Particle Physics for a Day

This wasn’t your average field trip. In March, more than 6,000 high school students participated in Hands-on Particle Physics Masterclasses and formed scientific collaborations, just like real particle physicists do.

Students from across Europe, the United States, South Africa, and Brazil analyzed data from large particle collider experiments at CERN, the European Center for Nuclear Research. Most students participated in this activity by traveling to universities and research institutes near their schools.

Classroom groups discussed their findings via videoconference with other groups of students from across the country or even across the globe. Physicists at CERN and at Fermi National Accelerator Laboratory moderated the videoconferences. On March 24 the Department of Physics participated by hosting students from Buchholz, Gainesville and Ridge Community High Schools.

Thomas Jordan, Assistant In with Physics, coordinated the event at UF.

"This is a great opportunity for students to interact with scientists and gain a better understanding of how modern research in physics works," said Prof. Michael Kobel, Technical University of Dresden, who initiated this program within the European Particle Physics Outreach Group five years ago. "I hope identifying subatomic particles in real data from the large experiments at CERN will inspire them." This year, scientists at more than 102 universities and laboratories in 23 countries will host students. In the United States, students will participate in the Masterclasses as part of the QuarkNet program.

The students analyzed visual displays of data collected at the Large Electron-Positron collider, the predecessor of the Large Hadron Collider at CERN. Students interpreted events that displayed decays of candidate Z Bosons to determine which decay mode occurred. They compiled their results and shared their “branching ratios” in an effort to determine the size of the strong-coupling constant. The students at UF concentrated on events in which the Z’s decayed to two electrons and shared their results in a late afternoon videoconference with two other groups.

The students also learned about the contribution to current experiments at CERN and Fermilab by UF physicists. The department contributes to CERN’s CMS experiment and to CDF experiment at Fermilab.

The opportunity to experience state-of-the-art research in an authentic environment gave students insight into the international organization of modern research. At the same time, they learned about the building blocks of our universe through presentations by scientists involved in particle physics research. The Hands-on Particle Physics student research days took place under the central coordination of Professor Kobel in close cooperation with the European Particle Physics Outreach Group and with the support of the Helmholtz Alliance "Physics at the Terascale," and the German Federal Ministry of Education and Research BMBF. QuarkNet is funded by the U.S. National Science Foundation and the U.S Department of Energy.
News from Fermilab

These have been exciting weeks for the Tevatron program. CDF and Dzero jointly announced the discovery of the electroweak production of single top quarks and also larger exclusion regions for the mass of the Higgs boson. These are very significant milestones for the field and each a real tour-de-force. Below are several media releases that discuss the results including a short interview on Chicago Public Radio.

Science News: http://tinyurl.com/bcp22u
Boston Globe: http://tinyurl.com/cntnom
Washington Post: http://tinyurl.com/djro8a

The discovery of a new and unexpected composite particle, is described at:
with the original Press Release from the Fermilab at:

In light of recent results from the Tevatron at Fermilab, Jacobo Konigsberg was also recently interviewed for a video in the discoveries page of the National Science Foundation web-site, http://www.nsf.gov/discoveries/disc_videos.jsp?cntn_id=114502&media_id=64903&org=NSF
In the interview, Darien Wood, co-spokesperson for the Dzero experiment, and Konigsberg discuss the Tevatron Collider physics program.

Faculty News

Reitze Elected to second term as Ligo Spokesperson

David Reitze has been elected to serve a second term as the Spokesperson of the LIGO Scientific Collaboration (LSC). He will continue to lead the LSC, a worldwide collaboration of almost 700 scientists and engineers engaged in the search for gravitational waves from cataclysmic astrophysical sources using the LIGO and GEO600 interferometers. For more information about LIGO visit http://www.ligo.org.

Outstanding Referees

Congratulations to Jim Duffy and Charles Sommerfield on being selected as "Outstanding Referees" by the Physical Review. Refereeing is an important, but time-consuming task, and the Physical Review highlights the important contributions of outstanding referees. Thanks for your service and dedication!

American Physical Society (APS) News

Congratulations to new APS Fellow, Jacobo Konigsberg.
Citation: For his contributions to the discovery and studies of the Top quark, and for his leadership in the CDF experiment. Nominated by: Particles and Fields (DPF).

Bernard Whiting has been elected a Member-At-Large of the Executive Committee of the Topical group on Gravitation, the largest of the topical groups of the APS.

Research Foundation Professorship

David Tanner has been selected to receive a 2009-2011 University of Florida Research Foundation Professorship. These three-year professorships recognize faculty who have established a distinguished record of research and scholarship that is expected to lead to continuing distinction in their field. Congratulations to David for a well-earned distinction!

Retirements

The Theoretical Astrophysics Group and the Department of Physics are pleased to invite you to a reception in honor of Robert Buchler and Jim Ipser, upon their retirement after a combined 62 years of teaching, research and service in the Department of Physics at the University of Florida.

The festivities will commence with light refreshments at 5:00pm on Thursday, April 23, in the department conference room, 2205 NPB. Spouses and companions are cordially welcome.
APRIL SEMINARS
FOR TIMES PLEASE VISIT http://www.phys.ufl.edu/seminars

COLLOQUIUM
APRIL 2, YOUNG LEE, MIT
APRIL 9, SALVATORE TORQUATO
APRIL 16, SYLVESTER GATES

CONDENSED MATTER
APRIL 1, PINAKI SENGUPTA,
LOS ALAMOS NATIONAL LAB
APRIL 8, CHANDRA VARMA,
UC RIVERSIDE
APRIL 13, CASEY MILLER,
USF
APRIL 20, STUART TESSMER,
MICHIGAN STATE
APRIL 27, CHUBUKOV,
UW MADISON

HIGH ENERGY
APRIL 14, HENDRIK HOETH,
MCNET LUND UNIVERSITY
APRIL 17, STEVE MARTIN,
NORTHERN ILLINOIS UNIVERSITY

QUANTUM THEORY
APRIL 15, AURORA CLARK,
WASHINGTON STATE UNIVERSITY

Students News

Upcoming Celebration for Physics Graduating Students
A celebration in honor of physics graduating students and their families and friends will be held Friday, May 1, at 2:00pm in 2205NPB. Please plan to attend!

Cryogenics Symposium
March 31 marked the first day of this year’s Cryogenic Symposium. Students in Cryogenics gave 8 minutes lectures on selected topics (listed below) over a five day period.

Day 1 — Davis Blank Liquid Natural Gas; Rachel Colbert Cryogenic Tribology; Jennifer Vail Cryogenic Machining; Stephen McLaughlin Cryogenic Detectors; Daniel Bannoura Superconducting Applications; Joel Mousseau Cryogenics at Fermi Lab; Gaurab Sarangi (Cryogenics at the LHC)
Day 2 — Amandeep Chaddha Helium Conservation; Justin Cohen Quantum Computing; Zou Jie Quantum Measurement; Richard Ottens Evanescent Heat Transfer; Wenya Wang NMR; Giovanny Diaz Cryogenic Recycling; Junjie Liu Superfluid
Day 3 — Andrea Booher Safety; Kristen Huppert Metal Properties; Hsin-Wu Tseng Cryonics; Tony Law Cryosurgery; Ryan Monaghan Cryotherapy; Paul Prado Medical Applications; Yanbin An Wind Tunnel; Gage Redler Laser Cooling
Day 4 — Sanal Buvaev Thermometry; Brian Malin Heat Xchangers; Chris Olmo Cryogenic Cleaning; Danial Sabri Dashti Space Storage; Casey Bosman Telescopes; Dimitrios Koukis Infrared Detectors; Jeremy Paster Material Properties; Xiaoxiang Xi Supersolid
Day 5 — Ishmal Lewis Unconventional Superconductivity—Introduction; Alan Teran Unconventional Superconductivity—Applications; Julia Neff Atomic Force Microscopy; Bryce Bolin Atomic Laser; Ethan Soergel Fuels; Dylan Smith Weapons; Joe Grange Cell Storage

SPS Annual Spring Picnic
The annual Spring Picnic, hosted by the Society of Physics Students, was held on Saturday, April 11th at Lake Wauburg.
Staff News

Happy Retirement, Yvonne

Plan to join the Department of Physics as they Celebrate Yvonne Dixon's Retirement after 35 Years of Service

Tuesday, March 31, at 1:00pm
2205 REPB

Yvonne Dixon, Office Manager, retires after 35 years of service

Staff Recognition Ceremony

On April 1 the College of Liberal Arts and Sciences presented its employees with Service Awards. The following are from the Department of Physics:

Pam Marlin, Information Specialist, 10 years
Laurie Bell, Administrative Service Coordinator, 15 years
Pete Axson, Engineer, 20 years
Martin Meder, Office Manager, 20 years
William Malphurs, Engineer, 30 years

Attending the ceremony were, left to right, Martin Meder, Pam Marlin, William Malphurs, Alan Dorsey (Chair), and Pete Axson.

Photo left: Physics secretary staff celebrated Yvonne’s retirement by holding a luncheon in her honor with family and friends in attendance.

Other photos: The Department of Physics hosted a celebration in honor of Yvonne’s retirement on March 31. Above photo is of Yvonne with Professor Pierre Ramond.