

## Calendar

### Wednesday, May 11

THERE WILL BE NO FERMILAB ILC

R&D MEETING THIS WEEK

THERE WILL BE NO PROTON DRIVER

GENERAL MEETING THIS WEEK

**3:30 p.m.** DIRECTOR'S COFFEE

BREAK - 2nd Flr X-Over

**4:00 p.m.** Fermilab Colloquium - 1 West

Speaker: W. Marciano, Brookhaven

National Laboratory/ University of

Chicago

Title: Muon Physics in the 21st Century

### Thursday, May 12

**2:30 p.m.** Theoretical Physics Seminar -

Curia II

Speaker: K. Benson, Emory University

Title: Constructing Braneworld Field

Theories

**3:30 p.m.** DIRECTOR'S COFFEE

BREAK - 2nd Flr X-Over

**4:00 p.m.** Accelerator Physics and

Technology Seminar - 1 West

Speaker: J. Branlard, Illinois Institute of

Technology

Title: Small-Signal Analysis of High

Frequency Semiconductor Devices

## Weather



Thunderstorms 63°/43°

[Extended Forecast](#)

[Weather at Fermilab](#)

## Current Security Status

[Secou Level 3](#)

## Wilson Hall Cafe

## Computer Glitch

Yesterday's issue of *Fermilab Today* was sent out late due to technical problems with Fermilab's listservs. Thanks to the Computing Division, the problem was fixed yesterday morning. *Fermilab Today* appreciates your patience.

## EPP2010 Meeting This Monday

UEC Chair William Trischuk recently sent this letter to Fermilab's Users to announce the upcoming EPP2010 meeting. An agenda for the meeting is [available online](#).

Dear Fermilab Users,

The National Research Council is organizing a decadal study of our field this year. They have formed a committee EPP2010 of 22 members, approximately half from the field of particle physics, and half from outside. The committee has been charged with placing experimental particle physics in the context of the national basic research program, communicating its value and excitement to other scientific

fields, government agencies, and the general public. The committee has also been charged with presenting a credible future for the field over the next fifteen years.

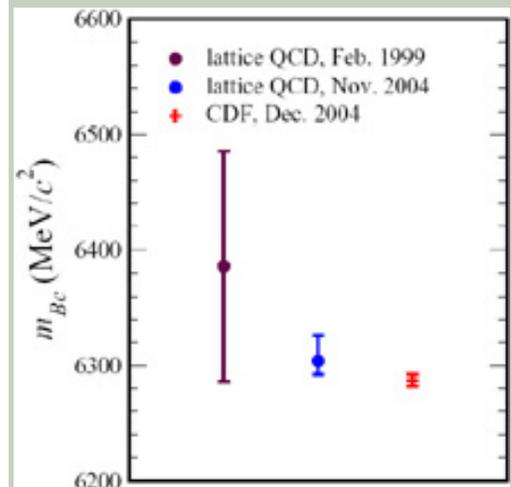


William Trischuk

The committee has met twice already. It will meet again at Fermilab on Monday,

## Theory Result

## Precise Prediction of Particle Mass, Confirmed by Experiment



Comparison of the new lattice QCD calculation (point in center), with a previous one (left) and CDF's recent measurement (right). Not only is the uncertainty of the calculation now 5 times smaller, the result is confirmed by the measurement. (Click on image for larger version.)

For decades theoretical physicists have tried to compute from first principles the properties of hadrons, a family of subatomic particles that includes the proton and neutron. The main obstacle was the intractable nature of quantum chromodynamics (QCD), the modern theory of how quarks bind to form hadrons. Now scientists have confirmed the validity of a new numerical approach, proposed in a recent paper [Phys. Rev. Lett. 92, 022001 (2004)].

As an application of the new method, a team of physicists from Glasgow University (UK) and Fermilab calculated



## Wednesday, May 11

Italian Wedding with Meatballs

Diner Style Patty Melt \$4.75

Mediterranean Style Baked Fish \$3.75

Beef & Broccoli \$3.75

Greek Chicken Panini with Feta Cheese \$4.75

Sicilian Style Pizza \$2.75

Grilled Chicken Bowtie in a Tomato Cream Sauce \$4.75

The Wilson Hall Cafe now accepts Visa, Master Card, Discover and American Express at Cash Register #1.

[Wilson Hall Cafe Menu](#)

[Chez Leon](#) is now open. Call x4512 to make your reservation.

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May 16. At that meeting, the committee hopes to improve its understanding of the international nature of particle physics, both for truly global projects like the International Linear Collider and projects like the Proton Driver. Ian Halliday (PPARC), Yoji Totsuka (KEK) and Albrecht Wagner (DESY) will join Mike Witherell and Pier Oddone in making presentations to the committee. The meeting will also include an open microphone session organized by the APS/DPF Executive.

The committee is interested in the opinions of the community both through personal contacts, for example during breaks in the meeting at Fermilab, and from letters. Examples of the questions they have posed so far can be [found online](#). Input received at [epp2010@nas.edu](mailto:epp2010@nas.edu) will be distributed to the whole committee for discussion.

I encourage all members of the Fermilab community to attend the meeting on May 16 and send your opinions to the committee.

William Trischuk  
UEC chair

## Jack Mateski Retires But Hopes to Keep Hands In

Particle Physics Department's Joseph "Jack" Mateski retires today after nearly 24 years at Fermilab, primarily working with scientists and engineers to design detectors for DZero. "And it is a fun job, I tell you," said Mateski, a broad smile on his face. "I enjoy this kind of work, and wouldn't have stuck around if I didn't. You should enjoy your work." The Joliet, Illinois native worked at Argonne National Laboratory for a number of years before

the mass of a particle called the  $B_c$  meson, which consists of a bottom quark and a charmed antiquark.

The  $B_c$  is a rare particle produced in collider experiments. Until recently, observations gave poor measurements of its mass.

In the May 6 issue of Physical Review Letters, the



Ian Allison (left) of Glasgow University and Alan Gray of Ohio State University also contributed to this result. (Click on image for larger version.)

Glasgow-Fermilab theorists predict the mass of the  $B_c$  to be 6304 MeV, with a margin of error of about 20 MeV, or 0.3 percent. After the paper was submitted on November 19, 2004, one of the Tevatron collider experiments announced a new mass measurement, yielding 6287 MeV with an uncertainty of 5 MeV. The result confirms the theorists' prediction. Since the numerical techniques can be used to compute other hadron properties, they are expected to aid experimenters searching for new quark interactions.

PPD's Donald Tousignant helped him land a job at Fermilab. Mateski is optimistic that his time at Fermilab isn't completely over. "I hope they call me so I can keep my hands in at the lab," said Mateski.

Fermilab has been a family affair for Mateski. All but one of his four children participated in high school co-op programs and worked during the summers with their father. Mateski and his wife Kathy will celebrate their 41st wedding anniversary on May 23. He plans to relax, work around the house, fish, travel around the country, and take his grandchildren to area parks. Every Thursday he and the Fermilab Golf League travel to Phillips Park in Aurora to play 18 holes. Mateski, who refers to younger, salt-and-pepper-haired engineers as "kids," will miss the people at the lab the most. "There are a lot of brilliant people here," said Mateski. "I think that we have come up with innovations that have helped humanity."  
- Eric Bland

## Retiring Igor Churin Bids 'Adieu' to Friends at Lab

Igor Churin, a mechanical engineer for the Particle Physics Division, will retire tomorrow after 11 years at Fermilab. Churin emigrated to the United States 18 years ago from the Soviet Union because, he says, "I hated it. It was dead then, rigid and very conformist." Here at Fermilab Churin has had the opportunity to design calorimeters for the Superconducting Supercollider, KTeV, and CMS. Working with three other Russian engineers, Churin designed the CMS calorimeter that has more copper than the Statue of Liberty. In a swords-to-plowshares irony, part of the calorimeter was made at a

## Theory Result

Fermilab theorists (from left to right) Jim Simone, Andreas Kronfeld, and Paul Mackenzie, in front of Fermilab's first PC cluster for lattice QCD, installed in the New Muon Lab. (Click on image for larger version.)

### Additional Reading:

[Result of the Week](#): 26 Theorists + Computer Clusters = Progress in Lattice QCD

[Result of the Week](#): CDF Sees Charmed Beauty Meson in a New Decay Mode

[Result of the Week Archive](#)

## Milestones

### Retired

- Loren Anderson, AD, 5/11/05
- Patrick Gorak, PPD, 5/11/05

## Announcements

### Optician Not In Today

The onsite optician will not be in today.

### Retirement Party for Rap and Joanie

Join us at the Users' Center on Friday, May 20 at 5:00 p.m. Please bring a dish to pass! Call Lisa Carrigan, X3185, P1143, or [lcarrigan@fnal.gov](mailto:lcarrigan@fnal.gov) with any questions. Rap's last full day at the lab will be Thursday, May 12.

[more information](#)

### Fermilab Barnstormers Meeting Wednesday

The Fermilab Barnstormers, Model Aeronautic Club, will have its next meeting on Wednesday, May 11 at 5:30 p.m., at the Frelø Flying Field. Meetings

former nuclear weapons manufacturing site in Russia, and another part was made from old artillery shell casings. Churin is currently designing a pixel detector for the LHC made of lightweight carbon fiber.



Churin holds a piece of his pixel detector.

Churin will miss the open environment of Fermilab, which "includes all the friends I have made here." He and his wife Anna have been married 38 years. They have two grown children and three "adorable" grandchildren, who live next door to their grandparents. Churin will spend his retirement playing with his grandchildren, but he also has plenty of work to do around the house when he is not listening to classical music, taking photographs, traveling (his favorite National Park is the Boundary Waters in Minnesota), gardening and reading.

- Eric Bland

The blueprints are in the background.

are held on the second Wednesday of each month. The club will meet in the Users' Center if it rains. New members welcome! Current members fly control line, R/C gas and electric planes. The club also has members who fly helicopters! Try out the trainer club plane, bring something to fly, or come and watch.

[more information](#)

### International Folk Dancing

International Folk Dancing will hold a special workshop on Thursday, May 12, at 7:30 p.m. Daniela Ivanova, a Bulgarian dance researcher and choreographer, will teach dances of Bulgaria and other Balkan countries. She will be accompanied by Angel Nazlamov, a noted accordionist. The workshop will be held at Kuhn Barn. Newcomers and school-age children are welcome and you do not need to come with a partner. Info at 630-584-0825 or 630-840-8194 or [folkdance@fnal.gov](mailto:folkdance@fnal.gov).

### Summer Camps at SciTech

SciTech has still a few places left in its summer camps for children age 6 through 13, divided into appropriate age groups. The museum offers six one-week units, with themes ranging from "Crime Scene Investigators" to "Totally Ballistic" to "Bats and Beyond." Professional teaching staff, air conditioned facilities and an outdoor science park are just some of the unique benefits of camp at SciTech. For additional information see the [SciTech website](#) or contact SciTech's Center for Learning at 630-859-3434, ext. 214.

[Upcoming Activities](#)

### In the News

#### From *Science Daily*, May 8, 2005

#### Underground Physics: Searching For Neutrinos In Deep Places

A new physics experiment combines thousands of tons of steel plates, a powerful particle accelerator and 450 miles of solid rock to reveal the secrets of a particle that sometimes seems to barely exist.

[read more](#)