

Calendar

Tuesday, August 1

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

Speaker: R. 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

Wednesday, August 2

11:00 a.m. Fermilab ILC R&D meeting - 1 West

Speaker: E. Clements, Fermilab

Title: ILC Communication

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

4:00 p.m. Fermilab Colloquium - 1 West
Speaker: N. Hatsopoulos, University of Chicago

Title: Encoding and Decoding of Neuronal Ensembles in the Motor Cortex

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

Weather



Mostly Sunny **99°/75°**

[Extended Forecast](#)

[Weather at Fermilab](#)

Current Security Status

Universe's most ambitious cartographers get noticed



SDSS has created the most comprehensive map of the universe. Above, one of Sloan's images shows a star-forming nebula in the Orion constellation less than 100,000 years old. (Image courtesy of SDSS; [click for larger version.](#))

Since its inception in 2000, Sloan Digital Sky Survey results have been cited over 34,000 times in important astronomy papers. That's [more citations](#) than Watson and Crick's 1953 *Nature* article revealing the structure of DNA (often considered the most influential journal article in history). So how did Sloan get so popular?

"We are a large consortium and we have produced a lot of papers, which boosts the number of citations," explained SDSS head Richard Kron of the University of Chicago. But there are at least two other important reasons that Sloan data is used so frequently. The most obvious reason is the scope of the project. SDSS maps a fourth of the sky--using one of the biggest cameras in the world to chart stars, quasars, galaxies and anything else in the Northern Galactic Cap of the heavens. "If you *can* measure it we *are* measuring it," said Kron. The

Director's Corner

Learning from our mistakes

On Friday, July 21, while I was at the Vancouver Linear Collider Workshop, I got the kind of

message that Director's hate to get: a very serious controlled access violation in the MTest beamline (used for detector R&D) had just occurred. Any



Pier Oddone

such event carries serious consequences for the laboratory and for the individuals involved. We have not re-started the Mtest beamline pending a thorough analysis of how such a violation can be prevented in the future and we have taken disciplinary action against the individuals involved.

Even though this controlled access violation did not create an accident - thanks to alert operators and a redundant system - it calls for a thorough review of the procedures that we follow. These events are extremely rare at Fermilab and present an opportunity to learn. In this particular case, the individuals involved had received training, had passed the required exams associated with how controlled access works, and some had even done controlled access before. Yet in carrying out the access the most elementary rules developed over decades of experience in running safe beam operations were violated. Three individuals made the access but only two carried interlock keys. To compound the

[Secon Level 3](#)**Wilson Hall Cafe****Tuesday, August 1**

- Creamy Turkey Vegetable
- Salisbury Steaks w/Mushroom Au Jus
- Chicken Cacciatore
- Spaghetti w/Meatballs
- Italian Panini w/Provolone
- Assorted Slice Pizza
- Super Burrito

[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**Search the Fermilab Today Archive****Info**

comprehensive nature of the survey is appealing to researchers because the clustering of celestial objects provides hints about how the universe behaves. Sloan data can test theories about gravity, dark matter, and the evolution of the universe.

In addition to having the most comprehensive map of the universe that exists, there is a second reason for the buzz: Sloan is the first astronomical survey with a public database including a powerful, intuitive search capability. Amateur astronomers, university professors--even high school students--can search for things like red stars or quasars. "It's not a completely crazy notion that a non-expert could make an important discovery using our data," said Kron. "The art of it was to design a structure that allows anyone to do research on the fly...in that sense we've been pioneers."

--*Siri Steiner*

You can learn more about SDSS [here](#).

A mouse, a monkey and a brain. It'll all make sense if you go to the lecture...

Ever wonder what's happening at the leading edge in other scientific fields? Come to Wednesday's colloquium and find out how biologist Nicholas Hatsopoulos (University of Chicago) designed a microchip that allows the brain to control a computer mouse simply by "thinking" about moving it. "As neurons fire off electrical charges to communicate with one another, the electrodes detect when and where they fire," explained a recent [article](#) in *University of Chicago Magazine*. "Tiny wires connect the array to a device that extends into the scalp, which in turn

error, the two individuals with keys left the enclosure while their colleague was left behind without a key. The two who left had not returned the interlock keys and were planning to come back, perhaps having adopted what they thought was a "safe" procedure of their own.

The radiation protection measures are there for a reason. The only absolutely safe entry into an enclosure where a beam can be delivered is if an individual takes an interlock key along that prevents the beam from turning on. Furthermore, our procedures require that a minimum of two people enter the area so that they can check each other (in fact the set of interlock gates is such that two individuals are required to get through the gates). If it is an entry by multiple individuals, they all are responsible to make sure everyone making the access has an interlock key with them. The fact that the training was not sufficient to instill the absolute importance of these rules will require us to take additional steps in how we allow controlled access. This will be especially important for the Mtest beamline where there is a frequent rotation of experiments and, like in this case, less experienced users.

Accelerator Update**July 28 - 31**

- Two stores provided 54 hours and 4 minutes of luminosity
- NuMI Lambertsons trip
- Divers continue to clean strainers
- Pbar problems: Overthruster, BPMs, ground faults, failed magnet
- High temperatures affect every machine
- TeV D48 polarity problems

[Read the Current Accelerator Update](#)

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connects to a computer that records the signals." Hatsopoulos's technology has already been tested in a number of monkeys and one human, with important implications for understanding how human brains are fundamentally wired. You can learn more during Hatsopoulos's lecture Wednesday at 4:00 p.m. in 1 West.

--Siri Steiner

In the News

Newsday.com, July 30, 2006: Asleep at the collider After leading the world in particle physics, the U.S. falls behind in this high-tech science

Elementary particle physics - the study of the smallest components of matter: the parts inside the parts inside the atom - is at a crossroads in the United States. The major experiments at the Fermilab near Chicago and the Stanford Linear Accelerator Center near San Francisco are to end by roughly 2010. They have been world leaders in particle physics research for much of the past half century.

Meanwhile, multibillion-dollar efforts to build new research facilities are under way in Europe and Asia. The question for the United States is this: Are we ready to relinquish leadership in this area of science? We risk falling behind not just in pure science, but in industry, medicine and communications, all of which have benefited from this research.

[Read More](#)

[View the Tevatron Luminosity Charts](#)

Announcements

Memorial Service for Jane Wilson

There will be a memorial service for Jane Wilson on Sunday, August 20 at 12:00pm in the Users' Center in the Fermilab Village. If you'd like to attend, please [click here](#).

Wisconsin Dells coupon books

Wisconsin Dells Coupon Books will be on sale until Friday, September 1. The book contains over \$6,000 in 2-for-1 deals and 50-percent-off values from over 100 Wisconsin Dells merchants. You can purchase the book for \$15 when you stop by the recreation office.

Canoe Rentals

Canoes and car racks can be rented through the Recreation Office, WH15W. Cost is \$7 per day; you can rent a car rack to transport the canoe for \$5. Canoes are 17' in length and have a maximum capacity of 5 people. Canoes are located in the garage between 10 Sauk Circle and Anderson Barn, reservations and payment must be made prior to use. Canoes are licensed and may be taken off site. Arrangements can be made to pick up the canoes on weekends and after hours, if needed. Onsite canoeing is available on the Village lakes only. These are: DUSAF Pond, A.E. Sea and Lake Law. Visit the recreation site for [more information](#).

[Upcoming Activities](#)