

At PPPL THIS WEEK

WEDNESDAY, JULY 31

GFDL Events and Seminars
12 p.m. ♦ Geophysical Fluid Dynamics Laboratory (GFDL)

Smagorinsky Seminar Room

Parametrizations for surface fluxes and convection

Michael Herzog, Cambridge Univ., UK)

www.gfdl.noaa.gov/events

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

UPCOMING EVENTS

Aug 14

Summer Intern Poster Session
10 a.m. ♦ LSB Lobby

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PPPL Graduates
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Cafe@PPPL Menu
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Guest Corner

Site Protection's mutual aid program: A "win-win" for community and Lab



By Fran White - Head, PPPL Site Protection, ESH&S

PPPPL is a unique place. As the preeminent Department of Energy national laboratory for magnetic plasma fusion research in the United States, our world-class academicians, researchers, and engineers work in the service of the nation to produce a green, sustainable and abundant energy source. But PPPL is also unique in that it is the only DOE laboratory that uses multi-trained and certified Emergency Services officers to provide security, fire, and emergency medical services. And PPPL has committed its Emergency Services officers to an ethic of community service as well.

The Site Protection Division's Emergency Services officers take security and emergency services very seriously here at PPPL. Our multifaceted officers must undergo many hours of education, training and preparation to ensure that we provide quick and effective emergency services whenever necessary. By combining leadership and teamwork, training and experience, PPPL can rely on the Site Protection Division to provide security services instantly whenever needed. We can also have a fully staffed ambulance ready to go in mere moments. And, if needed, we can have a crew and fire engine at a fire scene in a few short minutes.

This structure provides an enormous benefit to the laboratory in that a modest contingent of officers can perform literally dozens of security, fire, and emergency medical services in an effective and economical manner. A recent DOE Safeguards and Security survey team recognized our efforts and was very complimentary regarding the support, commitment, and teamwork that ESU shares with the PPPL staff and its senior management. They also commented that not only is the PPPL Emergency Services Unit effective and efficient, it also utilizes some of the best practices in the DOE complex.

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Rich Hawryluk recognized for ITER service

PPPPL physicist Rich Hawryluk, right, received a U.S. Secretary of Energy's Appreciation Award for serving as Deputy Director-General for the ITER Organization and Director of the ITER Administration Department. ITER is an international fusion experiment that is under construction in France.

Hawryluk, a former deputy director of PPPL, completed a two-year assignment at ITER in April. The award, signed by former Energy Secretary Steven Chu and presented by Energy Secretary Ernest Moniz, left, cited Hawryluk for "applying his wealth of big-science project management experience to enable the ITER project to make the transition from design phase to construction, thus helping ensure that this important international project will successfully move toward demonstrating the feasibility of fusion as a future energy source."



Photo courtesy of U.S. Department of Energy

Unique PPPL-led workshop assesses research crucial to the success of ITER

By John Greenwald

Leading experts from around the world gathered at PPPL earlier this month to focus on a key issue for the development of fusion energy: Improving ways to predict and mitigate disruptions that can destroy magnetically confined plasmas that are needed for fusion reactions.

Confronting this challenge will be crucial for ITER, the huge international fusion facility that is being built in the shape of a donut, or torus, in France. "The future of magnetic fusion research hangs on ITER being successful," said Amitava Bhattacharjee, head of the Theory Department at PPPL, which convened the July 17-19 workshop. "And ITER will need to avoid disruptions or mitigate them when they occur."

Disruptions take place when heat or electric current are suddenly reduced during fusion experiments. This quenching allows the hot, electrically charged plasma gas that fuels the experiments to dissipate and can release forces that damage fusion facilities. Controlling disruptions will thus be essential to meeting ITER's goal of producing a "burning plasma," or sustained fusion reaction, to demonstrate the feasibility of fusion energy.

The PPPL-led workshop brought together some 35 theorists and experimentalists from the U.S. Department of Energy Laboratory and other fusion research centers, including two representatives from ITER. Also attending were some 15 Princeton University graduate students studying plasma physics at PPPL.

Unified approach

Developing a unified approach to disruption research was a major goal of the workshop, and the success of the effort could set a precedent. The event produced "a very good degree of analysis from both experimentalists and theorists," said David Campbell, director of plasma operations at ITER. "I hope that we can build on the links developed here."

Such links allow scientists to work hand-in-glove, with theorists using experimental data to design codes that predict and simulate disruptions, and experimentalists testing the codes with further experiments. "By making sense of exist-

ing data, theory and simulation can be predictive for ITER," Bhattacharjee said. "This will enable ITER to plan its operations much better."


He stressed the urgency of such research since plans call for the ITER Organization to review systems for mitigating disruptions in 2017. "That's a little less than four years away," Bhattacharjee said. "The mitigation system has to be based on a good understanding of the underlying causes of disruptions."

Current mitigation strategies call for injecting gas into the plasma to control the rate of disruption. But the gas can have both good and bad effects since the amount that mitigates the heat loss can intensify the impact of the current quench. Physicists likened the situation to finding the precise path between Scylla and Charybdis, the twin dangers that menaced Odysseus and his crew in Homer's "Odyssey."

Speakers assessed the full range of disruption physics and zeroed in on critical areas for research. These ranged from improved early warning of the onset of disruptions to better understanding of the electromagnetic forces involved.

Teaching tool

The workshop served as a teaching tool for graduate students as well. "Understanding and mitigating disruptions in fusion plasmas are among the grand challenges in plasma physics," Bhattacharjee said. "Graduate students can have tremendous impact in the fusion program by bringing their imagination and skills to bear on these problems."

Students will have fresh learning opportunities over the next year. Bhattacharjee hopes to coordinate research on disruptions with organizations such as the International Tokamak Physics Activity, which plans and conducts research relevant to ITER, and with the U.S. Burning Plasma Organization, which plays a leading role in the design of the disruption mitigation system for ITER. Bhattacharjee also expects coordination between theory and experiment to be further developed when the Laboratory sponsors the second workshop on disruptions next year. 



Workshop participants from left: PPPL Director Stewart Prager and Theory Head Amitava Bhattacharjee with David Campbell, director of plasma operations at ITER.

PPPL graduates learn valuable skills in PU's management program

By Constance Kaita



MDCP PPPL graduates from left: Chris Cane, Natalya Gnyp, Richard (Pete) Szaro and Carol Ann Austin.

Over the past year, four PPPL employees fully embraced the idea of lifelong learning as they fulfilled the requirements for Princeton University's Office of Human Resources' Management Development Certificate Program (MDCP). After taking approximately one year to complete the required eight classes, Carol Ann Austin, Chris Cane, Natalya Gnyp, and Richard (Pete) Szaro were among 48 employees representing 30 departments across Princeton University who graduated from the program this spring.

Management for non-managers

The MDCP was created to teach employees the necessary skills and aptitudes for management but is not just for managers. Since its inception in 2006, 553 people have graduated from the program. Cane and Austin both attended the graduation ceremony at Princeton on June 19.

As senior subcontract administrator, Natalya Gnyp is in constant communication with subcontractors to make sure that all provided equipment and services meet PPPL's expectations in terms of quality, timeliness, and cost. Gnyp coordinates efforts with numerous firms for NSTX-U and ITER projects. For an employee at this median level, she said, "I believe that leadership skills are horizontal skills."

In contrast to Gnyp, webmaster Chris Cane primarily works individually and saw the program as an opportunity to continue expanding his field into social media and gathering content for the site from other sources. "It requires working with other people, leading a group, and building a consensus as a group," Cane said. "All those things take management skills."

While Gnyp and Cane had a specific purpose for these management skills in mind upon enrolling in the program, Carol Ann Austin, executive assistant in the director's office, had the more general intention of simply developing her skill set for her career goals. She considers herself a lifelong learner and saw the program as a way to develop her skills.

Similarly, Richard Szaro's supervisor directed him toward the course because he believed it would help the general development of his career at PPPL as a health physics technician. Szaro monitors the safety practices among many employees and saw the course as a way to help him work with a variety of people at the Laboratory. The course "gave me a better understanding of how to look at both sides of the fence: being a manager and being managed," he said.

The MDCP has five required core courses, each of which focuses on a specific aspect of management, such as supervising and networking, as well as three additional elective courses. The courses cover a large spectrum of topics, ranging from leading with emotional intelligence to supporting LGBT students, staff, and faculty.

Austin found the class on managing effective interactions, one of the five required courses, most applicable to her position in the director's office. "It helps you as far as teamwork and just facilitating collaboration with your peers," she said.

Gnyp said the class on influencing others was the most helpful. "To get results, one needs to know how to convince people to accept your ideas," she said.


Szaro found the class on diversity and culture the most interesting. The course not only helped him in the workplace but also gave him a new perspective on his coworkers. "It gives a little insight into people and gives me a better understanding of how other people have diverse backgrounds," he said. "You really don't think about that when you look at people face to face."

Cane believes that the most worthwhile class for him was on how to improve written communication skills crucial to writing Web content and reaching out to the public through social media. He said he enjoyed the course so much he now plans to take more courses at Princeton.

A program for all departments

Since the range of the MDCP courses is so broad, the program attracts Princeton employees from departments across the University campus. Participating PPPL employees enjoy a rare opportunity to interact with employees they never would have encountered otherwise. Participants from the Princeton University Art Museum, the Office of Development, and Dining Services, to name a few, shared their own experiences in the courses. The "students" form valuable connections with each other. As Austin put it, "It helped me find out the opportunities and challenges that people from different parts of the University encounter working here."

One of the highlights of the course for all the graduates, though, was learning about the atmosphere of Princeton University and understanding "the Princeton way" of doing things. "It helped me become more embedded in the environment here, in the culture and on campus," Austin said. It was something she realizes can be difficult to do because PPPL is located on Princeton's Forrestal Campus four miles from the main campus.

"Princeton raises the bar of excellence to a different level [so] people are required to respond to that in a certain way in the workplace," Cane said. He said he learned skills such as creating timelines and schedules, delegating work, and interacting with people that would be valuable as a manager and will help him lead group meetings or projects. "All these skills I may or may not have known intuitively how to do," he said, "but now I know the Princeton way of how to accomplish these things." 

Site Protection

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Just as importantly, the survey team noted that PPPL's commitment to mutual aid to Plainsboro through the ESU is an impressive facet of our community service ethic. These agreements between the Plainsboro Police, Ambulance, and Fire departments and PPPL ensure that the Laboratory has the resources to remain safe and secure. The DOE-PSO, Plainsboro officials (including the mayor, police and fire chiefs), Princeton University, the Laboratory director's office, and senior staff have recognized the ESU as providing the foundation for the teamwork and collaboration required to enhance safety and security. As Jerry Levine, head of the ESH&S Department, observed, "Our mutual aid program is really a "win-win" for our local community and the Lab. We provide an important public service for the people of Plainsboro by responding to fire, medical, and other emergencies in the Township, and our Site Protection officers and captains have an opportunity to maintain and hone their skills, which benefits PPPL."

Last year, the PPPL ESU responded to almost 300 emergency calls for medical and fire assistance throughout Plainsboro, and occasionally Princeton Township. We also regularly provide EMT and emergency services support for such events as the Princeton University 5k Fun Run, Plainsboro Township Day, the Princeton Hospital Open House, and, most recently, the Eden 5k Run for Autism.

In turn, we get support from the Plainsboro Police and Fire departments. Perhaps you noticed the Plainsboro Fire Department's Ladder Truck, Tower 49, gleaming in the hot sun with its platform fully extended to over 100 feet in the air at last summer's Science Education "Drop" experiment. Or, more recently, you may have observed Plainsboro police visiting the PPPL Open House to support our event.

This kind of collaboration and teamwork does not happen by accident. PPPL and officials from Plainsboro work hard behind the scenes on planning and training so that if a major event does occur, we are ready to go. Over the past three years, in addition to actual calls for emergency response, we have worked together on various training events including active shooter response, fire response, in-



Driver/Operator Robert Lamb, left, and Officer Robert Walker were on bike patrol for the Eden 5K Fun Run at Forrestal Village in Plainsboro on July 14.
(Photo by Robert Walker)

cident command, electrical safety and rescue techniques. We have also jointly crafted and reviewed plans, protocols and agreements so they are ready to deploy as needed.

We feel our entire community benefits when our officers take the opportunity to use their expertise and experience to serve our partner emergency services agencies, local organizations and citizens. As Dolores Stevenson, the

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— JERRY LEVINE, HEAD, ESH&S

deputy head of Site Protection Division, noted, "The Laboratory has always been willing to help out and serve the surrounding communities, especially through our emergency response organization. Our mutual aid programs demonstrate the commitment of DOE and Princeton University to public service for the Township and citizens of Plainsboro."

However, just as importantly PPPL also benefits because our officers stay sharp and focused by exercising their emergency response training, skills and acumen on a regular basis.

Safety and security requires leadership and teamwork and the PPPL Emergency Services Unit works hard to provide effective services inside — and outside — of PPPL. 📍



Driver/Operator Wes Foraker, right, helps put out a garage fire in Plainsboro on April 16 with the aid of Officer John Mazukewicz.
(Photo by Jamie Dunnigan)

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Café at PPPL 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. 29 JULY	TUE. 30 JULY	WED. 31 JULY	THU. 1 AUG.	FRI. 2 AUG.
	NATIONAL LASAGNA DAY	NATIONAL CHEESECAKE DAY	FREE 12oz. COFFEE WITH BREAKFAST SPECIAL*	NATIONAL ICE CREAM SANDWICH DAY	
	MEAT, MEXICAN or VEGETABLE LASAGNA	GREEN PEPPER STEAK	CHICKEN ENCHILADAS	CHEESE RAVIOLI BOLOGNESE	BLACKENED SALMON
EARLY RISER	Ham & Cheese Muffins	Blueberry Pancakes	Potato Pancakes served with Apple Sauce*	Florentine Omelet with Spinach & Feta Cheese	Kielbasa & Eggs
COUNTRY KETTLE	Cabbage & White Bean Soup	Chicken Vegetable with Rice	Cream of Spinach	Chicken Noodle	Chicken Corn Chowder
GRILLE SPECIAL	Turkey Burger with Pepperjack Cheese & Chipotle BBQ	Buffalo Chicken Wrap	BBQ Beef Brisket Sandwich with Onion Rings	Cheesesteak Hoagie	Kielbasa & Sauerkraut served with Pierogies
DELI SPECIAL	Grilled Tuna Caesar	Seafood Salad Croissant	Ham & Cheese Hoagie	Roast Veggie Wrap	Turkey, Cheddar and Bacon on French Bread
PANINI	Chicken, Mushroom & Peppers Quesadilla	Sliced Roast Pork, Provolone Cheese, Spinach, Apple Ranch	Fresh Mozzarella, Basil & Tomato Panini	Boneless BBQ Pork Sandwich	Meatball Parmesan Torpedo

NEXT WEEK

COMMAND PERFORMANCE
CHEF'S FEATURE

	MON. 5 AUG.	TUE. 6 AUG.	WED. 7 AUG.	THU. 8 AUG.	FRI. 9 AUG.
					NATIONAL S'MORES DAY
	LINGUINE WITH BROCCOLI	CAJUN CATFISH with RICE & BEANS	BAKED HAM WITH PINEAPPLE STUFFING	SHEPHERD'S PIE	GRILLED CHICKEN THIGHS
EARLY RISER	Pork Roll, Egg & Cheese Croissant	Farmers Omelet with Ham, Sausage, Bacon, and Tomato	Scrambled Egg Nests	Zucchini Frittata	Hungry Man (Pancakes, Eggs, Bacon, Sausage)
COUNTRY KETTLE	Cream of Mushroom	Chicken Barley	Cream of Spinach	Ham & Lentil	Turkey Chili con Queso
GRILLE SPECIAL	Open-faced Sloppy Tom with Cheddar & Scallions	Big Mac & Fries	Beef Gyro	Chicken Sliders with Chipolte Mayonnaise	Fish Taco with Chipolte Cream
DELI SPECIAL	Bacon, Arugula & Tomato on Multigrain Bread	Pork Loin with Peppers, Onions & Avocado Mayo	Breaded Chicken Cutlet with Lettuce & Tomato	Tuna Melt on Rye	Ham Salad Croissant
PANINI	Balsamic Chicken with Mushrooms Ciabatta	Grilled Chicken Breast with Mushrooms	Veggie Quesadilla	Pulled Pork, Broccoli Rabe & Aged Provolone Cheese	Baked Chicken Reuben on Rye

MENU SUBJECT TO CHANGE WITHOUT NOTICE

VEGETARIAN OPTION

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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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The PPPL WEEKLY is currently on a biweekly summer schedule. The next issue will be published on August 12.