeteria manager, has announced special hours for breakfast and luncheon meals Friday and Saturday, Oct. 20-21. Employees, experimenters and others not participating in the Ben Lee Memorial Conference are asked to schedule meals early. Hours will be: Breakfast--7:30 to 9:30 a.m.; and Lunch--11 a.m. to 12:30 p.m. Regular dinner hours of 5 to 8 p.m. will be observed in the cafeteria while conference guests are served at the Users Center.

CLASSIFIED ADS - For distribution with THE VILLAGE CRIER of October 13, 1977

FOR SALE: 12' x 12' cut pile carpet, off white color, \$75; 6' x 9' gold area rug, \$25; apartment size humidifier, \$10. Call Cynthia, Ext. 3136.

FOR SALE: Bicycle, girl's single speed Schwinn, 26". Like new, \$30. Call 879-2483.

FOR SALE: 1972 Mercury Comet 2-dr, V-8, auto trans, ps, fac. air, vinyl top, 28,000 miles, excellent condition, \$1700. Call Frank at Ext. 3825, or after 6 p.m., 420-1357.

FOR RENT: Open Nov. 1, one-bedroom apart., \$230/mo, heat & water included, pay only electric. Call Sandi at Ext. 3242.

FOR SALE: 1967 Ford F 250 pickup 3/4 ton, 351 V8, 4 speed. No body damage or rust, \$1300 or \$150 less without cattle rack. Call Ext. 4404 or 3935.

FOR SALE: 1976 Sedan DeVille, loaded, immaculate condition. Offer. Contact Liz at Ext. 3396.

FOR SALE: 1971 AMC Gremlin, excel cond, radial tires, new shocks, new clutch, new seat covers, AM-FM radio, gets 25 mpg average, great for a second car. Very clean. Contact David Tishim at Ext. 3555 or 690-9298.

FOR SALE: 1972 Fiat 850 sportster, about to be made into planter by irate wife. New wiper blades. Call John at Ext. 3947.

FOR SALE: English Springer Spaniel, 6 weeks old, AKC - good hunting, stock - pick of the litter, male. Call G.T. Mulholland at Ext. 3355.

FOR SALE: Four H78-17 tires, 4,000 miles, excellent condition, \$75. Call Dave Trudell at Ext. 3535.

FOR SALE: Transformer - 820 KVA, 3400 VCT @300MA, \$25; Zenith AM-FM table radio, \$15; AM clock radio, \$5; Snooze alarm clock, \$2; also Sears (Weaver) rifle scope 3X, \$20. Call Ted at Ext. 4072.

FOR SALE: 1969 Chevy Impala, V-8, A.T./P.S./A.C./AM radio. Good transportation. \$500, or best offer. Call Mary Hansel at Ext. 3242 or 896-1394.

FOR SALE: 1973 Buick Electra, 4-dr white, P.S./P.B./P.W./P.L./P.St./AM-FM stereo A-C, runs good, \$2500. Also, 1967 Pontiac. Good work car, \$150. Call Mark Miller at Ext. 3535 or 476-3138.

FOR SALE: 1973 Dodge Charger, blk/yellow, new tires, 318 cu. eng., good body, \$1400 or best offer. Call Ext. 3807.

FOR SALE: 1974 Pontiac Ventura Custom 6 cyl hatchback, auto trans, P.S./radio/Ziebart undercoated, \$2300. Call Bob, Ext. 3469.

FOR SALE: 1974 Buick LeSabre, P.S./P.B./air cond, good tires, excellent condition. Call Lu Klein at Ext. 3242 or 668-3766.

FOR RENT: 2 bedroom house on waterfront, Pine Island (near Ft. Myers) Florida, by week or month, best fishing, natural, restful environment. Call Art Streccius at Ext. 3580 or 584-0712.

FOR SALE: 1968 Pontiac, 2 Dr. Catalina, good radio, heater, tires and brakes. Needs body work. Reliable transportation. Call J. Frazier at Ext. 3572.

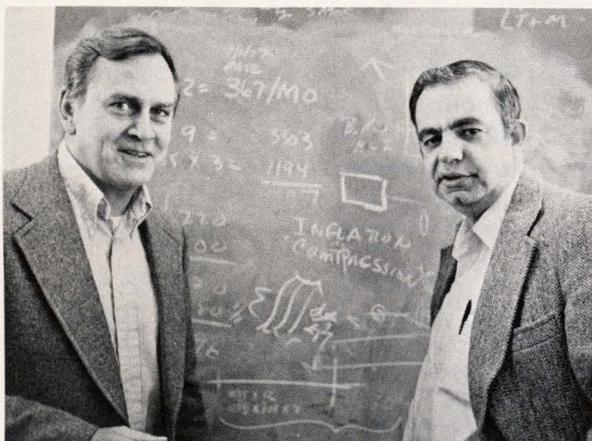
FOR SALE: Hammond organ, Model L103, Cherrywood, like new, organ bench and Music Lamp, \$700. Call Ext. 3242.

FOR SALE: 1969 2 dr Chevelle, 3 speed, 3 spares, plenty miles, engine, wheels, body, etc. Runs pretty good. \$200 or best offer or best hard-luck story. Can be seen on-site. Rick Fenner, Ext. 3349.

FOR SALE: 1968 Buick 2dr, good work car, good starting, \$200. Call J. O'Brien, Ext. 3157.

TAKING CARE OF BUSINESS

Dick Lundy (R) is welcomed as Fermilab business manager by John McCook, Associate Director for Administration. Lundy's appointment was effective Oct. 1. He joined the Laboratory staff in 1971, assisting with installation of the Main Ring. During the past year he served as associate head of the Neutrino Department while participating in Experiment #310. He had directed the department from January, 1975 to September, 1976. Lundy completed undergraduate and graduate degree work at the University of Chicago, receiving his Ph.D. in 1962.



A Downers Grove resident, his family includes his wife Elizabeth and daughter Eleanor, 12 and son John, 8.

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KIRK APPOINTED ASSOCIATE NEUTRINO HEAD

Tom Kirk (R) is briefed on new responsibilities as associate head of Neutrino by Dennis Theriot, Neutrino Department head. Kirk, a Neutrino physicist and formerly an experimenter for several years, assumed duties as associate department head Oct. 1. He joined Fermilab after serving as an associate professor at the University of Illinois since 1973. During the previous four years he was an associate professor at Harvard University, after post-doctoral studies there. After completing undergraduate work at the University of Colorado, he received master's and doctorate degrees from the University of Washington.

He resides in Geneva with his wife, Brenda, and son, Elliott, 2.

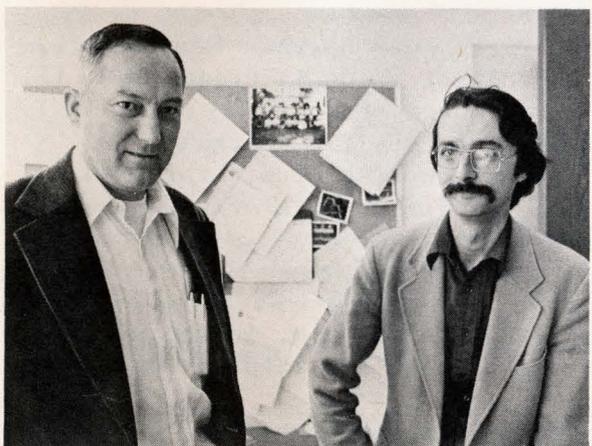


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MCINTYRE HEADS INTERNAL TARGET GROUP

Peter McIntyre (R) has been named head of the Internal Target area effective September 1. He is shown with Russ Huson, head, Accelerator Division. McIntyre joined Fermilab as a consultant on colliding beams in January. Previous appointments were: assistant professor, Harvard University, 1975-77; visiting scientist, CERN, 1974-75; and research associate, University of Chicago, 1972-74. He completed bachelor's, master's, and Ph.D. degree work at the University of Chicago.

He resides in West Chicago with his wife Rebecca and son Peter, 2.



EMPLOYEE TOURS VISIT CTF/ENERGY DOUBLER

Thousands of tourists visit Fermilab each year. Now it's the employees' turn. Starting in November, lunch-hour tours of the Cancer Therapy Facility and a portion of the Energy Doubler will be offered. At the CTF neutrons are used to treat selected cancer patients. The Magnet Facility is developing and building superconducting magnets that will be installed in parallel under the existing Main Ring for colliding beam experiments.

Groups will be limited to 25 persons each. Time of the tour will be noon to 1 p.m. The Magnet Facility visit is set for Wednesday, Nov. 2. Phil Livdahl, associate division head-Accelerator, will be the guide. The CTF tour will be given Wed., Nov. 11. Signup sheets are posted with Shirley Burton in Public Information, CL-1W.

7 IS GOLFERS' LUCKY NUMBER

In the 1977 all-Laboratory golf tourney, Tuesday night division champs beat the Thursday night top team in a playoff at Country Lakes Golf Course. About 50 golfers entered this year's tourney. Tuesday Team No. 7 members receiving their second annual trophy from Gary Drum (R), Fermilab golf league president, are L-R: Don Fearnley, Research Services; Norb Lesnieski, Fabrication Procurement; Tom Powell, Maintenance and Operations; Jack Rossetto, Research Services/Cryogenics.



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LOST: CAFETERIA PLATES, SILVERWARE

Cafeteria silverware and dinner plate stocks have been seriously depleted, reports John Barry, acting cafeteria manager. He attributes the shortage to customers borrowing the tableware for carryouts. Employees with wayward plates, silverware or other cafeteria utensils are urged to return them immediately since they will be badly needed for the visitors this month.

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CHILDREN'S HALLOWEEN PARTY OCT. 30

Employee children ages 4-12 are invited to NALREC's 1977 Halloween Party. It will be held Sunday, Oct. 30, from 2 to 4 p.m. at the Village Barn. Games, spook house, treasure hunt, costume contest and refreshments are planned. Signup forms have been distributed; prompt return is requested. Making arrangements are: Gerry Dean, Housing; Barb Schluchter, Research Division; and Nancy Shanahan, Plant Maintenance.

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PRAIRIE PROJECT MILESTONE: FIRST SEED HARVEST OCT. 15

Participate in a history-making event! Help in the first seed harvest from Fermilab's Prairie Plot. Volunteers--minimum age 10--are sought to collect seeds Saturday (Oct. 15) and Saturday, Oct. 22, on site. Harvest hours will be from 8 a.m. to 5 p.m. A bus will transport workers to an Oct. 29 harvest at the Gensberg-Markham Prairie, Markham, Ill. Seeds for the Fermilab prairie will also be picked at the Morton Arboretum, Lisle, on three consecutive Saturdays starting Oct. 15. To sign up, or for more information, call Tony Donaldson at Ext. 4056 or Rene Donaldson at Ext. 3278.

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DUPLICATE BRIDGE group will open fall play Tuesday, Oct. 18, at 7:30 p.m. in the Users Center. Interested players welcome. Call Marv Warner, Ext. 4330, for information.

Panel Discussion -- At Village Crier presstime, a panel discussion on "How America and Americans are Perceived--How the Image is Made" was set for 8 p.m. Friday, Oct. 28 in the auditorium.. Admission by free ticket from the Guest Office, CL-1W. Details to follow.