

## US-USSR to Explore Collaboration on CIT


by A.R. DeMeo, Jr.

PPPL's Deputy Director for Technical Operations E. C. (Tip) Brolin and four other PPPL staff members will be part of a US delegation traveling to the Soviet Union in June to continue dialogue regarding an agreement for US-Soviet collaboration on the Compact Ignition Tokamak (CIT). The group will be headed by US Department of Energy's CIT Program Manager Thomas R. James. Discussions to be held in both Leningrad and Moscow, June 12 through 18, could eventually result in Soviet equipment contributions to the project valued in excess of \$50 million—representing the greatest level of Soviet-American cooperation in fusion research to date.

"We would welcome Soviet participation in CIT, as well as that of other nations," noted PPPL Director Harold Furth. "We are seeking foreign contributions to help support the project. The Soviets could provide valuable assistance in CIT physics and engineering and their involvement might encourage others to chip in."

During the CIT Conceptual Design Review in January, a delegation of Soviet scientists, headed by V. A. Chuyanov, expressed a strong interest in participating in the CIT Project. The Soviets agreed with their American colleagues that achieving and understanding ignition was the next essential physics step in the development of fusion energy. Both sides concurred in the importance of CIT's role in the attainment of this goal.

The USSR physicists suggested a wide range of possible Soviet contributions to the CIT Project in exchange for their participation in experiments on the machine. Soviet assistance would come primarily during the design and construction phase of the Project, and could consist of contributions of major hardware. For example, the Soviets expressed interest in building toroidal-field (TF) and poloidal-field (PF) coils. Another suggestion was the development of high-resolution gamma-spectroscopic diagnostics and neutron diagnostics. Also mentioned was the assistance of Soviet engineers in the



Обзор Проекта Токамака КТЗ

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Зам. Директора  
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An Overview of the  
Compact Ignition Tokamak Project

E. C. Brolin

Deputy Director,  
Princeton Plasma Physics Laboratory



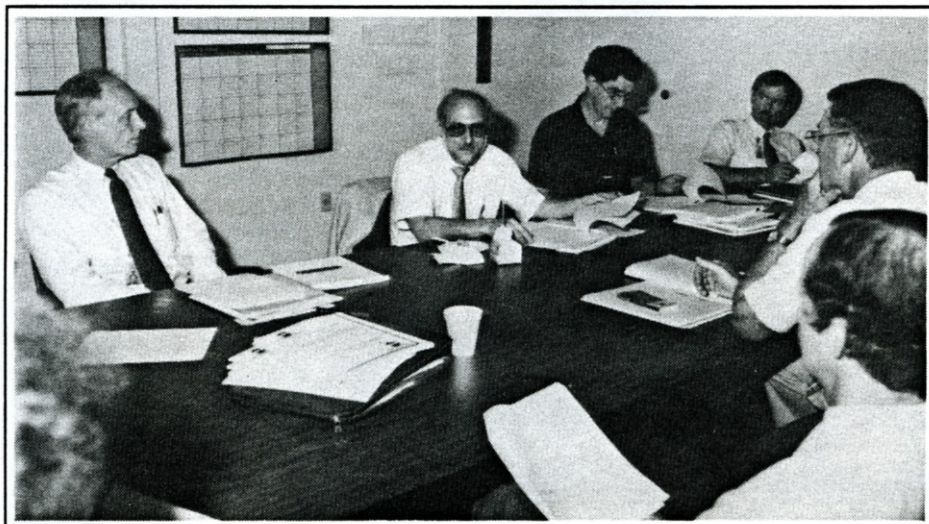
COMPACT IGNITION TOKAMAK

*Viewgraphs featuring Russian and English will be used by PPPL participants during discussions with the Soviets on possible US-USSR collaboration on the CIT Project.*

development of remote-maintenance hardware. The US delegation, on the other hand, is particularly interested in pursuing the possibility of the USSR manufacturing the additional motor-generator sets and associated power supplies required for CIT.

"The entire range of possible USSR contributions and activities related to CIT will be fully explored at the June meeting," noted CIT's Milt Machalek. "Plans call for specific joint recommendations for US/USSR collaboration to be completed by October. Any agreement to proceed will, of course, be subject to the approval of our government and that of the USSR."

In addition to Tip Brolin, other members of the delegation will include Milt Machalek, Charlie Bushnell, Dan Huttar, and Ken Young, all of PPPL, and R. J. Temkin of the Massachusetts Institute of Technology. ○



(JOHN PEOPLES)

*Members of the PPPL delegation who will participate in discussions on possible US-Soviet collaboration on CIT work on their presentations.*

# Joe File Heads PPPL Office of Technology Transfer

by A.R. DeMeo, Jr.

Each year federally funded laboratories spend about \$20 billion on research and development. In an effort to maximize the benefits citizens receive from this expenditure, Congress passed and the President signed the Stevenson-Wydler Technology Innovation Act of 1980. A 1986 amendment to this law mandates that PPPL, and all other federal laboratories with \$50 million or more in government funding, appoint a full-time Technology Transfer Officer (TTO).

"The 1986 amendment to the Stevenson-Wydler Act puts teeth into the law," noted Dr. Joseph File, who was asked to be PPPL's TTO last September. "Technology transfer has always been a goal of the federal government, but the 1986 amendment provides far greater impetus to insure that useful developments are made available, not only to private industry, but to state and local government as well. Wherever feasible, technology developed at PPPL should be made available to the public and private sectors." This will be File's primary responsibility, as Head of the newly created PPPL Office of Technology Transfer (OTT), reporting directly to Tip Brolin, Laboratory Deputy Director for Technical Operations.

Few are better qualified. With 32 years of experience as a mechanical engineering supervisor and manager, Dr. File is very familiar with the broad range of technical innovation required in the pursuit of magnetic fusion. But File readily admits no individual can be expected to spot all the potentially useful technology spawned at PPPL. For support, management has appointed a committee of technical advisors, representing a spectrum of Lab programs and activities. In addition to keeping an eye out for potential spin-offs, members of the OTT Technical Advisory Committee will help PPPL management maximize the staff's awareness of the legal requirement for technology transfer. Technical advisors currently include Joseph Cecchi, Daniel Jassby, William Langer, and Milton Machalek.

In preparing for his new job, Dr. File visited a number of major federally funded

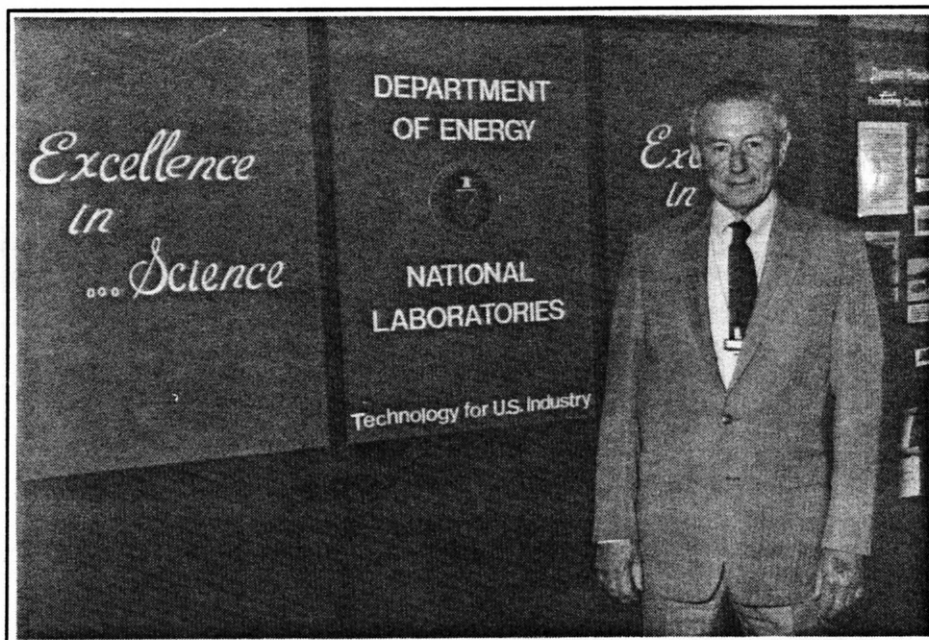
facilities, such as Lawrence Livermore National Laboratory in California, to study their plans for technology transfer. For the longer term, a Federal Laboratory Consortium, comprised of TTOs from an array of federally funded facilities, will promote the free exchange of ideas.

One of the most important elements in technology transfer is patent awareness. In his travels to other US Department of Energy (DOE) laboratories, Dr. File was pleased to learn that PPPL's very successful Patent Awareness Program is serving as a model for other labs. The OTT and its Technical Advisory Committee will supplement the Patent Awareness Program by monitoring and evaluating all patents initiated at the Laboratory, before they are forwarded to the Princeton University Office of Research Projects Administration for processing. The OTT will provide professional and scientific advice to potential PPPL inventors and assist them in the preparation of disclosure forms and in obtaining licenses, royalty agreements, and other benefits should a patent be issued. Confidentiality will be maintained. Dr. File reminds staff, "the law and

USDOE-Princeton contract now have relatively liberal provisions for royalty payments to inventors, the University, and the Laboratory. Obviously, the idea is to encourage the transfer of technology to the outside world."

Identifying industrial organizations and others who might be interested in PPPL inventions is the flip side of Dr. File's job. File also desires to interest the state and local community in PPPL's technology. He plans to work closely with the New Jersey Commission on Science and Technology, requesting the use of its resources when advantageous to PPPL. On the local level, the goals of PPPL's Technology Transfer Program merge with those of the Laboratory's Community Outreach Program. "As a good neighbor, we want to share PPPL's expertise with the local community, where needs are identified," Dr. File noted. PPPL currently has volunteers available for the Speaker's Bureau and other community relations activities and Joe hopes to expand on these by creating a Technical Volunteer Service, or TVS. PPPL staff and retirees will be encouraged to volunteer technical exper-

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(ED FARRIS)

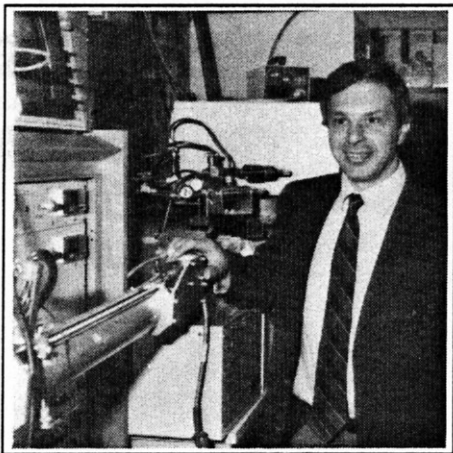
*Dr. Joseph File and the USDOE IR-100 display. The exhibit, which visited PPPL for three weeks in March and April, is indicative of the wealth of technology being generated by USDOE-funded labs.*

tise, on their own time, to schools, municipalities, and nonprofit community organizations. Other USDOE labs, such as the Lawrence Livermore National Laboratory, have established successful TVS programs.

Dr. File is committed to keeping PPPL staff informed of technology transfer activities. Initially he will publish a five year plan. But perhaps more important will be the frequent communication of the benefits accruing for PPPL, individual inventors, and institutions involved. ○

## PPPL Participates in SEMATECH

An excellent example of PPPL Technology Transfer is being demonstrated by Joseph Cecchi's participation in the New Jersey Consortium for Surface Processing Research. The group is composed of four universities (Princeton, Rutgers, the New Jersey Institute of Technology, and Stevens Institute of Technology) and the SRI/David Sarnoff Research Center.



(DIETMAR KRAUSE)

**PPPL physicist Joe Cecchi**

On May 31, the Consortium was named a SEMATECH Center of Excellence for Plasma Etching. The award followed rigorous national competition, and will bring up to \$1.5 million to New Jersey in the first year, with renewal options for five years. In addition, State voters will be asked to approve a bond issue in November which would provide another \$65 million in support of the initiative. The added funding would be administered through the New Jersey Commission on Science and Technology.

SEMATECH is a nationally based industrial consortium established to im-

prove U.S. competitiveness in the manufacture of computer microchips and semiconductors — markets increasingly dominated by Japan.

As part of its mission, SEMATECH is seeking to improve the production of fault-free semiconductor devices used in computers and other electronic components. The New Jersey Consortium for Surface Processing Research has proposed to design and deliver to SEMATECH new tools to facilitate the plasma etching of micro-electronic circuitry on computer chips. The extensive expertise of PPPL in plasma science and technology represents a major strength for the Consortium in attacking this important strategic problem. Princeton's role in the project will be headed by Cecchi who is a Principal Research Physicist and Director of the University's Graduate Program in Plasma Science and Technology.

In announcing New Jersey's selection as a SEMATECH Center of Excellence, Governor Thomas H. Kean called the award "further evidence of national recognition of the quality of research being conducted in the State of New Jersey." He described the SEMATECH contract "as a prime example of industry, university, and government working together." ○

## Found

Found in the TFTR Conference Room (B318, C-Site) a pair of men's reading glasses. Contact Dolores Bergmann, B308, C-Site, ext. 2200.

## IR-100

Dr. Szymon Suckewer and his X-Ray Laser Group were recognized by Industrial Research magazine as having developed one of the 100 outstanding technological innovations of 1986. The USDOE IR-100 display, which was loaned to PPPL in March, depicts all of the USDOE winners for that year. Dr. Joseph File, Head of the newly formed PPPL Office of Technology

Transfer (OTT), urges PPPL physicists and engineers working on innovative projects to consider entering the competition for 1989. He and the members of the OTT Technical Advisory Committee will be pleased to offer a "critical eye" and suggestions for potential entries. Details will be published this summer in cooperation with the Patent Awareness Committee.

## Office Support Staff Begins 40-Hour Work Week

On May 16th, a forty-hour work week schedule was implemented for members of the Office Support Staff. A survey conducted earlier this year by the Personnel Division showed a high degree of support for this change.

Switching to a forty-hour work week will benefit employees and the Laboratory. Office Support Staff members will receive an approximate 10% increase in pay based on the additional hours worked. Benefits are calculated on the standard work week, exclusive of overtime. Increasing the work week to forty hours results in increased contributions to the pension plan as well as to other employee benefits. The Laboratory will benefit because all staffs will be on a forty-hour week, which will make it easier to schedule and coordinate work. In addition, overtime and use of temporaries to meet work load requirements will be reduced.

It is not mandatory for current Office Support Staff members to change to the new work schedule, but if they so desire they must have their supervisor's approval. Those employees remaining on the thirty-six and one-quarter hours work week schedule will have their salary and benefits calculated at approximately 90% of the forty-hour work week base.

Office Support Staff employees should continue to record all hours worked on the standard timesheet. Any questions should be addressed to Personnel, either Steve Iverson, ext. 2007 or Gary Kater, ext. 2683. ○

## Prospect House to be Renovated

Prospect House will be closed Monday, June 13th until at least mid-September for renovation. The Faculty and Staff Club will be relocated to Stevenson Hall, 91 Prospect Avenue from June 20th through August 19th. Service here will be primarily a buffet, with both hot and cold items. Space will be available in the dining room and terrace at Stevenson. Two rooms on the second floor will also be available for special lunches and meetings, although seating is limited to a maximum of 12 and 30. Reservations can be made by calling Prospect House on ext. 7-3455.

It is planned to reopen Prospect House on a limited basis in mid-September with the Garden Room, Tap Room, and kitchen in use. The main entrance will still be closed at this time, so patrons will need to enter via the side-front entrance by the cloak room. It is anticipated that the first floor public spaces and second floor meeting rooms will be ready for use by the spring semester (1989).

Prospect House has traditionally been a very convenient location to host lunches and meetings, and it is recognized that many may be inconvenienced during this period of renovation. Departments and Offices will need to make maximum use of their spaces, such as conference rooms. The Department of Food Services is always available to cater special functions. ○

## PCB Inventory in Progress

The HazMat Section of Material Control, in conjunction with the Occupational Safety Branch, is currently conducting a polychlorinated biphenyl (PCB) capacitor inventory. The inventory is a result of a Department of Energy recommendation made last summer.

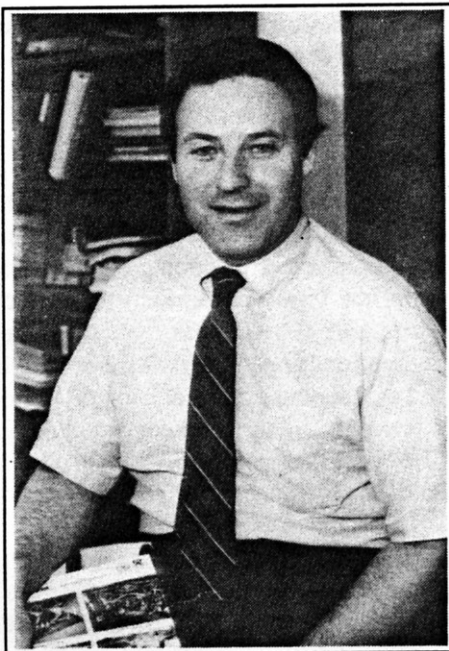
Employees who have, or think they have, PCB capacitors in their area(s) are asked to contact Scott Larson, ext. 3387, pager 536, to have the capacitors inventoried.

## PPPL People Make the Difference

by Phyllis Rieger

People usually think when someone volunteers, those on the receiving end are the fortunate ones. Not so, according to Steve Iverson and John Schivell who contribute their time and talents in a unique way.

Steve, who's Director of Personnel, and John, a Project Physicist on the Engineering and Scientific Staff, volunteer their voices so that others can learn.



(ED FARRIS)

*"I feel a strong sense of giving something back," said volunteer Steve Iverson.*

For two years, Steve has spent several hours trying to make history, among other subjects, come alive for grade school students in the East Windsor School System. A resident of the area with a son and daughter in the system, Steve transforms text onto tape by reading selected material. The tapes are then used to help students with learning disabilities understand various lessons.

"I put myself in the student's place and try to make the material exciting by using different tones and inflections," said Steve. "Enthusiasm is a key element," he added. Steve usually meets with a teacher early in the morning to discuss the chapters he'll be transcribing. He then takes the text

home or spends some of his lunchtime taping.

Steve said, "By volunteering, I feel a strong sense of giving something back to my community. It's my way of contributing."

John Schivell, responsible for developing bolometers which monitor the plasma in the TFTR, shares Steve's sense of fulfillment although he reads for a totally different audience.

For six years he's helped bring technology and science to others by reading for Recording for the Blind (RFB), a national organization headquartered in Princeton, founded for the sole purpose of loaning recorded educational books free of charge to people who cannot read standard printed material because they are blind or otherwise "print handicapped."

Operating since 1958, the Princeton Unit of RFB is one of 29 studios country-wide which produce cassette recordings.

Challenged by a poster he saw on one of the bulletin boards asking for volunteers who could describe a scientific graph, John called the Princeton studio. During his Harvard days, he had auditioned to be a radio announcer but didn't make it. Now, he saw an opportunity to use his voice.

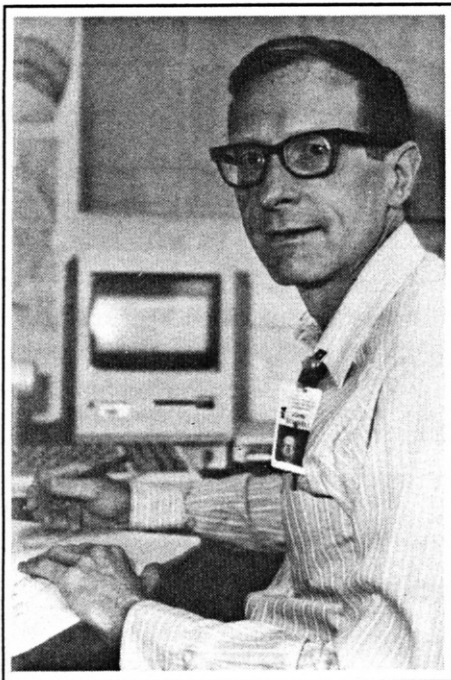
John explained RFB, which has high standards, required him to audition too, as do all RFB readers. A committee of 14 volunteers, many on the University's faculty, evaluated his tape for knowledge of subject matter, voice quality, pace, delivery, and enunciation.

"I usually go to the studio one day a week and cover about 10 pages of text," said John. "Some books are easier than others to read; many present a challenge," he said modestly. Could you explain calculus and analytic geometry using only your voice?

"I learn a lot myself by reading for RFB," said John who often is assigned college-level text in physics and math, and occasionally sociology. Some books he's read include: "Basic Chemical Kinetics" by Eyring, Lin, and Lin and "Robotics" by D.R. Malcolm.

"It's a rewarding experience for me because I can use my scientific knowledge

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(ED FARRIS)

*Physicist John Schivell has contributed over 300 hours of volunteer reading.*

in a different way which directly helps others. I've also met other volunteers and those from my community," said John, a Princeton resident.

According to Anne Young (wife of Ken Young), director of the Princeton studio, "There's a great need for qualified readers especially in the technical fields. But volunteers are also needed to monitor, mark books, duplicate tapes, and do various other jobs required to turn out finished recordings. Those interested can call 609-921-6534." ○

## TRANSITIONS

The HOTLINE offers congratulations to the following new parents:

**Gary Hill** in Materiel Control and his wife, Cynthia, whose son, Dylan Stephen, was born May 10.

**Karen Holloway** in General Accounting and her husband, Carl, whose son, Clayton Ryan, was born May 25. ○

## Obituaries

**Joseph Kondash, Sr.** died May 14th. Mr. Kondash, who retired in 1984, was formerly a member of the Maintenance Division.

**Lee Schultz** died May 16th. Mr. Schultz, who retired in 1980, was formerly a member of the Coil Shop. ○



**TAKE A BITE OUT OF CRIME**

Traveling for business or pleasure? Follow these tips for a safe trip.

- Carry minimum luggage.
- Label each piece of luggage with your name and business address.
- Be sure your luggage can be locked.
- While waiting, keep your luggage close to you.
- Hold your purse under your arm. Carry a wallet in an inside coat or front trouser pocket.
- Don't look vulnerable or lost. Walk with a purpose and stay alert to what's happening around you.
- Leave important nontravel papers, such as your social security and local credit cards, at home.
- If traveling to a foreign country, photocopy all documents, including passport, credit cards, and tickets, before leaving home and store copies in the hotel safe.
- Learn the location of hotel exits.
- Ask the hotel about the safety of the neighborhood and which areas to avoid.
- Ask the bellman for directions and costs before taking a cab.
- Use traveler's checks and credit cards instead of cash whenever possible. ○

## Travel Tip



To receive the lowest possible fares on international flights, it is necessary to make reservations at least twenty-one days before departure. ○

## Plant Care while on Vacation

You work all year to grow your house plants. Now it's time for vacation and you wonder who will care for them. If this is a familiar scenario, you might find the tips below helpful:

- Stand plants on bricks submerged in water in a tub. The bricks absorb water, keeping the plants happy.
- Place all houseplants in the bathtub on old, thickly folded bath towels in a few inches of water. They will absorb moisture as needed.
- Place one end of a clothesline into a pail of water and bury the other end in the plant soil. Make sure the water pail is higher than the plant. ○

## The Wrong Kind of Hot Dog

With vacation season upon us, many families will soon be heading out for that favorite park or campground. Parents, kids, personal belongings, and maybe even your dog or cat will be crowded into the family car for the trip.

If you're planning to take your pets along on any of this summer's outings, however, please remember that on a hot summer day, temperatures inside a closed car can quickly rise to 140° F. or more. Small animals like dogs and cats will soon succumb to heat stroke or dehydration if left for even a short time in such temperatures.

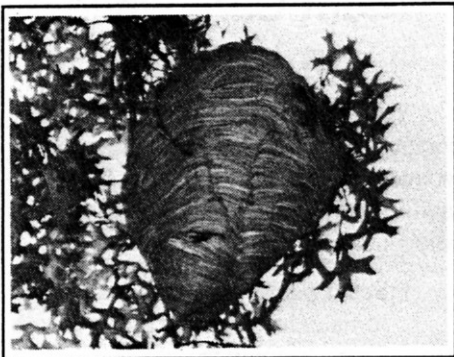
So don't risk the life of your favorite animal friends by leaving them in a closed car—even "just for a minute." Instead, bring a leash and let them walk with you. You'll both enjoy it! ○

## Thank You

I wish to thank my friends and co-workers here at PPPL for the kind thoughts and concern expressed with cards, telephone calls, gifts, and flowers during the recent illness of my mother, Roberta Marshall.

—Gail Lynne Marshall

## Don't Bee Stung



(LINDA FAHNER)

This wasp's nest was discovered in the trees overhanging the lower C-Site parking lot last year. It has been removed, but everyone should be aware that bee and insect bites cause discomfort and can be dangerous. Some simple home remedies that can be used to relieve discomfort are:

- Insect bites: Apply a poultice of either cornstarch or baking soda,

mixed with vinegar, fresh lemon juice or witch hazel. Or, you can use a paste made of meat tenderizer and water. Rubbing bites with wet bar soap helps relieve the itching.

- Bee stings: Try applying a fresh cut slice of raw onion to the sting. It helps draw out the poison. Hold the onion in place with tape. ○

## Safety Training

The Occupational Safety Branch has scheduled the following safety training courses for July:

<u>Course</u>	<u>Date/Time/Location</u>
PCB Handling	12 July, 1:30-3:00 p.m. Safety Training Trailer
Fire Extinguishers	19 July, 9:00-10:30 a.m. Safety Training Trailer
Radiation Safety Training	19-21 July, 8:30 a.m.-12:00 noon LOB Auditorium
Office Safety	27 July, 9:00-10:00 a.m. Safety Training Trailer

Employees must obtain permission from their immediate supervisor to attend these classes. Supervisors should call Mary Ann McBride at ext. 3468 to enroll their employees.

Basic Safety for new employees is offered the first and third Mondays of the month at 1:30 p.m. in the Safety Training Trailer.

CPR is offered every Tuesday at 9:00 a.m. in the Safety Training Trailer. Contact M. McBride, ext. 3468, to enroll.

The PPPL HOTLINE is issued by the Princeton University 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 Carol Phillips, Editor, HOTLINE, P.O. Box 451, Princeton, NJ 08543 or telephone 609-234-2754; interoffice correspondence should be addressed to Room B366, James Forrestal Campus, C-Site.

This issue of HOTLINE designed by Andy Baird and Carol Phillips.