

Calendar

[Have a safe day!](#)

Thursday, Sept. 17
2:30 p.m.

[Theoretical Physics Seminar](#) -

Curia II

Speaker: Jennifer Kile,
Brookhaven National
Laboratory

Title: Hidden Light Dark Matter
in Neutrino Detectors

3:30 p.m.

DIRECTOR'S COFFEE
BREAK - 2nd Flr X-Over

4 p.m.

[Accelerator Physics and Technology Seminar](#) - One

West

Speaker: Andrey Kabantsev,
University of California, San
Diego

Title: Ion-Induced Instability of
Diocotron Modes in
Magnetized Electron Columns

Friday, Sept. 18

3:30 p.m.

DIRECTOR'S COFFEE
BREAK - 2nd Flr X-Over

4 p.m.

[Joint Experimental-Theoretical Physics Seminar](#) - One West

Speaker: Paul Lujan,
University of California,
Berkeley

Title: Measurement of the Top
Mass at CDF

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

Campaigns

[Take Five](#)

[Tune IT Up](#)

Weather

Feature

Visa issue expert Susan Brown helps foreign visitors



Susan Brown

Before physicists, technicians, computer experts and other visitors from abroad can help probe the mysteries of matter and energy at Fermilab, they must first probe the mysteries of H-1B visas, I-94 forms and immigration paperwork processing.

Helping them decipher the paperwork is International Services administrator Susan Brown, who began work on Aug. 26.

From her office on the first floor of Wilson Hall, Brown helps foreign nationals plan visits ranging from a few days to a few years. The full process for some applicants can take months, during which she gets to know more about the client than just his or her application.

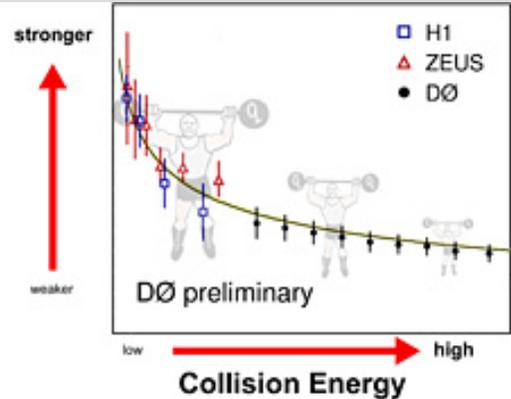
"You do develop a familiarity with each other," Brown said. "I take it personally, they're depending on me to get them into the country."

Her primary focus is on completing paperwork for immigrants planning a temporary stay in the United States. She has about nine years of experience in immigration work and most recently worked at a Chicago law firm that helped business clients complete paperwork for foreign nationals.

So far she's enjoyed her work at Fermilab, which she said has a more relaxed work environment than Chicago. One challenge unique to her job has been writing job descriptions in applications, which require her to research and understand the complexities of a scientific position.

Fermilab Result of the Week

Subatomic taffy and the strong force



This figure compares the DZero measurement of the strength of the strong force to two earlier measurements from the DESY laboratory in Germany. The DZero measurement is precise and considerably extends the range over which the strength was measured. The line is the prediction guided by precise measurements from the LEP accelerator at CERN.

When I was a kid, my great-great-grandmother and I used to [make taffy](#) the old-fashioned way. We'd combine the sugar, corn starch, corn syrup, butter and other ingredients in a pan, bring the mixture to a boil and then pour the thin and goopy taffy onto a cold stone slab and let it cool. As it cooled, the mixture became thicker and stickier.

This week's ROW is about the strong force, not taffy, but the two have some interesting parallels. The strong force, one of four fundamental forces, holds together the nucleus of the atom and is about 100 times stronger than electromagnetism, the next-strongest force. Just as the stickiness of taffy varies with temperature, the strength of the strong force varies with energy.

When the beams of protons and antiprotons in the Tevatron collide, the quarks and gluons inside the protons and antiprotons interact with each other via the strong force. It is very strong at low energies and becomes weaker as the energy of the collision increases, just as the stickiness of taffy is low when it is very hot and liquid and becomes stickier and more viscous as it cools off.

Indeed, at the Tevatron's very high energies, it is crucial for physicists to understand exactly

 Sunny
73°/48°

[Extended Forecast](#)
[Weather at Fermilab](#)

Current Security Status

[Secon Level 3](#)

Wilson Hall Cafe

Thursday, Sept. 17
- Santa Fe black bean
- Steak tacos
- Chicken Wellington
- Chimichangas
- Baked ham & swiss on a ciabatta roll
- Assorted sliced pizza
- Crispy fried chicken ranch salad

[Wilson Hall Cafe Menu](#)

Chez Leon

Thursday, Sept. 17
Dinner
- Beet and Roquefort salad w/ walnuts
- Chilean sea bass w/spicy red pepper sauce
- Lemongrass rice
- Sautéed spinach with garlic & lemon
- Fresh fruit tart

Wednesday, Sept. 23
Lunch
- Stuffed filet of sole
- Green rice
- Steamed broccoli
- Apple turnovers

[Chez Leon Menu](#)
Call x3524 to make your reservation.

Archives

International Services supervisor Amanda Peterson said she was looking to hire an experienced paralegal who could begin processing paperwork immediately, a qualification Brown possessed. But it was the moment in an interview when Brown mentioned her fondness for checklists – a staple in the International Services office – that Peterson knew she would make the hire.

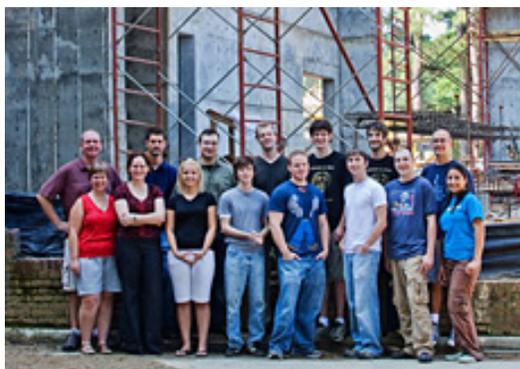
“I knew if anyone loved checklists as much as I love checklists that she’d be a good fit,” Peterson said.

Brown lives in Naperville with her husband and two sons, ages 15 and 12. She grew up in Tulsa, Okla., and earned her undergraduate degree from East Central University in Oklahoma.

-- *Chris Knight*

University Profile

College of William and Mary



Back row: Jeff Nelson, Josh Devan, Mike Kordosky, Eddie Charlton, Pete de Castro, Aaron Krajieski and Chris Becke. Front row: Wendy Nelson, Tricia Vahle, Alena Gavrilenko, Stephen Kane, Bruce Pollock, Dave Edmondson, Will Henninger and Sabina Samipour.

NAME:
[College of William and Mary](#)

HOME TOWN:
Williamsburg, Virginia



MASCOT:
William and Mary is known as "the Tribe." In 2006, NCAA deemed the nickname appropriate but deemed the feathers on our former athletic logo inappropriate. In response to the ruling, we are now in search of a [mascot](#).

SCHOOL COLORS:
Green, gold and silver

PARTICLE PHYSICS

how the strong force weakens with collision energy. Without that knowledge, physicists might miss the signature of hypothetical particles inside quarks, since this signal also varies as a function of collision energy.

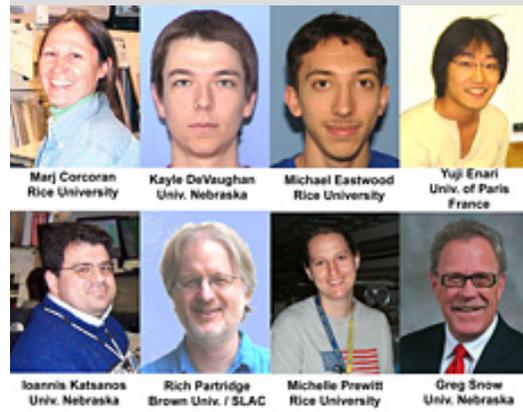
Because the Tevatron involves the highest-energy collisions in the world, physicists can measure how the strength of the strong force varies. DZero physicists have recently [studied](#) this phenomenon and compared their measurement to earlier measurements. This measurement is the most precise and the highest-energy measurement of the strong force using hadron beams.

Subatomic taffy never tasted so good...

-- *Don Lincoln*



Markus Wobisch of Louisiana Tech University realized that this result could be extracted from an [earlier DZero measurement](#).



During the shutdown, the DZero luminosity operations team worked diligently to replace aging components of detectors that measure the amount of beam delivered (also called *luminosity*). These scientists are responsible for the refurbishment and operation of this crucial detector system.

Accelerator Update

[Fermilab Today](#)[Result of the Week](#)[Safety Tip of the Week](#)[CMS Result of the Month](#)[User University Profiles](#)[ILC NewsLine](#)**Info**[Fermilab Today](#)

is online at:

www.fnal.gov/today/

Send comments and suggestions to:

today@fnal.gov

Visit the Fermilab

[home page](#)

COLLABORATIONS:
MINOS, NOvA, MINERvA and Mu2e

EXPERIMENTS AT FERMILAB:
MINOS, NOvA, MINERvA and Mu2e

SCIENTISTS AND STUDENTS AT
FERMILAB:

Three faculty, three emeritus, four graduate students, eight current undergraduates and 18 total undergraduates during the last five years, and two high school teachers

COLLABORATING AT FERMILAB
SINCE:
2004

MAJOR CONTRIBUTIONS TO
FERMILAB EXPERIMENTS:
MINOS: installation; magnetics; muon neutrino and antineutrino disappearance analyses; electron neutrino appearance analysis; near detector neutrino cross section measurements; beam systematics; MC generation; test beam operation and analysis. NOvA: calibration working group. MINERvA: construction; installation; tracking prototype commissioning.

PARTICLE PHYSICS RESEARCH
FOCUS:
Neutrinos

WHAT SETS PARTICLE PHYSICS AT
COLLEGE OF WILLIAM AND MARY
UNIVERSITY APART?

William and Mary high energy physics rapidly expanded over the last five years and has attracted a number of new graduate students. We have an active mix of hardware, analysis, and R&D experience and strong connections with our colleagues at nearby JLab. In addition to getting Ph.D. students involved, we require every William and Mary physics major to complete a research project (18 HEP undergrads in the last five years).

Our physics building is named after Thomas Jefferson's science professor (Small) and is being expanded to double the research space.

FUNDING AGENCY:
National Science Foundation

FAVORITE NATIONAL LABORATORY:
Fermilab

Sept. 14-16

- Store 7183 provided ~10 hours of luminosity
- Pbar stacked antiprotons
- Recycler stashed antiprotons
- NuMI horn trip
- Pbar cryo system problems halted stacking

[Read the Current Accelerator Update](#)

[Read the Early Bird Report](#)

[View the Tevatron Luminosity Charts](#)

Special Announcement

Wilson Hall domestic water service interruption Sunday

A domestic water service interruption that will affect Wilson Hall and Ramsey Auditorium will take place from 6 a.m. until 6 p.m. on Sunday, Sept. 20. Although Wilson Hall will not officially close during this outage, all restrooms will be closed and drinking fountains will be affected. Please plan accordingly.

Special Announcement

Buffalo Fest Friday



From 4 to 6 p.m. Friday, Sept. 18, the Users' Center will host Buffalo Fest on its patio. Half-pound buffalo burgers are \$6; half-pound hamburgers are \$5; and quarter-pound beef hot dogs are \$3. All sandwiches come with chips. No Fermilab buffalo were harmed for this festival.

Announcements

[Fermilab Toastmasters can help you find your voice - Sept. 17](#)

[S&T Policy: A View from Washington, D.C. - Sept. 18](#)

[Mosaico Hispanico - celebrating Hispanic music and dance - Sept. 19](#)

[Wilson Hall domestic water service interruption - Sept. 20](#)

[English Country Dancing - Sept. 20](#)

[Fermi Kyuki-Do martial arts - next](#)



View all [University profiles](#)

In the News

Interview: Murray Gell-Mann

From **Science News**, Sept. 19, 2009

Shortly before his 80th birthday, on September 15, the physics Nobel laureate Murray Gell-Mann spoke with Science News Editor in Chief Tom Siegfried about his views on the current situation in particle physics and the interests he continues to pursue in other realms of science. Gell-Mann is most well known for introducing the concept of quarks, the building blocks of protons, neutrons and other particles that interact under the influence of the strong nuclear force. After many years as a professor of physics at Caltech, Gell-Mann moved in the mid-1980s to New Mexico as one of the founding members of the Santa Fe Institute, where he continues his research today.

You say in your book [The Quark and the Jaguar, 1994] that there is no evidence for any substructure of quarks. Is that still the case?

There's no evidence for any substructure. There might be. It's possible, but there's no evidence for it.

[Read more](#)

[session begins on Sept. 21](#)

[Argentine Tango through Sept. 30](#)

[Bowlers wanted Wednesday nights](#)

[Thai Village restaurant discount](#)

[Tai Chi class moves to Thursdays](#)

[New Lo Cardio Class - Sept. 14 - Nov. 16](#)

[New Tai Chi For Health class - Sept. 14 - Nov. 16](#)

[URA Visiting Scholars Program now accepting applications](#)

[Six Flags Great America discount tickets](#)

[Sign up for fall Science Adventures classes](#)

[Office 2007 New Features class offered in September](#)

[Buttered Rum performs on Fermilab Arts Series Oct. 24](#)

[Fred Garbo Inflatable Theatre - at Fermilab Arts Series - Nov. 7](#)

[Process piping \(ASME B31.3\) class offered in October and November](#)

["The Night Before Christmas Carol" at Fermilab Arts Series - Dec. 5](#)

[Additional Activities](#)

[Submit an announcement](#)