

At PPPL THIS WEEK

TUESDAY, JANUARY 24

Experimental Seminar

11 a.m. ♦ B-318

Equilibrium Reconstruction on LHD

Samuel Lazerson

WEDNESDAY, JANUARY 25

GFDL Events and Seminars

12 p.m. - 1 p.m. ♦ GFDL

Smagorinsky Seminar Room

Hurricane Surge and Global Warming:
Physically-based Risk Assessment

Ning Lin (MIT)

www.gfdl.noaa.gov/events

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

PPPL Colloquium

4:15 p.m. ♦ M.B. Gottlieb Auditorium

Micro-Plasmas and Nanotechnology

Mohan Sankaran (Case Western
Reserve University)

[CLICK HERE FOR ABSTRACT](#)

THURSDAY, JANUARY 26

Theory Seminar

10:45 a.m. - 12 p.m. ♦ T-169

Two-Fluid Physics of Magnetic
Reconnection

L. Malyshkin (University of Chicago)

FRIDAY, JANUARY 27

DIII-D Science Meeting

1 p.m. - 2:30 p.m. ♦ B-233

SATURDAY, JANUARY 28

Science on Saturday

9:30 a.m. ♦ M.B. Gottlieb Auditorium

Exploring the Warped and Violent
Universe

Nergis Mavalvala (M.I.T.)

Moses Calls For Equality in Education at King Day Celebration

By Emily Aronson

After decades of fighting for equality, civil rights leader and educator Bob Moses exhorted young people attending Princeton University's annual King Day celebration on Jan. 16 to remove segregation from a critical facet of public life where it still exists: education.

Using Martin Luther King Jr.'s legacy as inspiration, Moses called on students to employ the U.S. Constitution to ensure educational equality for all Americans. "We need a constitutional amendment that says every child in this country is entitled to a quality public school education," said Moses, the 2011-12 distinguished fellow in Princeton's Center for African American Studies.

This year's King Day event, held at the Richardson Auditorium on the main campus, focused on the importance of education as a foundation for success throughout life. Speak-

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Keynote speaker Bob Moses leads students at the King Day celebration.

Guest Corner

Auditors Give PPPL's Environmental Management System a Thumbs Up

By **Rob Sheneman** - Head, Materiel & Environmental Services, PPPL ESH&S

PPPPL's Environmental Services Division recently completed a two-year effort to reconfigure and align PPPL's environmental management programs to conform to an international standard, while at the same time addressing the evolving sustainability goals of the federal government. Representatives from Engineering, Procurement, Materiel Services, Facilities, Human Resources, and other PPPL organizations joined Environmental Services staff in this effort.

At the end of 2011, an outside body of experts came to PPPL to conduct an independent audit of our new Environmental Management System (EMS). After a thorough evaluation of all the components of the EMS, such as policies, plans, communications, and employee training, the auditors validated our management system by recommending its certification. This was the first time the Lab has sought an outside independent certification of any of its management systems. We are addressing a few minor non-conformities, and expect the certificate in March — a significant milestone for FY12.

Certainly, the registration of our EMS is an accomplishment that should be applauded, but ultimately the goal is to improve our environmental performance and to

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Snowflake Science

By Kate Bannan
DOE Office of Science and Technical Information

With winter just beginning, can snow be far behind? We've all heard that no two snowflakes are alike, but what do we really know about them?

Snowflakes always have six sides, their form and shape depend on temperature and moisture — and they may have also inspired a pathway to a new alternative source of energy!

Physicists working on the National Spherical Torus Experiment (NSTX) at the Princeton Plasma Physics Laboratory are using a device called a “snowflake diverter” to solve one of the grand challenges of magnetic fusion research: reducing the effect that plasma has on the walls of the fusion machine, a “tokamak.”

By using a snowflake diverter, a novel magnetic diverter named for its shape, scientists have reduced the interaction between hot plasma and the cold walls surrounding it. This helps address the challenge of how to reduce the effect of the extremely hot plasma on the tokamak's walls.

When heat escapes from the confined plasma, it can erode the machine's walls and contaminate the plasma. The diverter improves the heat handling interface, and therefore the performance and lifetime of the plasma.

Reliable control of the plasma will be necessary for fusion energy to be an alternative source of energy. If we can solve fusion's challenges, we could have an abundant, domestic and reliable source of clean energy.

You can find out more about snowflakes, tokamaks and fusion via Science Accelerator, a gateway to science, including R&D results, project descriptions, and accomplishments, and resources from the Office of Scientific and Technical Information. ■



Auditors Give EMS Thumbs Up

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minimize our impacts on the environment. The Laboratory has many accomplishments in this area to be proud of. For example:

- On average, PPPL's non-experimental buildings use less than half of the energy per square foot of space than they did in 2004 and 2005.

This is due in large part to energy efficiency improvements made by the Facilities & Site Services Division and behavior changes by employees, such as using task lighting instead of overhead lighting and enabling power saving functions on their computers.

- The Laboratory's total greenhouse gas emissions are nearly 50 percent lower than just three years ago.

This is due largely to efforts by the RF and Neutral Beam groups to reduce the loss of sulfur hexafluoride (SF₆) and to energy efficiency efforts by Facilities and Site Services, but it's also a result of individual employees making an effort to use less energy and paper, change their commuting patterns or use video conferences rather than traveling to meetings.

- PPPL's vehicle fleet uses 62 percent less petroleum fuel than it did in 2005.

This is due to the use of more fuel-efficient vehicles, neighborhood vehicles like the John Deere Gators, and substituting newer alternative fuel vehicles. PPPL has been recognized as a fleet management leader in the federal government, receiving two federal awards for fleet management in the past four years.

- PPPL recycled 95.5 percent (by weight) of non-hazardous waste in FY2011.

Thanks largely to a mature solid waste recycling program, the new food and organic waste composting program, and the recycling of construction waste and scrap metals, PPPL recycled over six tons of material per full-time employee!

- LEED Gold certification for the Lyman Spitzer Building.

The LSB is PPPL's main administration building and is now the largest LEED Gold certified building in the DOE complex. LEED, which stands for Leadership in Energy and Environmental Design, is the most widely recognized, high-performance green building certification program in the nation.

In our quest to make fusion energy a reality, PPPL is also demonstrating how large-scale research can be conducted in a more environmentally-friendly manner. Additional information is available from the “Environmental Management System” link on the PPPL employee home page. We invite your ideas and suggestions on how to continually improve the Laboratory's environmental performance. Please submit comments using the ES&H Safety or Suggestion Box or send them by email to me at rsheneman@pppl.gov. ■



Students from area schools attending the Richardson Auditorium event proposed ways to address educational disparities in visual, literary and video essay contests.

King Day Celebration

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ers noted that widening economic gaps and other social disparities have led to failing public schools, high dropout rates and educational inequalities across the country.

Forgoing the traditional keynote speech, Moses gave a civics lesson of sorts, turning Richardson Auditorium into his classroom and the audience of about 400 local schoolchildren, University community members and the public into his pupils.

Standing shoulder-to-shoulder across the stage, more than 90 students — from preschoolers to teenagers — followed Moses in a recitation of the preamble to the Constitution.

“We the people of the United States, in order to form a more perfect union,” Moses said, standing in front of the group like a conductor. “We the people ...” the children repeated as Moses lifted their voices louder.

The ceremony’s theme for supporting equality in education is an idea that Moses has championed as founder and director of the Algebra Project. The national nonprofit organization has helped thousands of students in urban and rural school districts develop essential mathematical skills.

Moses said it is “we the people” and “people all over the world” who have the power to enact change.

“It does not say ‘we the president.’ It does not say ‘we the Congress.’ It does not say ‘we the Supreme Court.’ It does not even say ‘we the citizens.’ It says ‘we the people,’” Moses said of the preamble. “Young people, this is your tool. You have to learn how to use it. It’s not easy to use, but no one can say to you that you can’t change the Constitution.”

Moses, who will co-teach a course at Princeton this spring focusing on education and labor policies through the lens of race, was a leader in the 1960s civil rights movement and served as a key figure in the Mississippi Summer Project of 1964 to register black voters and protest racial discrimination. He said his generation must now hand off its work.

“We were able to get segregation and Jim Crow [laws] out of three areas of the country. We got it out of public accommodation, we got it out of the right to vote ... and we got it out of the national Democratic Party,” he said directly to the young people on stage. “But we did not get segregation and Jim Crow out of education, and that is going to be your job. You are going to have to do that in this century if it’s going to be done.”

— Courtesy of Princeton University Office of Communications

SAVE THE DATE



FRIDAY, FEB. 3

COLLOQUIUM

Micro-Plasmas & Nanotechnology

MOHAN SANKARAN
Case Western Reserve University

Wednesday, January 25
4:15 p.m. (Coffee/Tea at 4 p.m.)
M.B. Gottlieb Auditorium, Lyman Spitzer Building

HR Happenings

You are invited to schedule a 45-minute appointment for a one-on-one consultation with the TIAA-CREF consultant, Helena Gaffney. To schedule the appointment time, contact TIAA-CREF by phone at 800-842-8412. Upcoming available dates are:

Thursday, February 23
Tuesday, March 13
Wednesday, April 25
Thursday, May 17
Tuesday, June 12

Additional information, tools, and features can be found at www.tiaa-cref.org.

2012 Science on Saturday
Princeton University Plasma Physics Laboratory Lecture Series

Exploring the Warped and Violent Universe

NERGIS MAVALVALA
M.I.T.

Saturday, January 28, 2012
9:30 a.m.
M.B. Gottlieb Auditorium, Lyman Spitzer Building

Brock PPPL CAFÉ MENU

	MONDAY, JAN. 23	TUESDAY, JAN. 24	WEDNESDAY, JAN. 25	THURSDAY, JAN. 26	FRIDAY, JAN. 27
COMMAND PERFORMANCE CHEF'S FEATURE	 Greek Gyro with Tzatziki Sauce, Fries	 Chicken McCord w/ White Wine Sauce	 Stuffed Pork Tenderloin w/Rice	 Vegetable Lasagna w/Parmesan Sauce	 Morrocan Vegetable Tagine
EARLY RISER	The Didi Special	Oversized Breakfast Burrito	Chocolate Chip Pancakes	Pork Roll, Egg and Cheese Quesadilla	Ham, Tomato and Onion Omelet
COUNTRY KETTLE	Hearty Onion	Minestrone	Turkey Chili	Cream of Potato and Leek	Cream of Roasted Red Pepper
GRILLE SPECIAL	Grilled Chicken Club Sandwich on Roll w/Fries	Buffalo Chicken Tender Wrap w/ Onion Rings	XXL Turkey Burger Wrap w/ Fries	3 Cheese Quesadilla with Tomato, Onion and Pepper	BBQ O Burger with Fries
DELI SPECIAL	Pressed Turkey Club	The Mini Deli Sampler (Choice of 2)	Spanish Roasted Vegetable Sandwich w/Goat Cheese	The Mini Salad Sampler (Choice of 2)	Muffaletta
PANINI	Pork Roll, Cheddar and Tomato	Grilled Monte Cristo	Roast Beef Ranchero Griller	The Pressed Italian	Ham, Pepperoni, Roasted Peppers and Provolone

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>