

Hotline

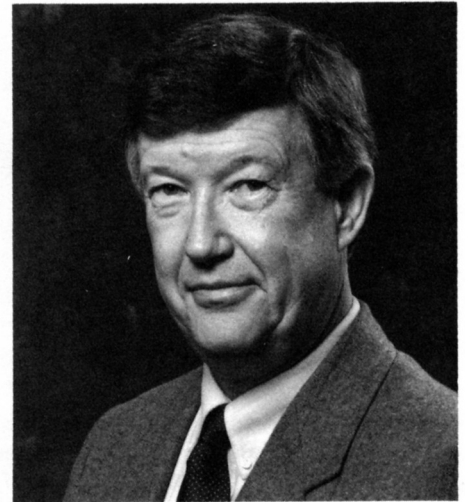
The Princeton Plasma Physics Laboratory is a United States Department of Energy Facility

Schmidt Named Interim Director

John Schmidt, Head of PPPL's Advanced Projects Department, became interim Director of the Laboratory on January 1.

Schmidt succeeds Ronald C. Davidson, who had served as Director of PPPL since 1991. Davidson has returned to research and teaching on a full-time basis. Schmidt's appointment will last until a permanent director can be found. Princeton University Provost Jeremiah Ostriker, a professor of astrophysical sciences, and Professor of Physics William Happer, Chair of the University Research Board, are leading the search process.

A member of the PPPL staff for 27 years, Schmidt has led efforts to design tokamaks that would carry future research on magnetic fusion. As Head of Advanced Projects, he has been responsible for several projects, including the construction of the National Spherical Torus Experiment; consultation with Korean scientists on a new tokamak that would use superconductivity and apply advanced techniques for confining and handling fusion plasmas; and



John Schmidt

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Contract Inked for Operation of PPPL



Officials from Princeton University and the U.S. Department of Energy (DOE) recently signed a newly negotiated performance-based, five-year contract for the management and operation of PPPL.

The Thursday, December 19, contract signing ceremony took place at Princeton University's Nassau Hall. Cherri Langenfeld, Manager of the DOE's Chicago Operations Office, signed on behalf of the DOE and University Provost Jeremiah Ostriker signed for Princeton University.

The agreement took effect on December 30, 1996, and will extend through September 30, 2001.

The new contract is a product of the DOE's Contract Reform Initiative and includes several characteristics that distinguish it from the management and operating contract that it replaces. Among the more significant distinguishing features are objective performance-based metrics against which the Laboratory's performance will be mea-

sured and increased liability of Princeton University for unallowable expenses. The initiative is expected to improve efficiency and reduce costs for both the DOE and the University.

"Princeton University has been actively involved with the Department of Energy in implementing the Department's Contract Reform Initiative," said Allen J. Sinisgalli, Associate Provost for Research and Project Administration for the University. "I believe the signing of this contract attests to the success of those efforts, and we look forward to continued cooperation between the University and the Department of Energy."

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**Rich Hawryluk Receives First Kaul Prize
for Excellence** ...Page 3



From left are: (front row) DOE Chicago Operations Office Manager Cherri Langenfeld and Princeton University Provost Jeremiah Ostriker; (back row) Milton Johnson, Deputy Associate Director of the DOE's Office of Fusion Energy Sciences, former PPPL Director Ronald C. Davidson, Princeton University Professor of Physics William Happer, who is also Chair of the Princeton University Research Board, PPPL Deputy Director Dale Meade, and PPPL interim Director John Schmidt.

Contract

Continued from page 1

Added Ronald C. Davidson, Director of the Lab at the time of the signing, "I would like to thank the members of the negotiating teams for their extraordinary efforts during the past several months and the imaginative solutions that they brought to bear on some very challenging issues. We can now devote our energy to being the nation's preeminent center for excellence in fusion science."

In addition to Princeton University, DOE officials signed contracts during the same week with Ames Labo-

ratory at Iowa State University in Ames, Iowa, and with Fermi National Accelerator Laboratory in Illinois.

Langenfeld said, "In signing these three contracts, the DOE Chicago Operations Office becomes one of the department's first field organizations to successfully implement Contract Reform by placing all its major facilities under performance-based contracts. This will help us achieve our goal of reducing administrative costs in DOE and contractor organizations, leaving more resources available to fund research and development that delivers important technical and economic benefits to the nation." ●

HOTLINE

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Hawryluk Receives First Kaul Foundation Prize

Richard Hawryluk, Head of the TFTR Project, is the 1996 recipient of the Kaul Foundation Prize for Excellence in Plasma Physics and Technology Development. Hawryluk, who is the first recipient of the newly established prize, received the award during a ceremony and reception at PPPL on December 16.

Hawryluk, who also heads PPPL's Tokamak Confinement Systems Department, was cited "For his pioneering contributions to the physics of deuterium-tritium plasmas and his outstanding scientific leadership of the historic experiments on the Tokamak Fusion Test Reactor." The prize includes a cash award of \$2,000.

"Richard Hawryluk is highly deserving of being the first recipient of this prize," said former PPPL Director Ronald C. Davidson, who created the prize by directing that \$40,000 of the \$100,000 gift he received as the 1993 recipient of the Award for Excellence in science, education, and physics from the Kaul Foundation be given to Princeton University to endow the Kaul Foundation Prize for Excellence. The prize is to be awarded annually to recognize a particular recent outstanding technical achievement in plasma physics or technology development by a full-time, regular employee of PPPL. Nominations for the award are submitted to the Prize Selection Committee, which includes the Princeton University Provost, the Chair of the Princeton University Research Board, and the PPPL Director, Deputy Director, and Associate Director for Research.

"By establishing the Prize for Excellence in Plasma Physics Research and Technology Development through Princeton University, I hope that many of the outstanding scientists and engineers at the Princeton Plasma Physics Laboratory who contribute so generously of their extraordinary talents to the development of fusion as a safe and environmentally attractive energy source will receive much-deserved recognition for their exceptional contributions for many years to come," said Davidson, who stepped down as Director in January.



Former PPPL Director Ronald C. Davidson (left) congratulates Richard Hawryluk on receiving the first Kaul Foundation Prize for Excellence in Plasma Physics and Technology Development at the Laboratory.

Upon receiving the prize, Hawryluk said, "I want to express my appreciation to PPPL Director Ron Davidson and Deputy Director Dale Meade for their support of the D-T experiments and for giving me the opportunity to contribute on TFTR, and to former PPPL Director Harold Furth for bringing TFTR to PPPL. Most of all, I want to express my appreciation to my colleagues and family. The results on TFTR are the product of a great team of scientists, engineers, technicians, administrative, and office and clerical staff. It has been a

pleasure to learn from them and work with them."

Hawryluk came to PPPL in 1974 after receiving a bachelor's, a master's, and a Ph.D. in physics from the Massachusetts Institute of Technology. He has been Head of the TFTR Project during PPPL's record-breaking experiments. In December, 1993, TFTR produced 6.2 million watts of fusion power, followed by 9.3 million watts in May, 1994, and 10.7 million watts in November, 1994. TFTR has made major contributions to understanding the properties of high-temperature fusion plasmas. ●



PPPL Assistant Director Rush Holt (left) celebrates with Rich and Mary Katherine Hawryluk during the reception for Rich. At the close of the Kaul Prize presentation, the staff gave Hawryluk a standing ovation.

Schmidt

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PPPL involvement in the engineering design of the International Thermonuclear Experimental Reactor.

Schmidt joined PPPL after earning his Ph.D. in physics from the University of Wisconsin in 1969. He worked variously as a researcher and project manager before 1977, when he became head of a group to provide physics input to the design for TFTR.

Schmidt served as Head of the Applied Physics Division at PPPL from 1980 to 1988, then led three successive efforts to design a machine to succeed TFTR, including

the Compact Ignition Tokamak, the Burning Plasma Experiment, and the Tokamak Physics Experiment. None of these machines were built because of funding constraints. Schmidt became Head of Advanced Projects in 1996.

Critical Moment

"We are delighted that John Schmidt is assuming the leadership of PPPL at this critical moment in its history," said Ostriker. "John is universally respected as a person and as a scientist. He and the Laboratory will have the complete support of Princeton University as they go forward into the post-TFTR era." ●

PPPL To Host Science Bowl; Volunteers Sought

The Lab is hosting the New Jersey Regional Competition of the National Science Bowl® on Saturday, February 22. High school teams from New Jersey and Pennsylvania are expected to compete in the day-long bowl, with the top winner receiving a trophy and the chance to compete in the National Science Bowl®.

Opportunity to Demonstrate Skills

"The Science Bowl® gives students who excel in science and math an opportunity to demonstrate their skills and academic achievements," said organizer Pamela Lucas, of PPPL's Science Education Program.

The organizers are seeking volunteers who would like to assist with the day by serving as judges, timekeepers, or scorekeepers. Anyone from PPPL who wishes to

volunteer should contact Lucas at ext. 3069 or James Morgan at ext. 2116.

The competition is a double-elimination tournament. Each team is made up of four students, a student alternate, and a teacher who serves as an advisor and coach. The students answer multiple choice or short answer questions in biology, chemistry, physics, astronomy, mathematics, and general, earth and computer sciences. The questions are being made up by scientists from the U.S. Department of Energy's (DOE) Oak Ridge National Laboratory in Tennessee. All the participating teams in the competition will receive certificates, while the top three will receive trophies and plaques.

The regional competition is sponsored by the DOE and hosted by PPPL. ●

Teachers Return to Lab for Leadership Session

In December, participants in the National Teacher Enhancement Program, *Global Energy & Environmental Solutions*, attended a follow-up session at PPPL. Global Energy & Environmental Solutions is a three-year teacher leadership institute aimed at developing teachers who will return to their districts with an increase in science content knowledge, experience in dealing with the change process, and with the skills necessary to take leadership roles within their districts. During the follow-up session, the teachers participated in a Grants Development Workshop for Middle School Teachers given by Gloria Hunter, a specialist in proposal writing, grants development, and research. After a lecture on grant writing guidelines, the teachers researched educational grant opportunities on the Web. In addition, they had an opportunity to review

and comment on actual submissions. Below are some of the participants' comments about the session:

"I felt the presentation was informative and interesting. I knew a little bit about grant writing but now I have some knowledge of what to do and where to get the information."

"This was a very useful workshop. The checklist is one valuable piece of information. I was not aware of all the information that could be found on the Internet."

"Today was very useful to me. It clarified some points and gave me some new ideas to consider. Many points Gloria made confirmed my own experiences. I wish I had had the opportunity to meet her five years ago."

—James Morgan

PPPL Offers 13th Science on Saturday Series

Discover how to make diamonds. Find out about pollution in your environment. Hear how unmanned underwater vehicles are controlled. All of this and more is being offered at the 1997 Science on Saturday series, which began on January 11 at PPPL.

Science on Saturday is a series of eight free lectures geared toward high school students, but open to everyone. The lectures are given by scientists and engineers who are leaders in their fields. Started as a grass-roots effort 13 years ago by PPPL scientists, it now attracts more than 300 people each Saturday. This year's series is being organized at PPPL by Norton Bretz and Alex Nagy.

"Kids need opportunities to see real scientists talk about their work and share in the excitement of discovery. Science is not just a collection of facts and formulas, but a culture of investigation and investigators whose experiences are as wonderful as they are important. I hope that these lectures will help dispel stereotypes of science and scientists, and encourage young people to think carefully about their world," said Bretz.

The series kicked off with a lecture by Princeton University Professor Guust Nolet, who brought a small seismograph to demonstrate how movements by the audience can be detected and displayed. "Professor Nolet has been involved in the Princeton Earth Physics Project, which develops curriculum materials for high schools and colleges related to the physics of geoscience and is developing small affordable seismographs that could be used by student groups to network information about seismic activity," said Bretz.

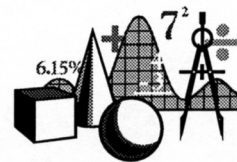
In addition to earthquakes, a variety of topics will be offered that range from science in the crime lab and avian research to pollution and diamond making to optoelectronics and mathematics.

Bretz said students and community members alike are encouraged to attend any or all of the series. In the past, attendees have ranged in age from 8 to 80. The lectures begin at 9:30 a.m. and usually last about two

hours. Registration is on-site prior to each session. Seating is on a first come, first-served basis. Buses for transporting students from Trenton are provided through a grant from AT&T. ●

1997 Science on Saturday Series

- | | |
|-------------|---|
| January 11 | Professor Guust Nolet, Princeton University
"The Next Big Earthquake, When and Where?" |
| January 18 | Professor Helen Reid, West Chester University
"Chemistry in the Crime Lab" |
| January 25 | SATs — No Program |
| February 1 | Professor Sigrid R. McAfee, Rutgers University
"Eye on Optoelectronics" |
| February 8 | Professor Joanna Burger, Rutgers University
"Avian Research in Barnegat Bay" |
| February 15 | Professor Naomi Leonard, Princeton University
"Control of Unmanned Underwater Vehicles" |
| February 22 | Science Bowl — No Program |
| March 1 | Mr. Ray Kappel, Education and Enforcement
Specialist for the Hunterdon County Authority
"Pollution in Your Environment" |
| March 8 | Professor John Conway, Princeton University
"Knots, Tangles, and Bangles" |
| March 15 | Dr. Paul LaMarche, Applied Science
and Technology, Inc., Woburn, Mass.
"Making Diamonds from Thin Air:
Learning New Ways to Do Things" |



The Year in Review...

New Projects, a Change in Leadership, and Awards Highlighted 1996 at PPPL



In the fall, PPPL Director Ronald C. Davidson announced his decision to step down as Director of the Laboratory, effective January 1, 1997.



Youngsters try out the Van de Graaf static electricity generator at the electromagnetism demonstrations during PPPL's Open House in October. About 2,000 people attended the Open House, which coincided with the 250th Anniversary of Princeton University. Ranging from youngsters to seniors, visitors walked around the record-setting TFTR, crawled into a portable planetarium, watched tabletop demonstrations in electromagnetism (like the one above), thermodynamics, and common plasmas, and participated in hands-on science education activities.



Good food, sunshine, and plenty of camaraderie marked the PPPL Employee Appreciation Picnic Lunch in August. Cathy Saville (right) dishes up a plate as volunteers Joyce Bitzer and Masa Ono help out on the serving line.



Program planning efforts for the National Spherical Torus Experiment (NSTX) — a national fusion science project to be sited at PPPL — moved ahead in 1996 following Department of Energy approval to begin construction in fiscal year 1997. Above is the NSTX team.



Honored by their co-workers for their "outstanding professional achievements and personal characteristics," twenty-eight PPPL employees received the newly created Employee Recognition Program awards in July. The recipients for 1996 (above) are, from left (seated), Dori Barnes, Virginia Zelenak, Barbara Sarfaty, Dolores Lawson, Connie Cummings, and Christine Ritter; (standing) Lloyd Ciebiera, James Chrzanowski, John Krzywulak, J.W. Anderson, Larry Jones, Paul Kivler, Antonio Morgado, Kenneth Tindall, Richard Palladino, John Robinson, Michael Bell, and Lane Roquemore. Not pictured are Wilbert Barlow, Robert Cancel, Michael Diesso, John Garboski, Gerald Hart, Sue Hill, Subrahmanya "Raki" Ramakrishnan, James Taylor, Walter Weyman, and Raymond Whitley.



In December, John Schmidt, Head of PPPL's Advanced Projects Department, was named interim Director of the Laboratory, effective January 1, 1997. Schmidt is to serve as the Lab's top official until a new Director is hired.



The 1996 Science on Saturday lecture series at the Lab wrapped up with a March 23 talk by PPPL's Michael Bell titled, "Building a Stronger Magnetic Bottle to Control the Fusion Energy Genie." The 12-year-old series that kicks off each January is hosted by the Lab and is geared toward high school students but open to everyone in the community. The final lecture for 1996 concluded with a tour of TFTR, which more than 200 people took. Above, Bell delivers his remarks about fusion at the MBG Auditorium.



During the fourteenth annual Patent Awareness Program Dinner in May, 1996, twenty-nine PPPL inventors were honored for their inventions. Among those who attended the ceremony are, from left, Tom Kozub, Sylvester Vinson, Tom Walters, Henry Kugel, Robert Woolley, Mark Herrmann, Forrest Jobes, John Desandro, Edward Nartowitz, Nathaniel Fisch, Leonard Kralik, Gary Gibilisco, Jan Wioncek, Stephen Paul, Szymon Suckewer, and Enoch Durbin. Not pictured are Lloyd Ciebiera, Victor Garzotto, Thadius Golian, Fred Levinton, Dennis Manos, Jack Mervine, David Moore, Holt Murray, Jean Rax, Richard Rossmassler, John Timberlake, Frank Tulipano, and Shoichi Yoshikawa.



PPPL's United Way Campaign Tops 1996 Goal

The 1996 United Way Campaign at PPPL exceeded the Lab's expectations! The campaign topped its goal of \$20,000 by an additional \$40.

More than 38 percent of the Lab's employees helped "paint a brighter tomorrow" by contributing to the campaign. One hundred percent of the Council participated, as well as 80 percent of the General Council.

PPPL 1996 United Way Campaign Chairperson Mary Ann Brown said, "I would like to thank the United Way Committee for its efforts and the Lab's management for supporting the campaign, as well as all of the employees for their continued support of United Way."

The United Way meeting for employees in December was also a hit, featuring information about the United Way, door prizes, and special guest "Lin-cee" the clown. Everyone who attended the meeting at the MBG Auditorium was eligible for the prizes. Those who contributed to campaign were entered in the Grand Prize Drawing for a \$300 gift certificate for travel arrangements, compliments of PPPL. Ed Monahan, of the Mail Room, won the Grand Prize, which was drawn on December 19. ●

Thanks to all the employees who helped to make the 1996 United Way Campaign such a success!



"Lin-cee," the special visitor at the 1996 United Way Campaign meeting for employees in December, makes friends with PPPL'er Pat Murray. Lin-cee the clown was on hand to assist with distributing door prizes and entertaining the audience.



PPPL 1996 United Way Campaign Chairperson Mary Ann Brown gives Ed Monahan the Grand Prize, a \$300 gift certificate for travel arrangements. Congratulations, Ed!



United Way Grand Prize and Runner-up Winners



Grand Prize:
\$300 Travel Voucher
Ed Monahan

One Night Weekend for
Two (Bed and Breakfast)
The Forrestal
Michael Williams

Runner-up Prizes:
Acacia Dinner for Two
Jim Kamperschroer

Prince Manufacturing
Tennis Racquet
Don Bumgardner

Lenox Vase
Long-Poe Ku

Princeton Meadows Golf
Complementary Greens
and Cart Fee
George Christianson

\$20 Gift Certificate
The Forrestal
Diane Carroll