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HOTLINE

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

PPPL to Participate in DOE Advanced Computing Program

PPPL has been awarded funding under the new "Scientific Discovery through Advanced Computing (SciDAC)" Program. Nationally, 51 projects will receive a total of $57 million this year from the DOE to advance fundamental research in several areas, including climate modeling, fusion energy sciences, chemical sciences, nuclear astrophysics, high-energy physics, and high-performance computing. The projects involve collaborations among 13 DOE laboratories and more than 50 colleges and universities.

SciDAC is an integrated program that will help create a new generation of scientific simulation codes. The codes will take full advantage of the extraordinary computing capabilities of terascale computers (computers capable of doing trillions of calculations per second) to address ever larger, more complex problems. The program also includes research on improved mathematical and computing systems software that will allow these codes to use modern parallel computers effectively and efficiently. Additionally, the program will develop "collaboratory" software to enable geographically separated scientists to effectively work together as a team, to control scientific instruments remotely, and to share data more readily.

New Energy Sources for the Future

"This innovative program will help us to find new energy sources for the future, understand the effect of energy production on our environment, and learn more about the fundamental nature of energy and matter," said Secretary of Energy Spencer Abraham. "A major strength of many of the projects is a partnership between scientists at the Energy Department's national laboratories and universities."

PPPL researchers will participate in four SciDAC projects focused on the development and improvement of physics models and computer resources needed for integrated simulations of plasma confinement systems and data analysis. Three of the projects will focus on fundamental phenomena including electromagnetic-wave-plasma interactions, plasma turbulence, and macroscopic stability of magnetically confined plasmas. The fourth project aims to develop a software "collaboratory" allowing workstation and supercomputer resources to be shared among fusion experiments for high-speed data analysis. The project will include tasks relating to security, high-performance distributed computing, and networked collaborative visualization of scientific results. All totaled, PPPL will receive approximately $2 million for the four projects during the next three years. ●

PPPL 50th Anniversary

In honor of the Laboratory's scientific achievements during the past five decades, a symposium entitled "A Celebration of High-temperature Plasma Physics" is scheduled at PPPL September 12-14. All employees are invited to a reception on Thursday, September 13, at 3:30 P.M. in the Lobby. Everyone is welcome to attend the technical talks in the Auditorium throughout the three-day event. When the symposium schedule is finalized, it will be posted on the web, and staff will be notified. See the PPPL web site (www.pppl.gov) for the preliminary announcement.

Co-workers Remember Glenn Pearson

PPPL electrical engineer Glenn Pearson died August 22 at his home in Hamilton. Pearson, remembered as a talented engineer and a gentle man who treasured each moment, was 51 years old.

"Glenn was a quiet and gentle man of many talents. He was also a first-class engineer with a broad range of skills. Glenn could be called upon to design a complex control system or to identify and correct the cause of an elusive system problem, all the while overseeing NSTX operations and maintenance. Glenn had a calming affect on those around him, especially during pressure-laden situations," said PPPL Power Systems Head Dave O'Neill.

Added NSTX Chief Operating Engineer Bill Blanchard, "Since the late eighties, Glenn was a Chief Operating Engineer on TFTR and later on NSTX. Glenn was well known by people throughout the Laboratory for his thorough knowledge of these machines and all of the supporting systems, as well as for his professional manner in running the machines. Glenn had a quiet but effective way of relating to people, which made it a pleasure for operations personnel to work with him and for everyone to relate with him on an individual basis. Glenn could always be counted on for steady and insightful counsel. He was a good friend and he will be missed." Blanchard worked with Pearson for more than a decade.

Pearson, who came to PPPL in 1974, received a bachelor's degree in electrical engineering from the University of Connecticut in 1973, graduating with honors. His colleagues at the Laboratory lauded Pearson for his professional capabilities, as well for as his quiet, pleasant demeanor. "Glenn was a reserved, even keeled gentleman," noted PPPL engineer Ray Camp.

Pearson was also recalled as deeply religious. Said O'Neill, "The source of Glenn's calm demeanor was his faith in God. For years Glenn participated with some of his co-workers in a noontime prayer and scripture meeting while he quietly lived his faith in the workplace. We were all the beneficiaries of Glenn's presence at PPPL and I will miss him."

PPPL physicist Bob Kaita noted, "Glenn was an excellent engineer and a wonderful person. His warmth and cheerful optimism, even through his long illness, is a real testament to the strength of his character and the depth of his faith. I'll truly miss him as a dear colleague and friend."

Added Charles Gentile, Head of PPPL Tritium Systems, "Glenn was deeply committed to his religious convictions and always had kind words to share with his co-workers. I have been told that during his vacation time (the past few summers) Glenn, his wife, and members of their church would go to third-world countries and help build homes in a similiar fashion as Habitat For Humanity volunteers."

Glenn Pearson

Gentile also recalled Pearson's devotion to his family, which includes his wife of 28 years, Lauren, and his children Rebecca, Nathan, Jeffrey, and Matthew. "He was interactive with his children and often helped them while they were selling candy to raise money for a school project or trip. Although Glenn was able to sell some of the candy to people at the Lab, it was my suspicion that he purchased most if it himself to ensure that the sale was successful." Gentile worked with Pearson from 1989 to 1992 while both were TFTR Chief Operations Engineers.

In addition to family and church activities, Pearson was an avid ham radio enthusiast. Allen Wrigley, of DOE's Princeton Area Office, remembers Pearson as "KA2A" — his ham radio handle. Wrigley said he and Pearson occasionally communicated with one another via amateur radio in the mornings as they were driving to PPPL. Other times, Wrigley would stop by the Control Room to chat with Pearson. "Glenn seemed to treasure each minute. He was a very interesting person and I'm going to miss him terribly," said Wrigley.

PPPL Deputy Director Rich Hawryluk offered his recollections about Pearson by saying, "It was my privilege and pleasure to work with Glenn Pearson for close to twenty years. Glenn's thoughtful, caring manner supported all of us. Of course, he did his own work very well, but more importantly he did it in such a way that everyone working with him benefited. Glenn was certainly committed to his professional endeavors, but anyone who knew him was aware that he was also very much a family man. He was devoted to his wife and children and it was clear that family life was central to his daily life, as was his deep religious faith. In sum, perhaps, the best way to describe Glenn is as a truly good man in all dimensions of life. I will miss Glenn as someone I could depend on and trust and whom I admired and respected a great deal."

A memorial service was held on August 25 at the Harvest Christian Fellowship Church in Columbus. Memorial donations may be made to the Harvest Christian Fellowship Church. ●

PPPL Welcomes New Librarian

Adriana Popescu came to PPPL as the Plasma Physics Librarian on July 1. Popescu had been an information specialist with the Canada Institute for Scientific and Technical Information (CISTI) and head of one of CISTI's ten branch libraries at the Institute of Marine Dynamics in St. John's, Newfoundland. Popescu (at right) has been involved with developing new library instruction services and expanding electronic desktop delivery to the research community in St. John's, where she was awarded the 1998 CISTI "Rookie of the Year" and National Research Council of Canada Merit Award in 1999. Prior to her position at CISTI, she was records and research officer-special projects officer at Memorial University of Newfoundland. She was previously at Princeton University as a special collection assistant in Rare Books and Special Collections, Visual Materials Division, from 1993 to 1997.

Popescu earned bachelor's and master's degrees in engineering from the Technical University of Civil Engineering, Bucharest, Romania, and received a master's in Library Science from Rutgers, The State University of New Jersey. Welcome to PPPL, Adriana! ●

Finley Elected President of Prospect Board

Virginia Finley (at right), Head of PPPL Environmental Compliance, has been elected President of the Prospect Association Management Board for 2001-2002. Prospect House is the private dining club serving the staff and faculty at Princeton University. As Prospect Board President, Finley will be responsible for the calling and chairing of Board meetings and acting on behalf of the Board between meetings. The purpose of the Prospect Association is to "foster intellectual and social interchange among members of the University community through the provision of a professional and social facility within the Prospect House." The Board determines policies for use of the facilities at Prospect House and sponsors many events throughout the year. Congratulations, Virginia! ●

Free Labor Day Concert

The Manalapan Battleground Symphony will present a free Labor Day Weekend Pops Concert on Sunday, September 2, at 7:30 P.M. It will be held in the air-conditioned auditorium of the Manalapan-Englishtown Middle School on Route 527. This concert will be conducted by Chiu-Tze Lin, the wife of PPPL physicist Bob Kaita. She also will be the piano soloist in "Rhapsody in Blue" by George Gershwin. Other works on the program include the "1812 Overture" by Tchaikovsky, "Light Cavalry Overture" by von Suppe, highlights from the movie "Jurassic Park," and marches by John Philip Sousa.

For more information, please contact the Manalapan Township Office at (732) 446-8355 or (732) 446-2458. Directions to the Manalapan-Englishtown Middle School from Princeton are as follows. Take Route 571 east to Route 133. Take Route 133 to Route 33 east toward Freehold. Take Route 33 about seven miles to Woodward Road. Make a left at Woodward Road. Follow Woodward Road to a four-way stop intersection. Make a left at the intersection onto Route 527. The school is about a mile away on the left. ●

Trenton Students Discover Energy and Build Solar-powered Machines at PPPL's Plasma Academy

In a quest for knowledge about energy and solar power, 16 high school students from the Trenton area came to PPPL this summer to build solar-powered devices and shoot toy rockets. These hands-on activities were part of Plasma Academy (officially called the Energy, Space, and the Environment Institute), which ran August 6-16.

Topics covered were solar energy; clouds, weather, and storms; and the Sun, stars, planets, and plasmas. The institute was part of a Mercer County Community College Upward Bound program. The participating students were from Granville Academy, Mercer Junior-Senior High School, McCorristan High School, and Trenton Central High School.

Show How Energy is Transformed

"This is the first time we offered an academy like this for high school students. Designing and constructing useful solar-powered devices such as model cars, water heaters, and ovens, as well as shooting toy rockets and aircraft, are tasks that show the students how energy is transformed in different ways and where energy comes from," said PPPL Science Education Program Lead Scientist Andrew Post-Zwicker. Post-Zwicker designed and led Plasma Academy. Watchung Hills Regional High School physics teacher Sophia Gershman assisted Post-Zwicker with the workshop.

Plasma Academy participant Patrick Alvarado tests his solar-powered model car on the patio area of PPPL's Commons. Alvarado will be a student at Trenton Central High School this fall.

The academy also included field trips to a coal-fired plant in Trenton, the Hayden Planetarium in New York, and the Peddie School Observatory in Hightstown. ●

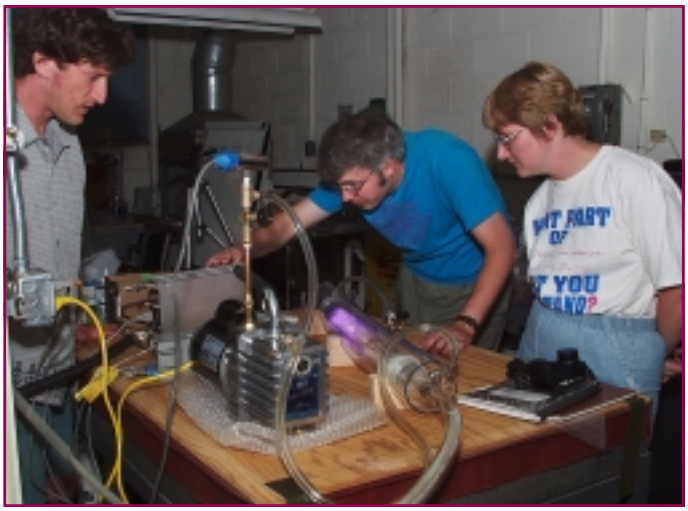
Above left, Trenton Central High School student Meghan Campbell (left) and Granville student Quam Onigbanjo build a model garage that uses solar energy to power the ventilation. Above right, Patrick Alvarado (middle) and Marcus McCray (right) build a solar-powered model vehicle under the guidance of workshop leader Andrew Post-Zwicker (left).

PPPL Hosts Next Generation of Scientists

This summer, PPPL hosted 13 Energy Research Undergraduate Laboratory Fellowship (ERULF) students, including, from left: (back) Ethan Shoshan, David Pace, Eric Harkleroad, Andrew Osgood, Thomas Kramer; (middle) Abby Oelker, Monet Barley, Kristi Hultman, Annie Ahnert; (front) Michael Pagliorola, Craig Grube, James Austin, and Siddharth Patel. PPPL was one of many laboratories participating in ERULF, a national program offered by the DOE's Office of Science to prepare the next generation of scientists and engineers. PPPL staff served as mentors to the undergraduate college students on research projects such as "The Effect of Nearby Conducting Structure on the Macroscopic Stability of NSTX Plasmas." ●

Teachers Come to PPPL for Summer Workshops

Twenty-one Trenton elementary and middle school teachers looked at life science issues and pollution, and were involved in "inquiry-based hands-on science," during a one-week Teaching Science Matters workshop at PPPL in July. The workshop was provided through a collaboration among Princeton University, PPPL, and the Invention Factory Science Center in Trenton. Teaching Science Matters is funded by an Eisenhower Professional Development grant from the New Jersey Department of Education. ●



PPPL's Andrew Post-Zwicker (left) works with teachers Mark Brooks Hedstrom (middle) and Paulette Struckman on building a plasma source. The teachers were among 12 enrolled in Plasma Camp (officially called the Plasma Science and Fusion Energy Institute), an intensive two-week summer program of lectures, lab work, and curriculum design held at PPPL in July. The institute helps high school physics teachers develop curricular materials, making the subject of plasma and fusion accessible to high school students. ●

The Bluefish Are Biting ...

PPPL'ers Charter a Fishing Boat and Reel in More Than 300 Fish

Photos by Steve Langish

Aboard the Catherine II on a fishing expedition are, clockwise from top left, Al Planeta, Irving Zatz, the PPPL group, and Andy Carpe.

On July 27,the Tritium Group and their associates at the Lab concluded their day's work at the tokamak and went fishing. Twenty-two physicists, engineers, technicians, and health physics staff members went to Belmar, where they boarded the Catherine II. The group had chartered the vessel for a fishing expedition. Their goal? To catch as many bluefish as they could.

"We caught more than 300 bluefish," said Andy Carpe, who organized the day. Special prizes went to Tyrone Dotson for catching the first fish, Mike Anderson for netting the most, and Charles Skinner for pulling in the largest. The fishermen — most who had never dipped rods for bluefish and some who had never fished from a boat — thought the day would build camaraderie. By all accounts, it did. And a side benefit was a load of filleted bluefish for each person to take home.

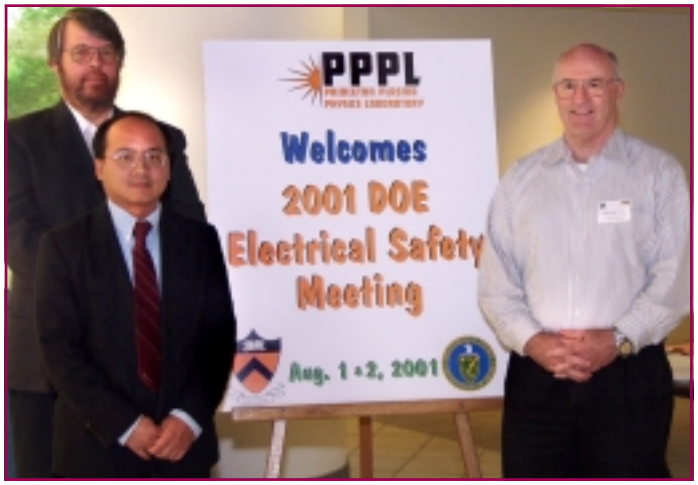
"Everyone had a blast...it was a magical day," said Carpe, who provided recipes for bluefish preparation.

Those who took part in the expedition are Mike Anderson, James Austin, Bob Carnevale, Henry Carnevale, Andy Carpe, Lloyd Ciebiera, Tyrone Dotson, Bob Ellis, Charlie Gentile, Greg Guttadora, Tom Guttadora, Bob Hitchner, Garry Karluk, Steve Langish, John Parker, Al Planeta, Denis Shaltis, Charles Skinner, Reggie Thomas, Bob Tucker, Jr., Dick Yager, and Irving Zatz. ●

Rob and Ruth Host Staff Picnics

In July, PPPL Director Rob Goldston and his wife, Ruth, hosted two picnics for staff. Clockwise, from top left, are Goldston, picnickers playing basketball, Steve Iverson and Mary Ann Brown, Mike Williams (left) and Al von Halle at the grill, PPPL'ers on the deck, and Jaclyn Robinson and Frank Cheng. — Photos by Regina Worthy and Sue Hill

PPPL Hosts DOE Electrical Safety Training



PPPL recently hosted the 2001 Department of Energy (DOE) Electrical Safety Meeting, which drew about 160 attendees representing 25 DOE sites, 10 field offices, DOE Headquarters, and 20 commercial companies. Held in the MBG Auditorium, the safety meeting covered many topics, including electric arc hazard, protective clothing selection guidelines, the role of current limiting fuses in limiting arc energy, ASTM [American Society for Testing and Materials] electric arc testing standards, and underground cable detection. At left, from left, are meeting coordinator Larry Perkins, DOE sponsor Pat Tran, and PPPL host Dave O'Neill.

A special thanks goes to everyone who helped with planning this event. ●

Have a Safe and Happy...

HOTLINE

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