

# Hotline

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

## New Top Managers Assume Duties

*Hawryluk Begins Work as Deputy Director; Tang Becomes Chief Scientist*



*Richard Hawryluk*

**R**ichard Hawryluk, who led the record-breaking experiments on the TFTR Project, is the newly named Deputy Director of the Laboratory. The appointment became effective in August.

As Deputy Director, Hawryluk has the major responsibility for internal operations, as well as for research personnel. Hawryluk, a Principal Research Physicist, had been in charge of PPPL's Tokamak Confinement Systems Department — in addition to heading the TFTR Project — prior to assuming the new position.

**W**illiam M. Tang has been appointed Chief Scientist at PPPL. His appointment to the newly created post became effective in August.

Tang will continue to serve as Head of the internationally renowned Theoretical Department at PPPL and Lecturer with the rank of Professor in the Department of Astrophysical Sciences at Princeton University.

As Chief Scientist, Tang will be responsible for assuring that the ongoing scientific programs at PPPL are effectively identifying and addressing the key issues as they develop, for encouraging greater inter-departmental initiatives, and for assessing exciting new research opportunities. He will both represent and help coordinate representation of PPPL in the scientific community within the U.S. and overseas, especially in areas of collaborations outside the discipline of magnetic fusion.

### Farsightedness in Identifying Key Problems

PPPL Director Robert J. Goldston said, "Dr. Tang's stature in the scientific community, his farsightedness in identifying key problems, and his skill at communicating the scientific depth of our work make him an ideal choice for Chief Scientist at PPPL."

Tang received his Ph.D. in physics from the University of California, Davis, and completed his dissertation research at Lawrence Livermore National Laboratory in California in 1972, prior to arriving at PPPL the same year for a post-doctoral appointment. He advanced at an extraordinarily rapid pace, achieving the level of Principal Research Physicist and Lecturer with the rank of Professor by 1979. He was elected as a Fellow of the American Physical Society (APS) the same year.

In 1993, Tang became Head of the Theory Division at PPPL and has subsequently guided the department to its widely acknowledged stature as one of the leading plasma science theory groups in the world. He led the division in deepening its work in fundamental issues of plasma

## Tang

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theory and in working closely and productively with the PPPL experimental teams. Also, he has encouraged and helped launch diversified theoretical research activities in non-fusion areas, such as space physics and high-performance computing collaborations with other Princeton University departments and national laboratories.

Internationally recognized for his lead role in developing key mathematical formulations and the associated computational applications to important plasma science problems, Tang has helped stimulate better understanding of electromagnetic plasma behavior in complex geometries. This general approach of establishing a firm scientific foundation for realistically modeling complicated physical phenomena is prevalent in many other areas of scientific research.

An author of over 160 publications, Tang has presented more than 20 invited talks at major scientific conferences. The new Chief Scientist has served on numerous national and international panels. In the past year, he has co-chaired the national review of the physics basis for the International Thermonuclear Experimental Reactor under the auspices of the Fusion Energy Science Advisory Committee (FESAC), served on the FESAC national review panel for the Inertial Confinement Fusion Energy Program, and co-chaired the Plasma Physics Program for the Inaugural Conference of the Asia Pacific Center for Theoretical Physics in Seoul, Korea.

### Exciting Future Societal Benefits

"I believe that the plasma physics research at Princeton is of the highest quality and can lead to exciting future societal benefits. I am excited by the prospect of leading the plasma science challenge at PPPL with its talented staff and institutional resources," said Tang. "This field has great potential for significant positive impact on the

economy, the environment, and the technical vitality of the country. The major challenge will be to convey this message effectively, so that a vibrant program supported by strong continuing funding can provide an attractive career path for bright young people essential to the future of the plasma sciences."

Tang resides in Princeton with his wife, Mary, and daughter, Andrea. ●

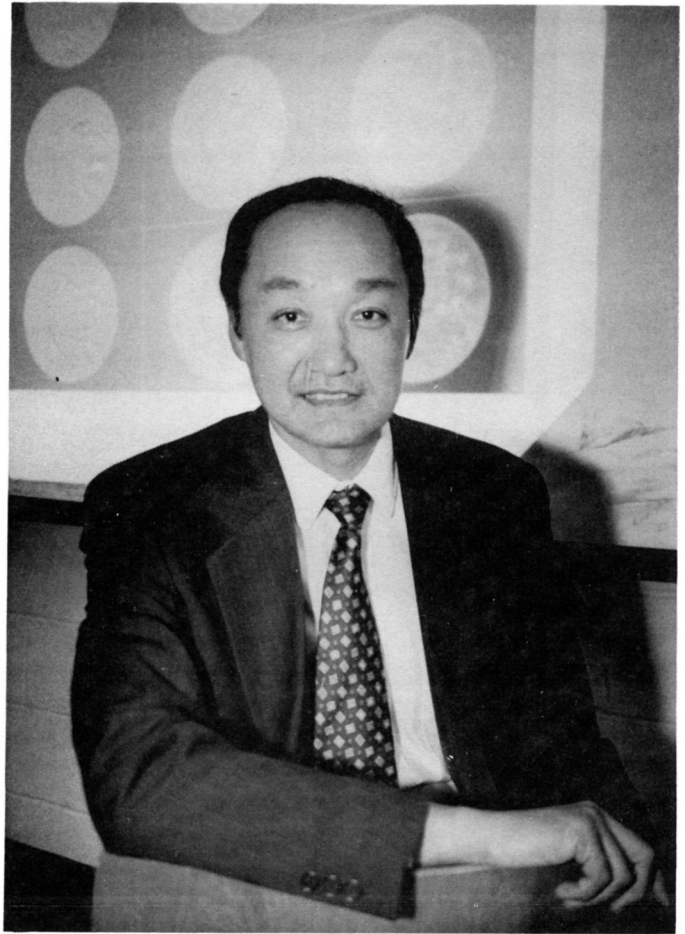


Photo by Denise Applewhite

William Tang

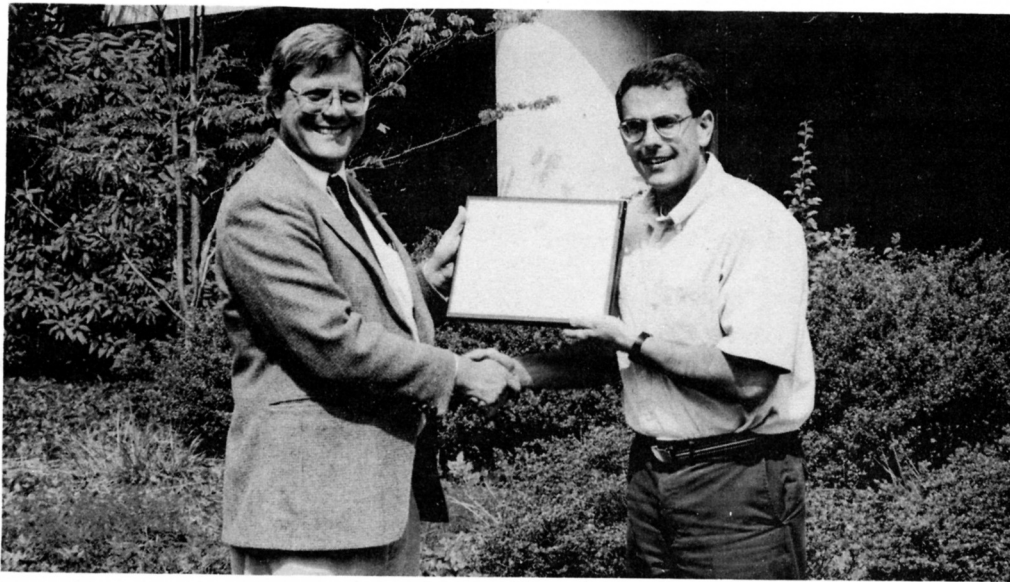
## HOTLINE

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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 Room B366, LOB Bldg., C-Site; fax 609-243-2751; telephone 609-243-2757; e-mail pwieser@pppl.gov

## Kessel Awarded by ITER Home Team



*PPPL's Charles Kessel recently received a Certificate of Merit in recognition of his "outstanding performance" on behalf of the U.S. International Thermonuclear Experimental Reactor (ITER) Home Team. Kessel, a Project Scientist at the Laboratory, was cited for his work on time-dependent poloidal field scenarios for both the ITER ignited mode and the ITER reversed shear mode. Above, Ned Sauthoff (left), PPPL Head of Off-Site Research, presents Kessel with the ITER award. Congratulations, Charles!*

## Hawryluk

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In announcing Hawryluk's appointment, PPPL Director Robert J. Goldston said, "Rich is well known to everyone in the Laboratory for his scientific skill, for his thoughtful management, and for his tireless commitment. Although I know that ultimately I have responsibility for setting directions and policies, I plan to entrust to Rich the major responsibility for internal operations at the Laboratory. This responsibility could not be in better hands."

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. In 1991, he became Head of the TFTR Project, the largest magnetic confinement fusion facility in the United States. Experiments on TFTR concluded in April following 14 years of successful research. The flagship experimental fusion machine set a world record of 10.7 megawatts of controlled fusion power in 1994 and in 1995 reached a world

record plasma temperature of 510 million degrees Celsius — more than 30 times hotter than the center of the sun.

### Groundbreaking Research

"I have had the privilege to work with a great team on TFTR and participate in groundbreaking research. Now I look forward to a new set of challenges in our quest to develop fusion energy," said Hawryluk.

Hawryluk, a Fellow of the American Physical Society (APS), received the 1996 Kaul Foundation Prize for Excellence in Plasma Physics and Technology Development, the 1995 DOE Distinguished Associate Award, and the 1988 APS Prize for Excellence in Plasma Physics, the last of which he shared with Robert Goldston and James Strachan. He has written more than 100 research papers, principally in the area of transport and heating studies of tokamak plasma published in journals and conference proceedings.

Hawryluk replaces Dale Meade, who will be heading Advanced Reactor Concepts research at PPPL. ●

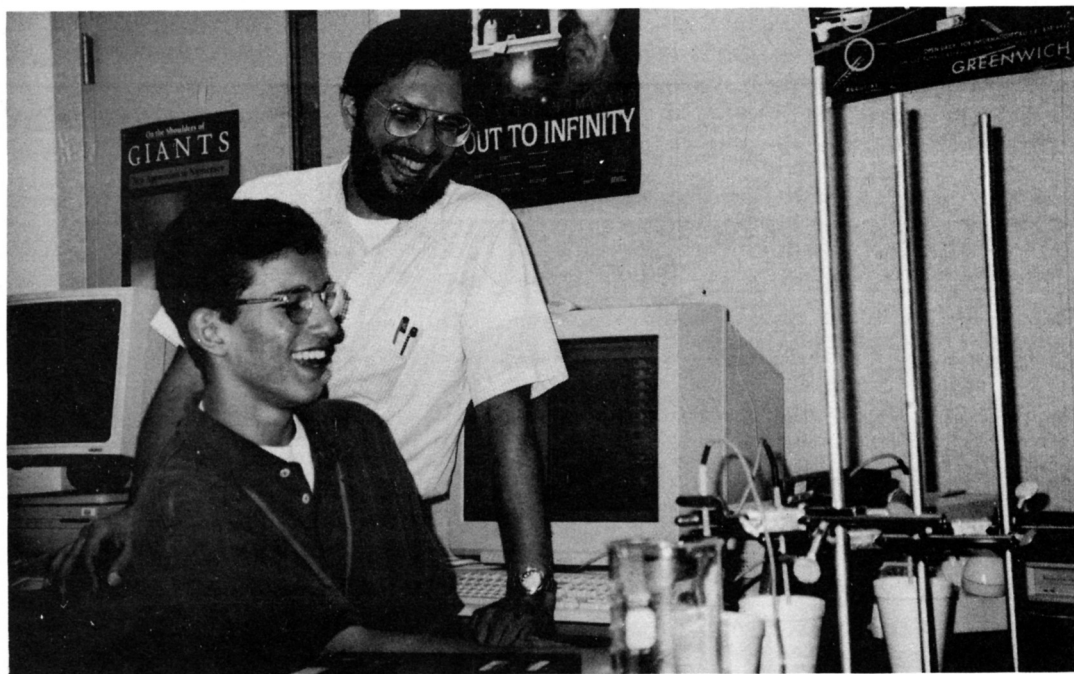


# What's Happening at PPPL



The Energy Research Communications Council (ERCC) discussed public affairs strategies, risk communications, and community relations during a two-day meeting at PPPL this summer. The ERCC is made up of public affairs managers from the DOE Laboratories. Concluding the first day's presentations and discussions was a tour of the TFTR Test Cell led by Rich Hawryluk. From left are (front row) Caron Chess, Rutgers University; Nina Stolar, Stanford Linear Accelerator (SLAC); Carol Morrison, DOE-Chicago Office; Rick Borchlet, Oak Ridge National Laboratory (ORNL); Linda Ware, Thomas Jefferson National Laboratory; Judy Jackson, Fermi National Laboratory; Joe Culver, ORNL; P.A. Moore, SLAC; (back row) Tony De Meo, PPPL; Jeff Richardson, Lawrence Livermore National Laboratory; Gary Kliwer, Los Alamos National Laboratory; Mike DeWitt, Sandia National Laboratory; Charlie Osolin, Argonne National Laboratory; Ron Kolb, Lawrence Berkeley National Laboratory; and Steve Karsjen, Ames Laboratory.

Photo by Patti Wieser



Russell Hulse (right) works with Mike Sherman on a heat transfer experiment at PPPL. Sherman spent time at the Lab while a senior at North Brunswick High School last year, joining Hulse in exploring different uses of computer instrumented experiments and computer modeling in education. They developed a module about sound for teachers, as well as experiments and modeling activities in areas of heat transfer and yeast growth. Sherman, who is the son of former PPPL'er Sharon Sherman, is now a freshman at Tulane University.