

At PPPL THIS WEEK

WEDNESDAY, JUNE 11

PPPL Colloquium
 4:15 p.m. ♦ MBG Auditorium
 Magnetic Reconnection
 Vassilis Angelopoulos, UCLA

WED. - SAT., JUNE 11 - 14

NSTX-U PAC-35 (Program Advisory Committee)
 PPPL

UPCOMING EVENTS

June 18

PPPL Colloquium
 4:15 p.m. ♦ MBG Auditorium
 Nuclear Winter
 Alan Robock, Rutgers University

June 19

PPPL Patent Award Dinner
 6:00 p.m. ♦ Prospect House,
 Princeton University

June 25

PPPL Colloquium
 4:15 p.m. ♦ MBG Auditorium
 Cosmic Microwave Background (CMB)
 Dr. Renee Hlozek, Princeton University

July 9-11

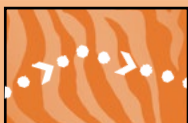
Disruption Theory Conference
 PPPL

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Campus plan envisions a bright new look for PPPL for the 21st century

By Jeanne Jackson DeVoe

Imagine PPPL with a new 21st century look that transforms many of the buildings on the campus to ensure that researchers and staff members will have plenty of modern, well-equipped laboratory space for experiments, attractive offices and meeting places, and an infrastructure that will support the newly rebuilt National Spherical Torus Experiment (NSTX-U).

That's the vision of a new campus master plan for PPPL that maps out a far-ranging \$130 million, 10-year plan that rethinks how existing space is used, renovates many of the Laboratory's buildings, ensures that the systems that support research at PPPL are in tip-top shape, and looks at future needs of the facility over the next decade.

Many people at the Laboratory have been working hard to complete the ambitious plan by today when the Lab's management team will present it to managers in the Office of Science at the annual Lab planning meeting in Washington, D.C.

"This is significant," said Michael Williams, the Associate Laboratory Director for Engineering and Infrastructure, who led the project. "It's an opportunity to change the face of the Laboratory in a big way and in that regard it's a very big deal. The Lab will look different and modern in the 2020 plus time frame. People who show up here will see a Lab that's significantly updated from what we have now."

In addition to updating systems to support NSTX-U, a major goal of the campus plan is to create an attractive campus with up-to-date offices and collaborative spaces that would draw top researchers and collaborators to the Lab. The campus plan will also provide modern laboratory space for PPPL's small and medium experiments that are currently housed in cramped and outmoded spaces. Another feature of the plan is a modern entrance to the building directly facing the lower parking lot and renovations to the exterior of buildings on C site to create a more modern look.

"We know there are gaps," said Lab Director Stewart Prager. "In some areas we need modernized laboratory space, meeting spaces and office space. We need new infrastructure for enhanced international collaborations and, of course, we need to make sure we have the infrastructure so that NSTX-U operates optimally."

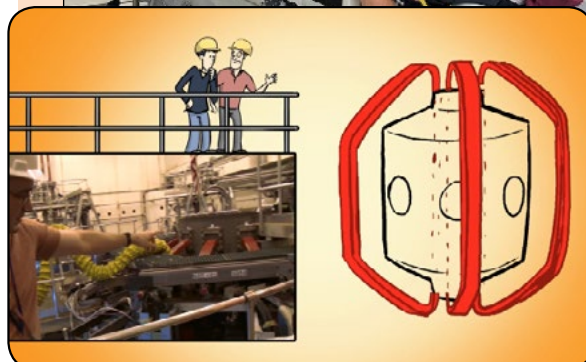
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Video on magnetic fusion by PhD Comics' Jorge Cham Debuts Today



A video on magnetic fusion that was filmed at PPPL is expected to be posted today at <http://phdcomics.com/tv/> and on PPPL's website, <http://www.pppl.gov>.

Produced by Jorge Cham, the creator of the comic strip "Piled Higher and Deeper," (PhD for short), the video features interviews with Science Education Head Andrew Zwicker, postdoctoral fellow Arturo Dominguez and physicist Stefan Gerhardt, who also appear as cartoon characters.



Left, a screen shot from the video of Gerhardt at NSTX-U. Above, Cham, left, interviews Dominguez, back right, and Zwicker, front right, in the Science Education lab.

Campus Plan

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A comprehensive look at the PPPL campus

PPPL has presented plans for new buildings and facilities in the past but the campus plan is a comprehensive look at PPPL that assessed each of the 33 buildings and all of the infrastructure on the 88-acre campus and aligns future improvements with the Laboratory's mission.

For many years, the Lab has had to make do with outdated facilities. The last major building to be built was the Lyman Spitzer building in 1980 and many of the buildings and laboratories were built in the 1960s and 70s, said Adam Cohen, deputy director for Operations. "We're trying to do next-generation research in facilities that are not equipped for it," he said. "The plan is to match the infrastructure with the mission needs."

All of the U.S. Department of Energy's 10 Office of Science Laboratories are taking part in the campus plan initiative. But PPPL has been asked to fast track its campus plan with the hopes that it will be the first in line for funding to begin making improvements.

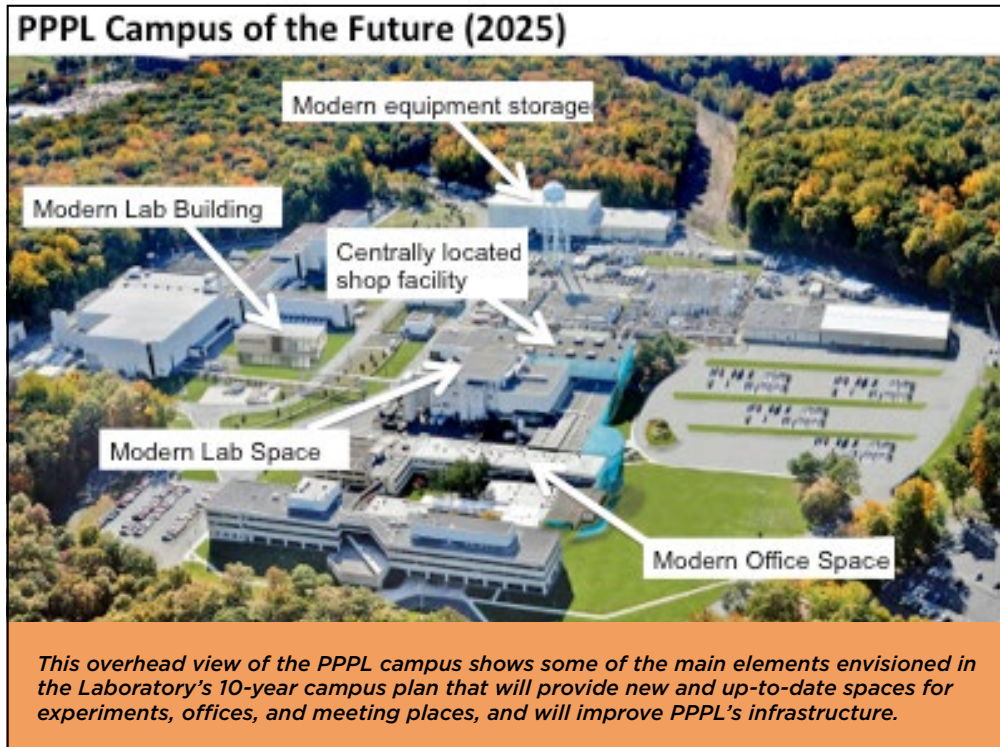
The campus plan team spoke to researchers and staff members throughout PPPL, with a focus on those whose offices and laboratories will be most affected. "Many of the major players in the Laboratory have already been involved," Williams said. "We have input from the principal investigators, so we largely have buy in from the research community."

Working closely with DOE officials

PPPL has worked closely with DOE officials both at the PPPL Site Office and the Office of Science Headquarters to "reach a consensus on future plans," said Maria Dikeakos, the DOE's Princeton Site Office Manager. "Early agreement and communication with headquarters was fundamental as the expectations and detail required for defending funding decisions to Congress continue to be very high," she added. "It has also been a great opportunity to work with the Office of Fusion Energy Science in jointly developing a visionary plan with clear links between the potential funding needs and the mission goals. Senior management in the Office of Science is paying close attention and has been a very valuable partner in this effort."

Dikeakos and PPPL's senior management have met with DOE Office of Science officials in Washington and at PPPL over the past month to discuss the campus plan. "A very important result is the recognition on the part of the DOE that significant investment into PPPL's infrastructure is needed," said Williams. He noted that DOE officials have not had as clear an understanding of PPPL's needs or as firm a commitment to invest in the Lab's infrastructure in quite some time.

"Everyone has bought into the framework of the plan," Williams said. "There's general agreement that we have a good plan. Now we have to work out the funding details."



Four phases to the campus plan

The four phases of the plan over the 10-year period will each take two to three years but may overlap with one another. The first phase, which could begin as early as this summer, will be funded by \$5 million the Lab received from the DOE's General Plant Projects (GPP) fund in Fiscal Year 2014 with hope for another \$5 million from the fund in 2015.

Part of the plan is based on maintaining the GPP funding through the remainder of the 10-year plan at \$3 million annually, an increase from the current level of less than \$1 million. This will allow routine infrastructure investments such as roof improvements to be made throughout the PPPL campus.

Phase II of the campus plan will "set the foundation for modern new lab space and modern new office space," Williams explained. The Lab hopes to receive an additional \$25 million from the DOE's Scientific Laboratory Infrastructure fund (SLI) for Phase II, which would renovate the C-Site Motor Generator (MG) Building and relocate machine shops from RESA to the former MG site. The RESA building would then be refurbished as a storage site for the entire Laboratory. The Lyman Spitzer Building (LSB) Annex and the Engineering Wing would also be refurbished to create additional office space and Mod VI would be demolished.

Phase III of the plan, which would cost about \$20 million, would renovate the laboratory space in the RF and COB buildings on C Site for the experiments currently housed in the L Wing.

In Phase IV, which would cost \$45 million, the L wing would be renovated to create new office space and the Theory wing would be demolished. The exterior of the LSB and C site buildings facing the lower parking lot would also be renovated to give the buildings a fresh, modern look.

Depending on the need for additional laboratory and collaborative space, a fifth phase starting around 2021 would construct a new laboratory building or addition to an existing building to provide about 20,000 square feet of laboratory space.

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Campus Plan

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Funding still unclear for parts of plan

While DOE Office of Science officials support the project, it's not clear where all of the funding for the 10-year project will come from, Williams said. The DOE has indicated that Phase II and probably Phase IV of the project would be funded through the SLI but the funding for Phase III would have to be from GPP or other funding from the Office of Fusion Energy Sciences (OFES).

Funding for PPPL's campus plan is expected to be part of the DOE's yearly budget and as such would be subject to Congressional approval. But requests for funding each of the phases of the campus plan are expected to receive strong support from DOE, Williams said.

The DOE required PPPL to develop the campus plan as one of the annual terms of the Laboratory's contract that is tracked by the agency. Part of the effort involved evaluating the current condition of the infrastructure at PPPL using criteria defined by DOE's Laboratory Operations Board. Both Adam Cohen and Mike Viola, head of Facilities and Site Services, who was instrumental in the Lab's campus plan, were members of committees that helped develop the assessment guidelines.

PPPL began assessing the Lab's buildings and infrastructure early this year and completed that task in early April. The assessment team included Martin Donohue, head of Engineering Services; William Gervasi, who headed the buildings and grounds assessment; Henry Carnevale for

Phase II – SLI Scope

1	NSTX-U operations
2	int'l collab
3	Lab and Collab Space
4	"People space"

8, 9, 10 - C-site MG renovated and move all C-Site shops (\$17.1M)
11. & 12 Renovate RESA to accept all storage (\$3.5M)
13. Renovate LSB Annex (\$3M)
14. Renovate Engineering Wing (\$1.3M)
16. Demolish Mod VI (\$0.1M)

Phase I of the campus plan includes numerous improvements to the Lab's infrastructure, including a new cooling tower and repairs to the motor generator system, and a remote access control room.

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Alumni tour PPPL for Princeton reunions

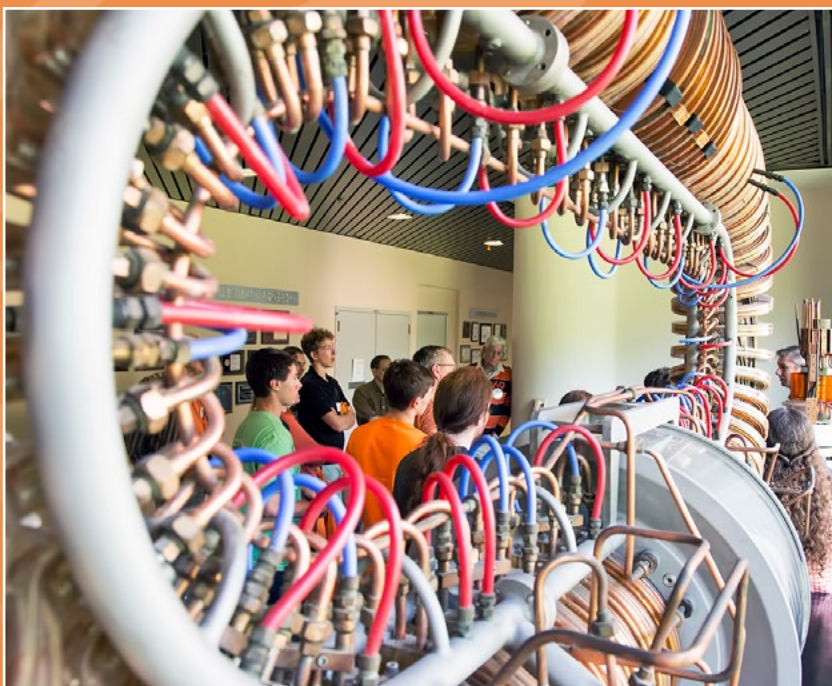
More than 50 Princeton University alumni and their family members toured PPPL on May 30 as part of Princeton's Reunion Weekend during tours given by John DeLooper and Sam Lazerson in the morning and DeLooper and Charles Gentile during the afternoon.



Left, DeLooper gives an overview of PPPL to Princeton alumni in the NSTX Annex.



Above and below: The tours visited the QUASAR coils and the coil winding facility.



Above: A view through the stellarator of an alumni tour given by Lazerson.



Campus Plan

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HVAC; Charles Kircher for roofs; and Scott Decker for fire protection.

The assessment was a “really enlightening exercise” that revealed much of the Lab’s infrastructure and many of the buildings are badly in need of repairs and renovations. “At first it was overwhelming,” Viola recalled.

The assessment also underlined ongoing facilities challenges: the need for improved office space, additional and modern collaborative space, and improved laboratory space to handle experiments such as the LTX (Lithium Tokamak Experiment) and the Magnetic Reconnection Experiment (MRX).

Williams and Viola and other staff members, with the help of HDR Inc., an architectural/engineering firm based in Omaha with offices in Lawrenceville, N.J., began work on the campus plan in April and it should be completed this month. Completing this effort on such a short schedule with a small number of staff is an incredible achievement, Viola said.

During the assessment, Viola said he noticed a lot of space was taken up storing huge amounts of equipment. This, coupled with the fact that PPPL has 75 storage trailers on site dovetailed nicely with Mike Williams’ idea to convert the RESA Building into a “state of the art” storage area for equipment and machinery. The items would be inventoried and bar-coded in a modern facility so they

would be easily retrievable, he said. The storage space would enable the renovation of existing, underutilized spaces into new offices, as well as collaborative and laboratory spaces.

Each of the phases of the campus plan fits together like pieces of a puzzle, Viola explained. The machine shops have to be moved from the RESA building to the MG Site in order to create storage space at RESA. New office space has to be created in the LSB Annex and the engineering wing to make way for staff in Mod 6 before that building is demolished. And the L-Wing experiments have to be moved to renovated space in the RF building and the COB building in order for researchers and staff in the Theory wing to relocate to the newly renovated L Wing. Once this is accomplished, the Theory Wing and west administration wing can be demolished. This would open up the opportunity to give the west side of the Lab a new 21st century façade including a beautiful new central entrance opening up into the new L-wing. Several concepts are being proposed. “The beauty of this plan is that PPPL gets to fix all of the infrastructure deficiencies while modernizing each of the building spaces,” Viola said. “It’s a win-win for PPPL and DOE.”

Viola said he’s looking forward to helping to make the campus plan a reality. “I’m really excited about it,” said Viola. “This is a huge new facelift and I’m really glad to have been part of it.”

Join The Party

Be part of New Jersey’s 350th Anniversary Celebration

By Kitta MacPherson

New Jersey has long been a cradle of innovation, from the creation of cutting edge fusion machines at PPPL to the invention of everything from the transistor to bubble wrap. For the duration of 2014, as state residents celebrate the 350th birthday of the founding of New Jersey, an organization known as newjersey350 is highlighting the state’s outstanding record on the key themes of innovation, diversity, and liberty.

As part of this celebration, New Jerseyans are being invited to visit a voting website where residents can cast a

www.surveymonkey.com/s/i350PPPL

ballot for the state’s top home-grown inventions. Will it be the light bulb or the TV dinner? Air conditioning or ACE inhibitors? You can decide. Results will be announced at the Celebration Innovation Gala on Oct. 30 at the Palace in Somerset hosted by the New Jersey Chamber of Commerce and NJBIZ magazine.

PPPL has its own *rich history* of innovation that New Jersey residents can enjoy perusing here.

COLLOQUIUM

Nuclear Famine: The Threat to Humanity from Nuclear Weapons

DR. ALAN ROBOCK
RUTGERS UNIVERSITY

Wednesday, June 18

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

PPPL welcomes new employees!

Michael Churchill
Associate research physicist
Theory and Computation

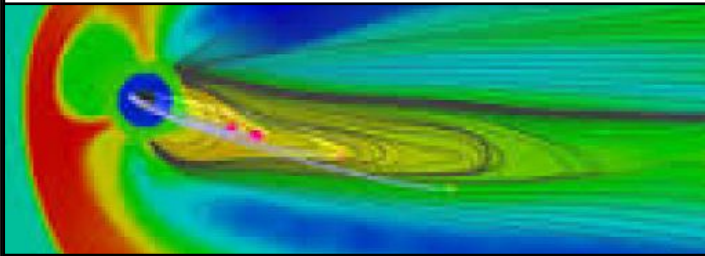
Ewa Kontor
Accounts payable clerk
Business Operations

Beth Leman
Graduate administrator
Office of the Director

Adam Salmon
Management technician
Engineering & Infrastructure

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COLLOQUIUM



Space Physics and the Role of Magnetic Reconnection in Space Weather

VASSILIS ANGELOPOULOUS
UCLA

Wednesday, June 11

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

2014 Annual PPPL Bluefishing Trip

Aboard the 80' Suzie Girl



Date: Friday August 8th 2014 • **Departure:** 5pm SHARP!
Location: Belmar Marina Hwy. 35, Belmar, NJ 07719

Cost: \$75 Per person • All inclusive
Money due by Friday July 25th NO REFUNDS

Cost includes everything:

Rods, Bait, Fish Cleaning, Food, Beverages, Prizes etc.
All you need to do is show up!

Contact Andy Carpe ext. 2118 acarpe@pppl.gov
Bob Tucker Jr. ext. 3190 rtucker@pppl.gov

Site Protection Division • TIP • OF • THE • WEEK •

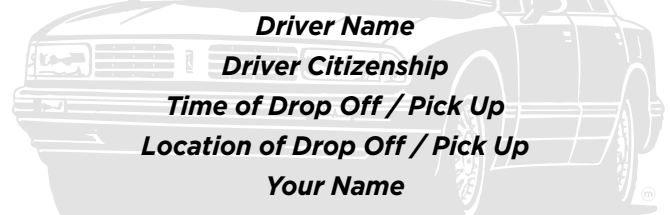
Vehicle and Pedestrian Congestion at Booth 6

Recently, the vehicle and pedestrian traffic near Booth 6 has increased significantly. Laboratory employees and visitors are being dropped off outside the booth, vehicles are turning around in the roadway and pedestrians are waiting for rides and may be hidden from view. To avoid vehicle and pedestrian congestion and to increase safety at the Booth 6 gate, the Site Protection Division has initiated the use of a PPPL "Car Pool" List.

Instead of having your designated driver wait outside the PPPL entry in locations beyond the Security Booth or along the PPPL driveway (Stellarator Road), simply contact the Site Protection Division to add your driver to the PPPL "Car Pool" list.

The PPPL Car Pool List is kept at Booth 6 and in the Communications Center and is available to Security 24/7. If your designated driver's name is on the Car Pool List, they can simply enter PPPL using the Visitor side at Booth 6, present their ID, and once verified on the Car Pool List, drive into PPPL and drop off or pick up employees safely at approved C-Site locations.

To add a name to the Car Pool list, simply provide the following information by E-Mail to "Badge@pppl.gov":



Your PPPL Phone Number and Cell Phone Number

This action will help to reduce traffic, improve safety, and alleviate potential driving hazards and unsafe parking issues near Booth 6. The Site Protection Division strongly encourages the use of the "Car Pool" list for this purpose.

If you have any questions or suggestions regarding safety at Booth 6, do not hesitate to contact Dolores Stevenson or Dina Christie in the Site Protection Division offices in MOD VI.

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*

COMMAND PERFORMANCE
CHEF'S FEATURE

	MON. 9	TUE. 10	WED. 11	THU. 12	FRI. 13
EARLY RISER	 Ota-Ya Sushi Bar	 Eggplant Parmesan served with Pasta & Garlic Bread	 Grilled Peanut Butter, Banana & Honey on Raisin Bread with Fresh Fruit Salad	 Penne Pasta with Peas in a Pink Vodka Sauce	 Maple Glazed Salmon with Rice Pilaf & Veggies
COUNTRY KETTLE	The XL Steak, Onion and Cheese Omelet with Home Fries	Banana Walnut Pancakes with Crispy Bacon	Eggs Benedict	Marcus McGriddle French Toast with Sausage, Egg & Cheese	The Philly Pork Roll, Potatoes, Egg & Cheese on a Kaiser Roll
GRILLE SPECIAL	Lentil Soup with Ham	Creamy Corn & Vegetable Soup	Curried Chicken & Rice Soup	Louisiana Gumbo	Maryland Seafood Chowder
DELI SPECIAL	Super Sloppy Joe on a Kaiser Roll with Deviled Potato Salad	Boardwalk Sausage & Pepper Torpedo	Chicken Burrito served with Refried Beans and Spanish Rice	Teriyaki Chicken Steak Wrap with Peppers & Pineapples served with Fries	Scrambled Egg, Broccoli, & Cheddar on a Torpedo served with Home Fries
PANINI	Open-Faced Chunky Egg Salad on Naan	Roast Beef with Pepperjack, Roasted Peppers & Onions on an Onion Roll	Italian Antipasto Sandwich	Shrimp Louie Wrap with Hard Cooked Egg, Cucumber, Tomato, Olives, Asparagus & Thousand Island Dressing	Tuna BLT Wrap
	Roast Pork Sandwich with Sweet Slaw on a Kaiser Roll	Shrimp Quesadilla with Peppers, Onions & Feta Cheese	Chicken & Mushroom Quesadilla	Three Cheese Melt with Peppers & Onions	Cheeseburger with Tomato, BBQ Sauce, Cheddar & Bacon on Ciabatta Bread

MENU SUBJECT TO CHANGE WITHOUT NOTICE

 VEGETARIAN OPTION

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

WEEKLY

Editor: Jeanne Jackson DeVoe ♦ Layout and graphic design: Dan Fernandez