

At PPPL THIS WEEK

WEDNESDAY, MARCH 5

PPPL Colloquium

4:15 p.m. ♦ MBG Auditorium

Risks of Nuclear Weapons Use in an Era of Proliferation, Cyber Warfare and Terrorism

Bruce Blair, Princeton University

SATURDAY, MARCH 8

Science on Saturday Lecture

9:30 a.m. ♦ MBG Auditorium

From MOOC to MIIC: Can Effective Learning be Big?

Mung Chiang, Princeton University

UPCOMING EVENTS

Mar. 12

PPPL Colloquium

4:15 p.m. ♦ MBG Auditorium

Fluid Dynamics

Thomas Peacock, MIT

Mar. 15

Science on Saturday Lecture

9:30 a.m. ♦ MBG Auditorium

What Art Can Tell Us About the Brain

Margaret Livingstone, Harvard Univ.

Mar. 19

American Red Cross Blood Drive

8 a.m. - 1 p.m. ♦ Lower Parking Lot

Mar. 21

Young Women's Conference Princeton University

Volunteers needed.

Contact DeeDee Ortiz x2785

PPPL launches \$4.3 million project to expand research on magnetic reconnection

By John Greenwald

PPPL is developing a new and more powerful version of its world-leading Magnetic Reconnection Experiment (MRX), which recreates one of the most common but least understood phenomena in the universe. This phenomenon, in which the magnetic field lines in plasma snap apart and violently reconnect, occurs throughout the cosmos and gives rise to the northern lights, solar flares and geomagnetic storms that can disrupt cell phone service and black out power grids.

The new \$4.3 million device will probe facets of magnetic reconnection never before accessible to laboratory experiments, said Hantao Ji, a PPPL physicist and Princeton professor of astrophysical sciences who will serve as principal investigator for research on the new machine. Ji headed a Princeton-led consortium that won a \$3 million National Science Foundation (NSF) construction grant in a nationwide competition with entries from all areas of science. The University will contribute an additional \$1.3 million of funds for the construction of the device, to be called the Facility for Laboratory Reconnection Experiment (FLARE).

When completed in 2016, the new device will form the heart of a broad study of reconnection involving 40 participants from nearly two dozen institutions in the United States, Europe and Asia. Among the mysteries the new machine will probe is how quickly reconnection takes place in large laboratory plasmas that are relevant to the plasmas found in space and astrophysics, and how the magnetic energy turns into explosive thermal energy.

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The Olympics of science knowledge at PPPL's NJ Regional Science Bowl

By Jeanne Jackson DeVoe

Just as the Olympics were wrapping up in Sochi, PPPL was hosting its own Olympics of sorts for budding young scientists. But this Olympics focused on young contestants' knowledge of science, mathematics and technology in a quest to win the regional contest to compete in the National Science Bowl in Washington D.C.

Middle schoolers and high schoolers in the U.S. Department of Energy's New Jersey Regional Science Bowl at PPPL used their brains to battle to the top for up to 12 rounds of a quiz show-type contest that posed very difficult questions in Earth science, physics, energy and math.

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The Montgomery High School team works intently on its answers, as Science Judge Mike Zarnstorff, left, and moderator Jeff Parker look at the question, and Rich Torraca keeps score at the New Jersey Regional Science Bowl on Saturday, Feb. 22. They were among 38 volunteers at the high school event. Another 21 volunteered for the Middle School Science Bowl on Friday.

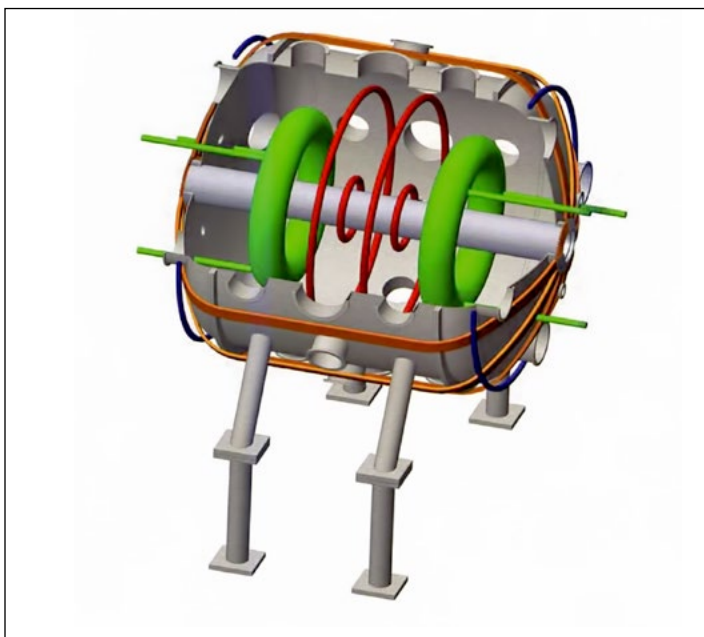
Magnetic Reconnection

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“Reconnection is tremendously important,” said PPPL Director Stewart Prager. “This gives us a vehicle to answer some of the major challenges that apply to a wide array of astrophysical phenomena.”

The increased size and power of the new machine — its diameter will be twice that of the sports-utility-sized MRX — will enable scientists to replicate reconnection in nature more faithfully, said PPPL physicist Masaaki Yamada, principal investigator for the MRX and a senior researcher on the new machine.

Joining Princeton and PPPL on the team launching the project are UCLA, the University of California-Berkeley, the universities of Maryland and Wisconsin-Madison, and Los Alamos National Laboratory. “We’re delighted with this opportunity to develop new scientific results,” Prager said, “and to host this device for the research community.”



Nearly two-dozen institutions will participate in experiments on the \$4.3 million machine to be built at PPPL.

PPPL is discontinuing Windows XP after April 8

Please be advised that Microsoft has decided to end support for Windows XP on April 8. After that date, Microsoft will no longer be providing support or updates of any kind for the Windows XP operating system. As a result of Microsoft's decision, PPPL will no longer allow any Windows XP devices on the network after April 8. In order to maintain network connectivity (i.e. access to websites, email, calendaring, etc.) please schedule an update to Windows 7 with the helpdesk no later than March 21. Failure to do so will result in loss of connectivity on April 8.

The decision to remove Windows XP from the PPPL network was not entered into lightly. Hackers are continually exposing new vulnerabilities within the operating system. While still supported by Microsoft, these weaknesses were patched (ie Patch Tuesday). Since the vulnerabilities will no longer be patched, PPPL had to look at the big picture. If just one of these vulnerabilities is exploited on just a single system, it could easily spread throughout the PPPL network. The infiltration could result in PPPL being disconnected from the Internet for an extended period of time, expenses for cleanup and mitigation, and even the loss or suspension of our authority to operate as a science lab.

— Marc Cohen,
Head of User Support and Operations

Video on PPPL premieres at APS Conference and online starting March 3

The video about PPPL produced by WebsEdge will be aired at the American Physical Society March meeting in Denver from March 3 to 5. It will be shown on eight screens at the Colorado Convention Center and will be featured in a compilation of APS TV films starting March 3. The video will also be included in an APS TV news program about the meeting in the evening of March 4 and during the day on March 5.

The program will be aired in the following hotels during the evening of March 4 and during the day on March 5, and as part of the compilation on March 3: The Comfort Inn in Denver (Ch. 52), the Crowne Plaza Denver (Ch. 22); the Grand Hyatt (Ch. 40); the Hyatt Regency CCC (Ch. 40); the Sheraton Denver (Ch. 50); and the Marriott Denver Downtown (Ch. 27).

After the conference starts, the video can be viewed on the APS TV player at the APS website, www.aps.org and at the WebsEdge website at http://www.websedge.com/videos/aps_tv/#/.

WebsEdge will also be joining in the Twitter conversation about the conference at #APSMarch from @Web-Edge_Edu.

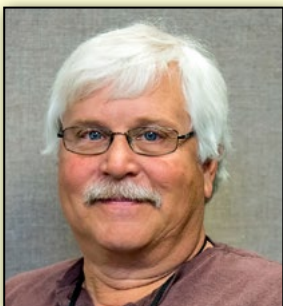


HAPPY RETIREMENT

PPPL bids a fond farewell to the following employees who retired as of March 1.



LARRY GRISHAM
Principal Research Physicist
39 years



MATT LAWSON
Excess Prop./Fleet Coordinator
32 years



RAY JEANES
Fire Protection Engineer
40 years



Science Bowl

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State College wins

In the High School Science Bowl, 32 teams making up some 160 students competed in a double-elimination format. In the end, the State College Area High School team from Pennsylvania beat the Bridgewater-Raritan High School team. The Millburn, N.J., team came in third.

There was a hush in the room by the final rounds and the audience hung on every answer. “Those last two rounds my heart’s been pounding,” said Ravi Agnihotri, of Bridgewater, a local resident who was cheering on the local high school team. “It’s been amazing. It’s been a great experience regardless of the outcome. I’m very proud of them.”

The State College team had traveled about 225 miles the night before the contest to compete and was thrilled with the outcome. “This makes our four-hour drive much, much better,” said Coach James Bleil.

“It was a great challenge,” said Team Captain Joseph Lin. “It’s a great feeling because we worked really hard. All of our teachers have been helping and supporting us.”

J Droids, of Warren, will go to nationals

The Middle School Science Bowl on Feb. 21 pitted 16 teams from the New Jersey region against one another. J Droids, a science club in Warren, N.J., beat the John Witherspoon Middle School, of Princeton, in the final round and will go on to the national contest in Washington, D.C. The Bridgewater-Raritan team came in third. John Witherspoon’s B team won the “Team Spirit Award” for staying to cheer on not only their classmates but also all the other teams.

“This was a long and intense day full of really amazing students who did a remarkable job answering questions,” Andrew Zwicker, head of PPPL Science Education, told students at the end of the Middle School Science Bowl. Zwicker worked with fellow physicist Arturo Dominguez all day, including the final contest. “Arturo and I are the science judges and most of the time we had no idea what the answer was,” Zwicker said.



At right, Shannon Greco serves as science judge, while Paul LaMarche, vice provost for space programming at Princeton University and a former physicist at PPPL, is the moderator and Judy Malsbury is the timekeeper at the High School Science Bowl on Feb. 22.

“They came from the brink – from the very edge of the precipice to win first place,” Zwicker said in announcing the winner. “Going to the National Science Bowl in D.C. are the J Droids!”

The last contests were nerve-wracking, said Bill Merritt, the John Witherspoon coach. “They’re excited, I’m nervous,” he said.

“It’s exciting going into the competition at first but now not so much,” said Aaron Wu, a member of the school’s “B Team,” which also competed.

Numerous volunteers

Project manager Deedee Ortiz coordinated the Science Bowl and numerous PPPLers and their family members volunteered. There were 21 volunteers at the middle school event and 38 volunteers at the high school event, many of whom stayed all day.

“The volunteers worked very hard – it was exhausting, it was such a long day, especially the moderators who had to sit there and read all day,” Ortiz said. “I’m so grateful. Everybody just does it with a smile on their face.”

“It’s work, you’re really just cranking through these questions,” said Daren Stotler, a physicist who was a moderator on Saturday. Despite his fatigue, he said he was glad to do it for the 20th year. “I used to compete in science competitions. That’s why I was happy to get involved in this because it meant a lot to me back then.”

“One fun part is seeing how ridiculously smart these kids are,” said physicist Dennis Boyle, who worked as a timekeeper with Stotler for the sixth year in a row. “All of us are scientists but we weren’t necessarily at this level in high school.”

Joseph Lin seemed to find going to nationals for his last Science Bowl somewhat bittersweet. “We love coming here,” he said. “I’m sad it will be our last year. It’s good to go out with this!” 📷



A rare moment of levity for the State College Area High School team, which won the High School Science Bowl and is going to Washington D.C. in April.

MORE SCIENCE BOWL PHOTOS ON PAGE 4

PPPL's NJ Regional Science Bowl in pictures



The John Witherspoon Middle School team, of Princeton, N.J. works on their answers to a tough question at the Middle School Science Bowl on Feb. 21. They came in second in the contest.



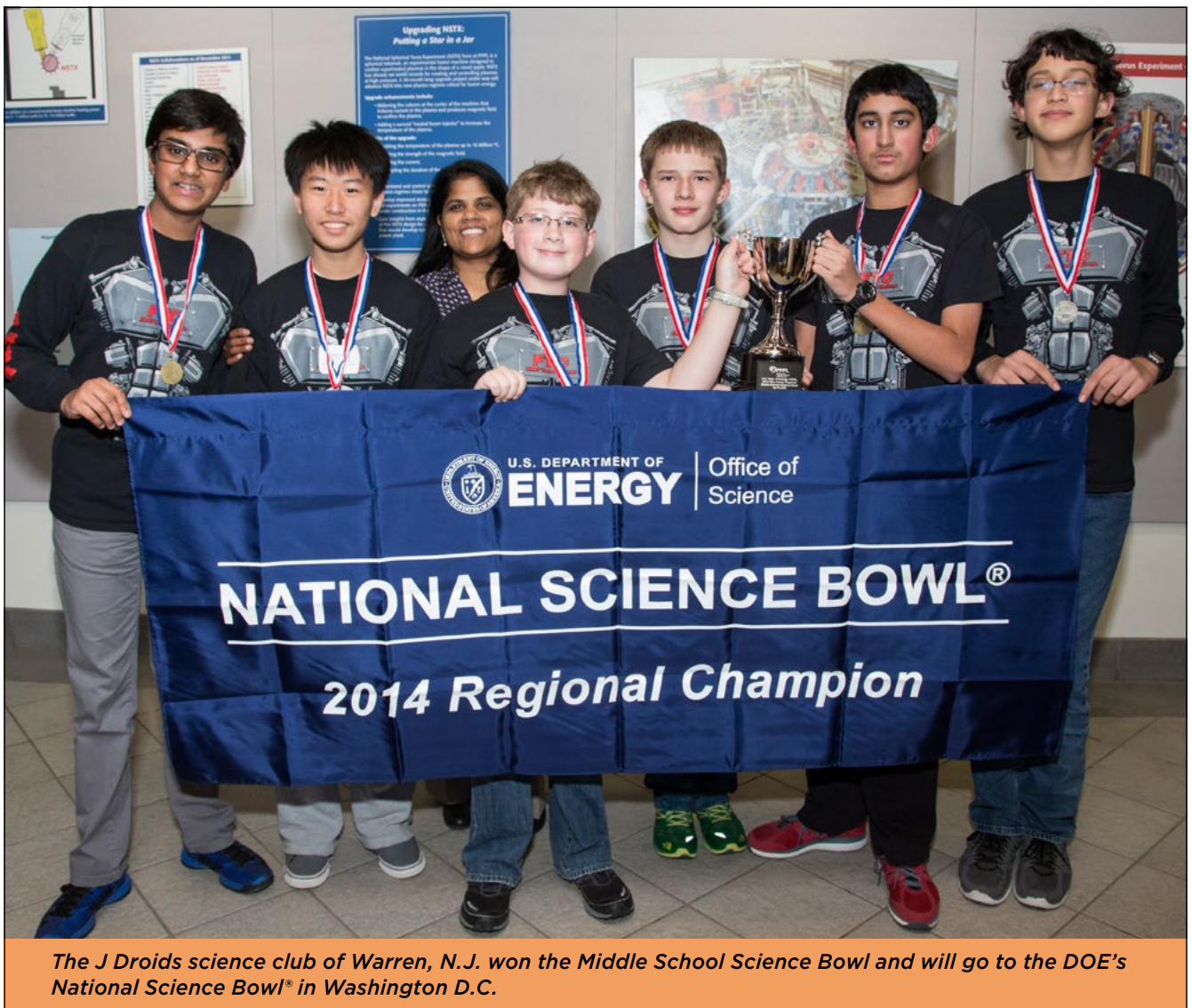
A long day for volunteers: Carol Ann Austin was time keeper, Andrew Zwicker, center, was moderator, and Arturo Dominguez was science judge during a long day of competition on Feb. 21. Zwicker and Dominguez reversed roles on Feb. 22.



Stan Kaye was the moderator for a round with the Lawrence School team at the High School Science Bowl.



Jeff Parker, center, was the moderator and Novimir Pablant was the science judge at the Middle School Science Bowl.



The J Droids science club of Warren, N.J. won the Middle School Science Bowl and will go to the DOE's National Science Bowl® in Washington D.C.

COLLOQUIUM



RISKS OF NUCLEAR WEAPONS USE IN AN ERA OF PROLIFERATION, CYBER WARFARE AND TERRORISM

BRUCE BLAIR, PRINCETON UNIVERSITY

Wednesday, Mar. 5

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

Make an appointment for PPPL's Blood Drive today!

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.



2014 Science on Saturday

Princeton University Plasma Physics Laboratory Lecture Series



From MOOC to MIIC: Can Effective Learning Be Big?

MUNG CHIANG
Princeton University

Saturday, March 8

9:30 a.m. • MBG Auditorium



Save the date for the Young Women's Conference, Friday March 21!

The 13th annual Young Women's Conference is scheduled for Friday, March 21, at Princeton University and VOLUNTEERS ARE NEEDED. Please register to volunteer by completing the [form at this link](#). Contact DeeDee Ortiz 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. 3
MAR.



Sautéed Chicken Marsala served with Roasted Potatoes & Vegetable

TUE. 4
MAR.



Baked Macaroni & Cheese served with Stewed Tomatoes

WED. 5
MAR.



Cheese Ravioli with Bolognese Sauce served with Tomato Basil Salad

THU. 6
MAR.



Roast Pork with Baked Apples and Stuffing

FRI. 7
MAR.



Baked Tilapia over Tuscan Bean & Escarole

COMMAND PERFORMANCE
CHEF'S FEATURE

EARLY RISER

Raisin Bread French Toast with Cream Cheese & Turkey Sausage

COUNTRY KETTLE

Broccoli & Cheddar

GRILLE SPECIAL

Grilled Vegetable Wrap with Hummus, Spinach, Eggplant, Feta

DELI SPECIAL

Greek Gyro Pita with Tzaziki Sauce

PANINI

Classic Muffuletta on Ciabatta

Tomato Basil Omelet with Mozzarella & Italian Sausage

Bacon & Corn Chowder

Steak Pizzaiola on Focaccia Bread

Prosciutto & Provolone Hoagie

Open-Faced Tuna Melt on English Muffin with Tomato & Swiss Cheese

Ham, Cheddar & Apple Panini with Hash Browns

Tomato Vegetable with Lentil

Grilled Pork, Ham, Bacon & American Cheese on Texas Toast

Maryland Seafood Salad on Rye with Arugula & Tomato

Country Fried Chicken Breast on Ciabatta Bread

Egg White & Cheese Breakfast Quesadilla with House Made Salsa

White Bean Escarole

Popcorn Shrimp Po' Boy

Pesto Chicken with Apple, Cream Cheese & Spinach on French Bread

Roasted Peppers & Goat Cheese on Ciabatta

Philly Steak, Egg & Cheese Wrap

Manhattan Clam Chowder

Asian Style Turkey Burger with Pineapple Slaw

Egg Salad Sandwich on Multigrain Bread with Avocado & Tomato

Roast Beef & Cheddar on Ciabatta Bread with Red Onion & BBQ Chipotle

MENU SUBJECT TO CHANGE WITHOUT NOTICE

VEGETARIAN OPTION

CLICK HERE FOR A PRINTABLE WEEKLY MENU

WEEKLY

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