

Calendar

Monday, July 31

PARTICLE ASTROPHYSICS
SEMINARS WILL RESUME IN THE
FALL

3:30 p.m. Director's Coffee Break - 2nd
floor crossover

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

Tuesday, August 1

12:00 p.m. Summer Lecture Series -
Curia II

Speaker: Rocky Kolb, Fermilab
Title: Cosmology and Astrophysics

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

4:00 p.m. Accelerator Physics and
Technology Seminar - (NOTE
LOCATION) Curia II

Speaker: V. Shiltsev, Fermilab
Title: Do We Need More Accelerator
Research? Situation at Fermilab and
Highlights from 2006 Advanced
Accelerator Concepts Workshop

Click [here](#) for a full calendar with links
to additional information.

Weather



Chance of Showers **99°/79°**

[Extended Forecast](#)

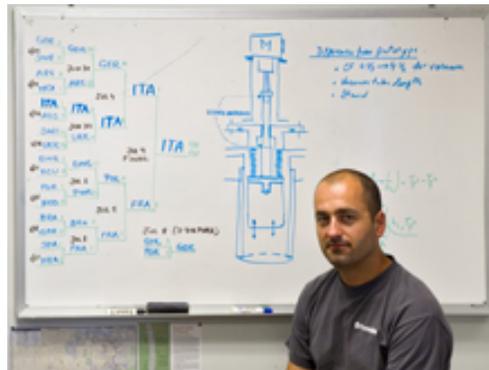
[Weather at Fermilab](#)

Current Security Status

[Secou Level 3](#)

Wilson Hall Cafe

What's on your wall? Engineer Leonardo Ristori



TD engineer Leonardo Ristori's whiteboard includes a diagram of a resonator tuner and the scores of the World Cup, which Italy won. (Click image for larger version.)

The path from an inspired new idea to a functioning scientific instrument often passes through an engineer's black (or white) board.

In the center of Technical Division engineer Leonardo Ristori's whiteboard is what he calls a "clumsy" drawing of a piston-like resonator tuner. The tuner is a crucial device in

a particle accelerator. It is placed on top of a resonator (right)-- a hollow, drum-shaped object housing an accelerator cavity. The tuner's movements

change the volume of the cavity, giving physicists control over the cavity's frequency.

"There's a lot that can affect the natural, resonant frequency of a resonator--



A resonator

(click for larger version)

Safety Tip of the Week

Sitewide Emergency Warning System



Outdoor sirens are only activated for a national emergency or for a tornado warning that affects the Fermilab site.

Fermilab's Sitewide Emergency Warning System, dubbed "SEWS," is composed of various devices. Out of doors, the lab has a number of sirens like those used in nearby communities. These outdoor sirens are sounded *only* for tornado warnings or national emergencies.

In addition, there are indoor alerting devices in commonly-occupied buildings. These provide alerting tones followed by verbal information. These indoor devices may sound if the National Weather Service issues a tornado watch, tornado warning, severe thunderstorm watch, or thunderstorm warning that affects the Fermilab site. After the alerting indoor tone, verbal information and appropriate guidance are provided.

To recap, SEWS may be activated in two ways:

- Outdoor siren - *Only* for tornado warnings or national

Monday, July 31

- Wisconsin Cheese
- Corned Beef Reuben
- Stuffed Chicken Breast
- Mostaccoli al Forno
- Chicken Oriental Wrap Pineapple
- Assorted Slice Pizza
- Pacific Rim Rice Bowl

The Wilson Hall Cafe accepts Visa, Master Card, Discover and American Express.

[Wilson Hall Cafe Menu](#)

Chez Leon**Wednesday, August 2****Dinner**

- Kentucky Whiskey Pork Loin
- Chipotle Sweet Potato Salad
- Bean and Corn Salad
- Pear Chocolate Tart

Thursday, August 3**Dinner**

- Salad of Field Greens, Pears and Blue Cheese w/Mustard Tarragon Vinaigrette
- Fillet of Beef w/Green Peppercorns, Horseradish and Cognac Sauce
- Vegetables of the Season
- Chocolate Souffle w/Frangelico Cream

[Chez Leon Menu](#)

Call x4598 to make your reservation.

Search

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Info

atmospheric pressure, temperature, power fluctuations and so on," Ristori said. "You need to have some way to keep the frequency in the right spot [to accelerate particles]."

Ristori is fabricating both the tuner and resonator for the High Intensity Neutrino Source, an accelerator R&D program exploring possible technologies for the ILC, Muon Collider or a neutrino program at Fermilab. Ristori will complete prototypes of both devices within one or two months, then begin testing them. "It's like when someone builds a guitar," he said. "The guitar builder starts hammering the guitar and listening to it, making a few changes before taking it to production." The list at the top right of his whiteboard describes changes between the current prototype and the final, working version.

As for the World Cup bracket dominating the left half of the board, Ristori said he was happy to keep everyone updated and even happier to list his home country of Italy as the winner. "We won the last [World Cup] 24 years ago and lately lost by just a little," Ristori said, "but this year we won."

--Dave Mosher

Photo of the Day

emergencies. You should go to a tornado shelter or other safe location.

- Indoor tone followed by announcement - Listen to the announcement and take appropriate action depending on situation.

If the announcement says there is a weather *watch*, you should prepare to take shelter. For weather *warnings*, you should actually take shelter in an appropriate location. Be observant of conditions and use common sense when selecting shelter areas; pick the best space you can safely get to. Designated shelters and lower, windowless rooms are best. If outside, look for signs that direct you to the nearest tornado shelter. If you cannot make it to a safe building, get into a ditch.

Please note that many buildings also have local indoor alarms that are not part of SEWS, such as those for fire, oxygen deficiency hazards, and more. If one of these hazards occurs, there will not be a SEWS announcement.

[Safety Tip of the Week Archive](#)**Response to a [letter to the editor](#):**

A Fermilab village resident wrote last week that he became confused when he heard outdoor sirens in the middle of the night, followed by an indoor announcement that there was "only a thunderstorm warning."

Fermilab's safety expert explained that the sounding of the sirens was a mistake. Since there was neither a tornado warning nor a national emergency, the

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Mike Becker of Roads & Grounds said the Buffalo rut season is in full swing and competition for female cows, like the one in the photo, is intense. "There's a lot of emotion and activity, a lot of breeding-related excitement," Becker said. "It's pretty impressive to see two one-ton herd bulls trying to make each other back down." (Click image for larger version.)

In Memoriam

Jed Brown

Former Fermilab employee Jed Brown passed away Friday after a battle with cancer. Brown's wife, Jean, says there will be a burial at Arlington Cemetery with full military honors. No date has been set but she believes the burial will take place in a couple of weeks. There will be an update in *Fermilab Today*.

In Memoriam

Stanley Orr

Former Fermilab employee of 36 years, Stanley Orr passed away Saturday, July 29. He was 61 years old. A visitation will be held on Wednesday, August 2, from 4-9 p.m. at Hultgren Funeral Home, 304 N. Main St., in Wheaton. A funeral service will be held on Thursday, August 3, at 10:00 a.m. at Lombard Gospel Chapel, 369 N. Stewart Avenue, in Lombard. Interment will follow at Wheaton Cemetery. In lieu of flowers, memorial gifts may be directed in memory of Stan to The Gideons International, Post Office Box 140800, Nashville, TN 37214-0800.

In the News

outdoor sirens should not have sounded.

Accelerator Update

July 26-28

- Two stores provided 42 hours and 51 minutes of luminosity
- NuMI resumes taking beam
- NuMI suffers many trips
- Store 4859: second best luminosity with 171.2E30
- Booster RF problems
- Machine Reports

[Read the Current Accelerator Update](#)

[Read the Early Bird Report](#)

[View the Tevatron Luminosity Charts](#)

Announcements

Air Pollution Action Day, Today

Today, Monday, July 31, the air quality is forecasted to reach unhealthy levels.

Residents of the Metropolitan Chicago area are asked to take actions to reduce ozone and particle pollution. Suggested actions include:

- Limit driving. Rideshare, carpool, walk or bike.
- Take public transportation.
- If you must drive, avoid excessive idling, abrupt starts and use I-PASS.
- Refuel your vehicle after 7 P.M., when sunlight is not as strong.
- Do not use gasoline powered recreational vehicles on Action Days.
- Postpone lawn mowing and gardening chores that use gasoline-powered equipment on Action Days.
- Use a charcoal chimney or electric starter instead of lighter fluid when starting a barbeque grill.
- Limit use of household and personal products that cause fumes.
- Conserve energy at home to reduce energy needs from power plants.
- Do not burn leaves or other yard

NPR, July 27, 2006: A Prayer Book's Secret: Archimedes Lies Beneath

Why would anyone pay \$2 million for a tattered book of Christian prayers from 1200 A.D.? The anonymous philanthropist who coughed up the sum in 1998 wasn't lured by the holy writings. He was after the faint ink beneath -- mathematical theorems and diagrams from the Greek scholar Archimedes, who lived more than 2,000 years ago. It's the oldest known copy of his work, but the writings were barely legible. But now, a new restoration technique may make it possible to recover all of Archimedes' original text. [Bathtub Brilliance](#)

As the legend goes, Archimedes discovered the principle of buoyancy in his bathtub, prompting him to shout "Eureka!" Regardless of whether this story is true, Archimedes was, without a doubt, a great mathematician. Little of his work has made it down through the ages, but what has survived is startling. He writes about infinity -- different levels of infinity, actually -- which is astounding for a scholar from the second century B.C.

[Read More](#)

waste.

- Postpone burning wood in fireplaces on Action Days.

"Fermi Night" at the movies

Hollywood Boulevard, Chicago area's first full-service, fully integrated restaurant, bar, and movie theater is offering "Fermi Night" at the movies on Wednesdays. Show your Fermilab ID and get one free admission per visit (an \$8.00 value). Theater attendees must be 21 or older unless the show denotes that it is an all age matinee. The theater is located at 1001 W. 75th St at Lemont Rd. in Woodridge. For show times [click here](#).

[Upcoming Activities](#)