Fermilab Today

Friday, August 20, 2004

Calendar

Friday, August 20

3:30 p.m. Wine & Cheese - 2nd Flr X-Over

4:00 p.m. Joint Experimental Theoretical Physics Seminar - 1 West

Speaker: N. Bell, Fermilab

Title: Cosmic Neutrinos – From the Highest Energies to the Lowest

8:00 p.m. Fermilab Film Series - Ramsey Auditorium

Title: Roman Holiday

Tickets: Adults $4

Saturday, August 21

8:00 p.m. Fermilab Arts Series - Ramsey Auditorium

Title: Mystical Arts of Tibet: Sacred Music Sacred Dance – Tibetan Monks from the Drepung Loseling Monastery

Tickets: $16/$8

Monday, August 23

THEORETICAL ASTROPHYSICS SEMINARS WILL RESUME IN THE FALL

3:30 p.m. DIRECTOR'S COFFEE BREAK - 2nd Flr X-Over

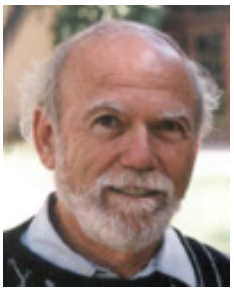
4:00 p.m. All Experimenters' Meeting - Curia II

Special Topic: Linear Collider Technology Recommendation

Wilson Hall Cafe

International Panel Recommends "Cold" Technology for Future Particle Accelerator

Beijing, China—The International Committee for Future Accelerators (ICFA), meeting during an international physics conference here, today (August 20) endorsed the recommendation of a panel of physicists charged to recommend the technology choice for a proposed future international particle accelerator.



Barry Barish

The 12-member International Technology Recommendation Panel, chaired by Barry Barish of the California Institute of Technology, recommended that the world particle physics community adopt superconducting accelerating structures that operate at 2 Kelvin, rather than "X-band" accelerating structures operating at room temperature, as the technology choice for the internationally-federated design of a new electron-positron linear collider to operate at an energy between 0.5 and 1 TeV.

"Both the 'warm' X-band technology and the 'cold' superconducting technology would work for a linear collider," the ITRP's Barish said. "Each offers its own advantages, and each represents many years of R&D by teams of extremely talented and dedicated scientists and engineers. At this stage it would be too

Witherell: ILC Offers Compelling Physics

Mike Witherell

Yesterday in Beijing, the International Technology Recommendation Panel made their recommendation on the technology for an International Linear Collider to the International Committee on Future Accelerators, on which I serve. The ITRP recommended that the world particle physics community adopt superconducting accelerating structures rather than "X-band" accelerating structures operating at room temperature, as the technology choice for the international linear collider. ICFA unanimously endorsed this recommendation.

The linear collider would provide such compelling physics opportunities that particle physics laboratories around the world have chosen to take a unified approach to developing the final design. The recent technology decision, taken by the international linear collider community as a whole, is an important and historic milestone in this approach. With the technology decision behind us, the particle physics community can now begin work on a global design for the ILC.

Fermilab is a strong advocate of the physics that would come from a linear collider. Fermilab people have worked on the R&D for both of the technologies developed for the linear collider. We have

Friday, August 20
Old Fashioned Ham & Bean soup
Hot-Dog Bar $4.75
Grilled Chicken in a Mushroom Cream Sauce $3.75
Tex-Mex Lasagna $3.50
Roasted Veggie & Provolone Panini $4.75
Pizza Cacciatore $2.75
Vegetarian Stir Fry $4.75
Wilson Hall Cafe Menu
Chez Leon

Weather

Partly Cloudy **72º/56º**

Extended Forecast

Weather at Fermilab

Current Security Status

Secon Level 3

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costly and time consuming to develop both technologies toward construction. The panel had our first meeting in January 2004 and started our evaluation of the two technologies. The decision was not an easy one, because both technologies were well advanced and we knew the selection would have significant consequences for the participating laboratories. On the basis of our assessment, we recommended that the linear collider design be based on the superconducting technology."

read entire press release
DESY Press Release
ITRP Executive Summary **(PDF)**
Talk by Barry Barish **(PDF)**

Helen Edwards observes Fermilab test stand with TESLA structure inside cryogenic vessel for "cold" or superconducting technology. (Click on image for larger version.)

Fermilab Prepares to Follow ILC Decision

Fermilab is now preparing to commit its own efforts in "cold" or superconducting technology in line with the endorsement of the International Linear Collider Steering Committee and the International Committee for Future Accelerators.

"The technology decision is a big step towards the ultimate goal, which is the construction and operation of a linear collider," said Steve Holmes, Associate

Director for Accelerators.

committed to be a major participant in the International Linear Collider, whatever the technology choice. Now we are ready to work with our colleagues at SLAC, KEK, DESY and other institutions in establishing the global design effort.

Although the technology decision presents a great opportunity to advance the ILC, we need to recognize the challenges ahead. Scientists and engineers at SLAC and at KEK have led a highly successful effort to establish the feasibility of the X-band approach, and we at Fermilab are proud to have built many of the accelerating structures that demonstrated that feasibility. It will take courage, effort and time for those who have invested their creative effort into the X-band R&D to put their hearts and minds into developing the superconducting design. To build an ILC, however, we will need their active participation and leadership.

For Fermilab and the field of particle physics, I congratulate and thank the people who have made heroic efforts to develop two technologies. Both would work for the linear collider. We need the best ideas from all of these experts to develop the design for the ILC. For Fermilab's part, we will work together with our colleagues around the world to realize the shared dream of a linear collider and the great science that it will produce.

Announcements

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Steve Holmes

Holmes, also a member of the American Linear Collider Steering Committee, continued: "This decision will allow a consolidation of resources, both at Fermilab and within the world community, in pursuit of that goal."

Shekhar Mishra, Head of Fermilab's ILC efforts, added: "Physicists from around the world have yet again shown that we can make a tough choice. There is still a tough road ahead on the ILC. Fermilab will work with SLAC, KEK, DESY and other institutions around the world to make the ILC a truly international project."

Fermilab has contributed to research and development in both warm and cold technology ("Linear Collider R&D at Fermilab," *Fermilab Today*, Friday, July 16, 2004).

Concluded Holmes: "We will be working hard over the next several weeks to meet the challenge of organizing ourselves and working with collaborators throughout the world to establish an effective global design effort aimed at a superconducting linear collider."

In the News

Monthly Leave Sheets Reminder

Monthly Time Leave Sheets are due in Payroll by 10:00 a.m. on Friday August 20, 2004.

Fermilab Film Series Tonight

The Fermilab Film Series presents "Roman Holiday" tonight at 8:00 p.m. in Ramsey Auditorium. Tickets are $4.00 for adults.

more information

Fermilab Arts Series Tomorrow

The Fermilab Arts Series presents "Sacred Music, Sacred Dance The Multiphonic Monks of the Drepung Loseling Monastery" tomorrow at 8:00 p.m. in Ramsey Auditorium. Tickets are $16.00 for adults. Limited tickets available.

more information

Fermilab Recreation Office Offers Discounted Tickets for the Bristol Renaissance Faire

Discount Renaissance Fair Tickets are on sale in the Recreation Office until August 27. The tickets are good until Labor Day. The Bristol Renaissance Faire offers entertainment on 16 open-air stages, 50 food booths, and over 180 high quality arts and crafts shops. The fair runs from July 10 - September 6, 2004 on Saturdays and Sundays and Labor Day Monday from 10:00 a.m. until 7:00 p.m. (Rain or Shine). Discounted tickets are $15.75 for adults and $7.50 for children age 5-12.

New Classified Ads Posted on Fermilab Today

New classified ads have been posted on *Fermilab Today*. A permanent link to the classifieds is located in the bottom left

From the *Stanford Report*, August 18, 2004

Task force tackles role of particle physics in universe

Deciphering the laws govering dark matter and dark energy

by Davide Castelvecchi

A string of recent discoveries in astronomy has left scientists with an unsettling realization: The stuff we know and understand makes up less than 5 percent of the universe. The rest has to be yet-unknown forms of "dark matter" and "dark energy."

read more

corner of *Fermilab Today*.

Free English Classes

NALWO-sponsored free English language classes for beginning and advanced levels are Fridays at the Users Center from 9:30 a.m. to 11:00 a.m.