

At PPPL  
**THIS WEEK**

MONDAY, MARCH 17



WEDNESDAY, MARCH 19

**American Red Cross Blood Drive**  
8 a.m. - 1 p.m. ♦ Lower Parking Lot

**PPPL Colloquium**  
4:15 p.m. ♦ MBG Auditorium  
Renewable Fuels and Chemicals  
Dion Vlachos, University of Delaware

FRIDAY, MARCH 21

**Young Women's Conference Princeton University**  
Volunteers needed.  
Contact Deedee Ortiz x2785

**UPCOMING EVENTS**

Apr. 4  
**PPPL Service Awards**  
9:30 p.m. ♦ MBG Auditorium

Apr. 28  
**Spitzer Lecture**  
4:30 p.m. ♦ Princeton University Payton Hall  
Experimental techniques in high energy astrophysics  
Fiona Harrison, Caltech

Apr. 29  
**Spitzer Lecture - Colloquium**  
4:30 p.m. ♦ Princeton University Payton Hall

**Inside...**



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## RGDX is a big hit in first public demonstration at local high school

By Jeanne Jackson DeVoe

**S**tudents at West Windsor-Plainsboro High School South shouted out, "Whoa!" when physicist Arturo Dominguez adjusted controls on the Remote Glow Discharge Experiment (RGDX) to produce a pink glowing plasma during the first demonstration of the experiment on March 12.

"I think it's really cool!" said Paige Kunkle, a senior. "It's an opportunity to do something that's never been done before."

The RGDX fills a gap in online education by providing students anywhere in the world with a way to take part in an actual experiment online. It can be used by anyone with access to a computer and can easily be accessed by physics teachers or as an experimental component of an online physics course.

"There's nothing like it in the world," said Andrew Zwicker, head of PPPL Science Education, who developed the device with Dominguez.

The event was covered by local reporters and photographers and was aimed at showing teachers and students how easy it is to take part in the experiment. The RGDX provides a hands-on way for people to learn about plasma and observe what happens when they change the conditions in the machine through the online controls. Anyone with a personal computer can easily go to <https://pppl.princeton.edu/ww.pppl.gov-RGDX>, sign on to the queue and get started with the experiment.

"I think it went really great," Dominguez said after the demonstration. "These kids are curious and they're looking for things online but they haven't seen anything like this and it just goes to show that we're really filling a gap that hasn't been filled."

The RGDX, allows students to manipulate a DC discharge plasma inside a glass tube located in the Science Education laboratory. Students see their results in real time through a streaming video of the plasma in the device and can see how the plasma changes as they use the controls to change its parameters.

The tube is connected to a vacuum pump. It is encircled by two electromagnetic coils and connected to electrodes at either ends of the device. Students can use the controls to change the pressure in the tube, the voltage between the electrodes and

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Physics students at West Windsor-Plainsboro South High School watch as Arturo Dominguez demonstrates the Remote Glow Discharge Experiment on March 12.

# RGDX

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the strength of the magnetic field to make the plasma glow and change its characteristics.

After the demonstration, Dominguez placed a video conference call that was shown on the screen to Liutauras Rusaitis, a software developer in the Science Education laboratory who works on the RGDX. Rusaitis showed the students the Science Education laboratory and the actual machine through a Google Hangout session. "I was here when you were controlling the experiment and it felt sort of magical," he said.

Dominguez pointed out that the online site guides students through the experiment, taking them from relatively easy concepts like, "What is a plasma?" to more difficult concepts like, "What does the electromagnet do to the plasma?" The tasks themselves range from relatively simple ones as students set the controls to the suggested levels, to more advanced tasks in which students can determine how much voltage makes the plasma glow. In the process, students learn the physics of plasmas and of pressure, electrode voltage and electromagnets.

Both students and teachers were enthusiastic about RGDX. "I think it's amazing," said Barbara Fortunato,

a physics teacher at West Windsor-Plainsboro High School South, whose class tried out the device. "I think it's great to bring plasma as a topic to high school science because it really doesn't appear anywhere else."

High school junior Snigdha Kasi said the experiment brings a new dimension to her class. "We get taught about this stuff and this just opens it up and let's people look into something so much deeper," she said.

The RGDX currently works on PC and Mac computers. Dominguez plans to add features to allow users to access the site using tablets, smart phones and computers running Linux.

Students were very interested in how the experiment will be developed in the future. "I'm really excited to see where it goes from here," Kasi said. "There are so many different possibilities!"



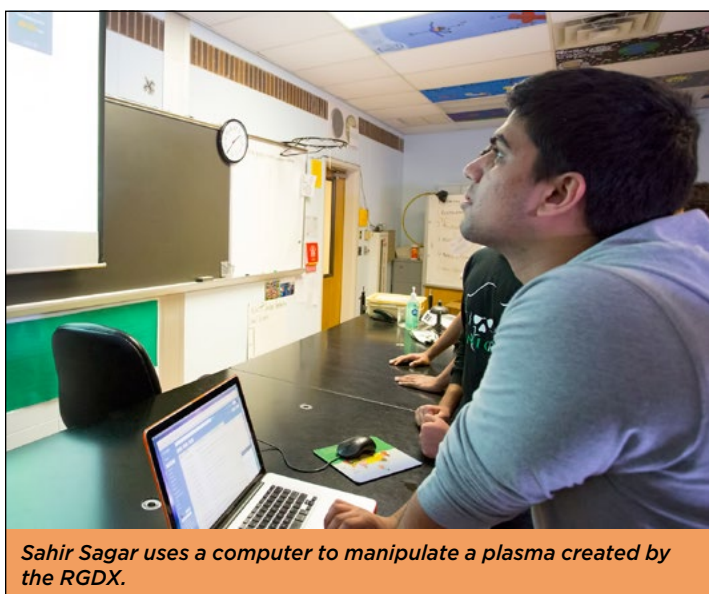
Snigdha Kasi, left, and Paige Kunkle are fascinated by the plasma created by the RGDX.



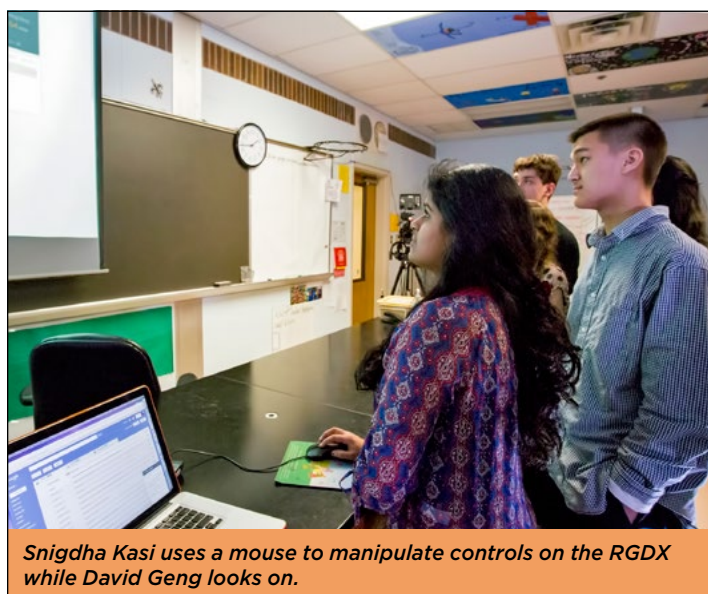
Dominguez tells the students about "the next step in online education" during the presentation. An image of the RGDX is shown behind him.



Students have fun with plasma balls Dominguez brought with him for the presentation.



Sahir Sagar uses a computer to manipulate a plasma created by the RGDX.



Snigdha Kasi uses a mouse to manipulate controls on the RGDX while David Geng looks on.

# Welcome new PPPL employees

PPPL welcomes the following new employees:



**JANICE M. CHESLOCK**  
Staff Accountant  
Business Operations



**RENEE M. SULLIVAN**  
Accounts Payable Specialist  
Business Operations



## U.S. Department of Energy Earth Day 2014 Photo Contest

### CALLING ALL PHOTOGRAPHERS

Professionals, amateurs, and the camera sharp shooter!

We invite all DOE employees and DOE contractors to share images of ways we save the planet: *"The Things We Do To Conserve and Preserve Our Precious Planet."*

One winner will be selected from each of the following five categories:

1. Conservation
2. Community
3. Alternative Power
4. Energy Efficiency
5. Sustainability

#### Entry Procedures and Requirements:

- Submit photographs via email to Diane Burnes at [dburnes@projectenhancement.com](mailto:dburnes@projectenhancement.com) by 4 pm ET Tuesday, April 1, 2014
  - jpg or .tiff images preferred
  - Files must not exceed 15MB
  - Please size photographs to no larger than 8"X10"
- Note the category in which you are submitting the photo
- Title each photograph in the file name and the email
- Include your contact information in the email

#### Where to View:

A broad selection of the photographs submitted will be featured at DOE's headquarters from April 14-21, and during Community Day, April 22, 2014, from 11:00 am – 2:00 pm, on the DOE Plaza. Photos will also be displayed on the DOE website and via PowerPedia on April 21, 2014.

#### Judging:

The 2014 DOE Earth Week Planning Committee will determine a winning photograph from each of the five categories (noted above).

Winners will be announced April 21, 2014, and will be notified via email. Their photographs will receive special recognition on Community Day and will be featured on the DOE website.

#### Questions:

Email questions to Beverly Whitehead at [beverly.whitehead@hq.doe.gov](mailto:beverly.whitehead@hq.doe.gov) or Diane Burnes at [dburnes@projectenhancement.com](mailto:dburnes@projectenhancement.com)

*Pictures courtesy of 2013 Winners from top to bottom: Wade Sickinger; Richard Debevec; Chuckles McGregor; Gary Hartman; Dennis Schroeder*

## PPPL's Blood Drive Wednesday, March 19!

Someone in the U.S. needs blood every two seconds, according to the American Red Cross. Just one pint of blood could save up to three lives! The need is especially great this winter since there have been thousands of uncollected blood and platelet donations due to winter storms and freezing weather.

You can help by making an appointment to donate blood during PPPL's AMERICAN RED CROSS BLOOD DRIVE on Wednesday, March 19, from 8 a.m. to 1 p.m. in the lower parking lot. Please call the OMO at ext. 3200 to schedule an appointment.



## COLLOQUIUM



### RENEWABLE FUELS AND CHEMICALS

DION VLACHOS, UNIV. OF DELAWARE

Wednesday, Mar. 19

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

## Windows® XP computers are being upgraded to Windows® 7

- After April 8, Windows XP will no longer be supported by PPPL (there will be loss of network connectivity.)
- Loss of network connectivity will occur on April 8th.
- To ensure there is no loss of network connectivity, users should schedule their updates no later than this Friday, March 21.
- To schedule an update, please contact the helpdesk at x2275 or email [helpdesk@pppl.gov](mailto:helpdesk@pppl.gov).



## Many volunteers still needed for the Young Women's Conference, Friday, March 21

The Young Women's Conference desperately needs at least 30 volunteers to help out with the conference as group leaders and in other roles. Please sign up [here](#) or contact Deedee Ortiz at [dortiz@pppl.gov](mailto:dortiz@pppl.gov), ext. 2785, for more information.

# BROCK Café Menu

BREAKFAST ..... 7 a.m. • 10 a.m.  
CONTINENTAL BREAKFAST ..... 10 a.m. • 11:30 a.m.  
LUNCH ..... 11:30 a.m. • 1:30 p.m.  
SNACK SERVICE ..... until 2:30 p.m.

— MARK GAZO, *Chef Manager*

MON. 17  
MAR.



**Corned Beef & Cabbage  
with Boiled Parsley  
Potatoes**

Corn Flake-Crusted French Toast  
with Strawberry Honey Butter

Spinach & Chickpea

Grilled Vegetable, Herb & Goat  
Cheese on French Bread

Roast Beef Club Sandwich

Irish Stew served with Soda Bread

TUE. 18  
MAR.



**Potato Cheese Pierogies  
with Sauteed Onions, Sour  
Cream & Apple Sauce**

Mediterranean  
Egg White Omelet

Ham, Cabbage & Potato Soup  
with Egg Noodles

London Broil au Jus on a Torpedo  
Roll with Baked Potato Wedges

Pastrami & Swiss Cheese on  
Pumpkinseed with Coleslaw

Chicken Breast with Ham, Mozzarella  
& Arugula on French Bread

WED. 19  
MAR.

NATIONAL  
PANCAKE  
DAY



**Build Your Own Burrito  
served with Chili**

Stack Of Pancakes with a  
Variety of Toppings

Tuscan Vegetable Soup

Grilled Italian Sausage Sub served  
with Pasta Salad

Montana Smoke House  
on Ciabatta Bread

The Cubano

THU. 20  
MAR.



**Sausage, Chicken,  
Peppers & Onions served  
over Cheesy Grits**

Scrambled Egg Wrap with Turkey  
Sausage, Goat Cheese & Mushroom

Beef Chili

Pub Style Fish & Chips served with  
Tartar Sauce & Malt Vinegar

Tandoori Chicken Naan-wich with  
Masala Cabbage Slaw with Ginger

Grilled Apple with Cheddar Cheese  
& Arugula on Ciabatta Bread

FRI. 21  
MAR.



**Fettuccine Alfredo with  
Peas and Grilled Chicken**

Smothered Hash Browns

Mushroom Barley

Cajun-Rubbed Turkey Breast with  
Remoulade Sauce on French Bread

Vegetarian Muffuletta on Naan

Hot Roast Beef with Caramelized  
Onions & Horseradish on Ciabatta

MENU SUBJECT TO CHANGE WITHOUT NOTICE

VEGETARIAN OPTION

CLICK HERE FOR A PRINTABLE WEEKLY MENU

## WEEKLY

Editor: **Jeanne Jackson DeVoe** ♦ Layout and graphic design: **Gregory J. Czechowicz**  
Photography: **Elle Starkman** ♦ Web: **Chris Cane** ♦ Admin. support: **Pamela Hampton**

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