

At PPPL THIS WEEK

WEDNESDAY, FEBRUARY 1

PPPL Colloquium

4:15 p.m. ♦ M.B. Gottlieb Auditorium

Machine Learning, Reasoning, and Natural Language Processing

Dan Roth (University of Illinois at Urbana-Champaign)

[CLICK HERE FOR ABSTRACT](#)

THURSDAY, FEBRUARY 2

GFDL Events and Seminars

2 p.m. - 3:15 p.m. ♦ GFDL Smagorinsky Seminar Room

Aerosol Effects on Cloud Thermodynamic Phase

Trude Storelvmo (Yale)

www.gfdl.noaa.gov/events

(Gov't, Univ. or 2 other forms of I.D. needed)

FRIDAY, FEBRUARY 3

DIII-D Science Meeting

1 p.m. - 2:30 p.m. ♦ B-233

PPPL Super Bowl Party

2 p.m. ♦ LSB Lobby

SATURDAY, FEBRUARY 4

Science on Saturday

9:30 a.m. ♦ M.B. Gottlieb Auditorium

Cooperation and Conflict in the Natural World

Suzanne Alonzo (Yale University)



What's Happening on the Princeton University Campus?

[CLICK HERE](#)

www.princeton.edu/main/news/events/

Where There's a Will There's a Weld

By John Greenwald

Laboratory engineers faced a potentially sticky problem over a critical component of the NSTX upgrade. They needed a superstrong weld for the final link between the reactor's toroidal magnetic coils and the upgraded center column or "stack." This involved connecting an extra-hard copper plate called a "lead extension" to the stack, which is made of a softer copper alloy. The trick was to seamlessly fuse the two types of copper without weakening the material. "Normally when you do welding you bring down the strength," said James Chrzanowski, a member of the engineering and scientific staff at PPPL who oversees design and fabrication of the center stack.

Engineers found the answer in a novel process called "friction stir welding," which heats the pieces to be joined to some 900 degrees Celsius, making them wax-like and fusing them. The resulting bond "is beautiful," Chrzanowski said of the welded material that came back from the Edison Welding Institute (EWI) in Columbus, Ohio. EWI is a non-profit engineering and technology organization dedicated to the science of welding and materials joining. It is considered one of the leading institutions in North America for advancing the science of joining materials. Staff members of EWI prepared the sample that Chrzanowski keeps in his office and will work with PPPL as part of the upgrade.

While friction welding has been around for some 20 years, the upgrade marks the first time that the process will be used to join two dissimilar types of material, Chrzanowski said. Employing this process shows that "we have extraordinary technological capability to take the ideas in our physicists' heads and turn them into hardware," said Ronald Strykowski, project manager at PPPL for the NSTX upgrade. That's no easy task, he adds, since "their ideas can be challenging." ■



James Chrzanowski displays the seamless bond that friction stir welding created between two dissimilar types of copper plate.



Traffic Reminders

All motorists are to observe posted speed limits at PPPL. Where the speed limit is not posted, the maximum speed shall be 15 MPH. Care should be taken when approaching curves, as there are many pedestrian crossings and several curves with obstructed views. Extra caution should be used in the absence of daylight and in severe weather. Remember, pedestrians have the right of way.

Bicycle riders (cyclists) have the same rights and responsibilities as automobile drivers and are subject to the same rules and regulations as any other vehicle on the road. Please be courteous to all cyclists.

There should be no passing on PPPL roads unless a vehicle or bicycle is pulled off on the shoulder and stopped; then passing should be conducted slowly and safely.

The PPPL Parking and Traffic Regulations may be found on the Employee Home Page: http://www-local.pppl.gov/pdf/parking_traffic.pdf.

Let's keep all PPPLers and visitors safe — obey the road laws and be alert to all traffic around you. ■



Safety at PPPL Noted

A former postdoctoral researcher the Laboratory lauds safety at PPPL in a letter to the editor at *PHYSICS TODAY*.

The letter is reprinted below.

Two letters regarding laboratory safety, especially in academic environments, have caught my eye (PHYSICS TODAY, August 2011, page 9; October 2011, page 11).

When I was a postdoctoral researcher, I learned a great deal about safety and safety management in a laboratory environment at the Princeton Plasma Physics Laboratory. I find myself introducing ideas about safety management and referring to PPPL's safety

manual frequently in my current university environment.

The manual, online at http://www.pppl.gov/eshis/ESHD_MANUAL/sm.html, is a wonderful resource for those concerned about laboratory safety.

*Mark Nornberg
University of Wisconsin
—Madison*



Science on Saturday

David Goldberg, a professor in the department of physics at Drexel University in Philadelphia, discussed, "What is the Universe Expanding Into? And Other Perfectly Reasonable Questions" during the January 14 Science-on-Saturday lecture at PPPL. Goldberg's talk was the second in the 2012 wintertime series, which includes nine free talks on several Saturdays through March 10. Topics range from probing the brain to superconductivity.



PLEASE COME TO THE PPPL
SUPER BOWL PARTY



FRIDAY, FEBRUARY 3
 7:00 P.M. - I.S.B. LOBBY



*Hot Wings
 Nachos
 Pigs in Blankets
 Chips - Pretzels
 Beverages*

WEAR YOUR TEAM COLORS!



COLLOQUIUM

**Machine Learning, Reasoning, and
 Natural Language Processing**

DAN ROSS

University of Illinois at Urbana-Champaign

Wednesday, February 1

4:15 p.m. (Coffee/Tea at 4 p.m.)

M.B. Gottlieb Auditorium, Lyman Spitzer Building

2012 Science on Saturday

Princeton University Plasma Physics Laboratory Lecture Series

**Cooperation and Conflict
 in the Natural World**

SUZANNE ALONZO

YALE UNIVERSITY

Saturday, February 4, 2012

9:30 a.m.

M.B. Gottlieb Auditorium, Lyman Spitzer Building

PPPL CAFÉ MENU

MONDAY, JAN. 30

TUESDAY, JAN. 31

WEDNESDAY, FEB. 1

THURSDAY, FEB. 2

FRIDAY, FEB. 3

COMMAND PERFORMANCE
 CHEF'S FEATURE



**Old English Style
 Fish and Chips**



**Create Your Own...
 Taco Salad**



**Thai Steak Sticks
 with Peanut Sauce**



**Cajun Style Roast
 Turkey**



**Colombian Chicken,
 Corn, Potato Stew**

EARLY
 RISER

Spanish Omelet
 Quesadilla or Burrito

Steak, Mushroom and
 Cheddar Omelet

Gina's Breakfast Caserole

Crustless Vegetable
 Quiche

Broccoli, Cheddar and
 Bacon Omelet

COUNTRY
 KETTLE

Lemon Scented Chicken
 Noodle

Cream of Cauliflower

Chicken and Sausage
 Creole Gumbo

Miso

Cream of Tomato

GRILLE
 SPECIAL

Black Bean & Corn Veggie
 Burger w/Spiral Fries

Roast Beef, Provolone Melt
 w/French Onion Sauce

Bacon, Mushroom, Cheddar
 Cheese Steak w/Onion Rgs

Sliders and Fries

Black and Blue Turkey
 Burger with Fries

DELI
 SPECIAL

Corned Beef Reuben on
 Rye

Cajun Chicken w/ Cheddar
 Cheese, Bacon & Cran Mayo

Louisiana Seafood Salad

Egg Salad with Bacon and
 Tomato Wrap

Capicola, Fresh Mozzarella
 and Roasted Red Peppers

PANINI

Capicola, Salami, Ham and
 Provolone

Southern Reuben

Turkey Ranchero

Grilled Vegetable Hummus
 Wrap

Grilled Chicken Parmesan

MENU SUBJECT TO CHANGE WITHOUT NOTICE

[CLICK HERE FOR A PRINTABLE WEEKLY MENU](#)

WEEKLY

Editor: **Patti Wieser** ♦ Copy Editor /Graphic Design: **Gregory Czechowicz**
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PPPL WEEKLY is published by the PPPL Office of Communications on Mondays throughout the year except for holidays.

Deadline for calendar item submissions is noon on Thursday. Other stories should be submitted no later than noon on Wednesday.

Send to: pwieser@pppl.gov ♦ Comments: commteam@pppl.gov ♦ PPPL WEEKLY is archived on the web at: <http://www.pppl.gov/ppplweekly.cfm>