

At PPPL  
**THIS WEEK**

MON. - FRI., OCT. 28 - NOV. 1

**Max Planck Princeton Research Center for Plasma Physics Meeting**  
Oct. 28 - 29 at PPPL  
Oct. 30 - Nov. 1 at Princeton Univ.

WEDNESDAY, OCT. 30

**PPPL Colloquium**  
4:15 p.m. ♦ MBG Auditorium  
Big Bang or Big Bounce  
Paul Steinhardt, Princeton University

UPCOMING EVENTS

November 3  
Daylight Saving Time ends

November 4  
United Way Campaign begins

November 6  
Health Fair at PPPL  
10 a.m. - 2 p.m. ♦ LSB Lobby

November 11-15  
55<sup>th</sup> Annual Meeting of the APS Division of Plasma Physics  
Denver

November 14  
America Recycles Day at PPPL

November 21  
PPPL United Way Bake Sale  
8 a.m. ♦ LSB Lobby

November 21  
PPPL United Way Presentation  
9:30 a.m. ♦ LSB Lobby

November 28-29  
Lab closed  
Thanksgiving Holiday

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## Review of safety effort finds strong safety culture at PPPL

By Jeanne Jackson DeVoe

A committee made up of internal and external safety experts has concluded that a plan to bolster safety formed in the wake of a serious industrial accident has revitalized the safety culture at PPPL.

The “Corrective Action Effectiveness Review” by a team that included external reviewers from Princeton University, Brookhaven National Laboratory and Thomas Jefferson National Laboratory as well as PPPL staff members and U.S. Department of Energy observers gave high marks to the efforts to make the Laboratory safer in response to a skid steer incident in March of 2012 in which a worker was seriously injured. The employee has since returned to work.

“The skid steer incident of 1.5 years ago triggered a deep, extensive assessment and improvement of safety at PPPL,” said PPPL Director Stewart Prager. “The review committee validated the effectiveness of our corrective actions, thanks to the persistent efforts of our staff lab-wide.”

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## Max Planck/Princeton Center for Plasma Physics events come to Princeton & PPPL

By John Greenwald

Some 60 members of the Max-Planck/Princeton Center for Plasma Physics will gather at PPPL and Princeton University this week to discuss and advance the center’s research in fields ranging from harnessing fusion energy to forecasting solar storms. The week-long gathering will be the third in a series of sessions held alternately in Princeton and Garching, Germany, since the center was formed in March 2012.

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## P.U. freshman families tour PPPL



Charles Gentile stops outside the coil winding facility and NCSX/QUASAR during one of the tours by Princeton University freshman families as part of the Freshman Families Weekend, in which around 180 people toured PPPL. John DeLooper served as master of ceremonies. Other tour guides were: Adam Cohen, Henry Carnevale, Bob Kaita, Hutch Neilson, Stefan Gerhardt and Andrew Zwicker.

# Safety Review

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*“Subject matter experts” at PPPL developed new engineering standards that spell out processes for documented inspections, operation and training for forklifts, special vehicles and equipment, and man lifts, like the aerial lift shown here. (Stock photo).*

The review team concluded that these changes “have contributed to positive effects on safety culture, communications and feedback,” as well as “understanding and acceptance of roles and responsibilities, and coordination of work assignments.”

## A vote of confidence

“It was a vote of confidence,” said Michael Williams, Associate Director for Engineering and Infrastructure, of the review team’s conclusions, which were presented to the Environment, Safety & Health Executive Board earlier this month. “We left no stone unturned and had far-reaching changes to some of our systems.”

The incident was one and a half years ago, but it stands as a symbol of the importance of continuing to improve safety, Williams said. “This was a traumatic experience for the Laboratory,” he said. “It was one of the most serious accidents we ever had and I think it focused people’s attention in a big way Laboratory-wide, on the need to pay attention to safety and be more regimented about how we perform our activities in regard to safety.”

The review team conducted more than 50 interviews and examined numerous documents and training records to assess the safety plan. They watched equipment being operated and saw contractors working on site at PPPL and they inspected equipment themselves, explained James Graham, head of Best Practices, who led the review. The team completed its on-site assessment in late August.

The team’s goal was to assess the effectiveness of more than 100 corrective actions resulting from three separate safety reviews: a root cause analysis report, which came out in April, 2012; an extent of condition report examining whether there were potentially unsafe conditions in other parts of the Lab that could lead to similar incidents, which was completed in May of 2012; and a human fac-

tors assessment report released in July of 2012 that examined the results of self-assessment questionnaires on potential hazards and required training by staff in Facilities, as well as the Heating Systems branch and the AC Power section. Each of these reports identified areas that needed to be corrected or “judgments of need” and resulted in 118 specific steps or corrective actions to accomplish those goals.

While the review team was very positive about the progress in making PPPL safer, it did offer 26 recommendations for improvement, many of which focused on specific equipment and on safety procedures for subcontractors. Nine of those recommendations have already been completed, nine will be completed by the end of this month and the remainder will be completed by the end of December, Graham said.

## Three reports

The widespread changes in PPPL’s safety practices stem from the insights and recommendations coming out of the three reports on the skid steer incident.

The reports found there was an “inadequate chain of command” in the shop responsible for the machine and that there was not enough supervision in the field to avoid unsafe practices. The reports concluded that safety practices were not integrated up the chain of command and neither operators nor managers fully realized the risks associated with the skid steer and similar equipment.

One major result of those findings was a change in the management structure in the Facilities Division aimed at making sure there is more direct supervision and control over safety throughout the organization. Martin Donohue was appointed to a new position as the head of Engineering Services and Mike Viola was appointed the head

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# Safety Review

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of Facilities and Site Services. Tom Ward was appointed to a new position as the head of the Laboratory's four shops and a lead was appointed in each of the four shops. Along with the management changes, the roles and responsibilities of all the positions, from equipment operators to managers, were more clearly defined. Williams said the reorganization was central to the effort to improve safety. "Virtually everyone feels that the organizational changes that took place improved the safety culture," he said.

## New engineering standards

Viola was the key person in the effort to create new engineering standards that would spell out the processes for documented inspections, operation and training for dangerous equipment like skid steers, forklifts and backhoes. He brought to the job his experience at the Laboratory establishing and carrying out safety standards for hoisting and rigging extremely heavy objects and what both Williams and Graham describe as a "detailed" and "disciplined" approach to instituting safety standards.

Viola was named the "subject matter expert" on two sets of standards for forklifts and for special purpose vehicles and equipment. Erik Perry, who is construction manager of the \$94 million NSTX Upgrade (NSTX-U) project, was named the subject matter expert for "man lift" equipment such as bucket or scaffold lifts. They developed a complete set of standards that incorporated American Society of Mechanical Engineers (ASME) and OSHA regulations (with the assistance of Andrew Morrison in Best Practices who served as the technical writer) for purchasing, repairs, inspections, training and operating procedures for each piece of equipment. Several other people contributed to the engineering standards including Kris Gilton, Ed Bush, Fred Simmonds, and Matt Lawson.

Viola said the standards took about six months to write and another two or three months to review with a great deal of input from the technicians who serve as trainers and the operators themselves. "Within a month or two, we got very good feedback from the trainers and users that the standards were a bit difficult to use and weren't entirely clear," Viola said, "so we revised them."

That process was crucial, Viola said. "One of the big things here is that management has recognized that you really have to have the buy-in of the users and that the requirements that management issues must be user-friendly," he said. "Otherwise, they'll fall by the wayside."

Al Von Halle, who took part in the safety effectiveness review, said the review team was impressed by how involved the workers were in implementing the standards. "I think that's where we really shined with the review team and the DOE observers – that the equipment operators and their direct supervisors had taken control and ownership of the corrective actions."

The review team's report concluded that these changes "have contributed to positive effects on safety culture, communications and feedback," as well as "understanding and acceptance of roles and responsibilities, and coordination of work assignments."

## Daily checklists

The standards put in place included a thorough inventory of construction equipment as well as checklists for performing daily and monthly inspections of each piece of equipment, which previously were required for cranes and hoisting but not for smaller equipment. "The fact that most people have to do an ODCL (operator's daily checklist) is a reminder at the beginning of each day that safety is first and foremost and I think that's a very positive change," Viola said.



*Operators of large machines like the forklift shown here must now inspect the equipment and fill out an operator's daily checklist or ODCL before operating machinery. (Stock photo).*

Graham said the daily checklist would likely have detected any mechanical problems in the skid steer and would have indicated it should be taken out of service until any problems were fixed. "If we had done this operator daily checklist (the skid steer) would have failed," he said. "There's no way that it would have passed."


Viola added that Arlene White, a senior buyer in procurement, did a "phenomenal job" in hiring quality, factory-authorized mechanics to service equipment and a qualified operator now monitors the mechanics.

The corrective actions also beefed up the Contractor Assurance System or CAS, which ensure that the Laboratory has procedures in place to evaluate how well it is fulfilling its numerous responsibilities. There are now more frequent walk-throughs by supervisors and by Environment, Safety, Health & Security (ESH&S) staff, who interact more frequently with Facilities staff. The daily inspections for the ODCL are vital, Graham said, because they engage the very people who will use the equipment by having the operators perform the inspections that ensure the equipment is safe before using it.

Communications was an important part of the new safety plan because it was essential that all staff be informed about the lessons learned from the skid steer incident and about current and future plans to improve safety. One example of the communications effort was the all-hands meeting for all PPPL staff in October of 2012 in which Director Stewart Prager gave an overview of new safety initiatives at PPPL. Communications have also improved between workers and supervisors, Graham said. The safety expectations are clearer and workers are much more involved in the process: providing input into ways to improve the ODCL, the new standards and job hazard analyses.

## Quarterly safety survey

ESH&S conducted a quarterly safety survey that began last January and ended in October, which went out to the entire PPPL staff, with one-quarter of employees surveyed every three months. About 60 percent of staff members responded to the questionnaire. ESH&S will conduct a similar survey, with some different questions, beginning January of 2014.

Jerry Levine, head of ESH&S, said the challenge at PPPL is to keep safety awareness fresh in everyone's mind. "Everyone has to work together to keep the awareness and make sure that we're doing the work safely," he said. "You can never let your guard down." 

## Max Planck

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The virtual center combines the research capabilities of Princeton's Department of Astrophysical Sciences and PPPL with the Max Planck Society's institutes for plasma physics, astrophysics and solar system research. This trans-Atlantic partnership enables "new collaborations and interactions that could not have occurred without this center," said PPPL director Stewart Prager. Moreover, the center "strengthens linkages between PPPL and the Department of Astrophysical Sciences."

New collaborations are many, from applications of fusion computer codes to astrophysics to testing astrophysical phenomena in the laboratory. "We're having success in building links between laboratory plasma science and plasma astrophysics," Prager said.

Kicking off this week's sessions will be two days of workshops at PPPL on each of the four major topics the center focuses on. These range from turbulence and energetic particles in space and fusion plasmas to magnetic reconnection, which underlies auroras and solar storms, and magnetorotational instability, which plays a role in the formation of black holes.

Following these workshops will be three days of a general meeting in the Princeton Center for Theoretical Physics on the University campus for discussions of the four main topics. These sessions will enable "everyone to get up to date on the plans and progress of all the different areas," Prager said. 📍

From the PPPL Site Protection Division

### Rabid raccoons captured near PPPL

There have been several rabid raccoons captured in the nearby area. Last Thursday, a rabid raccoon was captured on B-Site. This is the fourth such incident in the area.



PPPLers who spot a raccoon, or any animal behaving strangely are advised to contact Site Protection staff members who will contact Plainsboro Police Department and Animal Control. Do not approach or handle the animal.

### Scudders Mill traffic light advisory

The Plainsboro Police would like to offer the following information regarding the traffic light at the intersection of Scudders Mill and Campus roads:



The traffic light is timed to allow pedestrians to cross. The traffic light may remain red for a relatively long period of time when pedestrians are crossing. A safety feature turns all lights red for up to 80 seconds in all directions after pedestrians push the crosswalk button to allow them time to cross.

## United Way Campaign kicks off Nov. 4

The 2013 Princeton University United Way Campaign will be held from Nov. 4 through Dec. 6. You are invited to PPPL's United Way presentation on Nov. 21 at 9:30 a.m. in the MBG auditorium. The guest speakers will be Herb Klein, the Chief Executive Officer of United Way of Greater Mercer County, and Eric Williams who is not only an employee of United Way but also someone who benefited from their services. Sixteen parking spaces (three months each) will be raffled off and coffee will be served.

In order to increase participation, there will be a bake sale in the lobby on Nov. 21 starting at 8 a.m. The United Way committee is asking for volunteers to contribute by bringing in home baked goods to be sold for \$1 each. All proceeds will be donated to the United Way of Greater Mercer County with the University contributing 10 cents for every dollar that is raised. If you would like to participate, contact Kim Mastromarino ([kmastrom@pppl.gov](mailto:kmastrom@pppl.gov)) for more information.

Please join us, through your financial support, in demonstrating that employees of PPPL support the people and programs where we live and work. To maximize efforts, the University will contribute 15 cents per dollar on top of current employee donations made through payroll deduction, and 10 cents per dollar on top of all other gifts. Donations of all amounts, \$1 minimum, will be distributed among all programs within the United Way of Greater Mercer County. With a minimum contribution of \$52, donations may be designated to support a specific program, to a United Way agency in your home community, or to any eligible charitable nonprofit agency of your choice.

Information and pledge forms will be mailed to office mailboxes by Nov. 4. 📍



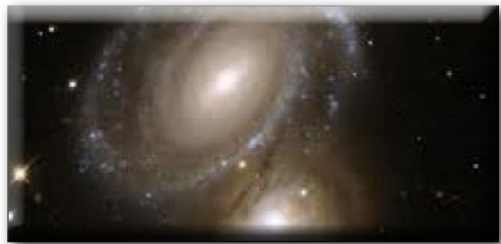
# LIVE UNITED

United  
Way





# COLLOQUIUM



## Big Bang or Big Bounce?

**PAUL STEINHARDT**  
Princeton University

**Wednesday, Oct. 30**

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

## Health Fair On Nov. 6

The PPPL Health Fair will be held on Nov. 6 from 10 a.m. to 2 p.m. and representatives from various health care providers will be on hand to answer your questions.

Representatives of two free programs, My Health Coach and My Medical Expert, will give a presentation in the MBG auditorium at 11 a.m.

Open enrollment for health benefits will continue through Nov. 15. You should have received the 2014 Annual Benefits Open Enrollment packet at home by now. You can also view the packet online at [www.princeton.edu/hr/oe](http://www.princeton.edu/hr/oe).

## Cafeteria introduces **NEW!** items

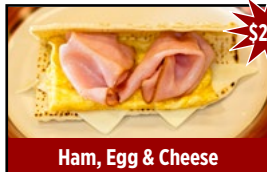
### NEW FLAT BREAD BREAKFAST SANDWICHES



Egg & Cheese \$2.43



Bacon, Egg & Cheese \$2.97



Ham, Egg & Cheese \$2.97



Sausage, Egg & Cheese \$2.97



Turkey, Egg & Cheese \$2.97



Steak, Egg & Cheese \$3.95

### NEW \$2 BELOW LUNCH PPPL VALUE MENU



Hamburger with Pickle Chips \$2



Chicken Patty on a Bun \$2



All Meat Hot Dog on a Bun \$1.50



Crispy Honey Mustard Chicken Wrap \$1.75



Crispy Ranch Chicken Wrap \$1.75



Grab n' Go Garden Salad \$1.50

Introducing...

**NEW!** FLATBREAD BREAKFAST SANDWICHES + COMBOS



Menu

Introducing...

**NEW!** NEW \$2 BELOW PPPL VALUE MENU

**MON. 28**  
OCT.



Herb-Crusted Chicken Breast over Pasta with Roasted Tomatoes and Garlicky Spinach

Corn Flake-Crusted French Toast with Strawberry Honey Butter

Stracciatella with Parmesan Cheese

Pepperoni Pizza Steak Sandwich served with French Fries

Veggie Wrap with Hummus, Spinach, Tomato, Portobello

"The Cubano" with Roast Pork, Ham and Swiss Cheese

BLT with Housemade Potato Chips & 12 oz. Beverage

**TUE. 29**  
OCT.



Grilled Vegetable Burrito with Meatless Veggie Crumbs, Zucchini, Peppers, Corn, Tomato

Mediterranean Egg White Omelet

Cabbage Potato Soup with Egg Noodles & Sour Cream

Grilled Italian Sweet Sausage Sub served with Pasta Salad

Corned Beef and Swiss Cheese on Pumpernickel

Tuna Fish Nicoise

Crispy Chicken Tenders with French Fries & 12 oz. Beverage

**WED. 30**  
OCT.



London Broil with Green Tea au Jus with Roasted Onions and Cous Cous

Scrambled Egg Wrap with Turkey Sausage, Goat Cheese

Pumpkin Turkey Chili

Pub Style Fish & Chips with Tartar Sauce & Malt Vinegar

Baked Ham with Pears, Cranberry Relish & Cheddar

Montana Smoke House with Smoked Turkey, Bacon, Cheddar

Cheese Omelet with Home Fries & 12 oz. Beverage

**THU. 31**  
OCT.



Roast Pork Lo Mein

Fresh-Baked Cornbread with Gravy & Scrambled Eggs

Shrimp & Corn Chowder

Cajun-Rubbed Turkey Breast with Spicy Remoulade Sauce

Creamy Dill Shrimp Salad with Cucumber on a Croissant

Grilled Apple with Cheddar Cheese & Arugula

2 Slices of Pizza with Garden Salad & 12 oz. Beverage

**HALLOWEEN**

**FRI. 1**  
NOV.



Grilled Lemon Basil Salmon with White Wine Leek Sauce served with Cous Cous

Pumpkin Pancakes with Apple Cider Syrup

Beef Barley

Create Your Own Portobello Mushroom Stacker with Fries

Turkey Ranchero Hoagie Melt with Bacon, Swiss, Baked Beans

Hot Roast Beef with Caramelized Onions & Horseradish on Ciabatta

Italian Meatball Sub with French Fries & 12 oz. Beverage

COMMAND PERFORMANCE CHEF'S FEATURE

EARLY RISER

COUNTRY KETTLE

GRILLE SPECIAL

DELI SPECIAL

PANINI

**NEW!** VALUE MEAL \$5

MENU SUBJECT TO CHANGE WITHOUT NOTICE

VEGETARIAN OPTION

CLICK HERE FOR A PRINTABLE WEEKLY MENU

# WEEKLY

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