

FERMILAB NEWS

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WORLD MEETING FEATURES FERMILAB DISCOVERIES

Research at Fermilab won international attention recently.

A Laboratory delegation attended the 19th biennial International Conference on High Energy Physics held Aug. 23-30 in Tokyo, Japan. Among speakers and their topics were: E.L. Goldwasser, former Fermilab deputy director, "Future Accelerators"; Leon Lederman, Exp. 288 leader, "Prompt Dilepton Production by Hadron Reaction"; Chris Quigg, Theoretical Physics head, "Weak Interactions of Heavy Quarks"; and Taiji Yamanouchi, program planning office, commented on Upsilon-Prime, a new quark discovered here in November, 1977.

Other observers from Fermilab were: Paul Mantsch, Research Services head; John Peoples, Research Division head; Al Brenner, Computing Department head; Harry Thacker, Theory department; and Ryuji Yamada, magnet measurements.

Some 1,000 high energy physicists from all over the world attended. According to Mantsch, among the 1085 papers presented about a fifth of those having new experimental results covered research performed at Fermilab. The 1978 session was the first meeting to be held in the East. Previous conferences were alternately hosted by the U.S., U.S.S.R., or a European country. The 1972 meeting was held here at Fermilab.

Upsilon, the new particle discovered at Fermilab in June of 1977, and research since then relating to Upsilon, was a main conference topic, Mantsch said.

Upsilon data contributed by German physicists verified the existence of a particle slightly heavier than the Upsilon ("Upsilon prime") originally observed in the Fermilab work. The discovery of the Upsilon family strongly suggests the existence of a fifth quark (basic building block of matter). The behavior of a new quark implied by the properties of the Upsilon is strikingly consistent with



...R. Yamada...



...T. Yamanouchi...



...Dottie and Paul Mantsch at Japanese shrine in Nikko...

ideas relating to previously discovered quarks.

Mantsch observed from the conference that data presented continued to support and enrich two theoretical ideas. The Upsilon family has given new support to the quark model and in particular to the way in which quarks interact (i.e. the strong force). New evidence for the ideas relating the weak and electromagnetic interactions also emerged.

No highly controversial results were presented from the conference, Mantsch said, and there was a mood of cautious optimism that current ideas are gaining support and may be forming a valid picture of the make-up of matter.

FERMILAB DELEGATION VISITS CHINA

Fermilab scientists are passing their expertise to Chinese counterparts planning an accelerator near Peking in mainland China. Two Fermilab department heads recently traveled to China to lecture and hold discussions as part of the developing cooperation between Fermilab scientists and colleagues in the Peoples' Republic of China.

In China for two weeks were Alfred Brenner, Fermilab Computing Department head and Chris Quigg, Theoretical Physics Department head. Chang Wen-yu, director of the PRC's Institute of High Energy Physics (IHEP), extended the invitation.

Departing this week for Peking is Russ Huson, Fermilab Accelerator Division head.

During their visit, Brenner and Quigg each delivered three lectures at the Institute. They also held extended discussions with their Chinese colleagues in computing and theoretical physics. The Americans then visited Peking University, the Institute for Computing of the Academia Sinica in Peking, and Fu Tan University in Shanghai.

Quigg was also guest lecturer at the Shanghai Hall of Science.

He reported that as a result of the studies by two groups of Chinese who traveled to Fermilab in 1978, plans are advancing for construction of China's first accelerator—a 50 GeV proton synchrotron. A corn-field 50 miles northwest of Peking, near the ancient Ming tombs, is the machine's proposed site. Ground-breaking for the tunnel construction is tentatively set for December.

The Chinese hope to be doing high energy physics experiments by 1983, Quigg reports. Toward the goal, many physicists at the IHEP are working on detector design and development.

Quigg and Brenner conveyed an invitation from Fermilab to Chinese scientists to gain experience in organizing experiments by joining physicists here. Theorists and computer scientists were also invited to participate in research at Fermilab, Quigg said.

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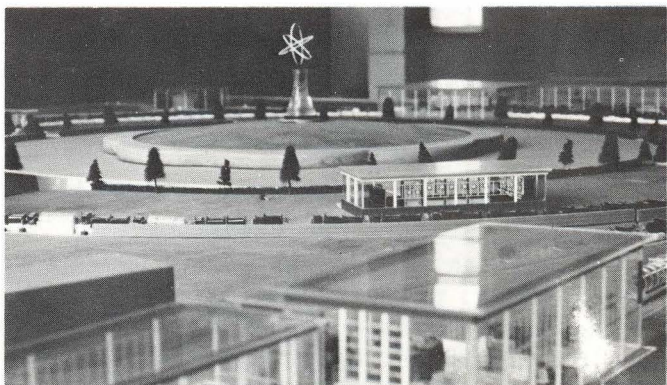
...C. Quigg (L), A. Brenner at the Great Wall of China near Peking...



...Site of proposed Chinese accelerator: cornfield near Peking...



...C. Quigg with theorists at China's Institute of High Energy Physics...



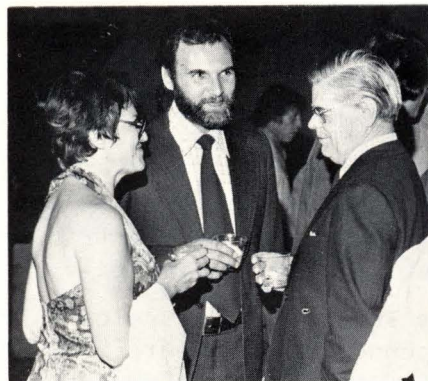
...Model of Chinese accelerator planned for experiments by 1983...



...J. Wilson receives gift from P. Livdahl...



Wilson's arrive at Fermilab



...V. Kadyshevskys, R.R. Wilson chat...



..P.Livdahl toasts honored guests...



...P. Livdahl with Rolls Royce...

WILSON, GOLDWASSER HONORED

About 200 persons attended a dinner dance Saturday in the Central Laboratory atrium. The event honored former Fermilab director R.R. Wilson and his wife, Jane, and former Fermilab deputy director E.L. "Ned" Goldwasser and his wife, Liza.

The Wilsons arrived in a Rolls Royce loaned for the occasion by Business manager Dick Lundy. Philip V. Livdahl, Fermilab acting director, served as chauffeur, and physicist Alvin Tollestrup as footman. After dinner featuring chateaubriand, acting director Livdahl toasted the guests of honor and presented several mementos to the Wilsons. Included was a fishing rod set for the former director and an antique necklace for Mrs. Wilson.

Physicist Peter Koehler, on behalf of Laboratory colleagues, presented a 2,000-year-old stone axe-head. The artifact was among relics found on site by August Mier of Batavia. Mier donated an extensive selection of his collection to Fermilab this year.

The program concluded with physicist Tim Toohig offering salutations from friends unable to attend the event. A vocal selection by Claudia Slater and dancing rounded out the evening.



...R.R. Wilson (L) acknowledges gift from P.Livdahl...



...R.R. Wilson, P. Livdahl, B. McDaniel examine stone axe-head...



...E.L. Goldwasser (L) talks with Chinese visitors...



...R.R. Wilson in tabletalk with J.Ward, directorate secretary...

CUMULAT, LUSTE WIN 1978 CANOE RACE

John Cumulat (Physics) and George Luste (University of Toronto) won their second straight Main Ring Canoe Race Sunday. The Luste-Cumulat team had won the last four-mile paddle held in 1976. Their 1978 time was 49:33.

Two other Toronto scientists, John Martin and Dale Pittman, were runnersup in 51:02. In third place was the team of Dan Owen (Michigan State University) and Werner DeRosario (York University, Canada) in 52:15.

Rounding out the field were: fourth--Thornton Murphy (Proton) and son Charles, 55:48; fifth--Bill Reay and Steve Errede (Ohio State University), 56:53; Mike Harrison (Accel. Sector Test) and Larry Cormell (University of Pennsylvania), 60:08; Dave



...J. Cumulat (L) and G. Luste paddle to victory in 1978 Main Ring Canoe Race...

Winn (University of Wisconsin) and Jim Rich (Howard University), 64:49; Mike (Ohio State University) and Debby Gutzwiller, 65:39; and Keith Schuh (Accel. Controls) and Terry Solie, 65:58.

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SATURDAY NIGHT DISCO AT FERMILAB

Got the disco fever? Boogy down at the Fermilab Music Club disco on Saturday (Sept. 30) in the Village Barn! From 9 p.m. to 1 a.m., disco music, lights and action are scheduled. Tickets will be \$2 per person. Tickets will be sold in advance only. Contact these Music Club members: J. Curry, Ext. 3591; M. Armstrong, Ext. 3014; T. Gordon, Ext. 4455; M. Bailey, Ext. 3282; L. Tate, Ext. 3883; and J. Gerald, Ext. 3259.

FERMILAB SOFTBALL TEAM POSTS BEST RECORD

Fermilab's 1978 entry in the Batavia/Geneva 14-inch slow pitch softball league compiled the best record in the team's three-year history.

John Cumulat, manager, said the team finished fourth in the eight-team league. The loop was for men age 27 and older. Playing a doubleheader every date, the Laboratory's team finished 16-12 overall. Fermi diamondmen almost upset the league champions--Little Owl (22-4)--in post-season playoffs.

In a playoff tripleheader, the Fermi athletes beat Equity Builders 14-4 in quarterfinals; downed Batavia Plaza Liquors 14-8 in semi-finals; and led Little

Owl 5-1 in the sixth inning before being overtaken 8-6.

Fermilab Physics Department Head Chuck "Iron Arm" Brown, a lefthander, hurled every game. Other players were: Cumulat, P. Limon, B. Cox, M. Binkley, R. Dosen, I. Gaines, R. Gustavson, D. Harding, R. Lipton, D. Nease, R. Loveless, D. Purvis, E. Barsotti, J. Russell, R. Dunne, D. Spelbring, P. Garbincius and J. Rich.

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SALAM WINS PHYSICS AWARD

Abdus Salam, a leading theoretical physicist, has been named 1978 recipient of the John T. Tate International Medal for Distinguished Service to the Profession of Physics. A native of Pakistan, Salam holds a professorship at London University. He is also founder and director of the Trieste Center for Theoretical Physics in Italy.

The American Institute of Physics (AIP) is creator and sponsor of the award. Dr. H. William Koch, AIP director, will present Salam with the Tate Medal tonight (September 28) at the Battelle Memorial Institute in Columbus, Ohio.

Salam became known to U.S. television audiences in his appearance in the BBC show, "Key to the Universe." He attended the Ben Lee Conference at Fermilab in October, 1977.