

HOTLINE

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

DOE Honors Young for Achievements

Young Receives Citation during Retirement Celebration

In recognition of his collaborative efforts and contributions in developing fusion diagnostics systems, PPPL physicist Ken Young recently was awarded the U.S. Department of Energy (DOE) Distinguished Associate Award. John Willis, Director of the Research Division at the DOE's Office of Fusion Energy Sciences, presented the award to Young on April 17 during Young's retirement dinner at the Palmer Inn.



DOE's John Willis (left) presents the DOE Distinguished Associate award to Ken Young during Young's retirement party in April.

The award cites Young for his role as “the leader of diagnostics development for the Tokamak Fusion Test Reactor (TFTR), his subsequent contributions to the breakthrough measurements which are the TFTR legacy, and his very real efforts in behalf of collaborative fusion physics research, both within the U.S. and abroad. His dedicated efforts have had a major impact on the diagnostics systems that bind theory and experiment together in advancing fusion.”

During Young's more than three-decade-long career at PPPL as a fusion researcher and plasma diagnostics specialist, he was involved in moving forward the whole concept of how diagnostics are used on machines. He developed diagnostics and performed measurements and experiments on a number of fusion devices at PPPL, starting with the Model-C Stellarator. From 1982 to 1994, he was the Division Head for TFTR Diagnostics. “We were able to collect [data] with spatial resolution for the full length of TFTR discharges to upgrade our ability to do science,” said Young, noting all the support he received

from the TFTR managers, former PPPL Director Harold Furth, and the DOE staff. “My biggest achievement at PPPL was heading the exceptional group on TFTR diagnostics.”

A native of Scotland, Young received a degree in physics from Aberdeen University in Scotland and a diploma in nuclear engineering from Manchester University in England before receiving a Ph.D. in astrophysical sciences from

Princeton University in 1968. He was a post-doctoral student at PPPL in the 1960s — a time when the Lab had about 200 employees and Lyman Spitzer, Mel Gottlieb, and Tom Stix were in residence. Young recalled the early years as a time when communications among colleagues were much more informal and the technology much less advanced. “One of the largest changes since that time is that the young physicists don't have the same access to senior staff as they did when the Lab was smaller,” he said.

Over the decades, the field of diagnostics has grown tremendously due to technological and computing power advances. “We couldn't do most of the measurements that we now do when I started in this field. The technology advances have been enormous,” Young said. “We used Polaroid pictures taken from oscilloscope screens to record the data. Then we would measure the signals with dividers, record the numbers on paper, and then type it onto computer cards. We would carry the stacks of cards

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of data and analysis programs we had written down to the IBM computer in the Theory wing.”

Young said of receiving the recognition, “I was really taken aback and delighted. I was also very surprised and pleased by the letter to me from Anne Davies.”

In the correspondence, Davies, DOE Associate Director for Fusion Energy Sciences, Office of Science, acknowledged Young’s contributions to diagnostics efforts not only at PPPL, but also across the fusion program.

“The whole of the TFTR enterprise, from beginning to end, bore fruits from your concerted efforts to measure all the characteristics of that very uncharacteristic D-T [deuterium-tritium] plasma. The combination of those exquisite diagnostic measurements and the latest simulation and modeling yielded new understandings that have given us the first predictive capability of transport properties in magnetically confined plasmas. The TFTR research led quite naturally to your involvement in ITER [International Thermonuclear Experimental Reactor] diagnostics preparations where, once again, you labored hard to see that diagnostics requirements were included in the design process.”

Davies went on to compliment Young for his collaborative efforts. “In addition to many technical contribu-

tions, your ability to work with an ever-widening circle of collaborators, both here and abroad, has paid enormous dividends for the fusion program. Terms such as honesty, candor, openness, and respect come easily to mind when describing your interactions in setting up PPPL cooperative research activities with laboratories around the world. Your work has made it substantially easier for us to create a fusion program where the boundaries to collaboration are technical, not social or institutional,” she said.

Upon his retirement, Young stepped down as Head of the Lab’s International Off-site Research Division, but will continue half time at least for the remainder of the calendar year. Raffi Nazikian has taken over Young’s responsibilities. Young is assisting Nazikian with the transition, as well as finishing work managing a Japanese contract. He also plans to work on Joint European Torus (England) and Korea Superconducting Tokamak Advanced Research project (KSTAR) diagnostics, and also diagnostics for burning plasmas. Following his retirement dinner, he and his wife, Anne, took an Aegean cruise and later visited Florence.

Shared Enthusiasm

“The wonderful thing about working in this place is the quality of all the people you work with — not just the physicists, engineers, and technicians, but everyone. There seems to be a shared enthusiasm at all levels,” said Young. ●

Cryo Show Goes on the Road

P PPL engineers Ray Camp (far left) and Mark Cropper (far right) took their cryogenics show on the road in April. The two went to Wicoff School in Plainsboro to participate in the school’s 2001 Math and Science Day. More than 100 second graders at Wicoff saw the cryo demonstrations, which show how ordinary objects behave when cooled to the temperature of liquid nitrogen (-320 degrees Fahrenheit). The PPPL presenters were among others from the area. In a thank-you note to Camp, the event coordinators said, “Your dedication and expertise made it an awesome day for our students.” ●



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“Safety First” is Our Motto

Workdays lost due to injuries are low, but overall injury cases are up. PPPL rated “outstanding” for the low number of lost workday cases — a total of two — during Fiscal Year 2001 through April. However, the Lab’s rating for recordable injuries during the same time period was “marginal,” with 20 cases the first seven months of FY01.

The highest number of injuries is attributed to strains and sprains caused by lifting, twisting, and bending on the job. Nine injuries resulted from strains and sprains. Others were caused by falls — including some on ice — cuts, and a chemical splash in one worker’s eye.

Safe Work Practices

“We want to re-emphasize to employees the need to use safe work practices and Integrated Safety Management (ISM) principles,” said PPPL Environment, Safety, and Health (ES&H) Head Jerry Levine. “Supervisors should read the ‘Lessons Learned’ reports (posted on the web and distributed to them by e-mail) and encourage their staffs to read them.” He added that any ES&H deficiencies should be reported to his group.

When this trend began in FY2000, higher incidences of injuries were largely attributed to the Tokamak Fusion Test Reactor Decontamination and Decommissioning (TFTR D&D) project and to the new employees hired for D&D. The D&D group, working with the members of ES&H and Industrial Hygiene (IH) staff, offered training sessions about safety early on and talked to several individuals about safety practices. “Since June of last year, we’ve had a very good safety record on D&D,” Levine said.

He noted that the injuries sustained thus far in FY01 are not limited to a particular staff group. “Most of the

staff members who get hurt are doing physical labor, and any restriction of duties or medical treatment would make it recordable,” Levine said.

Recordable injuries are those in which an employee has lost work time, restricted work time, or medical treatment beyond first aid. An injury could be as minor as a cut finger requiring stitches. Levine keeps a log of all injuries and illnesses that occur at the Lab. Each recordable incident is investigated.

Number of Occurrences Up

Industrial hygienist Bill Slavin of the Site Protection Division commented that the severity of the injuries is down, but the number of occurrences is up. He said if someone gets injured, he or she should report to the Lab’s Occupational Medical Office to see Dr. Glenn Greene.

Levine and the IH staff asked that personnel be reminded to avoid carelessness and use personal protective gear and good housekeeping practices. “People need to be more careful and plan ahead for their work,” said Margaret Lumia of IH. “They need to look at and evaluate their working environment.”

“Protect yourself with proper protective gear and use the safety procedures provided.”

— Jerry Levine

Levine advised, “Protect yourself with proper protective gear and use the safety procedures provided. If you are concerned about work you are doing, either contact your supervisor and or the safety groups.” ●



Bringing the Kids to Work



Forty youngsters came to PPPL on April 26 to participate in the Lab's "Take Our Daughters To Work Day" events sponsored by the Director's Advisory Committee on Women (DACW). PPPL Deputy Director Rich Hawryluk welcomed the group and gave a presentation about the basics of fusion. Clarisse Bourdell discussed her learning experiences as a scientist here and abroad. Other activities for the boys and girls included web-page



building with Dana Mastrovito, a Visualization Wall demonstration by Scott Klasky and Bill Tang, a personal protective gear demonstration by Bill Slavin, and a cryogenics presentation by Ray Camp. Many of the young visitors also toured the National Spherical Torus Experiment.

At left, (from left) Stephanie and Ashley Vinson, daughters of Sylvester Vinson, try out the personal protective gear as a third young visitor observes. Above, Lena Scimeca, Chairperson of the DACW, helps a group build a web page. ●

Taking Fusion Outside



On April 21, PPPL participated in the Mercer County Improvement Authority Earth Day event at Quaker Bridge Mall. John Bennevich, John DeLooper, Virginia Finley, Ethel D. Gaye, Linda Harmon, Margaret King, Tom McGeachen, Chris Ritter, and Marianne and Alexandria Tyrrell volunteered at the Lab's exhibit, which attracted many shoppers. Above, Finley discusses fusion with one visitor.



On Saturday, April 28, PPPL participated in Communitarity, the annual town-gown festival in downtown Princeton. Robert Budny, Henry Carnevale, Tony DeMeo, John DeLooper, Carol Phillips, John Schmidt, and Patti Wieser volunteered at the PPPL exhibit, which included fusion and PPPL handouts, as well as hands-on science demonstrations. More than 1,000 visitors saw the Lab's exhibit. Carnevale discusses the Lab's work with a visitor at PPPL's display.