

HOTLINE

The Princeton Plasma Physics Laboratory is a United States Department of Energy Facility

NCSX Preparations Heat Up

Tech Shop Completes Oven for Coils; Vacuum Vessel Prototype Completed



Above, with the autoclave, from left (standing) at the RESA Building are Technical Shop staff members Jim Lane, Joe Bartzak, Charlie Sands, Bob Clark, and electrical designer Frank Jones; (kneeling) Bob Horner, Red Delany, Fred Simmonds, and Shop Head Steve Kemp. Not pictured are Manny Fernandez, Sajjad Gilani, Jack Mount, John Trafalski, Vinnie Smith, Tom Steer, Bill Zimmer, and Ted Franckowiak. The autoclave is now at the former Tokamak Fusion Test Reactor Test Cell, where the modular coils for the machine will be wound. Above, right, PPPL's Mike Viola gets a close-up view of one of the completed NCSX vacuum vessel sector prototypes in Indianapolis, where it was manufactured by contractor Major Tool and Machine.

Preparations for National Compact Stellarator Experiment (NCSX) component fabrication recently began. Staff from PPPL's Technical Shop completed the fabrication of the autoclave, a large vacuum oven that will be used for vacuum-pressure impregnation of the NCSX modular coils. After being completed at the RESA Building, the autoclave was moved to the Tokamak Fusion Test Reactor Test Cell, site of the NCSX coil manufacturing facility. Work has begun on the electrical and vacuum connections to the unit. Said NCSX Project Head Hutch Neilson, "The autoclave launches the TFTR Test Cell on its next mission." In addition, the NCSX prototype vacuum vessel sector from Major Tool and Machine, of Indianapolis, was completed and is now in the Laboratory's Lobby. "This sector clearly demonstrates the level of modern craftsmanship and engineering that is critical to the success of advanced fusion experiments like NCSX," said Neilson. *[Watch for NCSX updates and a group photo of the vacuum vessel sector prototype team in upcoming issues of Hotline.]* ●

PPPL Grad Student Wins Fellowship

PPPL graduate student Patrick Ross recently won a William G. Bowen Merit Fellowship for his first year of study.

Princeton fellowships are awarded to students with outstanding credentials and to recognize the excellence of their academic work and reputation as promising scholars in their fields.

Ross, in his first year of graduate studies, hails from Ridgecrest, Calif.



Patrick Ross

He studied physics at Brigham Young University in Utah and participated in the National Undergraduate Fellowship Program in Plasma Physics and Fusion Energy Sciences (NUF) in 2002. NUF participants take a one-week introductory course at PPPL in the basic elements of plasma physics, after which they travel to the sites of their research projects. As a NUF student, Ross spent nine weeks conducting research at General Atomics in San Diego. The program is funded by the Department of Energy and administered by PPPL.

Through the program, Ross became interested in plasma physics, particularly as it relates to fusion energy. He applied to Princeton's graduate program in plasma physics, which he entered in September. He aspires to a career as a professor, with one foot firmly imbedded in research.

William G. Bowen Merit Fellowships were established in honor of William G. Bowen of the Graduate Class of 1958 through gifts by alumni and friends on the occasion of his retirement as Princeton's 17th president. There is one (Bowen) merit fellowship in each academic division of the University. ●

PPPL Open House Slated for June 12

Don't forget! PPPL's Open House is Saturday, June 12, from 10 a.m. to 4 p.m. Volunteers are needed! Please contact Sue Hill via e-mail at shill@pppl.gov or by phone at ext. 2227. ●

Students Show Science Projects to PPPL Staff



Katie E. O'Mara describes her project, "How Effective is the Airborne Propagation of Maple Seeds?" to PPPL's Dave Cylinder at the Lab's Science Fair.

Seven area students exhibited their science projects in the LSB Lobby on April 7 during the annual Science Day Fair at PPPL. The Science Fair honors the winners of PPPL's Corporate Awards, who were chosen among student exhibitors last month at the Mercer Science and Engineering Fair at Rider University and the North Jersey Regional Science Fair at Rutgers University.

The students ate lunch with PPPL Director Rob Goldston and Deputy Director Rich Hawryluk, and toured the National Spherical Torus Experiment and the Science Education Laboratory. The event was organized by PPPL's Mary Ann Brown.

Said Brown, "The students really enjoyed their day, especially visiting the Science Ed Lab and meeting the engineers, scientists, Director, and Deputy Director. They left with a renewed interest in science. The staff also enjoyed the students and their projects. Some of the projects were in line with work being done here." ●

Hotline

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The **HOTLINE** is issued by the Princeton Plasma Physics Laboratory, a research facility supported by the United States Department of Energy. It is primarily an internal publication. Correspondence and requests to reprint material should be directed to the Editor, PPPL HOTLINE, P.O. Box 451, Princeton, NJ 08543; Interoffice correspondence should be addressed to MS-38, LSB Bldg., C-Site; fax 609-243-2751; telephone 609-243-2757; e-mail pwieser@pppl.gov.

PPPL Participates in Emergency Drill



DOE staff who evaluated the participants' response to the emergency exercise presented their findings to PPPL and township officials.

PPPL's Emergency Response Organization (ERO) recently joined forces with Plainsboro Township police, emergency, and fire personnel to hone their emergency preparedness skills. On March 11, the Lab-township group participated in a "No-Notice Emergency Exercise" — a simulated emergency at the Laboratory that involved an investigation and injuries. ERO includes a cross section of Lab staff who address various areas of an emergency such as logistics, safety, and public information.

The aim of the unannounced exercise was to examine PPPL's emergency response teams and programs to ensure that they meet the demands of potential emergency situations. "Emergency drills provide an opportunity to refine our skills, policies, and procedures. In a real emergency, we would need to work together effectively in a highly stressed environment. The drill provides an opportunity to identify what works and what needs to be improved. The participation of many people throughout the Lab was valuable and much appreciated," said PPPL Deputy Director Rich Hawryluk.

Staff from the Department of Energy/National Nuclear Security Administration (DOE/NNSA) Office of Emergency Management conducted and evaluated the exercise as part of the organization's No-notice Exercise Program. The program's purpose is to objectively test and evaluate key elements of the emergency response capabilities of a particular site, facility, or activity. Further, it tests the ability to respond without prior notice to a simulated operational emergency under conditions similar to those encountered during an actual emergency.

William C. Hawkins, Jr., Senior Program Manager for the Exercises Division of the DOE/NNSA Office of Emergency Management, presented an overview of what the evaluation team observed about PPPL's handling of an emergency. "It's a pretty firm foundation here," said Hawkins. "The ERO members worked together under the direction of Incident Commander Rich Hawryluk. They thought on their feet as they addressed the issues of a simulated emergency." ●

Plainsboro Honors Lab's Site Protection Group

The Plainsboro Township Committee recently presented PPPL's Site Protection Division with a "Resolution of Appreciation" for the Laboratory's Commitment to the Community through its Emergency Services Mutual Aid Program. PPPL's John Bavlish and Jim McGuire accepted the award from Plainsboro Mayor Peter Cantu and Plainsboro Director of Public Safety Cliff Mauer.

The resolution noted that PPPL and Plainsboro Township have a mutual interest in maintaining public safety within the Township and that the Lab has provided mutual aid to Plainsboro's police, fire, and emergency medical services for over 25 years. According to the resolution, the Lab's "expertise in the area of disaster and major emergencies is a valuable asset to Plainsboro's emergency services." ●

Emergency Display Slated for mid-May

To note National Emergency Medical Services Week, PPPL's Emergency Services Unit will have emergency medical equipment on display in the LSB Lobby on Wednesday, May 19, from 11 a.m. to 1 p.m. The poster below highlights one of the pieces of equipment that will be displayed for staff. ●

Saving Lives Through Early Defibrillation

PRINCETON PLASMA PHYSICS LAB STATION 65-002

"Proudly Protecting Fusion's Finest"

PPPL Emergency Medical Services

EMERGENCY Dial 3333

EMD **EMS** **EMS**

Sudden cardiac arrest (SCA) can happen anywhere, at anytime, at any time, without symptoms and regardless of age or general health. A leading cause of death in the United States, SCA claims approximately 1 in every 2 minutes, nearly 800 lives per day, totaling 225,000 people a year. Only 5 percent survive to hospital. That's more deaths than caused by heart fires, gunshot wounds, breast and prostate cancer, AIDS and automobile accidents combined.

Defibrillation is the only effective treatment for sudden cardiac arrest. It's most effective when administered within the first few minutes of onset. Beyond 10 minutes, the victim's chance of survival is extremely unlikely. Despite the best efforts of emergency services, they can't always reach victims in time. Scientific, computer, multi-media training, live and at-home, and other innovative on-going programs.

The goal here is that PPPL has established an early defibrillation program to improve the survival odds of its employees should they happen to suffer a heart attack. In training this Princeton Division members and guests, automatically delivered via (AED) in DTD vehicles, work defibrillation efforts can help reduce the number of lives lost as high as 75 percent.

Spotlight



Name: Joe Winston

Position: NSTX Technical Staff Supervisor. Responsible for supervising a staff of 10 technicians in the operations, maintenance, outings, and upgrades of the National Spherical Torus Experiment (NSTX).

Quote:

On a daily basis, our group has a wide variety of challenges associated with requests from physicists and engineers. We meet these challenges with enthusiasm and take great pride in getting the work done. I've been at PPPL for 35 years, starting out as an electronics technician. Less than two years later, I joined the U.S. Air Force for four years and then returned to PPPL as a machine technician, and have taken on various duties throughout my career here.

Other interests:

I'm an avid professional football fan. My favorite team is the Dallas Cowboys. At work we talk about football every day. I also took up golf last year and spent quite a bit of last summer playing golf with co-workers. Besides that, I'm a "regular" at area flea markets, searching for beanie babies from the early 1990s. My wife and I began collecting them when we purchased some beanie babies to donate to a church program for youngsters. Now we have about 100 in our "private collection."

Alabama Students Spend Week at PPPL

Sixteen high school juniors and seniors from the Alabama School of Science and Technology in Mobile recently spent a week at PPPL's Plasma Science Education Laboratory for an "Energy in the 21st Century" workshop. The students designed and raced solar and hydrogen fuel cell powered model cars, studied the physics of classroom plasmas, measured the Paschen curve for a DC glow discharge, toured the lab, and learned about the role of fusion in the future energy portfolio. The curriculum was designed and taught by PPPL Science Education Head Andrew Post-Zwicker and organized by PPPL Science Education Administrator James Morgan. ●



PPPL's Andrew Post-Zwicker (far right) watches some of the students race their scientific model cars.

Suggestions for Prospect House Sought

As your representative on the Prospect Association Board at Princeton University, I'd like to hear from you. Your comments about the programs and access to information about events, as well as other concerns or questions you may have about Prospect House, are welcome. If you have ideas for upcoming events, please let me know. I'd be glad to present them to the Board.

Please contact me by sending me an e-mail to vfinley@pppl.gov or by calling me at ext. 2746. Thanks.

— Virginia Finley