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HOTLINE

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

PPPL Celebrates 50 Years

At left, Robert Card, DOE Under Secretary for Energy, Science and Environment, tours the National Spherical Torus Experiment (NSTX) while attending the 50th anniversary celebration at PPPL on June 6. From left are PPPL Deputy Director Rich Hawryluk, NSTX Project Director Masa Ono, Card, Secretary of Energy Advisory Board Executive Director Craig Reed, DOE Office of Science Principal Deputy Director James Decker, and PPPL Director Rob Goldston. In the middle, N. Anne Davies, DOE Associate Director of Science for Fusion Energy Sciences, presents closing remarks. At right is the audience in the MBG Auditorium during one of the 50th talks.

In June, the Laboratory commemorated its scientific achievements during the past five decades by holding a three-day symposium, "A Celebration of High-temperature Plasma Physics." More than 200 PPPL staff members and others attended the event, which featured technical talks about magnetic fusion, space and astrophysical plasmas, and inertial fusion plasma science, as well as a reception, tour, and banquet.

"The performance of the fusion community and this Laboratory has been outstanding. I really appreciate the value of the science done here," said Robert Card, Department of Energy (DOE) Under Secretary for Energy, Science and Environment. Card, who described fusion as "the holy grail of clean energy," was among the featured speakers from PPPL, the DOE, and other institutions.

Card also presented DOE Mentoring Awards to Charles Gentile, Ronald Hatcher, and Hantao Ji. The citations recognized each recipient for his "dedication as a mentor, to share knowledge and to inspire and instill confidence in the next generation of scientists and engineers by setting high expectations, seeking creative solutions, and immersing inquisitive minds in the world of science."

Raymond Orbach, Director of the DOE's Office of Science, gave an encouraging speech at the symposium banquet about the future of fusion energy science research, and N. Anne Davies, of the DOE's Office of Fusion Energy Sciences, gave opening and closing remarks during the celebration. "This institution – PPPL — has played a leading role in this research since its founding," said Davies.

PPPL Deputy Director Rich Hawryluk discussed the scientific progress during the past decade, while Lab Director Rob Goldston presented a talk, "Future Directions in Fusion Plasma Science Research."

"We have made enormous progress and we have faced enormous challenges," Hawryluk said about research during the past 10 years. He discussed results from experiments on the Tokamak Fusion Test Reactor, the capability for a high ratio of plasma pressure to magnetic field pressure on the National Spherical Torus Experiment, and the next

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DOE Office of Science Director Raymond Orbach (left) and Princeton University Professor William Happer delivered remarks at the symposium banquet.

PPPL's Martin Peng (left) and symposium attendee Dave Baldwin.

Celebration

Continued from page 1

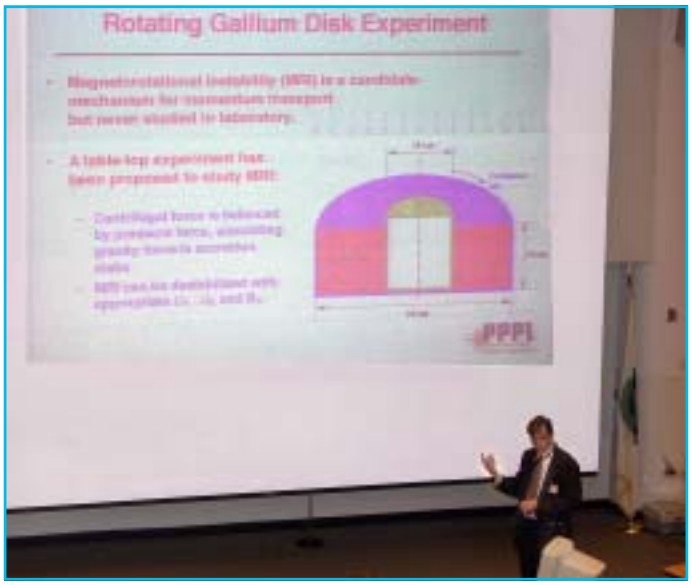
machine to be sited at PPPL, the National Compact Stellarator Experiment. Hawryluk also noted how recent scientific excitement is driven by a "strong coupling between theory and experiments."

Davies, closing the event, said that PPPL should have a birthday party every year so everyone could hear about the Lab's accomplishments and progress. She noted how different the fusion program is now compared to just a decade ago. Topics now discussed in relation to plasma science research include climate change and CO_2 concentrations, alternate concepts, and vast improvements in modeling and computing.

Said Goldston, "We're glad we made it to fifty and by the time we make it to a hundred, I think we're going to be optimizing the details for an economy running on fusion energy."

Videos of the talks are available by contacting PPPL's Media Services. Send an e-mail to vcs@pppl.gov. ●

From left are DOE Mentoring Award recipients Hantao Ji, Charlie Gentile, and Ronald Hatcher. DOE's Robert Card presented the awards during the symposium reception.



PPPL Deputy Director Rich Hawryluk gives a talk.

On a tour of the new Science Education Lab are (from left) DOE's Jim Decker, N. Anne Davies, and Raymond Orbach and PPPL's Rob Goldston and John DeLooper with PPPL student intern Erik Kaiser.

Awards • Awards • Awards • Awards • Awards •

University of Wisconsin Honors Meade

Above are Dale Meade (left) and University of Wisconsin Department of Physics Chair Don Reeder. Meade is holding the award.

PPPL Advanced Reactor Concepts Head Dale Meade received the Distinguished Alumni Fellow Award from the University of Wisconsin on May 10 in Madison. The university's Department of Physics established the award to recognize a graduate who has had an outstanding and meritorious career, as well as in appreciation of exceptional service to the Department.

Department of Physics Chair Don Reeder, who presented the award, said, "Particularly noteworthy have been the myriad and varied contributions of Dale Meade to our profession and, indeed, to the nation. He has been a visible example to later students of 'how to do it right.'"

Meade, who came to PPPL after serving as a professor of physics at the University of Wisconsin, was Deputy Director of the Lab from 1991 to 1997 and Head of the TFTR Project at PPPL from 1986 until 1991. "Dr. Meade is an experimental plasma physicist who has spent his career trying to rival Prometheus to solve the energy problem for us poor earthlings once and for all. I notice that his latest effort has an acronym of FIRE [Fusion Ignition Research Experiment] ...We are certainly willing to shine in the reflected light from his career," said Reeder.

Added University of Wisconsin Professor Stewart Prager, " It was a pleasure to honor Dale Meade for his scientific leadership in fusion plasma physics, and to celebrate his connections to the University of Wisconsin. Dale is well-known for his accomplishments with and direction of large tokamak experiments; his remarkable leadership and vision for U.S. efforts in burning plasma physics has played a major role in bringing this issue to its current prominence in the fusion community."

Meade received a bachelor's degree in electrical engineering in 1961, a master's in physics in 1962, and a Ph.D. in physics in 1965, all from the University of Wisconsin. He is a Fellow of the American Physical Society and received the Fusion Power Associates' Leadership Award in 1999, the DOE Distinguished Associate Award in 1994, and the University of Wisconsin-Madison College of Engineering Distinguished Service Citation in 1990. ●

PPPL Honored for Science Bowl Efforts

In May, PPPL garnered a plaque for 10 years of continuous involvement in the National Science Bowl. Robert Card, DOE Under Secretary, presented the plaque to PPPL Science Bowl Coordinator James Morgan (above) during the National Science Bowl in Washington, D.C. The citation recognized the Lab's "support, dedication, and participation in the National Science Bowl for ten consecutive years." ●

Goldston Named Lab Director of the Year

PPPL Director Rob Goldston is a recipient of the 2002 Laboratory Director of the Year Award from the Federal Laboratory Consortium (FLC). Goldston (at right) was among three recipients honored for their contributions to the overall enhancement of technology transfer and the support of the FLC and its activities. PPPL Deputy Director Rich Hawryluk accepted the award on behalf of Goldston during the FLC's national meeting held in May in Little Rock, Ark.

Hawryluk also participated in a Lab Director's Forum, in which he discussed PPPL's fusion work as a potential major transfer of technology from a laboratory to industry. PPPL is an FLC member lab. ●

We Have a Winner ... of the Photo Contest

Margaret Kevin-King

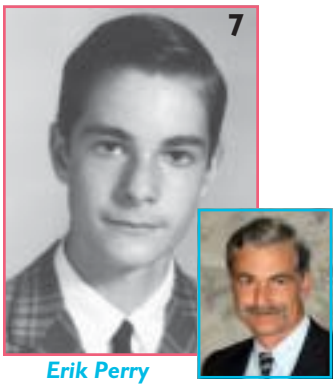
Bill Davis

Steve Iverson

James Morgan

Linda Harmon

Charles Skinner



Erik Perry

Who is with the Supremes?? Irving Zatz

Tony DeMeo

Patti Wieser

Elle Starkman

Ronnie Hatcher

Joanne Savino

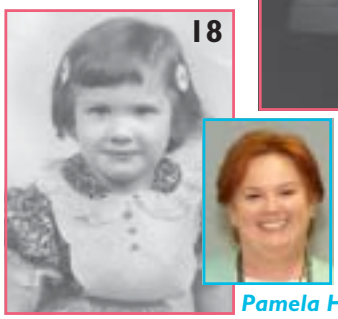
Mary Anne Brown

Sandy Schmidt

John DeLooper

Carol Phillips

Al Starkman



Pamela Hampton

Cathy Saville won the Hotline Photo Contest, identifying 14 out of 19 mugs featured in the photo display. The contest included baby, childhood, and young adult pictures of folks at PPPL, plus a bonus photo. Cathy received a gift certificate for brunch for two at Prospect. Congratulations, Cathy!

Here are the names of the people in the photo display: 1) Margaret Kevin-King, 2) Bill Davis, 3) Steve Iverson, 4) James Morgan, 5) Linda Harmon, 6) Charles Skinner, 7) Erik Perry, 8) Irving Zatz (with the Supremes), 9) Tony DeMeo, 10) Patti Wieser, 11) Elle Starkman, 12) Ronnie Hatcher (as a baby), 13) Joanne Savino, 14) Mary Ann Brown, 15) Sandy Schmidt, 16) John DeLooper (and, yes, he did willingly submit this photo for the contest), 17) Carol Phillips, 18) Pamela Hampton, and the Bonus is Elle's husband (Al Starkman). A special thanks goes to everyone who submitted a photo for the contest. ●

PPPL Inventors Honored at Annual Dinner

From left are (front row) Nikolai Gorelenkov, Schweickhard E. von Goeler, Manfred L. Bitter, James Gorman, Nathaniel Fisch, Keith Rule, Lane Roquemore, Geoff Gettelfinger, Phil Efthimion, and Kenneth Hill; (back row), John Desandro, Lewis Meixler, Rich Hawryluk, John Parker, Stephen Jardin, Charles Gentile, Robert Parsells, John Schmidt, Daniel Clark, Mike Kalish, Ben LeBlanc, Andy Carpe, Leonid Zakharov, and Erik Perry.

In May, forty-four inventors were honored during the twentieth annual Patent Awareness Program Recognition Dinner. The event recognized inventors who received patents, applied for patents, and disclosed inventions during Fiscal Year 2001. Those honored are from the Research, Engineering, and Technical staff of PPPL, as well as from other institutions that work in collaboration with the Lab.

The honorees included Manfred L. Bitter, Christopher D. Brunkhorst, Andy Carpe, Liu Chen, Daniel S. Clark, Samuel A. Cohen, John Desandro, Ilya Dodin, Phil Efthimion, H.M. Fan, Nathaniel J. Fisch, Ben Fraenkel, Charles Gentile, Geoff Gettelfinger, Alan H. Glasser, Nikolai Gorelenkov, James Gorman, Gregory Guttadora, Richard J. Hawryluk, Bob Herskowitz, Kenneth W. Hill, Stephen C. Jardin, Mike Kalish, Steve Langish, Benoit LeBlanc, Zhihong Lin, Richard Majeski, Dennis Mansfield, Lewis Meixler, Neil Morley, Charles Neumeyer, Hideo Okuda, John Parker, Robert F. Parsells, Erik Perry, A. Lane Roquemore, Keith Rule, John A. Schmidt, Gennady Shvets, Wolfgang Stodiek, Brentley Stratton, Schweickhard E. von Goeler, Roscoe White, and Leonid E. Zakharov.

PPPL Deputy Director Rich Hawryluk joined PPPL Committee on Inventions Chair Lewis Meixler in presenting the certificates. In FY 2001, the number of inventors who received or applied for patents or disclosed inventions, more than doubled since the previous year. Hawryluk lauded the honorees for coming up with new and winning ideas. "Your creative ideas are really what make this possible," Hawryluk said to the recipients during his remarks.

PPPL Committee on Inventions

Thanks go to the PPPL Committee on Inventions: C.Z. Cheng, David Cylinder, Phil Efthimion, Terry Greenberg, Rich Hawryluk, Stephen Jardin, Henry Kugel, Lewis Meixler (Chair), Carol Phillips, John Schmidt, Hironori Takahashi, Michael Williams, and Ed Winkler. ●

Patents Issued in Fiscal Year 2001

X-ray Imaging Crystal Spectrometers for Extended X-ray Sources

Manfred L. Bitter, Ben Fraenkel, James L. Gorman, Kenneth W. Hill, A. Lane Roquemore, Wolfgang Stodiek, and Schweickhard E. von Goeler

Patents Applied for in Fiscal Year 2001

Energetic Ions for Sterilization

John A. Schmidt

Inventions Disclosed in Fiscal Year 2001

Particle Bunch Compressor Based on Counter-propagating Laser Beams

Gennady Shvets, Nathaniel J. Fisch

Low Power RF Sterilization Experiment

Christopher D. Brunkhorst

Window for Transmission of Electron Beam

Richard J. Hawryluk, H.M. Fan

Methods of Directing Plasma Flow along Magnetic Discontinuities

Ilya Dodin and Nathaniel J. Fisch

A Method to Drive On-axis Current in the Field-reversed Configuration (FRC)

Samuel A. Cohen and Alan H. Glasser

Resonant Heating Below the Cyclotron Frequency

Liu Chen, Zhihong Lin, and Roscoe White

Electrostatic Cleaning of Dielectric Surfaces

Lewis Meixler

Method for Combining Pulsed-laser Beams into a Single Laser Beam with One Polarization

Benoit Paul LeBlanc

Oxidative Tritium Decontamination System

Charles Gentile, Gregory Guttadora, and John Parker

Method for Producing Toroidal Current in a Spherical Torus by Outboard Biasing

Stephen C. Jardin

Pin Diode Tritium Detector

Charles Gentile, Steve Langish, and Andy Carpe

Renewable Variable Resistor/Circuit Breaker for High Electric Currents

Leonid E. Zakharov, Charles L. Neumeyer, and Neil Morley

CO2 Blast Cleaning and Cooling and New Processes for Diamond Wire Saw Cutting of Complex Metal Structures

Robert F. Parsells, Geoff Gettelfinger, Erik Perry, and Keith Rule

A System to Mitigate JxB Forces on Liquid Metal Plasma-facing Components

Richard P. Majeski

Toroidal Closed Magnetic Field Plasma Thruster

Nikolai Gorelenkov and Leonid Zakharov

Laser Backscatter Measurement of Optical Indices, Birefringence and Measurement Diameter of Cylindrical Dielectric Objects

Brentley Stratton, Hideo Okuda, Dennis Mansfield, and Phil Efthimion

Self-ionizing, Plasma-based Backward Raman Laser Amplifier

Daniel S. Clark and Nathaniel J. Fisch

Hydrostat/Pump Cart

J. Desandro, Mike Kalish, and Bob Herskowitz

IT'S PICNIC TIME

You are invited to a

Bar•B•Que and Swim Party

at the home of Rob and Ruth Goldston

149 Bouvant Drive, Princeton, NJ

(see map on reverse)

Plan to attend either

TUESDAY, JULY 30, 2002

or

WEDNESDAY, SEPTEMBER 25, 2002

3:00pm – Rain or Shine

(Bring towel, swim suit and favorite CDs)

Please R.S.V.P. to **humanres@pppl.gov**
and let us know which date you are available.

HOPE TO SEE YOU THERE!