



Director's State-of-the-Lab Talk Focuses on People, Programs, and Prospects



PPPPL Director Rob Goldston delivered his annual "State-of-the-Lab" address to a standing-room-only audience of staff and friends on November 23 in the MBG Auditorium. "We are taking on big challenges—and our people are up to them, our program is succeeding, and our prospects are exciting," said the Director. Following the talk, which covered

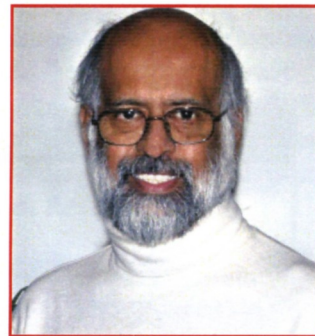


the Lab's accomplishments during the past year and its plans, there was a pie party in the Lobby. At right, Goldston gives his talk and at left, Jerry Siegel (left) and John Gumbas enjoy the reverie. Copies of the Director's presentation are available in the Director's Office and posted as a pdf on the PPPL Employee Information Services web page at: <http://www-local/>. ●

Manickam Named New Theory Head

Janardhan Manickam has been named Head of PPPL's Theory Department. He replaces William Tang, PPPL Chief Scientist, who is engaged in advancing scientific computing initiatives and strategies in collaboration with other plasma science institutions, Princeton University departments, and the DOE Office of Science.

A leader in the fusion theory community, Manickam also has contributed strongly to the experimental program, most recently as national coordinator for spherical torus theory. His principal interest focuses on magnetohydrodynamics, which is the study of the interaction between electrical fields and conducting fluids.



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J. Manickam

Marsala Awarded PPPL Distinguished Engineering Prize

Honoree Described as Engineering Wizard

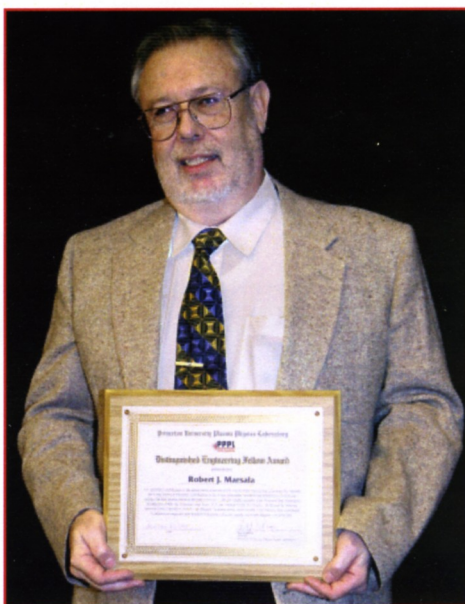
PPPL engineer Robert Marsala is this year's PPPL Distinguished Engineering Fellow. He was honored during a ceremony and reception at the Laboratory following the State-of-the-Lab address by Director Rob Goldston.

The Laboratory recognized Marsala for significant contributions to the advancement of plasma science and electrical engineering technology. The citation noted Marsala for his technical ability, creativity, and resourcefulness, as well as for a long history of innovative contributions in the design, fabrication, operation, and maintenance of electronic systems that have proven critical to the high performance, safe, and reliable operation of many fusion experiments at the Laboratory.

Director Goldston, who presented the award, likened Marsala to a wizard. "Every major Laboratory needs a wizard, and Bob is ours. He gets credit both for much of the electronic control circuitry that allows our big scientific machines to operate, and for the delicate diagnostic circuits that measure the science that goes on in them. Of course if the machines didn't operate, we wouldn't need to

measure anything — and vice versa — so Bob's contributions are doubly valuable."

In 1961, Marsala received a bachelor's degree in electrical engineering from Rutgers University, graduating with high honors. He worked for RCA in the Astro-Electronics Division from 1961 to 1978, participating in the design and testing of many camera systems used in satellites. From 1967 to 1969, Marsala worked half time at Astro while attending Princeton University, where he received a master's degree in electrical engineering in 1969. In 1978, Marsala joined the Electronics Group at PPPL, and for the last 26 years, he has been responsible for the design of most of the magnetic monitoring and control, as well as coil protection, on PPPL's major fusion machines.



Robert Marsala

The Distinguished Research and Engineering Fellow Program, funded by the DOE, was created to recognize members of PPPL's research staff, as well as engineering and scientific staff, for their accomplishments. Fellows receive one-time gifts of \$5,000 and qualify for priority in regard to their research and engineering programs. ●

Manickam

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PPPL Director Rob Goldston said, "Janardhan 'Manny' Manickam has the scientific and personal respect of everyone who knows him. He has a history of leadership in the fusion theory community, and his theoretical work has contributed strongly to the experimental program. I have great confidence that Manny's leadership style, which involves both holding up the highest scientific standards and also working closely with people as individuals, will be extremely effective in our challenging research environment, which requires the best from everyone." Manickam joined the Lab's staff in

1975. He has been a principal research physicist since 1986. Manickam has been a visiting scientist at several research institutions, including the Max Planck Institute for Plasma Physics in Garching, Germany, and the Japan Atomic Energy Research Institute in Tokai, Japan. He received a bachelor's degree in physics from Osmania University in India, a master's degree in nuclear physics from Andhra University in India, and a Ph.D. in plasma physics from the Stevens Institute of Technology in Hoboken, N.J. He is a Fellow of the American Physical Society, a member of numerous professional organizations, and a co-author on more than 150 papers in scientific journals. ●

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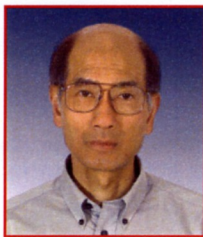
Cheng, Ji, and Wong Receive American Physical Society Honors



Frank Cheng



Hantao Ji



King-Lap Wong

The American Physical Society (APS) honored three scientists at PPPL in November. Chio Z. “Frank” Cheng and King-Lap Wong received the APS 2004 Award for Excellence in Plasma Physics Research and Hantao Ji was named an APS Fellow. APS officials announced the honorees during the society’s Division of Plasma Physics annual meeting, held in Savannah, Georgia, last month.

Excellence in Plasma Physics Research Award

Cheng and Wong were among five scientists to receive the Excellence in Plasma Physics Research Award in recognition “for the theoretical discovery and experimental identification of toroidicity induced alfvén eigenmodes.” This work relates to the confinement of energetic alpha particles, which is important to fusion energy research. The other recipients are William Heidbrink and Liu Chen, of the University of California, Irvine, and Edward Strait, of General Atomics in San Diego. Chen was at PPPL when he did the work for which he won the award and Heidbrink is a graduate of Princeton University’s Program in Plasma Physics.

The annual award consists of \$5,000 to be divided equally among recipients, and includes a certificate citing the contributions made.

PPPL Director Rob Goldston congratulated Cheng and Wong on their ground-breaking research of fundamental importance for the ITER project, a major international fusion experiment that is the next large step for the development of fusion.

Cheng, who was responsible for the theoretical discovery of the toroidicity induced alfvén eigenmodes, is the Head of the Energetic Particle Physics Group and of the Space Plasma Physics Division in PPPL’s Theory Department. He is a 1996 PPPL Distinguished Research Fellow and an APS Fellow. Cheng’s area of expertise is in theoretical and

computational plasma physics with applications in fusion research and space physics. Cheng has more than 200 publications on laboratory and space plasma physics, and has presented more than 40 invited talks at major conferences. Cheng received a bachelor’s degree in physics from the National Cheng-Kung University, Taiwan, in 1969, and a Ph.D. in physics from the University of Iowa in 1975. He joined the research staff at PPPL in 1975.

Wong received a bachelor’s degree in physics from The Chinese University of Hong Kong in 1968 and a Ph.D. from the University of Wisconsin-Madison in 1975. He worked for Columbia University for one year as a research associate, joining PPPL’s research staff in 1976. Wong is on long-term assignment at General Atomics in San Diego working on electron cyclotron wave heating and current drive experiments on the DIII-D fusion machine. He is a Fellow of the American Physical Society.

APS Fellow

Ji received the lifetime appointment of Fellow in recognition of his contributions to the field of plasma physics. The APS rules limit the maximum number of Fellows selected each year to be no more than half of one percent of the Division membership.

“Dr. Ji’s work on fundamental plasma physics forms a key bridge between laboratory plasma science and plasma problems of high importance in astrophysics,” said Goldston.

Ji received a bachelor’s degree in physics from Ehime University in Japan in 1985 and a doctor of science degree in physics from the University of Tokyo in 1990. He conducted plasma physics research at the National Institution for Fusion Sciences in Japan and at the University of Wisconsin-Madison before coming to PPPL in 1995. He has been conducting experiments to study the physics of magnetic reconnection, magnetorotational instability (MRI), and other basic physical processes. (Information about magnetic reconnection is available on the web at: http://www.pppl.gov/projects/pages/magnetic_reconnect.html and about MRI at: http://www.pppl.gov/publications/pages/pppl_digests.html.) Ji has published many papers on laboratory studies of these subjects.

Ji shared the 2003 Kaul Foundation Prize for Excellence in Plasma Physics Research and Technology Development given by Princeton University and the APS-DPP 2002 Award for Excellence in Plasma Physics Research. ●





Princeton Plasma Physics Laboratory

Holiday Party

Thursday, December 23

12:00 Noon - LSB Lobby and Cafeteria

Free Lunch

- ROAST BEEF CARVING STATION - SAUSAGE AND PEPPERS -
- BAKED ZITI - RED ROASTED POTATOES - RATATOUILLE -
- DINNER ROLLS - CHICKEN CAESAR SALAD -
- PASTA SALAD WITH GRILLED VEGETABLES AND MOZZARELLA -
- TOSSED SALAD - SODA, WATER, COFFEE - HOMEMADE DESSERTS -

Open to Everyone Working at the Lab!



FAMOUS PPPL SKIT

BEGINS AT 12:45 P.M. IN THE AUDITORIUM

GIFT RAFFLE

IMMEDIATELY AFTER THE SKIT IN AUDITORIUM
(YOU MUST BE PRESENT TO WIN).

