

## At PPPL THIS WEEK

WEDNESDAY, SEPT. 24

### PPPL Colloquium

4:15 p.m. ♦ MBG Auditorium

Evolution of Coil Design and  
Manufacturing at PPPL

Jim Chrzanowski - PPPL

### UPCOMING EVENTS

October 3

#### American Red Cross Blood Drive

8 a.m. - 1 p.m. ♦ Lower End Parking  
Lot

Please give blood - all blood types are  
needed.

October 15

#### PPPL Group Photo Shoot

11 a.m. ♦ Meet in Lobby at 10:50 a.m.

October 27-31

#### 56th Annual Meeting of the APS Division of Plasma Physics New Orleans

<http://www.aps.org/>

## Acting PSO Manager enjoying work at PPPL

By Jeanne Jackson DeVoe

**R**oger Snyder stepped in as acting manager of the DOE Princeton Site Office on July 27 at a challenging and exciting time when the Laboratory is beginning implementation of a comprehensive campus plan and is looking forward to reopening the National Spherical Torus Experiment after a \$94 million upgrade.

As it turns out Snyder, the manager of the Pacific Northwest Site Office in Richmond, Wash., is also overseeing the preparation for integration of the Princeton Site Office staff with the Brookhaven National Laboratory Site Office staff. He's also supervising the start of the PSO's year-end self-assessment and performance reviews of PPPL that take place each year. Snyder will remain in the position until Oct. 20 after which management will transition to the current BNL management team.



Roger Snyder

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## Brookhaven Site Office and Princeton Site Office to form team

By Jeanne Jackson DeVoe

**T**he management of the U.S. Department of Energy's Princeton Site Office (PSO) is being restructured under a trial program in which managers at the Brookhaven Site Office (BHSO) in Brookhaven, N.Y., will take on the additional responsibility of overseeing the Princeton Site Office. Employees at both site offices will be part of the same team.

Starting Oct. 19, Frank J. Crescenzo, the manager of the Brookhaven Site Office will also head the Princeton Site Office, with four federal managers who report to him supervising Princeton Site Office staff. The employees at the Princeton Site Office will continue to work at the Princeton Site Office and the Brookhaven Site Office leadership will initially take turns being on site four days a week, said Roger Snyder, the acting Site Office Manager of the PSO.

Snyder will return to his permanent position as Manager of the Pacific Northwest Site Office (PNSO) overseeing Pacific Northwest National Laboratory (PNNL) in Richland, Wash., after Oct. 20.

### "A sustainable enterprise"

"The Office of Science is taking a comprehensive look at the workforce across the complex. As such, we need

to make sure that we're a sustainable enterprise," said Snyder.

The Site Office will continue its primary responsibility of ensuring the Laboratory meets its obligations under the Princeton University contract with the DOE. The Site Office also executes permits, approves work, and serves as a "facilitator and advocate for the institution" with the DOE, Snyder explained.

The Princeton Site Office's nine members will work with the Brookhaven Site Office's 24 people. "When you put these together, you're getting access to an integrated Site Office team that has more depth and capacity," Snyder said.

### Four managers include Maria Dikeakos

The four other managers who will help oversee the PSO include Deputy Site Manager Robert P. Gordon. Maria Dikeakos, the former Princeton Site Office Manager who left the position in July and now manages the Division of Operations Management, would be one of the team overseeing PSO staff. The other managers are Joseph Eng, the Director of Project Management, and Evelyn Landini, the Director of Business Management.

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# Snyder

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Snyder is enthusiastic about being part of all the activity. “I’m excited about things coming to fruition: the upgrade project and the SLI (Scientific Laboratory Infrastructure) project taking off. I just happen to be here at that nexus where things are coming together.”

As the manager of the Pacific Northwest Site Office for the past three years, Snyder oversees a staff of 34 people. PNNL has a budget of about \$1 billion and employs approximately 4,300 people.

## A change of pace

Snyder says he enjoys the change of pace of working with the Princeton Site Office, which has a staff of nine and oversees a smaller and more focused effort. At PNNL, he would have to leave the building and walk across the street to talk with lab managers, he says. But at PPPL, he can simply walk from the second to the third floor. “The compactness of the site leads to more awareness of what’s going on with the work,” he said.

He has also enjoyed working at another DOE Office of Science laboratory. After joining the DOE in 1990 as part of the Defense Programs Technical Intern Program, Snyder has worked with the National Nuclear Security Administration (NNSA) and Environmental Management (EM) departments both at DOE headquarters and at various sites. He was Deputy Manager for the DOE NNSA Los Alamos Site Office, where he oversaw a \$2 billion budget, 2,000 facilities and 23,000 acres of the laboratory.

Snyder has a master’s degree in engineering from the University of Maryland and a bachelor’s degree in engineering from the University of Illinois. He also has advanced training in project management from both Stanford University and George Washington University. He completed nuclear power training at MIT and executive training at Harvard University.

## Sharing project management knowledge

Snyder said he has been able to apply some of his knowledge about project management and procurement while at PSO. His temporary role managing the

PSO has also led to an exchange between the PSO and the PNNL Site Office. Two PSO staff members were visiting the PNNL Site Office last week to learn about best practices there and members of the PNNL may pay the PSO a visit in the future, Snyder said.

When Snyder came to the PSO, he already had a good working relationship with Deputy Director Adam Cohen through their work together on other DOE initiatives. Snyder and Cohen were co-leads in the effort to develop the Lab Operations Board assessment criteria, which outlined the criteria for national laboratories to assess their facilities and was recently used by PPPL in its assessments. They are also working together on the DOE Infrastructure Strategic Plan effort.

Snyder has taken up residence in a local hotel and he complains about Route 1 traffic like a native New Jerseyan. He said he has come to appreciate the back roads of the area and has explored some of the local farmer’s markets. “I knew New Jersey was ‘the Garden State,’” he said, “but I hadn’t appreciated how much green there was.”

The most difficult part of his position in New Jersey has been the time away from his wife, Leslie, and three children: Lindsey, 17, Leah, 15, and Mitch, 10. At home, most of his spare time is spent taking them to sports and school events. He and his wife also enjoy visiting local wineries.

Since Snyder finishes his workday at the PSO when his younger children are coming home from school, he video chats with them when he returns to the hotel from work. The younger children are planning to visit before he leaves New Jersey, which will be a thrill for Mitch, who is a big New Jersey Devil’s fan. Snyder also flew out to see Lindsey off to college at the University of Idaho a few weeks ago.

Snyder said he appreciates the welcome he has received at the PSO and at PPPL generally. “Everybody’s been very friendly, very open,” he said, “and I’ve enjoyed interacting with everyone.” ●

# Princeton Site Office

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The PSO already accesses legal counsel, counter-intelligence, and other expertise through the Brookhaven Site Office, Snyder noted.

PPPL Director Stewart Prager said he views the changes as positive. “I think the new arrangement could be favorable for PPPL because it will allow the PSO to tap into resources that can be provided by the Brookhaven Site Office so it could enhance the effectiveness of the Site Office management of PPPL,” he said. “I look forward to welcoming the Brookhaven managers to PPPL and I look forward to working with them.”

Prager said he was glad to hear that one of the managers would be at PPPL four days a week initially. “I think it’s going to be important that the five principals from the Brookhaven Site Office spend enough time here that they get to understand the Laboratory and the people of the Lab,” he said. “And, of course, that will be supplemented by video conferences and phone calls.”

Deputy Director for Operations Adam Cohen said he also supports the change. “I think it’s got the potential to work really well,” he said. “It’s going to be interest-



ing logistically but I’m enthusiastic about this idea of having the site manager at BHSO and having the ability to reach out to additional capacity.”

Snyder says both teams will benefit from the innovative arrangement. “I think it will be a good opportunity for both teams,” Snyder said. “Both teams will learn things from each other and the trick is how we work together and make it as seamless as we can.” ☐

# PPPL lends General Electric a hand in developing an advanced power switch

By John Greenwald

Scientists at PPPL are assisting General Electric Co. in developing an electrical switch that could help lower utility bills. The advanced switch “could contribute to a smarter, more advanced, more reliable, and more secure electric grid,” according to the DOE’s Advanced Research Projects Agency-Energy (ARPA-E), which is funding the GE project.

The company is drawing upon PPPL’s know-how in dealing with plasma, the hot, electrically charged gas that researchers control with magnetic fields to fuel fusion reactions. Plasma will form the heart of the proposed GE device, which would use a plasma-filled tube to switch electricity on and off in power-conversion systems.

This gas-filled tube would replace the bulky and costly assemblies of semiconductor switches now used in systems that convert the direct current (DC) coming from long-distance power lines to the alternating current (AC) that lights homes and businesses. Such systems also convert AC current to DC current for transmission between AC power grids.

GE is turning to PPPL for help with these tasks:

- Modeling plasma properties for different magnetic-field configurations and gas pressures.

“There aren’t many places with a demonstrated ability to model this type of plasma,” said Timothy Sommerer a physicist at GE Global Research Center who heads the switch project. “These guys [at PPPL] really came through and said they could do it.”

- Developing a method for protecting the cathode — the negative terminal inside the plasma-filled tube — from damage from the positively charged ions, or atomic nuclei, in the dense current that flows through the gas. “You need to operate above a certain current density,” Sommerer said. “But this leads to ion impact that can damage the cathode. So what you want is high current-density and low cathode-damage.”

Sommerer has tapped a team led by physicist Igor Kaganovich, deputy head of the PPPL Theory Department, for the modeling task. The team employs specially designed codes to simulate the plasma, said Kaganovich, who works with physicists Alexander Khrabrov and Johan Carlsson on the project. Joining them for the summer were students Mikhail Khodak of Princeton




Laboratory test of a liquid-metal cathode.

Photo credit: General Electric

University and David Keating of the University of California-Berkeley.

For tips on protecting the cathode, GE has been studying PPPL’s use of liquid lithium to prevent damage to the divertor that exhausts heat in fusion facilities. The flowing liquid metal forms a wet, self-healing barrier that constantly replenishes itself, said physicist Michael Jaworski, an expert on the use of lithium in fusion experiments.

GE is working with cathodes made of liquid gallium for its self-healing properties. Learning of PPPL’s work with liquid lithium was “just serendipitous,” Sommerer said, since GE initially sought the Laboratory’s plasma-modeling skills. But “conditions in the divertor are pretty similar to what the cathode would face,” he noted, making PPPL’s experience quite useful to know. 

## COLLOQUIUM



Evolution of Coil Design and Manufacturing at PPPL

JAMES CHRZANOWSKI  
PPPL

Wednesday, September 24

4:15 p.m. (Coffee/Tea at 4 p.m.)  
M.B.G Auditorium, Lyman Spitzer Building

THE NEED IS CONSTANT. THE GRATIFICATION IS INSTANT. GIVE BLOOD.



Princeton Plasma Physics Laboratory  
American Red Cross Blood Drive

FRIDAY, OCTOBER 3

8 a.m. - 1 p.m.

Lower End Parking Lot

Call Tricia Berran at x3200 for an appointment or sign up online at [www.redcross.org](http://www.redcross.org) enter sponsor code PPPLPrinceton.



# N.J. Chamber of Commerce comes to PPPL

More than a dozen top executives from companies such as Cushman & Wakefield, PNC Bank, and the New Jersey Petroleum Council, who belong to the New Jersey Chamber of Commerce's Cornerstone group visited PPPL on Wednesday, Sept. 17. A.J. Stewart Smith, Princeton University Vice President for PPPL, welcomed the group. They then got an overview from PPPL Director Stewart Prager on "The Fusion Landscape," followed

by a brief talk on "PPPL Research: Deep questions & practical results," by Deputy Director for Research Mike Zarnstorff, and an overview of the Lab's "Present and Future Economic Impacts" by Deputy Director for Operations Adam Cohen.

Cohen and John DeLooper, head of Best Practices and Outreach, each took half of the group on a tour of the Lab that included the National Spherical Torus Experiment, the Science Education laboratory, the Hall Thruster, and the coil winding facility. Members of the group wound up their visit with a "networking lunch" at PPPL. ☑



Deputy Director for Research Michael Zarnstorff, center, addresses the group as A. J. Stewart Smith, Princeton University's Vice President for PPPL, left, and PPPL Director Stewart Prager look on.



Executives, including Robert Rubin, of Cushman & Wakefield, front center, get a tour of the National Spherical Torus Experiment (NSTX-U) from Deputy Director Adam Cohen, center left.



Cornerstone members learn about NSTX-U from Adam Cohen, second left. From left to right are: Larry Kromprier, N.J. Chamber of Commerce; Cohen; Cory Phillips, of Phillips 66; Ray Zardetto, N.J. Chamber of Commerce Vice President for Communications; and Anthony DiGiacinto, EisnerAmper, LLP.



Cornerstone members listen to remarks by PPPL Director Stewart Prager. Standing in back center is PPPL Chief Financial Officer Kristen Fischer, along with PPPL Director of Communications Kitta MacPherson, left, and Rich Toracca, right, who organized the event.



A group photo of members of the Cornerstone group along with PPPL managers and Princeton University guests in the Commons. Science Education and Best Practices and Outreach's new PPPL traveling display can be seen behind them.

PPPL TRAVEL TIPS



**PASSPORT, VISA & HEALTH LINKS FOR INTERNATIONAL TRAVEL**

Please visit the following sites for tips on passports and visas for international travel and other information:

- **International Travel** - U.S. Department Passport Information - Passport/Visa Information
- **Rail Europe**
- **World Health Organization**
- **Centers for Disease Control and Prevention**
- **U.S. Embassies and Consulates World Wide**
- **SOS - Security for International Travel**
- **The Smart Traveler Enrollment Program - STEP**  
The Smart Traveler Enrollment Program (STEP) is a free service provided by the U.S. Government to U.S. citizens who are traveling to, or living in, a foreign country. STEP allows you to enter information about your upcoming trip abroad so that the Department of State can better assist you in an emergency.
- **Travel Documents** - Visa/Passport and required travel documents for each country.

**SPD • TIP • OF • THE • WEEK •**

**Beware of Sun Glare**



Please be aware that the change of season brings an increase in sun glare on the approach roads to PPPL Booth 6. Site Protection has received reports of drivers leaving or approaching PPPL not seeing pedestrians and bicyclists until they are upon or past them due to sun glare.

Pedestrians should walk facing traffic. Bicyclists must ride in the same direction as the flow of traffic and must use the Booth 6 gate. Please remember that although you can see the approaching traffic, the approaching driver may not see you. Drivers, pedestrians and bicyclists, please use caution.

**COLLOQUIUM**



**Antibiotic Resistance: A Global Challenge**

**RAMANAN LAXMINARAYAN**

Princeton University - Princeton Environmental Institute

**Wednesday, October 15**

**4:15 p.m.** (Coffee/Tea at 4 p.m.)

M.B.G Auditorium, Lyman Spitzer Building

**BROCK Café Menu**  
at PPPL

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. 22 SEPT.	TUE. 23 SEPT.	WED. 24 SEPT.	THU. 25 SEPT.	FRI. 26 SEPT.
<b>COMMAND PERFORMANCE CHEF'S FEATURE</b>	 <b>Turkey Shepherd's Pie</b>	 <b>Cheese Manicotti served with Sautéed Zucchini</b>	 <b>Kielbasa with Braised Cabbage &amp; Potato Pierogies</b>	 <b>Beef Stroganoff with Mushrooms served over Egg Noodles</b>	 <b>Vegetarian Tikka Masala served over Rice</b>
<b>EARLY RISER</b>	2 Eggs any Style, Choice of Meat, Potatoes & Toast	Sweet Potato & Collard Greens, Sausage & Egg Stack	Hash Brown, Egg & Cheese Wrap	Mushroom & Cheese Omelet	Pancakes served with a Variety of Toppings
<b>COUNTRY KETTLE</b>	Country Chicken Vegetable	Vegetable Bean	Harvest Sweet Potato Soup	Cream of Celery	Split Pea with Ham
<b>GRILLE SPECIAL</b>	French Bread Cheesesteak Hoagie	Monte Cristo with Ham, Turkey & Swiss Cheese	Shrimp Po' Boy	Buffalo Chicken Wrap	Grilled Cheese with Roasted Vegetables on Rye
<b>DELI SPECIAL</b>	Broccoli, Peppers, Onions & Cheddar Wrap	Pastrami & Swiss with Coleslaw & Mustard on Rye	Blackened Chicken Caesar Salad	Tuna Salad with Olives, Roasted Peppers & Celery on Multigrain Roll	 <b>Tandoori Chicken Salad on Naan Bread</b>
<b>PANINI</b>	Fresh Carved Glazed Ham on Ciabatta Bread with Cheddar	Seafood Quesadilla	Southwest Turkey Panini	Portobello Stuffed with Roasted Peppers, Spinach & Provolone	Memphis Bologna Sandwich

MENU SUBJECT TO CHANGE WITHOUT NOTICE

VEGETARIAN OPTION

CLICK HERE FOR A PRINTABLE WEEKLY MENU

**WEEKLY**

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