

HOTLINE

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

Menard Named NSTX Program Director

As the new Program Director for the National Spherical Torus Experiment (NSTX), Jon Menard is now spending the majority of his time helping to define the scientific research program for NSTX. Menard replaces ORNL's Martin Peng, who is taking broader responsibility for the coordination of U.S. and international spherical torus (ST) activities.

In his new post, Menard works closely with NSTX Project Director Masa Ono and with PPPL's Stan Kaye, who has been newly appointed as the NSTX Deputy Program Director.

"Martin [Peng] left big shoes to be filled, and Stan and I are sharing the tasks," said Menard, whose experience has been primarily as an NSTX physicist with research interests focusing on stability properties of ST plasmas, advanced operating scenarios in the ST, plasma startup, and plasma wave physics.

Ono's role as Project Director will remain working with engineers, technicians, and the national team of physicists to

implement the facility capabilities and diagnostics that make the research program possible. "Clearly, the Program and Project Directors must work very closely together for NSTX to remain successful," Menard noted.

His first task is to organize the five-year plan for NSTX, covering FY09 through FY13. "It's been an ongoing process beginning in early 2007, and we are focusing on how research on NSTX can contribute strongly to both ITER and future STs," he said. "We are also preparing to participate in a planning workshop with DIII-D and Alcator C-MOD in September. One desired outcome of this workshop is to find ways to better coordinate research among the three



Jon Menard

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Lab Notes Creative Spirit at Annual Dinner for Inventors



Photo by Frank Wojciechowski

Inventors at the Patent Dinner are, from left, Eliot Feibush, Dick Majeski, John DeSandro, David Cylinder, Kenny Silber, Dana Mastrovito, Mike Zarnstorff, Charlie Gentile, David Gates, and Steve Langish.

They began as ideas — things that would have significance to stellarators and tokamaks, and for national security. Through creativity and development, they became inventions. On June 21 at the Patent Recognition Dinner, the Laboratory honored those responsible — 27 inventors — for inventions at PPPL during Fiscal Year 2006. The dinner was at Princeton University's Prospect House.

PPPL Tech Transfer Head Lewis Meixler, who served as master of ceremonies, thanked the inventors "for their ideas and inventions" and the members of

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Menard

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machines in order to make the U.S. fusion research program even more effective.”

Beyond these responsibilities, his job entails working with the NSTX team to define research objectives and milestones, organizing meetings with the NSTX Program Advisory Committee, and interacting with DOE to report research progress and highlights.

“Jon brings a very broad understanding of toroidal physics, including ST’s, tokamaks, and in particular ITER, so I have great confidence that under his leadership the NSTX program will make critically important contributions to the development of fusion science,” said PPPL Director Rob Goldston. “Jon has also been central in developing the preliminary concept for a future long-pulse high-power fusion research facility [NHTX] at PPPL, so he will bring a strong understanding of how NSTX can contribute in that area.”

Amid organizing the NSTX research program and analyzing experimental results from the last run campaign, Menard is also working on physics design activities for the proposed National High-power Advanced Torus Experiment (NHTX), and in particular on how NSTX research can support the R&D needs for next-step ST devices. “It’s a lot of planning and thinking things through, especially in an environment where limited resources greatly have an impact on how much you can do,” he said.

Menard described his new job as “a challenge I look forward to. I’ve worked with many members of the NSTX team from the research side, and last year represented the NSTX team at IAEA in China summarizing our research results. I really enjoy doing research, but I also increasingly

appreciate the value of helping to create a productive research environment — an interesting coupling.” The management, he added, “requires a lot of time and planning, and a different set of skills.”

The new program director, who plans to relocate to PPPL’s third floor, began his new job in June and is still settling in. “I’m learning more and more about the responsibilities I now have, and how to best implement the program. No year is the same as before, and shifts with changing budgets, people, and the needs of DOE,” he said.

He emphasized that he doesn’t plan to give up all the research aspects of his job, although these will decrease with his new role as NSTX Program Director. During the last NSTX run period, Menard ran five experimental proposals on NSTX and will present results from several of these experiments in an APS invited talk in November. During the next run he will likely have time for at most one experiment. “Any research I do will be done on weekends, at airports, on planes, during meetings, or while napping,” said Menard, half-jokingly.

Menard joined the research staff at PPPL in 1999 after conducting post-doctoral research at PPPL. He received a bachelor’s degree in nuclear engineering from the University of Wisconsin-Madison in 1992, and a master’s and a Ph.D. in plasma physics from Princeton University, Department of Astrophysical Sciences, in 1994 and 1998, respectively. Among his honors, Menard received the 2006 Kaul Prize for Excellence in Plasma Physics Research and Technology Development and the 2002 Presidential Early Career Award for Scientists and Engineers. The latter was for performing studies to optimize the stability of fusion plasmas and providing the heart of the physics basis for a new, spherical plasma fusion reactor. ●



Fusion Engineering Symposium

PPPL’ers at the 22nd Symposium on Fusion Engineering (SOFE) are, from left, Russ Feder, Charles Neumeyer, George Labik, Nevell Greenough, Tiana Dodson, Larry Dudek, Charlie Gentile, Chun “Jay” Kung, Chris Brunkhorst, Henry Kugel, and Lane Roquemore. The meeting was held June 17-21 in Albuquerque. ●

Hotline

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Patent

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the Committee on Inventions “who thoughtfully review each of the inventions submitted and provide their assessments of their relevance.”

PPPL Deputy Director Rich Hawryluk presented the awards to the inventors, who represent the Lab’s Research, Engineering and Technical staffs, as well as other institutions that work in collaboration with PPPL. He thanked everyone at the dinner, but, he said, “most especially the people who work day in and day out ...to create things that allow these dinners to continue.” ●

Photo by Frank Wojciechowski



PPPL Deputy Director Rich Hawryluk presents PPPL engineer Charlie Gentile (right) a “check” marking the first royalty payment of \$30,000 for The MINDS Team. MINDS — the Miniature Integrated Nuclear Detection System — can be used to scan moving vehicles, luggage, cargo vessels, and the like for specific nuclear signatures associated with materials employed in radiological weapons. Gentile led the PPPL team that developed the system.

Photo by Frank Wojciechowski



At the Patent Dinner are honoree Kenny Silber with daughter, Lisa, and honorees Steve Langish and David Gates.

Patents Issued in Fiscal Year 2006

U.S. PATENT NO. 6,994,831

Oxidative Tritium Decontamination System

Charles Gentile, Gregory Guttadora, and John Parker

U.S. PATENT NO. 6,959,895

Tandem Clapper Air Vehicle

David Cylinder

Inventions Disclosed in Fiscal Year 2006

Universal Power Meter

Steven Scott

Enhanced and Expanded MINDS

Nuclear Detection Library

Charles Gentile, Jason Perry, Stephen Langish, Kenneth Silber, William Davis, and Dana Mastrovito

A General Method for Stacking Thermal Actuators

David Cylinder, Brett Martin, Jawad Naciri, Banahalli Ratna, and Christopher Spillman

All Metal Center Stack with Transformer for Spherical Torus

David Gates and Chang Jun

Method for In-situ Alignment of and Characterization of the Magnetic Fields Produced by an Array of Coils

Michael Zarnstorff

Non-invasive Method to Measure RMF Penetration into High-beta Plasmas

Samuel Cohen

Improved Antenna Coil Design for Odd-parity Rotating-magnetic-field Plasma Heating and Current Drive

Samuel Cohen and Christopher Brunkhorst

Inside Tubing Cutter

John DeSandro, John Edwards, Mark Cropper, and Ron Beyer

Electron Beam-based Evaporator for Liquid Metals

Richard Majeski

Plasma Neutralization Set Up for Ion-beam Compression

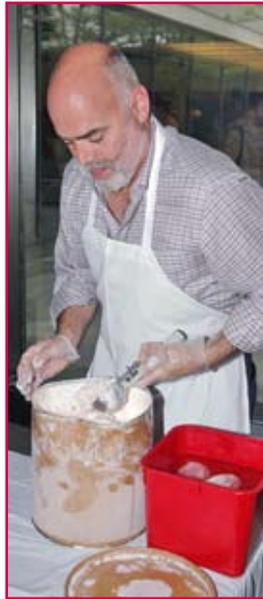
Igor Kaganovich

Automated Monitoring of Digital Data

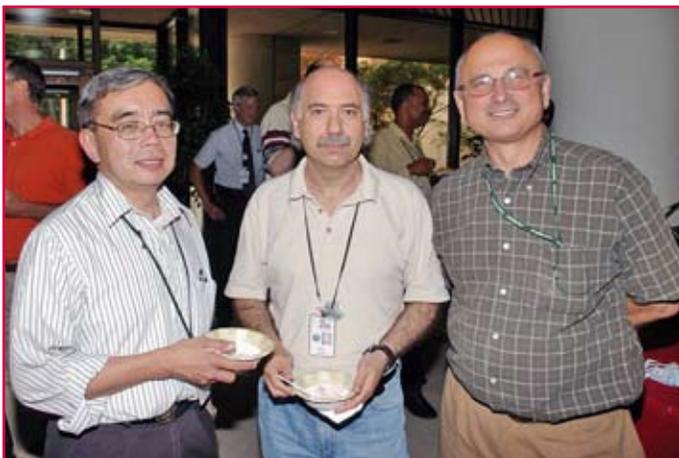
Eliot Feibush and Tarun Pondicherry

Success and Pie a la Mode Mark Year's End of NSTX Ops

Photos by John Bennevich



Clockwise, from top left, are Manfred Bitter, Hyeon Park, and Ken Hill; David Gates addressing the staff (blue shirt) with PPPL Director Rob Goldston at right; Chun "Jay" Kung, summer student Brett Anderson, Craig Priniski, and summer students Ali Burstein and Maria Aristova; Fred Simmons, Manny Fernandez, Dave Moser, and Bob Clark; Al von Halle (center photo) scooping strawberry ice cream; Bob Kaita, Fred Levinton, and Leonid Zakharov; and Mike Kalish and Jean Wernock.



The Lab threw a pie-and-ice cream party for staff on June 29 to toast this year's successful NSTX operations. In an invitation to staff, PPPL Director Rob Goldston said, "NSTX has had great success over a wide gamut of its scientific goals, so this is a fine time to celebrate."

At the bash, NSTX Run Coordinator David Gates thanked all the teams who contributed to the operations, which included twelve and a half weeks and 40 experiments. Others offering brief remarks were Goldston, PPPL's Hutch Neilson, and Princeton University's Stewart Smith. ●