

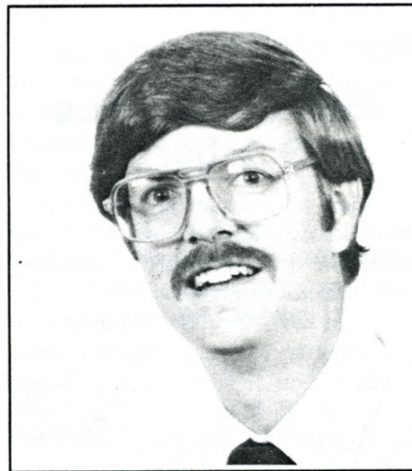
Ulrickson Receives FPA's 'Excellence in Fusion Engineering' Award

Dr. Michael A. Ulrickson received the "Excellence in Fusion Engineering" award from Fusion Power Associates (FPA) at its annual meeting and symposium held in Santa Fe on September 6. The award is given to recognize and encourage individuals in the early part of their careers who have shown outstanding technical accomplishments and leadership potential in the field of fusion engineering. Mike is the second recipient of this award which was established in memory of Professor David J. Rose who died in 1985 and was considered a pioneer in the new discipline of fusion engineering.

Mike, who is the head of the Limiter and Impurity Control Section in the TFTR Tokamak Operations Division, was selected by Fusion Power Associates for his pioneering efforts in "the design, development and testing of graphite materials for

use as limiter and protective armor in magnetic confinement devices." In addition to receiving a plaque, he also received a check for \$500.

Mike began his studies of graphite materials while working on PLT (Princeton Large Torus) in 1976. He later helped design the graphite limiters and protective armor for PDX (Poloidal Divertor Experiment) and TFTR (Tokamak Fusion Test Reactor). Graphite limiters and divertors are in the baseline designs for the Compact Ignition Tokamak (CIT) and the International Thermonuclear Engineering Reactor (ITER). Limiters define the edge of the plasma and prevent the plasma from striking the vacuum vessel. The limiter absorbs the power conducted and convected to the plasma edge. The plasma-limiter interaction has a strong influence on the plasma impurity content and plasma performance.



(Photo by John Peoples)

*PPPL Physicist Mike Ulrickson was recently awarded the FPA's Excellence in Fusion Engineering award for his work with graphite materials for limiters and protective armor in magnetic confinement devices. **

October is Energy Awareness Month



(Photo by John Peoples)

Bob Rogers (l) of the DOE /PAO and Steve Ragolia (r) of the Plant Engineering Branch stand in front of the DOE Energy Awareness Month poster on display in the LOB Lobby.

"Energy Makes America Work," shouts the DOE Energy Awareness Month Poster as it proclaims October Energy Awareness Month. To help remind everyone of the importance of energy and the need to continue to use our energy resources wisely and efficiently, the DOE poster will be on display around the Laboratory. Featuring the American bald eagle and America's energy resources—hydro-power, coal, oil, solar, wind, nuclear, natural gas, and geothermal—this poster has been distributed to schools, libraries, state energy offices and energy-related organizations around the nation.

"Over the past few years PPPL has been very successful in its conservation efforts," said Bob Smart, Associate Head of Administration. He continued, "Here at

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United Way Campaign Set to Kick Off October 25 at PPPL.

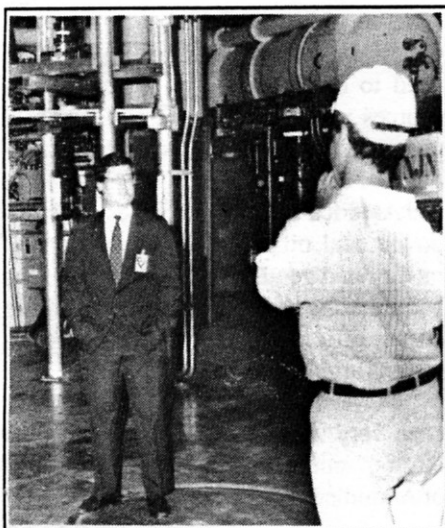
PPPL we have a key role in the nation's long-term efforts to provide energy without adversely impacting the major environmental problems, such as the greenhouse effect and pollution. In the short-term, as a major energy consumer, it is important that PPPL continues to make strong efforts to practice good energy conservation. This helps save our limited natural resources while at the same time reducing our very high energy costs. The important factor now is to keep our momentum going." *

'Sun of Man' Airs October 6

Many of you have noticed the NJN (New Jersey Network) personnel and cameras in various areas of the Laboratory within the last five months.

Marc Levenson, NJN health and science reporter, has been filming a documentary on fusion energy. Called "Sun of Man," the hour-long show will air Thursday, October 6 at 8:00 P.M. Many PPPL personnel are featured and different areas of the Lab including the TFTR control room, the Test Cell, and the Monday morning meeting of physicists will be shown.

NJN includes 23/WNJS Camden, 50/WNJM Montclair, 52/WNJT Trenton, and 58/WNJB New Brunswick. However, you're advised to check your local television guide for the exact station.



(Photo by Dietmar Krause)

Marc Levenson, NJN reporter, filmed parts of "Sun of Man" at PPPL. *

PPPL Authors to Present Papers at IAEA Conference

The 12th International Conference on Plasma Physics and Controlled Nuclear Fusion Research will be held in Nice, France, 12-19 October. The conference, which is organized biennially by the International Atomic Energy Agency (IAEA), is considered by many the premiere conference for plasma physics. This year, sixteen PPPL authors will present papers covering work at the Laboratory, and Doug Post will present a paper on the International Thermonuclear Engineering Reactor (ITER). Papers to be presented at the meeting are:

- "An Overview of TFTR Confinement with Intense Auxiliary Heating," presented by M. Bell
- "Transport in TFTR Supershots," presented by M. Zarnstorff
- "Stability of TFTR Plasmas," presented by J. Manickam
- "Transport Studies on TFTR Utilizing Perturbation Techniques," presented by P. Efthimion
- "Tritium Retention and Conditioning of Graphite Limiters in TFTR," presented by M. Ulrickson
- "Fusion Product Measurements in TFTR," presented by J. Strachan
- "Current Drive and Confinement of Angular Momentum in TFTR," presented by S. Scott
- "ICRF Heating on the TFTR Tokamak for P_{RF} up to 5 MW," presented by J. Wilson
- "Formation and Heating of Peaked Density Profiles Produced by Pellet Injection in JET," presented by G. Schmidt
- "Initial Results of the PBX-M Experiment," presented by M. Okabayashi
- "Measurements of Confinement Characteristics of S-1 Spheromak," presented by M. Yamada
- "DC-Helicity Driven Tokamak," presented by M. Ono
- "Alpha Particle Loss in Tokamaks," presented by R. White

- "Theoretical Studies of Enhanced Confinement Properties in Tokamaks," presented by W. Tang
- "Theory of Energetic/Alpha-Particle Effects on Magnetohydrodynamic Modes in Tokamaks," presented by L. Chen
- "CIT Physics Basis, Performance Analysis, and Engineering Design," presented by R. Parker

In addition to those presenting papers, H. Furth, P. Rutherford, D. Meade, R. Goldston, F. Perkins, and K. McGuire hope to attend the conference. *

New Assignments

Olga Bennett, Administrative Assistant to Associate Director for Administration Richard Rossi, has been assigned to the Personnel Division on a part time basis. In this dual position, Olga will assist Personnel on various projects and activities. One of her first assignments is as the new Laboratory administrator responsible for C-Site Cafeteria Operations and Liaison. Any questions or problems concerning the cafeteria or cafeteria operations should be directed to Olga, ext. 2651.

Deborah A. Smith has been named Head of the Automated Information and Management Branch in the Information Resource Management Office. This new branch is responsible for operations, documentation, data base management, and hardware and software support for the Administrative Operations Department. *

Good Relations

Current trends and issues in U.S. science funding and technology prompted a delegation of 11 educators from the People's Republic of China to visit the U.S.

Invited by the U.S. Department of Education, the group toured PPPL as part of a month-long program administered by the National Committee on U.S.-China Relations. According to the Committee, "The delegation's primary focus is the variety of American policies which support university-level scientific research and to facilitate the transfer of research findings into economic activity."

PPPL physicist Norton Bretz led the group on a tour of the Laboratory. At an earlier discussion, PPPL physicist Joe Cecchi talked about the Laboratory's rela-

tionships with industry and technology transfer and physicist Tom Stix outlined the Laboratory's role in graduate educa-

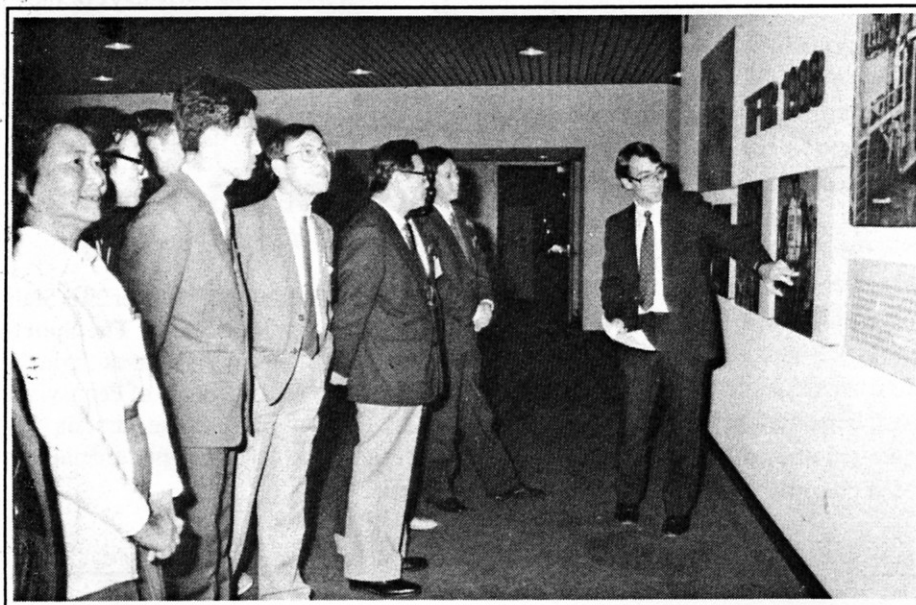
Adopt an Animal: New Homes are Needed

Wanted: Home for four kittens left at Princeton Nursery. Dark grey fur with white tips (possibly part angora), three to four weeks old. Will be available in two weeks. First shots included. Call Sara, 924-1776.

Wanted: Home for Ashes. Female, gray, one-year-old cat, declawed (must be an in-door cat), spayed, and has all shots. Owner allergic and must give up. Call Barbara Sarfaty, ext. 2440.

Wanted: Home for 12-13 week old German Shepherd puppy. Black/tan markings, all shots, housebroken, good with children. Call Jack Thompson, 883-3595.

Available: Home for a small horse. Farm owner is looking for a small horse for pre-teen son. Call Marilyn, ext. 2656. ✱



(Photo by John Peoples)

Norton Bretz talks with a delegation from the People's Republic of China. ✱

PPPL ORC Employee Opinion Survey Response

Career Development Resource Shelf Now Available to Employees

"New Horizons," "Accounting to Zoology," and "When Mother and Father Work," are just a few of the interesting books that can be found on the new Career Development resource shelf located in the PPPL Library. Established by Janet Buckner, PPPL Career Counselor and leader of the Career Counseling Workshop, the shelf is intended as a resource for Laboratory employees interested in identifying and exploring various career options and career paths.

Along with the many books there are many brochures and catalogues for our local colleges and universities, pamphlets and information on college entrance requirements, and standard resource references such as the "Occupational Outlook Handbook."

Bill Johnson, training and development manager, said, "we are delighted with how well the Career Counseling Program has developed and would like to encourage everyone to take advantage of this new library resource."



(Photo by Dietmar Krause)

PPPL Librarian Jane Holmquest (r) shows Lena Scimeca one of the many books on career development now available to interested employees. ✱



Computer Corner

Macintosh Software Warning

Macintosh computers delivered recently have included Apple's "System Software Update Version 6.0." Additionally, recent software manuals (such as MacDraw II) have recommended the use of System 6.0 over older system software. **The 6.0 system software was released in error by Apple.** It contains, at last count, 66 bugs. These bugs cause problems (ranging from annoying to catastrophic) with commonly used programs such as Excel. Apple is working on a fixed version, 6.02, which they hope to release in late October. In the meantime, *stick with what you're using now.* For the vast majority of Mac users, that is Apple's 5.0 system software, which contains (yes, I know it's confusing!) System 4.2 and Finder 6.0.

If you're not sure what you have, pull down the Apple menu and choose "About the Finder" to get a description of your current system software. If you already have the new, buggy software (System 6.0/Finder 6.1), get a copy of the 5.0 system software from the Macintosh Software Library (C-Site A127 or 307 College Rd. Rm. 154) and install the older version in place of the new.

MacDraw II users: even though the manual says the 4.2/6.0 combination is "not recommended," Claris (MacDraw's publisher) requests that you ignore the manual's recommendation and stay with the 4.2/6.0 system software until Apple issues a corrected version. If you have questions about Apple system software versions, you can call the Macintosh Hotline at 2792.

Macintosh Software Demo

On October 17 at 4:00 p.m. in the MBG Auditorium, Ashton-Tate will demonstrate the following software:

FullWrite Professional
Full Impact
Dbase Mac

Contact D. Barnes, ext. 2557, for further information. ✱

Let's Talk Benefits

Wednesday, October 19th is the day all of your TIAA/CREF questions will be answered. Ms. Katherine Stetts, an Advisory Officer with TIAA/CREF servicing Princeton will be at the Laboratory to give two presentations to the staff. The first session will be from 10:00 to 11:30 a.m. and the second will be from 1:30 to 3:00 p.m. Both will be given in the Melvin B. Gottlieb Auditorium at C-Site. Items Ms. Stetts will address include TIAA/Pension Accounts, Supplemental Retirement Annuities, and Money Market Accounts. A question and answer session will follow each presentation. ✱

On Camera

PPPL's video magazine, "In Focus," will celebrate its first birthday by taking a look at the early days of the Lab with Dr. Lyman Spitzer when it airs in mid-October. Times and dates to be announced shortly.

Staff Day Scheduled for October 29

Mark your calendar! October 29 is Staff Day. Princeton, predicted by **The Sporting News** to "... win their first title in 19 years" plays the University of Pennsylvania, winner of five of the last six Ivy League titles. Watch for more details in **HOTLINE**. ✱

Safety Training

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

<u>Course</u>	<u>Date/Time/Location</u>
Radiation Safety Training	4-6 October, 8:30 a.m.-12:00 noon Theory Conference Room
Forklift Operator Training	12 October, 8:45 a.m., all day Safety Training Trailer
Confined Space Entry	13 October, 1:30 - 3:30 p.m. Safety Training Trailer and 20 October, 9:30-11:30 a.m. Safety Training Trailer
Portable Power Tools	18 October, 1:30-2:30 p.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 is offered every Monday 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 Mary Ann McBride, ext. 3468, to enroll.

Annual Picnic Rates an A+

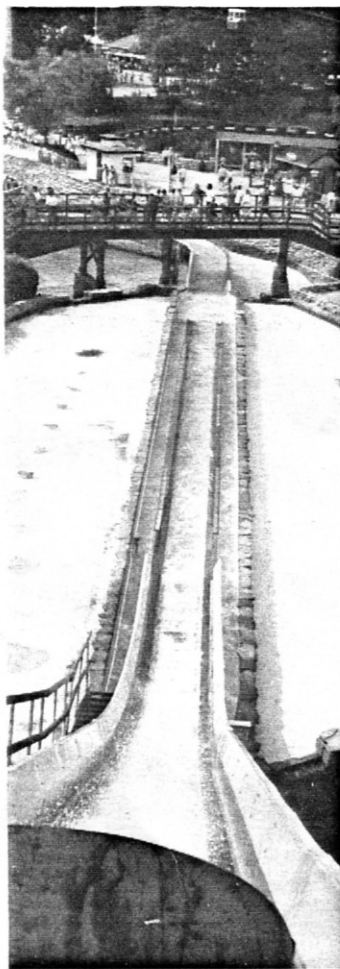
The sun was warm and bright for the 650 PPPL employees and their families who attended this year's Annual Picnic at Great Adventure. Word of mouth of last year's successful outing helped to increase ticket sales by 30%!

Beginning at 10:00 a.m. when the park opened, employees were able to participate in all of the park's activities including the safari, shows, games, and rides. Lunch featured tasty barbecued beef sandwiches, hot dogs, macaroni and cheese, corn on the cob, green beans, tossed salad, rolls, ice cream, and ice tea, soda, coffee, and beer at the Best of West Restaurant.

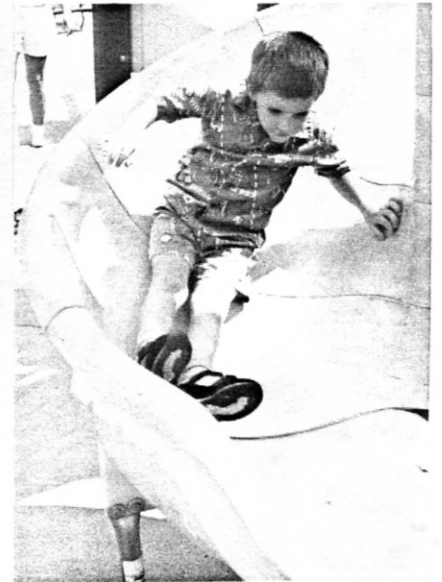
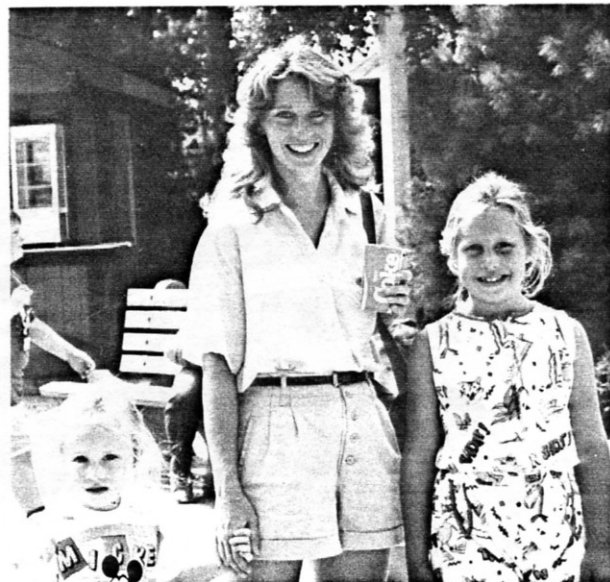
Photos taken by Linda Fahner and Carol Phillips

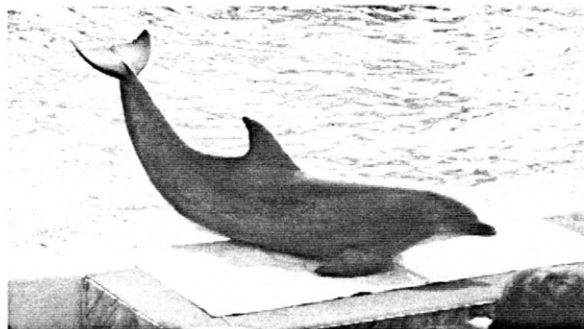


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**Great
Adventure
1988**





Staff Day Theme Changed

Princeton's 16th Annual Staff Day will be held October 29th at Jadwin Gym beginning at 10:45 a.m. Staff Day is the University's way of saying thank you to the bi-weekly staff for all their contributions throughout the year.

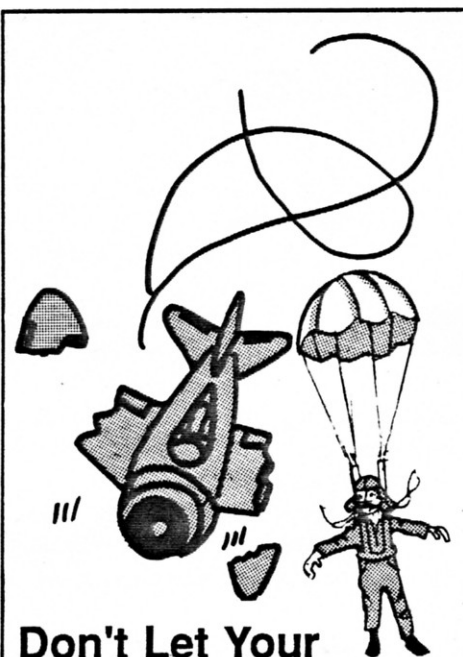
This year, the event has a new look — that of an old-fashioned street carnival. Along with the Princeton Marching Band, the Tiger and Tigress mascots, the Cheerleaders, and the mimes, game booths will be featured. Here, staff will have a chance to test their skill and luck to win Princeton prizes.

Even the lunch is new this year. "Food booths" will replace the traditional buffet. Among the goodies employees will be treated to will be hot dogs, salad, soup and chowder, chicken fingers with dipping sauces, sausage sandwiches, baked potatoes with toppings, nachos, chips, pretzels, candy apples, and cupcakes and cookies. Beverages will be found under the "big top" (tent).

At 1:00 p.m. it's football at Palmer Stadium! This year Princeton meets the University of Pennsylvania in what should prove to be a very exciting contest.

To attend this event, bi-weekly staff must pick up their tickets between October 25th and October 28th. PPPL employees at

C-Site can get their tickets at the Receptionist Desk in the LOB Lobby; those at 305 and 307 College Road can get theirs at the Receptionist Desk in 307. ✱



Don't Let Your Wings be Clipped!

Be sure to get all conference abstracts and papers, poster session documentation, and journal articles patent cleared before presentation. Patent clearance can be obtained using an abstract or a draft of a paper and takes about two weeks.

TRANSITIONS

The HOTLINE offers congratulations to the following employees:

Robert Barry who retired October 1 after 24 years of service. Bob was a Technical Assistant in Project and Operational Safety in Technical Operations.

Linda Drucker of the Computer Division and **Kenneth Siber** who were married June 25 in Hawaii.

Vianna Gleaton of Quality Assurance and Quality Control and **Eugene Duncan** who were married August 6.

Frank Mangone of TFTR Neutral Beams and his wife, **Diane**, whose son, **Matthew**, was born October 4.

Thomas Murphy who received his doctoral degree on September 27. His thesis was titled "Tokamak Diagnostics using Nuclear Techniques." Tom has taken a job at the University of California at San Diego.

For Sale

For Sale: 1984 Buick Skyhawk, 2-door, dark blue. Original owner and garage kept. 48,000 miles, power steering, brakes and windows, auto transmission, air conditioning, sun roof, AM/FM stereo, spoke wheels, and rear defrost. Excellent condition. \$4,395. Call Ceil, ext. 2036. ✱

DeMeo Interviews Dr. Spitzer

A new season of "In Focus," PPPL's video magazine, premieres on Tuesday, October 25 at 12 noon with an interview by Information and Administrative Services Head Tony DeMeo with Dr. Lyman Spitzer, the Lab's first director.

Dr. Spitzer, whose picture is in the lobby exhibit hall, talks about the early days of Project Matterhorn and how the Lab has evolved since 1951 when he began his work.

Dale Meade, Head of TFTR Project Management, will update us on the tokamak's recent achievements. Other features include a look at one employee who has something in common with Paul Newman and PPPL's softball team will be seen in action.

"In Focus" can be seen on October 25 at 12 noon and 1:00 p.m. in the Gottlieb Auditorium; on October 26 at 12 noon and 1:00 p.m. at 307 College Road, Room 3; and on October 27 at 1:00 p.m. in the Auditorium.



(Photo by John Peoples)

Lyman Spitzer (right) reminisces with Tony DeMeo about the early years of the Laboratory. ⚡

Emergency Exercises Slated

by Phyllis Rieger

Over the next year Laboratory employees will participate in various types of drills to practice their readiness for emergencies.

According to Deputy Director of Public Safety Jack Anderson, "Emergencies can be handled effectively when we're prepared and in control."

Jack explained, "A drill will be held monthly and each will be based on different situations. Some drills will be Lab-wide and involve activation of the emergency operations center."

Bob Smart, Associate Head, Administration Department, pointed out, "The purpose of these drills is not to test our Emergency Services Unit; Unit personnel already have an excellent training program—both on and off-site—involving real fires and other simulated emergencies. Rather, it is to give our other employees, especially managers, supervisors, and Area Safety Coordinators the opportunity to get involved in hands-on emergency exercises."

According to Bob, the critical phase of an actual emergency, as well as these drills, occurs as soon as the emergency first arises. Employees at the scene must call Public Safety, evacuate buildings, keep people clear of dangerous areas and be prepared to provide assistance to our security and emergency services operations personnel.

Bob said, "As in a real emergency, employees at the scene must assume responsibility until help arrives. In most cases drills will be terminated shortly after the arrival of Public Safety personnel. To be worthwhile, these drills need the full cooperation of everyone at the scene or otherwise involved."



Time to Set Clocks Back

It's that time of year again. On Sunday, October 30th be sure to turn your clocks **back** one hour. Officially the change takes place at 2:00 a.m., but for those of us who aren't night owls or insomniacs it is sufficient to do so before going to bed or first thing in the morning. See you bright and early Monday! ⚡

TFTR 'Work' Course

All Lab personnel and subcontractors who require unescorted entry into the TFTR Test Cell or who work in the Test Cell and/or the Test Cell Basement must attend the course "Orientation on Work Practices in the TFTR Test Cell and Test Cell Basement." This course is next being offered Friday, October 28 from 2:30 to 3:30 p.m. in the D-Site Training Trailer. For more information contact M. Leonard, ext. 3115, Rm B310, C-Site. ⚡

United Way Fund Drive Kicks Off Today

by Carol Phillips

The 1988-89 United Way Fund Drive kicks off today at PPPL. The Laboratory has set new goals this year to show our support for the United Way and the services it provides. "Based on the success of the last few campaigns, a participation rate of 70% and a total contribution of \$24,300 are worthy and attainable goals for this Laboratory," according to Jim Clark, PPPL's Deputy Director for Administrative Operations and United Way Campaign Chairman.

"Our primary goal is to bring up the participation rate," said Clark, who firmly believes that participation is more important than how much is given. "When we participate in the United Way, we are saying to our neighbors, the communities around us, that we know they are there and that we care about them. It is a way for us as a Laboratory to reach out and give them something back for their continuing support," he said.

Clark emphasized that, "A person shouldn't worry too much about the amount he or she can give, because small donations have a way of adding up. For example, if every PPPL employee gave only four dollars a month (the cost of a can of soda and a candy bar each week), this would result in a total Laboratory donation of over \$48,000—a very substantial contribution."

This year the United Way-Princeton Area Communities is celebrating its 50th anniversary. In 1938, when it held its first fund-raising campaign it was known as the Community Chest. That year, it raised nearly \$70,000 to support 11 agencies. This year the goal is \$2.6 million, and the number of agencies is 30. Employee and individual donations accounted for over 65% of the \$2.3 million raised last year. Wide participation really counts.



(Photo by Dietmar Krause and John Peoples)

Volunteers play a major role in PPPL's United Way Fund Drive. This year over 50 volunteers will be seeking their fellow employees support for the United Way. Show you care, say "yes" when you're asked to give.

The United Way and the Laboratory realize that many employees may be hesitant to give at work because they want to support their home communities. To accommodate this and to allow PPPL to receive credit for its employees' participation in the United Way at the same time, a space has been provided on the pledge card where you can designate the county (Bucks, Mercer, Burlington, etc.) you want to receive your donation. You can also list the agency or agencies you want your donation to go to.

Area Volunteers will be distributing pledge cards to their fellow employees starting today. Fill yours out now. Your contribution does make a difference. If you have any questions regarding the United Way, or if you need additional pledge cards, contact Mary Ann Brown, United Way Coordinator, ext. 3045. *

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Incentive Added to United Way Campaign Fund

by Phyllis Rieger

To add incentive to this year's United Way fund-raising goal of increased participation and dollars, the Engineering Department issues this challenge: any other group attaining a higher percentage of participation than Engineering (and Jack Joyce says "No Contest!") will be treated to a party at the Gun Club.

According to Jack, designated as team leader for the Engineering group, "The Lab's been divided into five groups, each with a team leader. Besides Engineering these include: Research—Don Monticello; Administrative Operations and Director's Office—Bob Smart; TFTR—Halsey Allen; and the Deputy Director for Technical Operations Office, CIT, and Experimental Projects—Harry Howard."

Mary Ann Brown is United Way Coordinator for the Lab's campaign. "I'll be posting the participation percentage daily for the first week," said Mary Ann.

"Then the participation rate will be charted weekly. Rate graphs can be seen in the LOB lobby and the reception areas of 305 and 307. I'll also be posting information on the bulletin boards."

Jack, who's serving his third year as a director on the board of the Princeton Area United Way, said, "Over the last two years the Engineering Department has made substantial increases in participation in the United Way Drive. We're sufficiently enthusiastic about this year's effort to raise funds and participation to generate this challenge to the other groups in the Lab to exceed Engineering."

Is that so, Jack? Well, your fellow team leaders respond:

"There are challenges and there are real challenges," said Harry Howard. "I have my work cut out for me. Hear this Jack. Engineering doesn't stand a chance."

Don Monticello said, "Research has no comment and is posturing at this time."

The serious-minded Halsey Allen said, "The United Way challenge issued by Engineering should speak to the conscience of every member of the PPPL staff."

"I believe that the result will benefit not only agencies represented in this campaign but the Lab as a community and, more importantly, each individual participant who invests a part of himself/herself in reaching out to families in need."

And Bob Smart said, "Don't believe everything that you hear in an election year! Administration beat Engineering last year and we're planning another victory celebration this year."

Who'll win? Nobody knows at this point but one thing is certain. The United Way does depend on you! ✨

Win Free Meal at Local Restaurant!

Eight Gift Certificates to be Given Away during United Way Campaign

Would you like the chance to eat at a local restaurant as a guest of the Laboratory? How, you ask. The answer is simple. Just donate \$20 or more to the United Way and you will automatically be eligible to win one of eight \$25 gift certificates the Laboratory is giving away during this year's United Way campaign.

Beginning Monday, October 31 and for three Mondays there after, two names will be drawn from a basket containing the names of all \$20-plus givers. How many chances you have to win depends on when you return your pledge card. Once an employee's name is placed in the basket it remains there until the contest is over. Odds for winning decrease as names are added to the basket, so it's to your advantage to get your donation in early

So how do you get your name in the basket? Return the yellow United Way pledge card as soon as possible. Area Volunteers will begin distributing the pledge cards on October 25. Donation envelopes may be given to your Area

Volunteer or an you can return the envelope yourself to Mary Ann Brown, Room B354, C-Site. Envelopes received by noon October 28 are eligible for the October 31 drawing; all those received by noon November 4 will be included in the November 7 drawing; those received by noon November 11 will be in the November 14 drawing; and those received by noon November 18 will be added for the November 21 drawing.

How do you know if you've won? All winners will be notified by telephone and their names will be posted in the LOB Lobby and at 305 and 307 College Road near the Engineering Department's "Challenge" scores.

Giving to the United Way is easy. Contributions can be made by check, payroll deduction, or periodic billing, but remember, to be eligible for the drawing and the \$25 gift certificate, you must give at least \$20 for the year. Take a chance. You can't lose when you give the United Way. ✨



The Symbol

You have seen this symbol around—at health agencies, day care facilities, neighborhood centers and, of course, on all United Way posters and publications. But did you know the symbol's very simple, yet universal message?

At the bottom is a helping hand. The hand symbolizes the services and programs supported by the United Way that in turn support the people in our community.

The image in the center, based on the universal symbol of mankind, is cradled by the helping hand. It shows that all people are supported and uplifted by United Way efforts.

A rainbow springs from the helping hand, representing the hope of a better life possible through the United Way.

In these simple figures is the sum total of the United Way philosophy—to promote voluntary organizations in their efforts to provide a better life for us all.

The United Way. It brings out the best in all of us. ✨

PPPL United Way Volunteers—They Make it Work!

<u>Area</u>	<u>Volunteer</u>	<u>Extension</u>
Accounting and Financial Control	Noreen Solly	3510
Administration Department Office	Gloria Pollitt	2653
Applied Physics	Betty Carey	2646
CIT Studies	Gail Marshall	3517
Controller's Office	Marie Iseicz	2456
Deputy Director for Technical Operations Office	John Wheeler	2082
Director's Office	Letty Wohar	3048
Emergency Services	Skip Clayton	3166
Engineering Department Office	Mary Ann Brown	3045
Engineering Analysis Division	Carol Gill	3355
Engineering Computer Division	Jack Abraitis	3004
	Michaela Mole	3699
	Anne Romano	3362
Electronic and Electrical Engineering Division	Mel Gensamer	3042
Engineering Drafting Division	Janet Popp	3034
Experimental Projects	Virginia Baunach	3161
	Bob Ellis, Jr.	3302
Graduate Affairs	Dinah Larsen	2489
Information Resource Management	Debbie Smith	2575
QA/QC Operations	Grace Emma	2201
Materiel Control	Joyce Bitzer	2714
Mechanical Engineering Division	James Bates	3028
	Jack Mount	3144
	Bill Steer	3065
	Tom Steer	3065
Occupational Medicine	Faith Robak	2869
PBX-M	Madge Mitas	3100
Personnel	Ceil O'Brien	2036
Plant Engineering	Dominic Bisanzio	3559
	Ed Gilsenan	2887
	George Kalescky	2949
	Edna Kalmus	3384
	Mark Kijek	3417
	Louise Schaufler	3306
	William Taylor	2465
Procurement	JoAnn Palladino	2998
Project and Operations Safety	Elaine Kozinsky	2600
Research Department Office	Barbara Sobel	2602
TFTR Diagnostics	Janet Hergenhan	2675
	John Lowrance	3374
	Hal Nastelin	2818
TFTR D-T Systems	Don Knutson	3007
	Ann McKee	2198
	Gale Stevens	3575
TFTR Heating Systems	John Frankenberg	2844
	Tom O'Connor	2230
TFTR Physics Program	Chris Ritter	3347
TFTR Project Office	Dolores Bergmann	2200
TFTR Tokamak Operations	Rosemarie Fuchs	3334
	Sonja Patterson	2310
	Anne Rosenwasser	3303
	Phyllis Schwarz	3192
	Randy Wilson	2061
Theory Division	Barbara Sarfaty	2440
X-Ray Laser Studies	Sheryl Wasylenko	3277

United Way Agencies

American Red Cross-Princeton Area Chapter
 Association for Advancement of Mental Health
 Better Beginnings Child Development Center
 Big Brothers/Big Sisters Association of Mercer County
 Boy Scouts of America—George Washington Council
 Camp Fire Girls and Boys Self-Reliance Programs
 Catholic Welfare Bureau: Child Abuse/Family Violence Program
 Child Care Connection, Inc.
 Children's Home Society of New Jersey
 Community Guidance Center of Mercer County
 Crawford House
 Deaf Contact
 Delaware-Raritan Girl Scout Council
 Family Counseling Service of Somerset County
 Family Service Princeton Area
 Florence Crittenton Home
 Jewish Community Centers of the Delaware Valley
 Jewish Family Service of the Delaware Valley
 Mercer Unit—Association for Retarded Citizens/NJ
 Princeton Area Council of Community Services
 Princeton Community Homemaker: Home Health Aide Service
 Princeton Nursery School
 Princeton Senior Resource Center
 Rape Crisis Program of the Trenton YWCA
 Rolling Hills Girl Scout Council
 University-Now Day Nursery
 Womanspace
 YMCA of Hightstown/East Windsor
 YMCA of Princeton
 YWCA of Princeton

United Way Facts

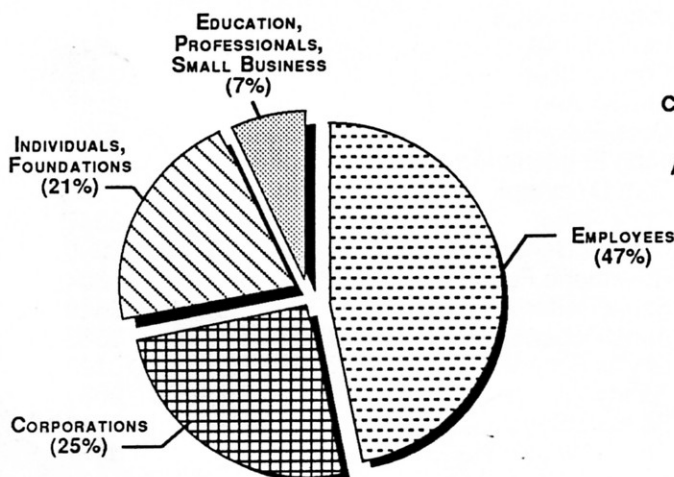
There are more than 2,300 United Ways located throughout America, 19 located in foreign countries and two U.S. territories, and 200 affiliated organizations worldwide. All these organizations, made up primarily of volunteers, help meet health and human-care needs through vast networks of local charitable groups and volunteers.

Each United Way is an independent community resource governed by a local board of volunteers. These volunteers, who represent all facets of business and community life, decide the financial allocations to member agencies. Important factors in this decision are the annual review of each agency's programs, budgets, and other financial information, as well as the needs of the people they serve and the community. The amount allocated to each agency varies from year to year, depending on what services are provided, numbers of people served, and so forth.

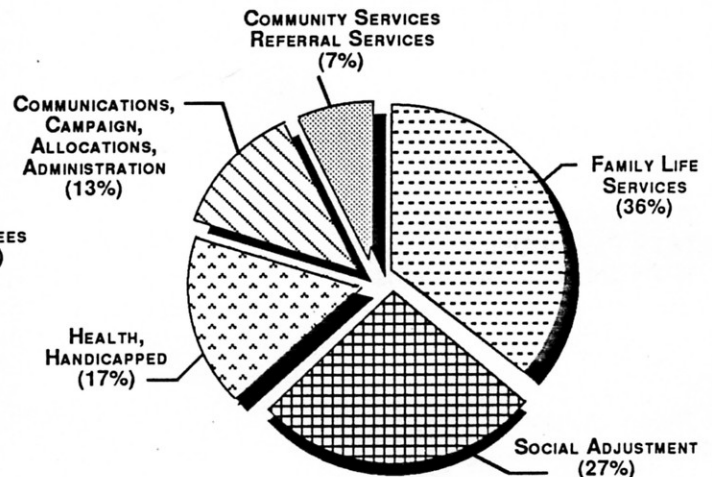
The United Way has an "open door" membership policy. Any agency may apply for membership and funding. Standards include: nonprofit status, nonpaid voluntary board of directors, agency accountability to the public, fiscal responsibility, efficient management, and a demonstrated need for services. The local board of volunteers decides what agencies are admitted to the United Way. ✪

The Total Picture: United Way Funding

Where the Money Comes From



Where the Money Goes



True Stories



"It's fun to be a Cub Scout. We play games and things like Simon Says and Tug of War. We learn new things like the Law of the Pack and the Cub Scout Promise. We went camping and my pinewood racer came in third place. I get to see my friends and my parents are with me, too. My brother, Michael, will be a Tiger Cub next year."

*Matthew Harrison
Plainsboro*



"Daisy helps me. She takes me for walks with my dog." Five days a week Daisy, an aide from **Princeton Community Home-maker**, visits Rita to assist with basics—eating, bathing and dressing. Daisy is proud of Rita's determination to remain active. Having lived in Princeton since 1920, Rita is thankful for Daisy's companionship and assistance.

*Rita Daniele
Princeton*



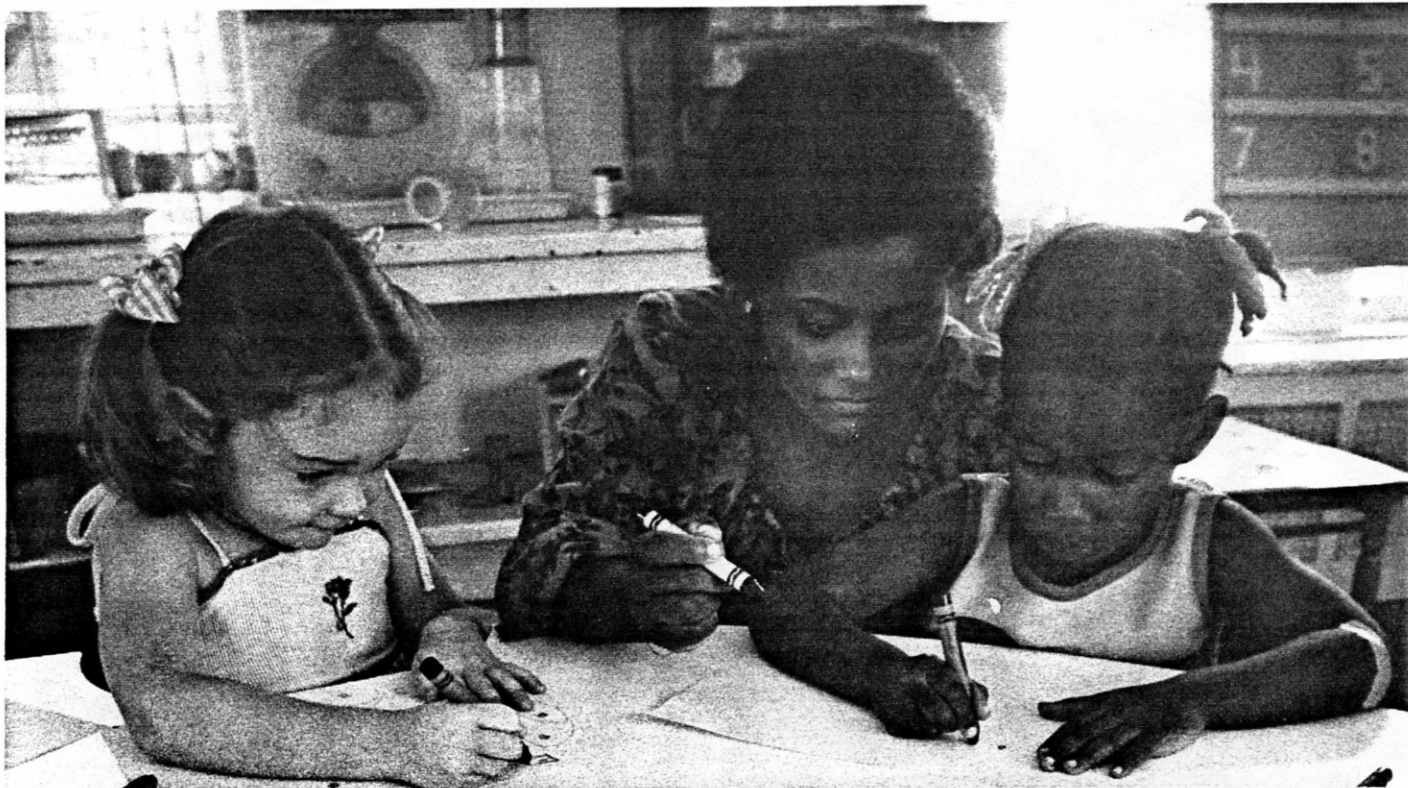
"I know I'm a special needs child. Mommy spent a long time trying to find a place that would take care of me. Now I have a real nice safe place to play after school." **The Children's Home Society** enable David's mother to earn a living while knowing that her handicapped son would be well-cared for by concerned, reliable people.

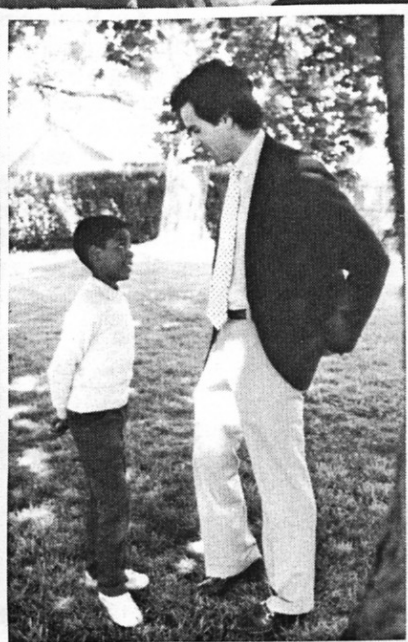
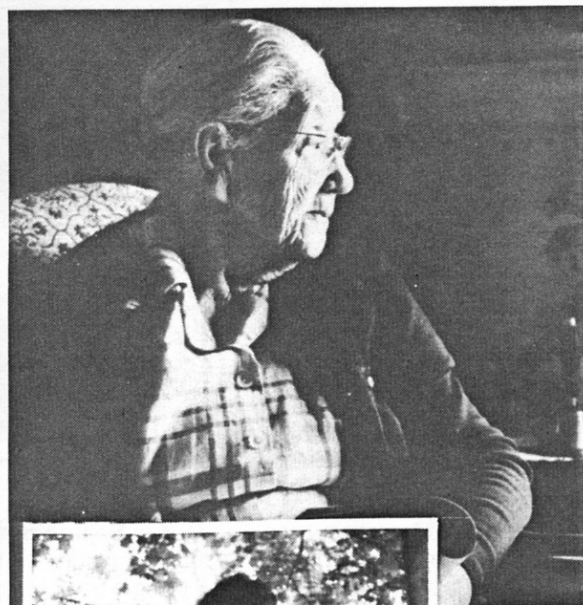
*David Berry
Cranbury*



"My favorite thing at **Better Beginnings** is painting and moving the toy clock. I bring a book every day for after our nap. Mom takes me there in the morning and picks me up at night. I like being around other kids because they're my friends. I've been going there for two years. I want to go now so I don't miss the snack."

*She'na Gunnell
Hightstown*





**The
United
Way
Picture**

Excellence in Plasma Physics Research Award Shared by PPPL Physicists

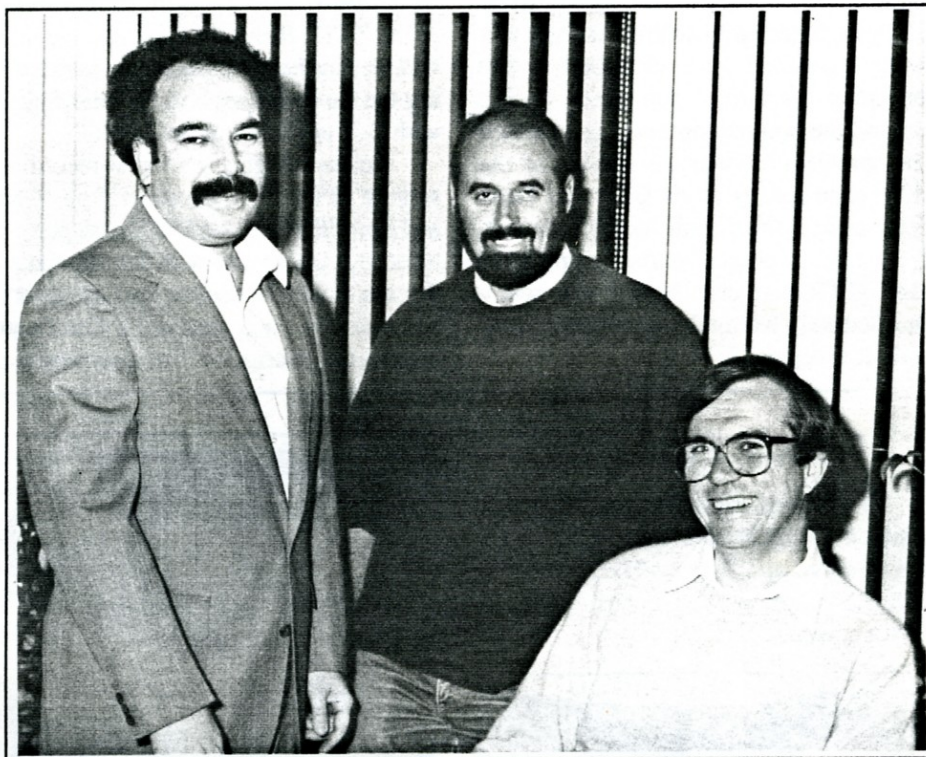
Efforts of TFTR Team Recognized

by Carol Phillips

PPPL physicists Rob Goldston, Rich Hawryluk, and Jim Strachan were presented the American Physical Society Prize for Excellence in Plasma Physics Research at the recent American Physical Society (APS) Division of Plasma Physics meeting in Hollywood, Florida. The prize, which includes a \$5000 cash award and a Certificate, is given annually in recognition of a recent outstanding achievement in plasma physics. Rob, Rich, and Jim were selected for their efforts on TFTR that have led to the achievement of world record plasma temperatures greater than 300 million degrees Centigrade.

In the news release announcing the award TFTR Project Head Dale Meade said, "It was their inventiveness and systematic experimental research which led them and their colleagues to the discovery of the high-temperature enhanced-confinement plasma regime in the TFTR. In receiving this award, Goldston, Hawryluk, and Strachan represent the efforts of the TFTR team of some 80 physicists, 200 engineers and support staff, who also contributed their insights and efforts to these experiments."

At the awards ceremony, Rob Goldston told how he had been working on auxiliary-heated tokamaks since ATC (Adiabatic Toroidal Compressor) in 1972 and said "this kind of research, and plasma physics research in general, is really a great deal of fun." Rob expressed his thanks to the Department of Energy and Princeton University "for giving him the opportunity to be involved with a series of such exciting experiments," and he particularly thanked Drs. Harold Eubank (who retired from PPPL in 1987 but was at the APS banquet), Harold Furth, and Dale



(Photo by John Peoples and Dietmar Krause)

Rob Goldston, Jim Strachan, and Rich Hawryluk (left to right) were recently honored at the banquet of the American Physical Society Division of Plasma Physics with the prize for Excellence in Plasma Physics Research. They will donate the \$5000 cash prize to Princeton University with the stipulation that it be used at PPPL.

Meade "for their support and encouragement from 1972 until the present." Finally, Rob pointed out that "this award was really earned by the whole TFTR group, who provided the hard work and insights which led to this discovery" and he characterized the TFTR research team as "a first-rate, challenging group, and a joy to be a part of."

Jim distinctly remembers the initial moment of the first supershots. Describing the scene he said, "Our high ion temperature task force, Manfred Bitter, Dale

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APS Award

Continued from Page 1

Meade, Mike Zarnstorff, and myself, had been allowed several run days to specially condition the TFTR limiters. The conditioning sequences were related to procedures that Joel Hosea and I had learned on PLT, and they went very well. After our first beam-heated plasmas, I was looking at the machine current waveforms since it took the computer about five minutes to analyze and display the plasma data. I was thinking 'what is wrong with this plasma—the internal inductance must be really high' (actually a different effect that Mike Zarnstorff later identified as the bootstrap current). I remember pacing around the control room, eager to attack the 'problem.' When the display of the diagnostic run by Boris Grek and Dave Johnson came up, I could hardly believe it. It was the highest electron temperature that TFTR had ever had. I was really puzzled and was wondering 'what is going on?' It was great."

For Rich, who heads the TFTR Tokamak Operations Division, the prize was a complete surprise. He said, "This award not only recognizes the recent very exciting research results but also the cumulative efforts of the Laboratory and is the result of a long effort which began in 1974. Since then many very dedicated people have worked in the various phases of TFTR design, construction, commissioning, and, now, experimental operations. I have been very fortunate to have worked with many of these people in all of these phases. Whereas the results identified in the award signify a significant milestone in the TFTR Research Program, we now will face further new challenges in extending the supershot regime and proceeding with D-T experiments on TFTR."

Acknowledging the world record results in TFTR as a team effort, Rob, Rich, and Jim will donate the \$5000 cash prize to Princeton University with the stipulation that the money be used at the Laboratory. Additionally, each received a Certificate bearing the inscription "For discovery and

scientific exploration of enhanced-confinement plasmas with ion temperatures in excess of 20 keV [220 million degrees Centigrade] in the Tokamak Fusion Test Reactor.

140+ Attend APS Annual Meeting

Over 140 PPPL'ers attended the American Physical Society (APS) Division of Plasma Physics (DPP) Meeting in Florida. An annual event, the APS/DPP meeting is the largest U.S. meeting where plasma physicists get together to present their results and talk informally with each other. This year, PPPL attendees were responsible for a review paper, "Alpha-Particle Physics in TFTR and CIT," by H.P. Furth, eight invited talks by A. Cavallo, R. Fonck, R. Goldston, R. Hawryluk, A. Janos, N. Pomphrey, G. Rewoldt and S. Suckewer, and over 150 oral and poster presentations.

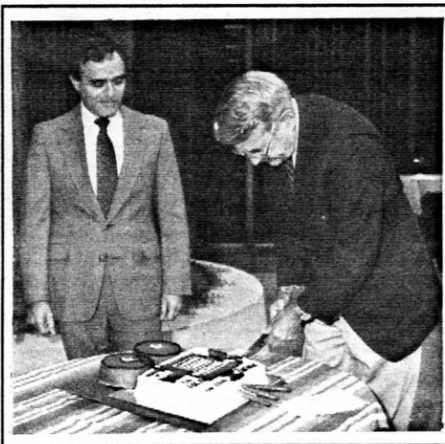
Focus Fest Fun

Employees rocked around the noon time clock on October 19th as computer employee John Cole played DJ for the first birthday party of "In Focus," PPPL's video magazine.



(Photo by John Peoples)

John Cole played DJ at the "In Focus" first birthday party celebration.



(Photo by John Peoples)

Jim Clark bends to cut the cake at the birthday party for "In Focus," PPPL's video magazine. Tony DeMeo, Head of Information Services, looks on.

Highlights of the celebration included a cake cutting ceremony presided over by Deputy Director for Administrative Operations Jim Clark and Information and Administrative Services Office Head Tony DeMeo.

"In Focus" is a valuable addition to our communications efforts," said Jim Clark. "It adds a new dimension to our communications program."

MacIntosh Hotline Head Andy Baird and many others especially enjoyed the "tiny tokamaks," better known as doughnuts, which were part of the party food. Others savored the cake, baked and decorated in the shape of a camera by DOE employee Dottie Kerr.

"In Focus" director Ed Farris said tapes of the October '88 "In Focus" can be borrowed overnight as well as many other tapes. For information or a list of available tapes call ext. 2090. Ed and production assistant Phyllis Rieger welcome suggestions for future features. Call Ed at ext. 2090 or Phyllis at ext. 2752. Look for the next "In Focus" in December. ✱

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, PPPL HOTLINE, P.O. Box 451, Princeton, NJ 08543 or telephone 609-243-2754.

PPPL—Scientific 'Hollywood'

by *Phyllis Rieger*

"That's a wrap," "take 1" and "roll the cameras" have become familiar terms for many PPPL personnel as film crews from various organizations have been on location at the Lab within the last year.

Representatives from National Geographic, N.J. Network, Public Service Electric & Gas (PSE&G), the Institute of Electrical and Electronic Engineers (IEEE), the N.J. Department of Education, Polish Educational Television and, of course, PPPL's own "InFocus," have been filming people at work and using our magnetic fusion energy devices as background.

According to Information and Administrative Services Office Head Tony DeMeo, "These shows garner positive publicity for PPPL. While showing our people at work, we're also depicting the fusion process and the research we perform at the Lab."

According to Ray Nicosia, Manager of Publicity and Press Relations for N.J. Network (NJN), after the "Sun of Man" documentary aired the network received about 25 calls praising the production. Marc Levenson, who hosted and narrated the documentary, said the cooperation of PPPL personnel proved instrumental in making the show successful. Reports from NJN tell us that "Sun of Man" will be telecast over the Public Broadcasting Service network sometime in early 1989.

Jim Rosenberg of Media By Design, contracted by IEEE to produce a short videotape for membership enhancement, said he found PPPL personnel cooperative which made his job that much easier. Jim and his crew filmed in the motor generator control room (C-Site), the TFTR Test Cell and CICADA.

By the end of 1988, Information Services should have copies of the National Geographic, PSE&G and IEEE tapes for special showings at the Lab. A copy of "Sun of Man" as well as "In Focus" and other tapes may be borrowed from the Photographic Services Section by calling ext. 2090. ✱

Winners to Feast at 'Charley's'

Good Time Charley's in Kingston is where PPPL winners of the United Way "Win a Free Meal" drawings will be going to enjoy their repast. "As a supporter of the United Way, Charley's was pleased to be asked to join PPPL in sponsoring the gift certificates," said Bob Smart, Associate Head of the Administrative Department. PPPL and Charley's will be giving away eight \$25 gift certificates during this year's fund drive.

Marjorie Barnett, Diane Carroll, John Frankenberg, and Charlene Onofri, are the first four winners. When told he was going to Charley's for his free meal John said, "That's great! The United Way is good. It does good things with its money. And, the drawings add incentive to give. It makes it more fun."

Wouldn't you like to join John, Marjorie, Diane, and Charlene at Charley's? It's easy. Just give \$20 or more during this year's United Way Campaign and you'll automatically be eligible for the remaining drawings. But remember, you don't really have to win to be a winner. Everyone's a winner, when they give to the United Way. ✱

Forrestal Campus Looks to the Future

As everyone has noticed, the open areas around the Forrestal Campus runway are now being utilized for farming. This is but one of a number of changes taking place on this campus.

A large piece of property on the north side (PPPL side) of Scudders Mill Road, including a portion of the runway, has been sold to Squibb Corporation and will be the site of a large complex of buildings. This sale will result in ceasing of all flight operations, including gliders, on June 30, 1989.

At the same time, some areas of the Forrestal Academic Campus have been subdivided into a commercial category. The University has, for the time being, determined that it is advantageous to use some of the properties for agricultural purposes. No schedule has been identified for further development of the areas. ✱



Computer Corner

PPPL Escapes Computer Virus

by *Lee Ratzan*

There has been much publicity lately about unauthorized computer codes inserted into computer programs which can take control and wreck havoc with computer services. These invalid codes have been dubbed "viruses" because they can "infect" in much the same way as their living counterparts.

One such virus was recently discovered at the Lawrence Livermore National Laboratory, a sister lab to PPPL. In a matter of hours it spread through electronic networks to over 6,000 computers across the country. Many sites were forced to suspend operations and others needed to be "quarantined." Some computers on Main Campus and the Von Neumann Center on College Road were affected to a small degree; PPPL was not affected except insofar as a network link was made unavailable to users for a short time as a precautionary measure.

Viruses can be benign (harmless albeit annoying) or malignant (permanently erase data). The PPPL Macintosh Users Group has made available an assortment of detection and vaccination programs to PPPL users. Call the Macintosh Hotline, ext. 2792, for more information.

Common sense precautions can reduce the possibility of having infected software:

- **Always back up your data!**
- Know the source of your software. Public bulletin boards are notorious repositories for these codes.
- Work on a copy of the program if possible and write-protect your original.
- In case something happens, **Don't panic!** Help is available from user groups. ✱

Let's Talk Benefits

Timely Reminders

November 10 through 23 is the open enrollment period for medical care coverage. During this period staff members can change health plans and dependent coverage.

November 10 through 23 is also the mandatory sign-up period for 1989 Health Benefits and Dependent Care Expense Accounts. It is important that all participants in either of these programs complete an enrollment card by November 23, as all previous accounts will be cancelled on December 31.

The Third Annual Health Fair will be held in the C-Site Lobby on Thursday, November 17 from 11:00 a.m. to 2:00 p.m. Representatives from the HMO's will be on hand to answer questions, and there will be a number of displays on a variety of health-related topics. Do try to attend.

Specific information on any of the above topics can be obtained from Bobbie Forcier, ext. 2101, or Eleanor Schmitt, ext. 2046. *

Dinner Dance Changes

It's still a "Winter Wonderland," but a few slips crept into the PPPL Holiday Dinner Dance announcement sent to all staff last week.

The Dance is still Friday, December 9, at the Princeton Forrestal Village Marriott Hotel and the Cocktail Hour still begins at 7:00 p.m., but there will be a one-hour open bar only during the Cocktail and reception. A cash bar will be available during the remainder of the dance.

You can still "take the elevator home," but to reserve a room you must call the Marriott directly at 609-452-7900. Be sure to mention that you are reserving a room from the block of rooms set aside for the Plasma Physics Laboratory.

And finally, if you want special table selections and/or seating arrangements, you must call Ceil O'Brien, ext. 2036, to do this. Bobbie Forcier, ext. 2101, will be able to answer any additional questions you may have.

Don't procrastinate. Tickets, at \$22.50 each for staff and their spouse or guest, can be purchased from Petty Cash (Rm 194, Mod II, C-Site) from 11:30 a.m. to 12:30 p.m. Monday, Wednesday, or Friday until December 2.

Prospect Offers Wine Tasting Reception with Buffet Dinner

To celebrate the nouveau season and to sample this year's vintage, Prospect Association invites its members to the Annual Beaujolais tasting, reception, and dinner on Sunday, November 20th, at Prospect House. Barrel tasting and hors d'oeuvres begin at 6:00 p.m. and are followed by a buffet dinner.

At the tasting reception prosciutto wrapped figs, tarte à l'oignon, and soft-ripened French cheeses will be served. The buffet features forest mushroom bisque, salads of mixed wild greens with lemon vinaigrette and fennel à la Grecque, roast duckling with griottes, grilled swordfish with mustard Hollandaise sauce, white and wild rice pilaf, steamed new bliss potatoes, and sauteed pea pods. Desserts include apple strudel, Linzer torte, spiced pears poached in Beaujolais Nouveau, and strawberry Bavarian cream.

Full bar service and Beaujolais Nouveau, by the glass and bottle, will be available throughout the evening.

The price per person is \$25.00. Reservations are recommended, as seating is limited to 80. These can be made by calling the Prospect Association, ext. 7-3455. *



United Way Update

Midway through the United Way Fund Drive, overall Laboratory participation is 47%, with a total contribution of \$19,067.50. The Administrative Operations and Director's Office group leads in the Engineering Challenge Race with a participation rate of 79.5%. The Engineering Group is second (but by only three tenths of a percentage point!) over the DDTO, CIT and Experimental Projects Group.

Engineering Challenge Standings

Administrative Operations and Director's Office (Bob Smart, group leader)	79.5%
Engineering Group (Jack Joyce, group leader)	42.3%
Deputy Director for Technical Operations Office, CIT, and Experimental Projects (Harry Howard, group leader)	42.0%
TFTR (Halsey Allen, group leader)	34.0%
Research — Experimental Physics, Theoretical, and Applied Physics (Don Monticello, group leader)	23.6%

Keep those contributions coming. Help your United Way volunteer and your group achieve 100% participation. Don't forget, anyone donating \$20 or more is automatically eligible for the "Win a Free Meal" (at Charley's) drawing.

You did it! **1,000,000 Safe Work Hours**

by Phyllis Rieger

Awareness of safe work practices coupled with enforcement of existing safety regulations helped PPPL achieve one million accident-free hours on November 4.

In a brief ceremony on November 7 at the C-Site entrance safety sign, Laboratory Director Dr. Harold Furth praised, "Our hard-working employees who made the effort to create a safe work environment. Let's aim for two million accident-free hours."

Dr. Milton Johnson, Manager of the Princeton Area Office, U.S. Department of Energy, congratulated, "management and each employee for working in a safe and efficient manner to reach this milestone which shows the dedicated commitment of PPPL personnel to recognize safety is essential."

Deputy Director for Technical Operations Tip Brolin has stressed safety's importance and has said, "A good safety record is tangible evidence of our safety commitment and performance."

To celebrate the occasion, employees were treated to cake and beverages in the C-Site cafeteria on November 9. ☼



(Photo by John Peoples)

Director Harold Furth (right) points to the one million accident-free hours shown on the Safety Sign at the Laboratory entrance. Ray Jeanes, Jack Joyce, Milt Johnson, Dale Meade, Mary Shoaf, Ellis Simon, and Tip Brolin (left to right) joined Dr. Furth in the ceremony noting this achievement.

R&R for TFTR

by Phyllis Rieger

"Expect new challenges on a regular basis" is one motto understood by those who work on the TFTR.

According to Dale Meade, Head of the TFTR Project, TFTR has made significant progress in the last six months establishing world records for ion temperatures and fusion neutron production rates. Much of the progress came from the injection of high power neutral beams (up to 30 MW).

Unfortunately, the best results were

constrained by the inability of the 2-ton carbon bumper limiter to absorb the power. A limiter defines the edge of the plasma and prevents it from striking the vacuum vessel. During the last run, physicists determined that excessive heat loads had damaged bumper limiter tiles.

Deputy TFTR Project Head Jim Sinnis said, "We were pleased at TFTR's recent achievements (see box on page 2) and with the limiter repairs, we feel results will even be better."

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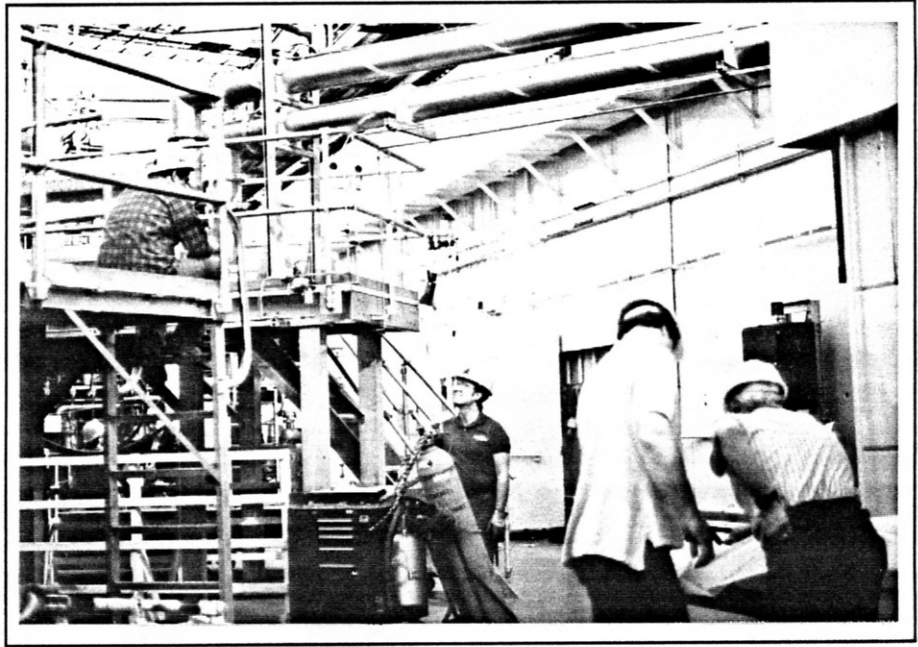
R&R for TFTR

Continued from Page 1

A mini shutdown was approved on October 25 to fix the bumper tiles. Upon entering the TFTR vacuum vessel, George Barnes, Mike Ulrickson and Kingston Owens found several graphite tiles that were damaged and needed repair. The plan is to replace about 50 tiles (out of 2,000) and to realign the limiter. These activities will end with a pumpdown on January 23, 1989.

Erik Perry, manager for the shutdown, said, "In addition to the bumper limiter and the rf (radio-frequency) limiter we will perform a number of other tasks, such as inspection and possible repair of other components."

Erik worked with physicists, engineers and technicians to devise a shutdown schedule of over 100 activities. ⚙



(Photo by Phyllis Rieger)

Over 100 activities will be completed during the mini shutdown of TFTR.

TFTR—World Record Results

Super supershots have helped the Tokamak Fusion Test Reactor (TFTR) achieve international recognition for attainment of a world record ion temperature of 30 keV (330 million degrees Centigrade) using neutral-beam heating powers of 30 megawatts.

Supershots are characterized by peaked density profiles; that is, high density in the center of the plasma and low near its edge. This is obtained by using neutral-beam fueling to build

up the center, and conditioning the limiter to absorb particles near the edge.

For those of us not scientists, this means the TFTR is a world leader in reaching scientific results for a magnetic fusion energy device.

At the International Atomic Energy Agency (IAEA) Meeting in Nice, France, TFTR physicists also presented the most detailed measurements and analyses of high temperature plasmas. The present plasma parameters corre-

spond to an equivalent $Q_{DT} \sim 0.3$ which would extend to $Q_{DT} \sim 0.5$ full power. Q is the ratio of fusion power output to heating power input. Equivalent Q_{DT} is the value of a Q that would be obtained if tritium were present in addition to deuterium.

Experiments during the coming run will concentrate on improving plasma performance to $Q_{DT} \sim 1$ (energy breakeven) and on developing a better understanding of plasma confinement in the TFTR.

PPPL
ORC Employee Opinion
Survey Response

Iverson Reports PPPL Benefits Ratings to University

A long-awaited PPPL presentation on the status of employee benefits was recently made to members of Princeton University's Benefits Committee. The presentation was a response to the findings of the Employee Opinion Survey of all Laboratory employees conducted by Opinion Research Corporation (ORC). Among those at the presentation were members of Princeton University's senior

administration, several of whom have recently been appointed to new posts.

Princeton Plasma Physics Laboratory Director of Personnel, Steve Iverson, Chairperson of the Benefits Subcommittee of the ORC Response Task Force, presented to the University Committee a detailed report of PPPL employee ratings of the benefits, along with results of an evaluation of benefits at other United

States Department of Energy-funded laboratories.

"Our primary objective," Iverson stated, "was to report fully our employee's evaluation of the University's insurance benefits. We stressed the concern shown in the survey with regard to the medical plan, which employees rated lowest of the various benefit programs. Tuition Refund, Post-Retirement Life Insurance, and the

Biweekly Pension Plan also were rated somewhat 'below average,' but to a lesser degree than the Medical Plan."

Data Reviewed with University

Iverson said the University's Benefits Committee was concerned about the very low rating given the medical plan in the Employee Opinion Survey. "The Committee was receptive and listened attentively," said Iverson. "Paul Benacerraf, recently appointed Provost at Princeton and Chairperson of the Benefits Committee, said the data we provided would be considered along with input from other sources as changes to the health plan are considered in the future."

When approaching possible changes in the structure and content of Princeton's benefit program, many complex and inter-related factors must be considered, including government legislation, competitive benefit trends, changes in employee needs and expectations, demographics of the University's work force, as well as financial considerations. All will bear on recommendations that will respond to employee concerns.

"Medical insurance, and related dental care, are among the most costly of benefits, and any future improvements in these areas must be weighed against costs and other compelling needs that affect the quality of life at the University and the Laboratory," Iverson added.



(Photo by Ed Farris)

Steve Iverson, Chairperson of the Benefits Subcommittee of the ORC Response Task Force, presented PPPL employee ratings of benefits and the results of an evaluation of benefits at other USDOE-funded laboratories to Princeton University's Benefits Committee recently.

This year the University Benefits Committee did approve two other benefit changes of interest to many employees: a revised program for staff educational assistance and an increase in the Tuition Grant program. These changes were announced in the Spring in the new Benefits News publication issued by the University and discussed in HOTLINE (Vol. 2, No. 23). "These improvements," Iverson related, "indicate a positive desire by the Benefits Committee to insure that the University's overall benefit package will keep pace with the market."

Surveys used for Comparison

The second part of Iverson's presentation to the Benefits Committee compared Princeton benefits to the results of (1) a Survey of Benefits Policies and Practices conducted by Brookhaven National Laboratory and (2) a Report of Supplementary Compensation at DOE-funded laboratories.

"Twenty-two institutions participated in the Brookhaven survey," Iverson said, "including a number of national laboratories and a select group of private firms which place emphasis on research and development or specialize in high-technology products. Twelve DOE-funded laboratories participated in the second survey, the Report of Supplemental Compensation."

These two surveys gave us a highly creditable basis for evaluating Princeton's benefit offerings. "Remember," Iverson cautioned, "benefit packages tend to vary by type of organization or employer groups. Thus, we should expect the content of the Princeton benefit package to be comparable to those offered by other employers in higher education."

The results of both surveys showed that Princeton group insurance package to be somewhat below average for comparable institutions. At the same time, however, other University benefits meet or exceed those offered by other employers. "Looking at the overall cost of benefits to the University, that is, the percent of every payroll dollar spent on benefits," Iverson explained, "Princeton ranks in the top-half of the DOE-funded laboratories."

Princeton Benefits Competitive

Iverson concluded that, "based on the information the Laboratory gathered from

the Brookhaven and DOE studies, and from other, more general benefits studies, Princeton benefits are competitive overall. The major difference," Iverson explained, "is in how Princeton spends its benefits dollars. Other employers spend more of their dollars on medical insurance; Princeton puts its benefits dollars on items such as paid vacation, long-term disability payments, and contribution to retirement, among others.

"You'll rarely see a Tuition Grant program offered by an industrial employer. Tuition grants are a very expensive benefit when used by employees to help offset the tuition costs of putting children through college. On the other hand," Iverson continued, "preference as to how benefits dollars are to be spent will vary from employee to employee and will depend on personal needs, age of the employee or dependents, family/marital status, health and other considerations." *

Fast Mail Delivery Links C-Site with College Road

An express mail service between the LOB and Building 307 has been initiated on a trial basis. This service will use the shuttle drivers and building receptionist to provide a simple means of getting priority mail between the two sites.

Mailboxes have been installed in front of the LOB and in the 305/307 shuttle shelter. The shuttle driver will pick up mail from these boxes and deliver it to the receptionist at the other end of the run. To use this service, one should:

- Deposit the mail in your respective mailbox and raise the indicator flag so that the shuttle driver will know that something is in the box for pickup.
- Call the recipient to advise him/her that the mail will be delivered to the receptionist (LOB or 307) on the next shuttle bus run (allow 20 minutes).

Recipients must pick up the mail at their end of the delivery; the receptionist will not call or deliver the mail.

The service and any impact on shuttle and reception services will be evaluated in a couple of months. *

Toy Run Kicks Off

To help kids in Bucks County, PA, have a happy holiday season, PPPL employees Debbie Anastasio and Ronnie Koon are collecting new toys and canned goods which will be distributed on December 17. This holiday drive is sponsored by Breed MC, a group of motorcycle enthusiasts, who will run the toys that Saturday afternoon to the Delaware Valley Medical Center in Langhorne.

Contributions may be left in a special box outside the print shop, room A105. If you have questions, call Debbie at ext. 2141 or Ronnie at ext. 3292. ✱



Security Tips

Help keep PPPL crime free. Practice the following security tips from Public Safety.

- Display ID badges at all times.
- Report all crimes or attempted crimes and all suspicious person to Security, ext. 2536.
- Challenge unfamiliar individuals without ID badges.
- Use the Mandatory Property Pass System.
- Secure all personal and Government property if left unattended.
- Lock all Government and personal automobiles and remove the keys from the vehicles. Store items in the car trunk whenever possible.
- Record the serial numbers of personal and Government property for future reference.
- Discourage piggybacking through Card Read doors.
- Do not prop doors open. When found open they should be closed.
- Lock all doors and desks when away from the work area. ✱

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 609-243-2754; interoffice correspondence should be addressed to Room B366, James Forrestal Campus, C-Site.

Safety Training

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

<u>Course</u>	<u>Date/Time/Location</u>
Radiation Safety Training	5-7 December, 8:30 a.m.-12:00 noon LOB Auditorium
Basic Safety	12 December, 9:00-10:00 a.m. 307 College Road
Confined-Space Entry	13 December, 9:00-11:30 a.m. 307 College Road

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 is offered every Monday 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 Mary Ann McBride, ext. 3468, to enroll.

Colloquia

Colloquia are held each Wednesday from September to June at 4:15 p.m. in the MBG Auditorium, unless otherwise noted. Speakers for November and December are given below:

November 30 — "Laser Fusion Results from Nova," by R.P. Drake, Lawrence Livermore National Laboratory, Livermore, California.

December 1 (Thursday) — "The Radon Problem," by Robert H. Socolow, Princeton University, Princeton, New Jersey.

December 5 (Monday) — "Clean and Safe Fusion Energy in the 21st Century," by Gerald Kulcinski, University of Wisconsin, Madison, Wisconsin. ✱

Did You Know?

On November 18, Steamboat Willy also known as Mickey Mouse was 60 years old and push button phones were 25 years old. ✱

Petty Cash Hours Extended

Effective November 14, petty cash hours have been extended. The Petty Cash window, located in Module II, Room 194, C-Site, is now open in the morning from 9:00-10:00 a.m. and in the afternoon from 1:00-3:00 p.m. ✱

Travel Services Moves

Effective Monday, November 28, 1988 travel arrangements will be handled by the Accounting and Financial Controls Division—Travel Section. Contact Dawn Horner at ext. 2658 or drop by Module II, Rm. 150 to make travel arrangements or pick up tickets.

Special Edition Awards, Promotions, Reassignments

Volume 10, No. 6

December 12, 1988

PPPL Employees Honored

Halsey Allen, III, Associate TFTR Project Manager for Administration, was named "Executive of the Year" by the Mercer Chapter of Professional Secretaries International. Halsey was nominated by his secretary Dolores Bergmann. This is the second year in a row that a PPPL "executive" has won this award.



(Photo by John Peoples)

Halsey Allen was nominated by his secretary Dolores Bergmann for Executive of the Year.

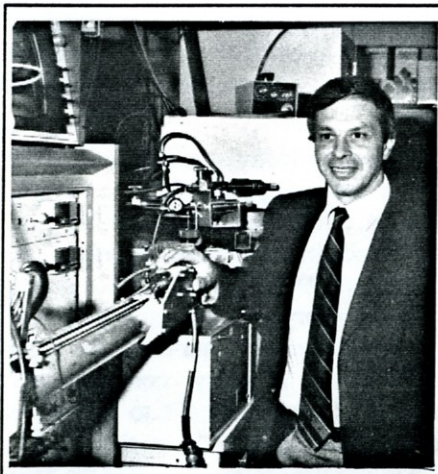
Peter Beiersdorfer, former PPPL graduate student, was awarded a Fannie and John Hertz Foundation Doctoral Thesis Prize for 1987-88. The award recognizes "particularly outstanding doctoral theses" in the applied physical sciences with a \$1000 cash prize. In awarding Beiersdorfer the prize, the Foundation also recognized the "significant contributions" that advisors Schwick von Goeler, Manfred Bitter, and E.J. Clothiaux made to his education and training. They also received cash awards.



(Photo by John Peoples)

Mary Ann Brown

Mary Ann Brown, Engineering Department Office Executive Secretary, was named Vice-President of the Mercer Chapter of Professional Secretaries International.



(Photo by Dietmar Krause)

Joe Cecchi

Joseph Cecchi, in his position as lecturer with the rank of Professor in the Chemical Engineering Department, was awarded a Faculty Development Award for one year, renewable for a second year, from the IBM Corporation. Joe will continue his research on plasma etching for advanced semi-conductor fabrication.



Ray Jeanes

Raymond Jeanes, Jr., Occupational Safety Branch, was selected for promotion to Lieutenant Colonel in the United States Air Force Reserve (USAF). In a letter announcing the promotion, Ray's commander, Russell E. Mullen, said, "This selection attests to Ray Jeanes's ability, performance, and future potential to the Air Force Reserve."

Jack Joyce, Head of the Engineering Department, received a "distinguished classmate" award from the Princeton Class

Continued on Page 2

of '52 for his long and devoted service to the Class. Undergraduate scholarships will be established in Jack's name and also in the names of the two other "distinguished classmates" honored this year.



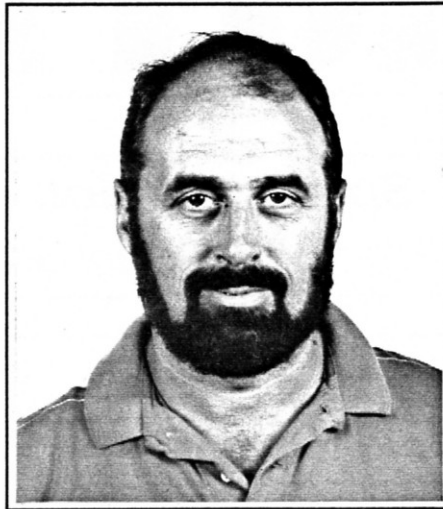
(Photo by John Peoples)

Jack Joyce

Joseph Stencel, Project and Operational Safety Office, was selected for promotion to Lieutenant Colonel in the United States Air Force (USAF) Reserve. When announcing the award Edwin I. Emmons, Director of Individual Reserve Programs noted that "The promotion process is highly competitive and only the most qualified officers are selected."



Joe Stencel



Jim Strachan

James Strachan, TFTR Fusion Products Diagnostics Branch, has been named a Fellow of the American Physical Society "for his contributions to the measurement and understanding of the physics of fusion reaction products in tokamaks, of electron runaway, and of shock wave propagation in inhomogeneous media." *

Employee Recognition Award Winners

Nominated by their supervisors and selected by a panel of their peers Terry Birch, Kimberly Burke, Greg Czechowicz, Bernie Giehl, Steve Lengyel, Scott Larson, Carolyn Springer, and Bill Snyder are the most recent recipients of Administrative Operation's Employee Recognition Award. This program was established as a way to publicly recognize, reward, and say thank you to employees who have made extraordinary contributions or achievements.

Carolyn Springer is the winner in the Office and Support Staff category. Carolyn, a long-time member of the Payroll Branch in the Accounting and Financial Control Division, has interacted with just about everyone at the Laboratory. It is Carolyn who reviews our time reports for mathematical accuracy, compares pay stubs to checks, and calls to remind us when we are tardy with our time sheets. She is also the one we call when we have questions regarding such things as payroll

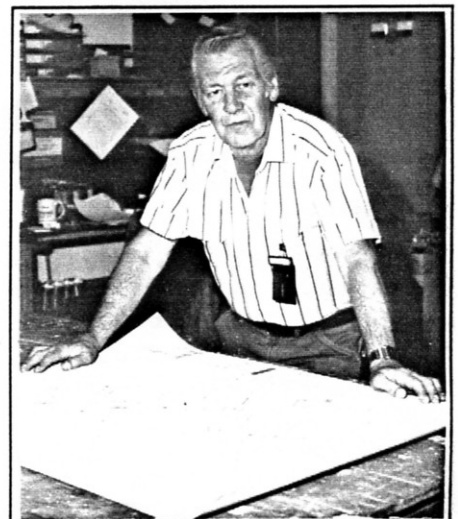
deductions, overtime, and pay differential. If Carolyn didn't do her job consistently well and with such care, quite a few of us could be truly unhappy on payday.



(Photo by John Peoples)

Carolyn Springer, Payroll

William Snyder, Jr., Lead Technician in Plant Maintenance, is the recipient in the Lab and Shop Staff classification. During the recent consolidation period, Bill was responsible for planning most of the move-related work in his trade area. This work included renovation of Modules I and II, relocation and refurbishing of the QA trailers, and renovation to the area that now houses the Print Shop. That he did all of this on time and within budget attests to his thorough and dedicated efforts. Because of Bill, a difficult transition period was made easier for many of us.

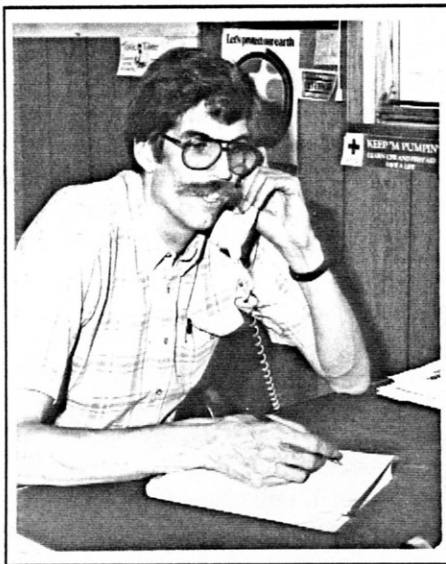


(Photo by John Peoples)

Bill Snyder, Plant Maintenance

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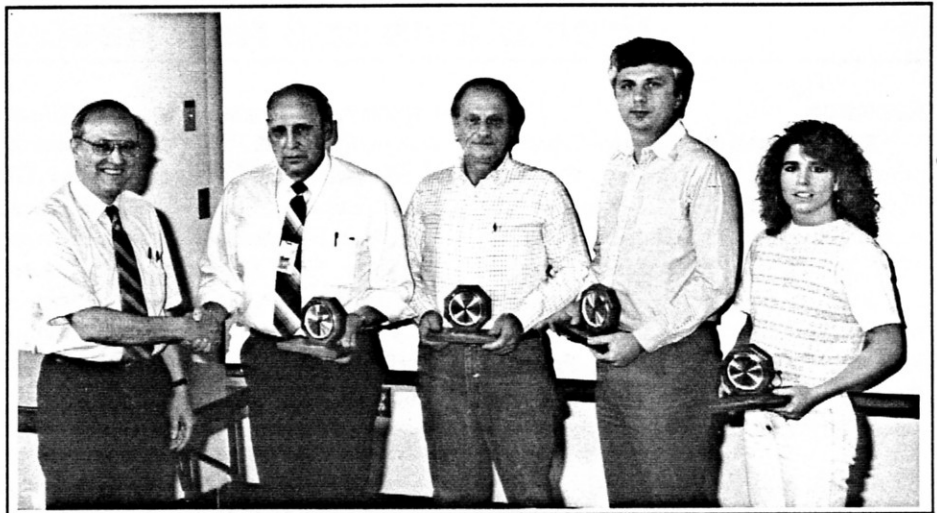
The Warehouse Operations Branch of Materiel Control gives us the winner in the Exempt Staff category — **Scott Larson**. Scott has excelled in the development and implementation of the Laboratory's Hazardous Source Reduction Program. Through his efforts, PPPL no longer pays to dispose of mercury-containing ignitron tubes — these are now sold to a company that recycles them. Scott is responsible also for developing and administering our Hazardous Waste Program. Feedback from State and Department of Energy audits attest to his excellence in this area. Due to Scott's diligent efforts and total understanding of hazardous waste management, PPPL's work space and environment are safer for us all.



(Photo by John Peoples)

Scott Larson, Warehouse Operations

The final award for team effort is given to the Graphic Arts Section in Information and Administrative Services. This section, which was composed of **Bernie Giehl, Terry Birch, Kimberly Burke, Greg Czechowicz, and Steve Lengyel**, is well-known for meeting seemingly impossible deadlines; they have been doing it for many years! During a two-month period last year, this small group worked approximately 460 overtime hours helping our physicists and engineers prepare for back-to-back meetings. During this time, some 370 pieces of artwork and 338 poster boards were prepared. Their excellent skills and capability for doing the impossible contribute significantly to how the world "sees" our work.

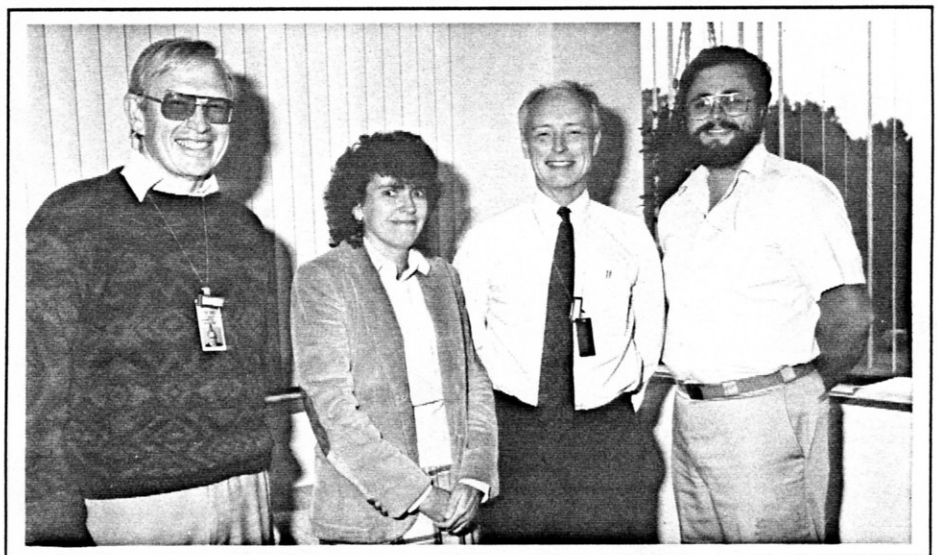


(Photo by Dietmar Krause)

Kimberly Burke, Greg Czechowicz, Terry Birch, and Bernie Giehl (right to left) along with Steve Lengyel (not pictured) were team winners of Administrative Operation's Employee Recognition Award. Mr. Rossi (far left), Associate Director for Administration, presented the awards.

Finally, special recognition must be given to the members of the four peer panel groups who worked so hard in selecting this first year's award winners. They have not only reviewed the nominations and chosen the winners, but have also given considerable thought towards how the program can be improved. They too were selected by their supervisors because of their consistently high performance and

standards of work. They took their mission seriously and served with merit. They are: Jose Aquino, Joyce Bitzer, Al DeSantis, John Garboski, Meg Harmsen, Jean Hurley, Edna Kalmus, Dietmar Krause, Joyce Lawton, Bob Leckie, Jim MacTaggart, Sophie Monaghan, Skip Schoen, Claire Siflinger, Eugenia Spears, Pat Stephens-Buggs, Greg Tompkins, and Roy Whitley. ✱



(Photo by John Peoples)

Bob Parsells, Judy Malsbury (left to right), and Ray Camp (far right) recently earned the right to write CQE after their signatures. A CQE or Certified Quality Engineer is a person who has successfully completed the American Society (ASQC) for Quality Control Certification Program. Bob, Judy, and Ray, along with other professionals from local industry and business took a Lab-sponsored ten-week refresher course earlier this year to help prepare for the ASQC Certified Quality Engineer exam. Deputy Director for Technical Operations, Tip Brolin (second from right), met with them to congratulate them on their accomplishment. ✱

Promotions and New Responsibilities

Research

Research staff members who received promotions are: **S. Cowley**, Research Physicist II, **P. Efthimion**, Principal Research Physicist, **T. Hahm**, Research Physicist II, **G. Hammett**, Research Physicist II, **C. Karney**, Principal Research Physicist, **H. Kugel**, Principal Research Physicist, **M. Ono**, Principal Research Physicist, and **W. Tighe**, Research Physicist II.

Scientific and Engineering

Members of the Scientific and Engineer staff who received promotions are: **C. Ancher**, Lead Engineer, **G. Cargulia**, Senior Engineer, **T. Carroll**, Lead Engineer, **M. Diesso**, Project Engineer, **G. Gettelfinger**, Staff Engineer, **J. Gioia**, Staff Engineer, **E. Kaminsky**, Senior Engineer, **S. Kilpatrick**, Engineer, **T. Kozub**, Project Engineer, **L. Lagin**, Project Engineer, **S.-L. Liew**, Project

Engineer, **R. Marsala**, Senior Engineer, **A. Martin**, Head, RF Operations Section, **H. Murray**, Lead Engineer, **A. Nagy, III**, Staff Engineer, **L. Randerson**, Lead Engineer, **J. Rushinski**, Project Engineer, **K. Sapp**, Staff Engineer, **G. Schobert**, Project Engineer, **T. Stevenson**, Engineer, **H. Towner**, Lead Engineer, **C. Vannoy**, Staff Engineer, and **G. Walton**, Project Engineer.

Administration

Administrative staff members who received promotions are: **N. Bayes**, Administrative Assistant, **F. Beane**, Head, Electrical Safety, **P. Delgandio**, Safety Engineer, **M. Hondorp**, Head, Technical Information Operations, **M. Iseicz**, Assistant Budget Director, **D. Larsen**, Administrative Assistant, **P. Murray**, CIT Project Financial Officer, **J. Ofgant**, CIT Financial Officer, **A. Palladino**, Database Manager, **D. Quinn**, Senior Buyer, **S.**

Schoen, III, Senior Subcontract Administrator, **D. Smith**, IRM Operations Manager, and **M. Tompkins**, Assistant Telecommunications Manager.

Senior Lab and Shop

Members of the Senior Lab and Shop who received promotions are: **C. Bosley**, Technical Assistant I, **J. Carson, III**, Technical Assistant II, **M. Cropper**, Technical Assistant I, **R. Cutler**, Technical Assistant II, **P. DePeter**, Technical Associate I, **T. Devine**, Technical Assistant II, **F. Eisenbeil**, Technical Assistant II, **J. Fitzwater**, Technical Associate II, **W. Harter**, Technical Associate I, **J. Ignas, Sr.**, Technical Associate II, **P. Kivler**, Technical Assistant I, **R. Myslinski**, Technical Associate I, **A. Newton**, Technical Assistant II, **C. Peters**, Technical Associate I, **R. Pysher**, Technical Assistant II, **R. Reed**, Technical Assistant I, **R. Sorenson**, Technical Assistant II, **K. Tindall**, Technical Associate II, and **W. Walker**, Technical Associate II.

Office Support Staff

Office Support Staff members who received promotions are: **D. Bumgardner**, Staff Assistant, **C. Miller**, Accounting Assistant, **B. Ng**, Data Processing Assistant, **J. Palladino**, Senior Secretary, **B. Reardon**, Data Processing Assistant, and **J. Savino**, Staff Assistant

Lab and Shop

Members of the Lab and Shop who received promotions are: **D. Au**, Technician V, **A. Baird**, Technician VI, **J. Benchoff**, Technician VI, **J. Benson**, Programmer II, **L. Brigman**, Technician VI, **L. Corl**, Technician V, **M. DiMattia**, Technician VI, **J. Franchino**, Technician VI, **R. Gargiulo**, Technician VI, **G. Gibilisco**, Technician VI, **D. Graber**, Technician VI, **P. Hurst**, Technician VI, **D. Hwang**, Technician V, **J. Ignas, Jr.**, Technician V, **E. Kearns, IV**, Technician VI, **E. Mazzuca**, Drafter III, **R. Pressburger**, Technician V, **W. Richardson**, Technician VI, **E. Semeta**, Technician VI, **C. Smith**, Technician VI, **C. Thompson**, Technician V, **E. Wagner**, Master Machinist, and **N. Womack**, Technician V.



(Photo by Dietmar Krause)

In October, Ned Sauthoff (Middle) was named Head of the PBX-M Project and Phil Heitzenroeder (left) was chosen to head the new PBX-M Engineering Branch. Dori Barnes (right) was named Acting Head of the Computer Division with Ned's move to PBX-M.



(Photo by Dietmar Krause)

Connie Stout (left) was recently named Manager of Special Projects in Administrative Operations. Rich Pfeifer (middle) replaced Connie as Head of Plant Maintenance and Engineering and Bob Kress (right) became the Manager of the Plant Engineering Branch. ✱

PPPL
Employee Opinion
Survey Response

Engineer-in-Training Course Offered at PPPL

The Engineer-In-Training (EIT) studies course will begin December 15 at PPPL. The course, which will meet for three-hours per week, was arranged by the Laboratory through the Employee Development Program. It is designed to prepare students to successfully take the examination for EIT status in April. The EIT designation is an important step in preparing for a license as a professional engineer.

According to John DeLooper, Quality Assurance Manager for CIT and sponsor of the EIT study program, the classes will be offered weekly at PPPL on a shared-time basis. "Offering the program here will avoid the commute to the New Brunswick or Philadelphia areas, normally the closest places to take the course. In addition," John

explained, "the classes will be held from 3:00 to 6:00 p.m. and, if the employee completes the course, 85 percent of the cost will be covered by the Princeton University's Tuition Reimbursement Program."

The course will cost \$450, including text materials, if at least 15 students are enrolled. John said if there are fewer students the cost of the course will increase and if there are more than 15 students the cost will decrease. Participants will be informed if there will be changes in the cost of the course after registration is completed. A minimum of 15 or more employees are expected to enroll.

Checks should be made payable to PPPL and taken to the Petty Cash Office on

or before December 14, the last day for registration. A special account will be set up and used to pay course costs. Each registrant will receive a receipt which will admit him/her to the first class meeting.

Registrants will also need to apply for Tuition Reimbursement prior to the first class meeting. Forms are available in Personnel from Eleanor Schmitt. Employees with questions should contact John DeLooper at ext. 2834 or Bill Johnson in Personnel, ext. 2052. ✱

Joyce Injured in Car Accident

Jack Joyce, Head of the Engineering Department, was seriously injured in an automobile accident while visiting his son in Wyoming over the Thanksgiving holidays. In spite of broken bones and internal injuries, Jack is "on the mend" in West Park Hospital in Cody, Wyoming, 82414. He will recuperate in Wyoming before returning to the Lab after the turn of the year.

Jack has always been a strong supporter of the United Way here at PPPL and is a member of the Board of Directors of the Area United Way. A good way for Jack's friends and fellow workers to indicate support and encouragement to Jack is to contribute to PPPL's United Way Drive. It would be great if we could tell him that we have pushed the drive "over the top" before the Holidays.

Checks for this purpose, made payable to the Princeton Area United Way, or regular pledge cards can be sent to United Way volunteers or Mary Ann Brown (Room B-354, C-Site). ✱

Inter-Office Envelopes Needed

Mail Room personnel will gladly pick up any excess Inter-Office envelopes. Leave them at the mail stop in your area. Please don't hoard.



(Photo by John Peoples)

*Deputy Director for Technical Operations, Tip Brollin, addressed the Secretarial and Office Support Staff Organization (SOSSO) at its opening meeting recently. He talked about fusion, recent results, and how SOSSO members are an element of a team whose job it is to "make history." New SOSSO officers are, standing left to right, Edna Kalmus, Chairperson and Joyce Blitzer, Corresponding Secretary. Seated, left to right, are Athene Kan, Recording Secretary, Patricia Stephens-Buggs, Committee Member, and Sophie Monaghan, Vice Chairperson. Dolores Bergmann (not shown), Committee Member, rounds out the slate of officers. **

New Leaders at ORNL

John Sheffield has been named Director of the Fusion Energy Division (FED) at the Oak Ridge National Laboratory (ORNL). Sheffield succeeds O.B. (Bill) Morgan who was named Associate Director for Support and Services.

Alvin Trivelpiece has been named Director of the Oak Ridge National Laboratory (ORNL) and a Vice President of Martin Marietta Energy Systems. Trivelpiece, who is currently Executive Officer of the American Association for the Advancement of Science, was for-

merly the Director of the Office of Energy Research, U.S. Department of Energy. *

GSA Vehicle Sales

General Services Administration (GSA) used vehicle sales are held on the second Friday of each month. Inspection of sale vehicles is allowed between 9:30 a.m. and 2:30 p.m. on the Wednesday and Thursday preceding the Friday sale at the Raritan Depot, Route 514 West (Woodbridge Avenue), Edison, New Jersey. A listing of vehicles to be sold is available at the time of inspection. No listing will be mailed. Additional information may be obtained by calling 201-906-9484. *



New Location

Please take note that the Internal Audit Section of Princeton University's Treasurer's Office has moved to 7th New South Building on Main Campus. *

Commemoration Service Scheduled

The Service of Commemoration will take place on February 5, 1989 at 2:00 p.m., the first Sunday of the spring term. Commemoration is a University service of music, remembrance, and thanksgiving, honoring students, faculty, staff, and trustees who have died the previous year. The Glee Club, University Orchestra, Chapel Choir, and Gospel Ensemble will participate. The service will be followed by a reception in Murray-Dodge Hall.

President Shapiro has asked that there be no University-sponsored events during the hour of the service. *

In Focus Rolls Along

What do Santa Claus and bowlers have in common? They're both part of the December edition of "In Focus," PPPL's video magazine.

Look for the well-known, white-haired and red-suited individual to make a surprise visit to the Lab next week. Highlights of the guest appearance will be featured as a segment of "In Focus."

You won't want to miss watching PPPL personnel who are high rollers every Wednesday, not at Atlantic City but at Colonial Lanes, Lawrenceville.

"In Focus" can be seen on December 19 at noon and 1:00 p.m. in the M.B. Gottlieb Auditorium, on December 20 at 307 College Road, Room 3, at noon and 1:00 p.m., and on December 21 at 1:00 p.m. in the M.B. Gottlieb Auditorium. *

TRANSITIONS

The HOTLINE offers congratulations to the following employees:

Alicia Butcher Ehrhardt, Engineering Analysis Division, and her husband, William, whose son, Timothy Andrew, was born October 1.

George Fleming, Jr., Computer Division, and his wife, Mary Ann, whose son, David, was born October 25.

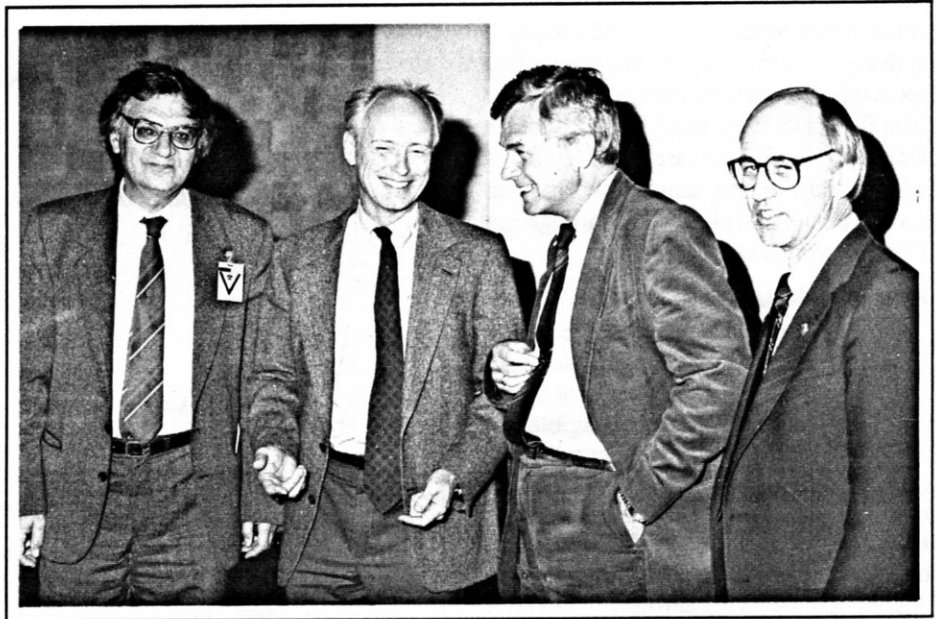
Don Greene, USDOE Princeton Area Office, and Karen McCall who were married December 3 in Toledo, Ohio.

Lisa Hancock, Computer Division, and her husband, David, whose son, Shawn Andrew, was born October 15.

Dinah Larsen, Academic Affairs, and Graduate Student **Alain Brizard** who were married November 25.

Jim Stevens, TFTR Tokamak Operations, and his wife, Anne, whose daughter, Katie Margaret Naomi, was born October 26.

Cheryl and Richard Such, TFTR Tokamak Operations and the Engineering Department Tech Shop, respectively, whose son, Kevin Nathaniel, was born October 1. ✱



(Photo by John Peoples)

Dr. Vyacheslav Pis'menny (left) Director of the Troitsk Laboratory (part of the Kurchatov Institute of Atomic Energy in Moscow) gave a special colloquium on the Chernobyl reactor meltdown when he visited the Laboratory in October. Shown with Dr. Pis'menny are, from left to right, PPPL Deputy Director for Technical Operations Tip Brollin, Valerii Chuyanov, Head of Tokamak Research at Troitsk, and Milt Machalek, Head of CIT Administration. Drs. Pis'menny and Chuyanov, along with Sergei Akimenko, Head of the Computer Division at Troitsk, spent a month touring the United States and visiting Fusion Research and Plasma Physics Computer Centers. A video of this colloquium is available from Photo Services, ext. 2090. It runs 72 minutes. ✱

for a few minutes. Lock your packages in the trunk. Have your key in hand when you return.

- Wait for public transportation or rides from friends in busy, well-lighted areas.
- Teach your children to go to a store clerk and ask for help if you become separated while shopping. Tell your children never to go into the parking lot alone.
- Avoid carrying large amounts of cash and don't carry it all in one place. Pay for your purchases with a check or credit card when possible.
- Be extra careful with purses and wallets. Carry your purse tightly under your arm and don't leave it unattended, even for a minutes.
- Help keep the holidays happy for everyone. Get together with your co-workers and their families to go caroling in a children's hospital. Teenagers can wrap packages for elderly neighbors or help decorate their homes.

You can make a difference this holiday season. ✱



TAKE A BITE OUT OF CRIME

Crime Tip

The holiday shopping season is upon us. Everyone is busy, rushing around buying presents for friends and loved ones. Please take the time to protect yourself during this hectic shopping period. Practice safety first:

- Stay alert to your surroundings and the people around you.
- Shop before dark if possible. Coordinate shopping trips with a friend if you plan to be out late.
- Park in a well-lighted area. Don't walk to your car alone if it's parked in a dark area.
- Lock your car and close the windows, even if you are only going to be gone

Let's Talk Benefits

Social Security and Medicare

It is very important that you contact your Social Security Office at least two months in advance of your 65th birthday to assure that all records pertaining to your Social Security and Medicare benefits are in proper order.

If you plan to continue to work beyond age 65 and wish to delay receiving your Social Security benefits you should still enroll in Parts A and B of Medicare. Failure to enroll in Medicare at age 65 can have serious repercussions on your medi-

Continued on Page 8

cal coverage when you do finally retire. If actively employed, Medicare reimburses for medical expenses after all applicable benefits have been paid from Princeton University's Health Care plans. Benefits will be paid on the same basis for your spouse if he/she is also age 65 through age 69 while you are 65 through 69.

Enrolling in Medicare

Almost everyone who has reached age 65 is entitled to Part A (Hospital Insurance) and Part B (Supplemental Medical Insurance) coverage. If you are eligible for Medicare Part A and do not enroll upon reaching age 65, an application for retroactive coverage can be made at a later date. However, coverage will be retroactive only to 12 months prior to the date of the application. Delaying enrollment in Part B beyond the seven-month period (beginning three months before and ending three months after the month you turn 65) or reenrolling after termination of Part B coverage means: (a) waiting until the next January 1 through March 31 period before enrollment is available, again with coverage taking effect on the following July 1; and (b) paying a 10% premium increase for each 12-month period that enrollment is delayed or premiums are discontinued after age 65.

If you have questions, you should contact your local Social Security Office. *

Emergency Closing Information

On those occasions when the Laboratory will be closed for the day or the normal starting time will be delayed (late opening), special announcements will be made over the following radio stations:

Princeton	WHWH	1350 kHz
Trenton	WTTM	920 kHz
Trenton	WPST (fm)	97.5 MHz
Levittown	WBCB	1490 kHz
New Brunswick	WCTC	1450 kHz

PLEASE REMEMBER: When Princeton University is mentioned, the announcement also includes the Plasma Physics Laboratory.

The University begins monitoring weather conditions as early as 4:00 a.m. and arrives at the decision to open, close, or have a delayed opening as early as practical. PPPL does not independently arrive at its own decision to open or close.

The Laboratory has arranged with the Princeton Answering Service to provide an emergency telephone number to call to determine whether PPPL will be closed. When calling the answering service at **609-497-2279**, individuals should identify themselves as Princeton Plasma Physics Laboratory employees. Please call this number **only** if you are unable to receive radio broadcast announcements and **only** to learn if the Laboratory will be opened or closed. No other information will be given by the answering service.

In the event that PPPL remains open, employees who find it impossible to report to work because of hazardous conditions should notify their supervisors as soon as possible that they are unable to report to work.

Laboratory Holiday Schedule

The Laboratory Council has approved a Laboratory closing during the December holiday season. The dates of the closing are December 23 through January 1, 1989:

Friday	December 23	University Holiday
Monday	December 26	University Holiday
Tuesday	December 27	Laboratory Closing
Wednesday	December 28	Laboratory Closing
Thursday	December 29	Laboratory Closing
Friday	December 30	University Holiday

The dates have been announced well in advance to allow employees the opportunity for scheduling and planning. Those who anticipate special problems are urged to talk to their supervisor or to contact the Personnel Office as soon as possible.

All staff members have the option to charge three days December 27, 28, 29 as vacation or to use their Optional Holidays. Because New Year's Day falls on Sunday in 1988-1989, one of the usual designated holidays around New Year's has been changed to an optional holiday, therefore, there are three optional holidays instead of two for 1988-1989.

Exempt staff members will receive their December paycheck on Tuesday, December 20; bi-weekly paychecks will be distributed on Thursday, December 22; Hourly staff can pick up paychecks in the Payroll Office, Thursday, December 29 between 9:00 a.m. and 1:00 p.m.

ESOs: Creative Protection

by Phyllis Rieger

Sometimes we all "wear more than one hat" when doing our jobs. But some PPPL employees literally have two hats to wear when doing theirs.

Emergency Services Officers (ESOs), part of the Department of Public Safety, are multipurpose public safety officers who perform the functions of both a security officer and a firefighter. In the event of an emergency, ESO personnel in effect take off their blue security hats and put on their firefighter helmets.

"These officers are unique," explained Allan Guyet, Managing Director of Public Safety for the Forrestal Campus. "An ESO is cross-trained in security and firefighting and, in many cases, is an emergency medical technician. It's a combination that is unusual."

The ESOs are assigned daily to security posts; however, when emergency conditions exist they respond and assume their emergency duties. They provide 365-day coverage for the Forrestal Campus and PPPL's College Road Offices. This Department of Public Safety consists of 5 fire captains, 5 drivers, 20 emergency service officers supported by 1 operations supervi-



(Photo by John Peoples)

Emergency Services Unit members, left to right, Tom Furman, Gregg Tompkins, and Tom Brophy stand by new PPPL fire truck.

sor, 3 sergeants and 5 communications officers.

Al said, "Essentially, the ESO position evolved as budgets became thinner and the Laboratory looked for creative ways to consolidate services."

According to Jack Anderson, Deputy Director of Public Safety, "Combining security and emergency functions into one job has proven cost-effective but maintaining on-going training is sometimes difficult."

He explained an ESO must successfully complete a mandatory training program that provides a firefighting certification prescribed by Standards of the Occupational Safety and Health Administration and the National Fire Protection Association. ESO personnel must also complete an initial 120-hour academy course for basic firefighter certification, 180 hours of emergency medical technician (EMT) training and 24 hours of hazardous material training. Additionally, officers must

Continued on Page 2



(Photo by John Peoples)

Cycle Club Says Thanks

PPPL employees Debbie Anastasio and Ronnie Koon, who collected toys and canned goods as part of a toy "run" sponsored by Breed MC, a motorcycle club, say thanks.

"We had 8 boxfuls of goods to deliver to the Delaware Valley Medical Center on December 17th," said Debbie who had been collecting contributions in a huge box outside of the Print Shop.

"It's a good feeling to know that you've helped others have happy holidays," she said. "PPPL employees have a generous spirit and it's very appreciated."

complete an annual EMT certification training, 100 hours of "hands-on" fire-fighting training and 16 hours of "hot training," simulating actual fire situations.

"We utilize the Mercer County fire grounds in the spring and the fall for training," said Jack who explained officers participate in rigorous training exercises, sometimes under the worst of conditions.

"Last November we were training and it was the coldest, windiest day of the year," said Jack. "Our firefighters, who were battling a simulated building fire had icicles hanging off their gear."

Security Functions

Regarding security functions, Al Guyet pointed out the officers have multiple responsibilities which employees may not know. Besides staffing the C-Site entrance security booth and the Communications Center, officers are assigned to patrol the Lab on foot and by car.

Al explained that we now have a crime prevention program in place, consisting of surveys, monthly announcements, etc. He also stressed that Public Safety has a policy of providing escorts to people during evening hours. He said if someone wants an escort to the parking lot, he/she needs only to call Security at Ext. 2536.

Firefighting

Firefighting responsibilities include 305 and 307 College Road as well as C and D Sites. As a community service, PPPL has a mutual aid agreement with the Plainsboro Township Volunteer Fire Department and Volunteer First Aid Squad and often responds to emergencies on Route 1 and surrounding areas. The Public Safety Unit also coordinates emergency preparedness activities including reviewing and updating the Laboratory's plan(s).

The ESOs respond to about 40 fire calls, 30 first aid cases and about 5 hazardous material incidents per year. Members of Emergency Services issue about 1300 flame permits and, on an average, about 90 fire wall penetration permits yearly.

Other tasks performed by this unit include fire safety walk-throughs including testing and inspecting of the fire detection and protection systems. The Unit also provides training and certification programs for PPPL personnel including training in CPR, fire extinguisher safety and handling, and basic first aid.

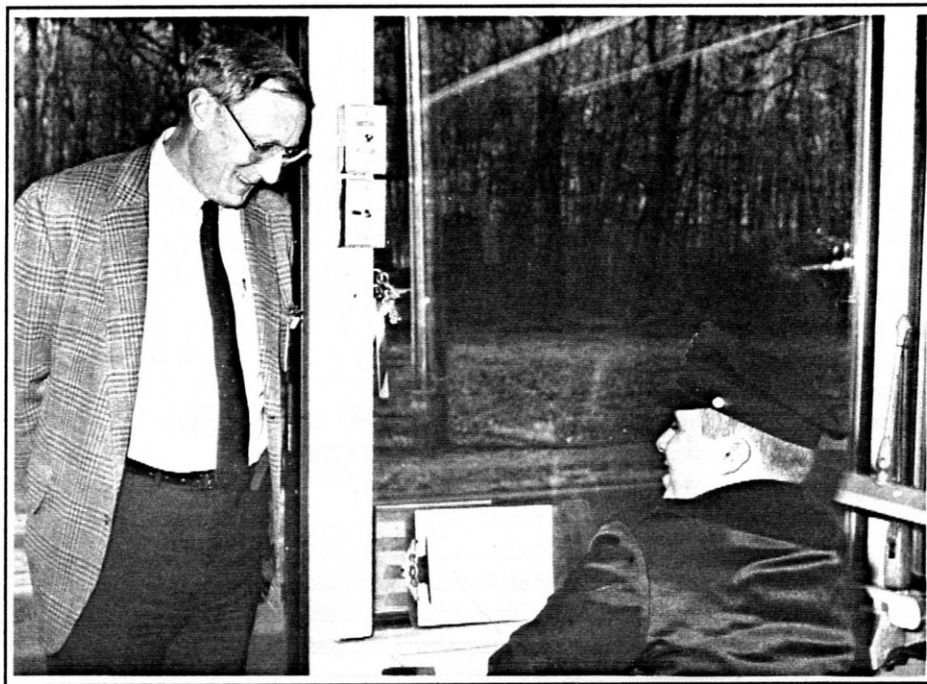
On the Move to C-Site

During January 1989 the Department of Public Safety—Forrestal Division will be relocating into the C-Site Firehouse, second floor, formerly occupied by the Occupational Safety Branch Office. Employees will now go to this site for photo identification badges and parking decals instead of the Chem Sci Bldg at B-Site.

Emergency Services and Security Operations will now be housed under one roof.

Cost Saving Combination

Both Al and Jack feel that combining the jobs of security officer and firefighter has proven to be a creative, cost saving combination that ensures the best in protection for PPPL. ✱



(Photo by John Peoples)

Jack Anderson, Deputy Director of Public Safety, checks at C-Site entrance security booth with Emergency Services Unit officer, Bert Allen, III.

Begin Spring with EMT

The Princeton Emergency Medical Technician Association will be conducting its Spring 1989 basic course at PPPL beginning Wednesday, January 25. The course is intensive and extensive and covers several subjects ranging from soft tissue injuries to hazardous materials and environmental emergencies. Registration is Monday, January 9 at 7:30 p.m. and questions about course content, fees, etc. can be answered by Gregg Tompkins at Ext. 3166.



Joyce Comes Home

Jack Joyce is back. Well, not quite back to the Lab yet, but back in New Jersey. Jack, who was seriously injured in a car accident in Wyoming during the Thanksgiving holidays, arrived home December 13th. By all accounts he is doing well—he may even be able to return to the Laboratory sometime early in the calendar year. According to his wife, Ann, he is in good humor and, in fact, has never lost his sense of humor during the entire ordeal.

Ann said Jack was overcome by the volume of cards, notes, and letters he has received. They both wish to express their thanks for everyone's support and their gratitude for all the good thoughts and prayers sent in Jack's direction. They helped. ✱

U.S. and Japan—Thinking Together

by Phyllis Rieger

The New Year begins at PPPL with another in the series of U.S.-Japan Workshops on Fusion Theory which will be held from January 9-13 in the Melvin B. Gottlieb Auditorium. Several dozen of these workshops have been held in the past, with the locations evenly divided between the U.S. and Japan.

Sponsored by the Joint Institute for Fusion Theory, the workshop focuses on kinetic modifications of MHD modes, second stability and alpha particles in toroidal systems. PPPL will welcome a delegation of five Japanese scholars as well as other physicists from throughout the United States.

PPPL workshop organizers include physicists Gregory Rewoldt and C.Z. (Frank) Cheng and assistant, Barbara Sarfaty. ✱



(Photo by Dietmar Krause)

U.S.-Japan Workshop on Fusion Theory organizers are, left to right, Frank Cheng, Barbara Sarfaty, and Greg Rewoldt.

Cafeteria to Increase Prices

For the first time in over five years, an across-the-board increase in the C-Site cafeteria price structure is necessary. It is scheduled to take place early in January.

According to Stefano Bernabei, Chairperson of the Cafeteria Advisory Committee, the increases are due to higher food prices, increased operating expenses, and, to a lesser degree, "stock piling" by PPPL employees of condiments, packages of sugar and creamer, plastic utensils, and paper goods. He said, "The cafeteria is subsidized by the Laboratory and the prices are generally lower than that of other local eateries. Over the last few months, we [the Cafeteria Advisory Committee] have explored many options with Brock and Company [the vendor which runs the cafeteria] in trying to find ways to economize without affecting operations. In the end we found it necessary to raise prices."

The Cafeteria Advisory Committee members are Stefano, Tim Bennett, Olga Bennett, Barry Cohen, Tony DeMeo, Jerry Hart, and Dottie Pulyer. Victor Gambino, from Procurement, also attends meetings offering expertise when needed. In the near

future a survey of PPPL staff will be taken regarding all cafeteria operations. Remember, this is *your* cafeteria. If you want to have a say in how it operates, it is essential *you* take part in the survey. ✱

For Holiday Parties:

Designate a Driver

During this holiday season, there will be many parties offering celebrations of good cheer. As public transportation is not often available for getting to and from a party, driving becomes the only alternative. AAA [Automobile Association of America] recommends that a designated driver be chosen from among those who plan to drive to a party where alcohol will be served.

The designated driver concept is catching on in many areas of the country, and choosing one person in each group to remain sober for the entire party and drive others home makes sense. It allows everyone to have a good time without worrying about the journey home.

AAA offers the following suggestions for choosing a designated driver and promoting the concept:

- Request that local bars and restaurants support a designated driver program. Community reinforcement is

very important in starting a program and keeping enthusiasm alive.

- Support a designated driver program in establishments you patronize.
- Make certain that a designated driver arrangement is made at every party you host. Award a small gift to the individual in a group who decides not to drink and thereby assures a safe ride home for the other guests.
- Respect the designated driver's decision. Don't try to convince that person to drink alcohol.

Not to drive after drinking must be a conscious decision and requires conscientious effort whatever the circumstances. There will always be other parties, but each of us has only one life. The designated driver program is one way to preserve life. Let's all have a safe holiday.

[Reprinted courtesy of the AAA Automobile Club of Central New Jersey.] ✱

Site Roads Closed

As of December 8th, roads leading to the A-Site area were closed to all motor traffic. Posts and chains with reflectors were placed across all access roads to the site. In case of an emergency, keys are at the Princeton University Security Department and PPPL Maintenance. ✱

Enjoy Partying

(Without Gaining Weight)

There's more to the holiday season than chestnut stuffing, marzipan cookies, roast goose, little chocolate bells wrapped in foil, and candy canes.

'Tis the season to be jolly, but not necessarily to stuff your face. In other words, it IS possible to have a fun and memorable holiday season without gaining 15 pounds by the time New Year's Day rolls around.

While few people would suggest the month of December as the ideal time to begin a diet, there's no need to sabotage a diet in progress or to be forced to go on one next month simply because of damage done now. All it takes is a commitment to good nutrition and a few suggestions:

- **Increase your exercise.** If you burn up more calories, you can sneak that extra helping of gravy onto your plate. Promise yourself that for the month of December you will skip the elevator and hike up the steps; park in the last row of the parking lot and walk briskly to your office. Even little adjustments help.
- **Focus on other aspects of the holiday besides food.** Promise yourself, for example, a new outfit to wear to the company Christmas party; but also promise yourself you'll be good at the party!
- **Eat before you go.** Have dinner before the party so you won't be tempted by high-calorie treats.
- **Hang out by the raw vegetable platter.** Instead of planting yourself in front of a buffet table or next to a platter of pizza appetizers, stand near the vegetable tray and snack to your heart's content on raw veggies. A word of caution, however; go easy on that tasty dip. It's probably laden with calories.
- **Stick to wine spritzers, diet soda, or mineral water.** This not only makes sense, calorie wise, but also makes for safe advice if you have to drive home.
- **Reduce portion sizes.** If you can't say no to that mince meat pie or fruit cake, then the next best thing is to eat just a sliver. But, dieter: Know thyself! Some people can't eat just a little piece, and if you're one of those, then it's better not to take even a taste!

But, perhaps, the best advice of all is to focus on the spirit of the holiday season—not the food that goes with it. ❄



Have a good holiday. Best wishes for 1989!

Occupational Medicine Asks “How Am I Doing?”

by J.S. Tobin, M.D.

Recently, the Occupational Medicine Office sent questionnaires to PPPL staff who had used its services during the past year. The purpose of the questionnaire was to allow employees to evaluate these services and to offer suggestions for improving them. Of the 519 people surveyed, 238 responded. The results of the survey are as follows:

Question: What was the purpose of your visit?

Response: Most were for health evaluations. Consultations, blood pressure checks, and treatment of nonoccupational and occupational illness and injuries followed, in that order.

Question: Who furnished the services to you?

Response: The nurses saw the greatest number of the patients followed by the physician, both nurses and physician, and other personnel.

Question: How were you greeted?

Response: An overwhelming majority (236) of those responding were pleased with their reception.

Question: Were you satisfied with the services you received?

Response: Highly satisfied—152; Mostly satisfied—70; Reasonably satisfied—14; Somewhat dissatisfied—2; and Highly dissatisfied—0.

Question: What was your impression of the competence of the people who served you?

Response: Highly competent—139; Rather competent—73; Adequately competent—25; Not very competent—1; Highly incompetent—0.

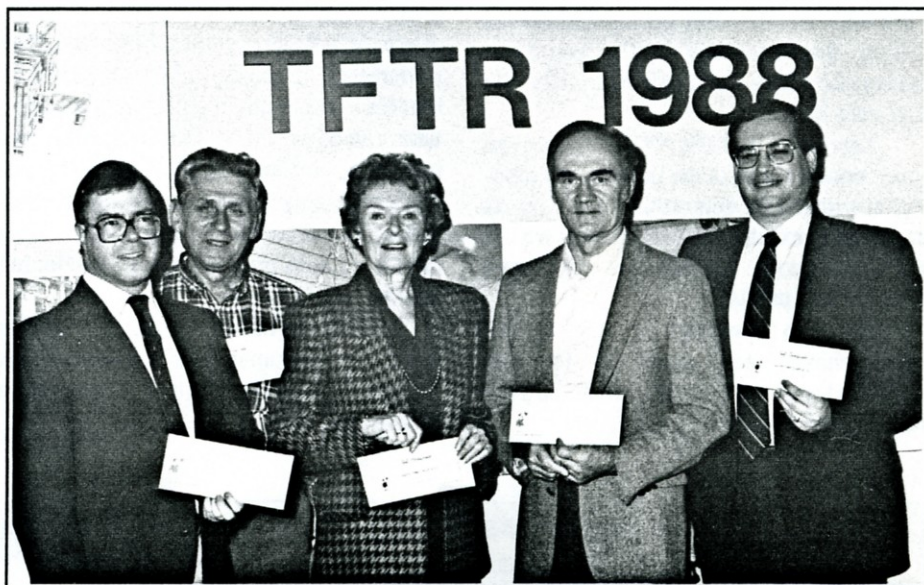
Question: What was the attitude of the people who furnished the service?

Response: Friendly/Interested/Helpful—233; Neutral/Adequate—5; Unfriendly/Disinterested—0.

A number of suggestions were received most of which concerned expanding services. Most frequently suggested were more health counseling, dietary information, and weight control; offering flu shots; and increasing the number of laboratory tests offered. Some of these, such as health counseling and dietary information can be adopted by the medical staff but others, which require increased expenditures, cannot be considered at this time. ✱

United Way Givers Win Free Meal

What are John Frankenberg, Walter Maciolet, Marjorie Barnett, Elmer Fredd, and Robert Wilson (left to right) holding in their hands? Answer: A free meal at Good Time Charley's Restaurant in Kingston. Along with fellow employees, Diane Carroll, Charlene Onofri, and Richard Newman, they are the winners of the eight gift certificates given away during the recent United Way Fund Drive at PPPL. Co-sponsored by Good Time Charley's and PPPL, the certificates were one of the incentives offered to employees to contribute to the United Way. Anyone who gave \$20 or more was eligible for the drawings which were held during the campaign. ✱



(Photo by John Peoples)

Soviets Visit PPPL

US/USSR CIT Dialogue Continues

by Phyllis Rieger

Discussions on possible Soviet contributions to the Compact Ignition Tokamak (CIT) Project continued as a group of five Soviet engineers and physicists visited the Laboratory during the week of January 16.

Headed by Dr. Valerij Chuyanov, Head of Tokamak Research at the Troitsk Laboratory (part of the Kurchatov Institute of Atomic Energy in Moscow), the Soviets exchanged information on various subjects, including magnet design and diagnostics. The Soviets also presented an update on proposed designs for Soviet fly-wheel-generators, a possible contribution the USSR may make to the CIT power supply.

During the week-long visit, PPPL personnel presented updates of diagnostics, electrical systems and magnets. After a welcome by Milt Machalek on the first day of the Exchange, John Schmidt, Ken Young, Dan Huttar, and Laszlo Lontai outlined the recent CIT activities. For the next two days, PPPL personnel and the Soviets gathered into small working groups to discuss in detail CIT designs and proposals. Following these dialogues, the entire group prepared a Record of Discussion of the Exchange. The Soviets concluded their visit with a tour of the Tokamak Fusion Test Reactor (TFTR) and the Lab's Computer-Aided Design and Drafting (CADD) facility.

Milt Machalek, Head of Administration for CIT, hosted the Soviet group's visit with translational assistance offered during the week by PPPL engineers George Levitsky, John Boychuk, Alek Ilic and Pete Rogoff.

According to Milt, "This visit is another positive step in the possible collaboration with the Soviets on CIT. The Soviets continue to exhibit enthusiasm and we felt the discussions during this Exchange proved very useful."

Follow-up meetings in the Soviet Union have been suggested for this summer for electrical equipment, and for late fall for diagnostics. ✱



(Photo by John Peoples)

A group of five Soviet engineers and physicists met with various Lab personnel during their visit to PPPL.

Failure Reports: What are They? Why are They Important?

Failure Reports

Do you know that when a piece of equipment at PPPL fails *you* are required to document that failure in a Failure Report? Failure Report, sounds terrible doesn't it? Well it's not all that bad. The Laboratory requires Failure Reports so that improvements in equipment and systems can be achieved. Failures provide an unique opportunity to look at a system's design towards understanding why a problem occurred and, most importantly, what can be done to prevent it from happening again.

One of the most important things you can do is to document a failure when it first occurs. By waiting, you can lose or forget pertinent details.

Documenting a failure is easy. All you have to do is complete a simple, one-page form. On this form you are asked to identify the system and the component that failed, list the date and time of failure, provide a description of the failure, and give a probable cause, if possible.

Providing a complete and accurate description of the problem is most important. It is the basis for analysis of the failure which leads to ways to prevent the same mistake from occurring again. An incomplete or inaccurate description severely reduces the value of the report.

After the Report

What happens after a failure has been documented? Several things. First, Qual-

Continued on Page 3

The American Red Cross Penn-Jersey Blood Services' Bloodmobile visit to PPPL on Feb 17 has been cancelled. Employees will be notified when another visit is scheduled.

ity Assurance logs the data and then tries to determine if a trend by system, vendor, or type of failure is apparent. This is called a trend analysis. Second, the engineer responsible for the failed system or equipment reviews the report to determine what action is required to fix the problem and what can be done to prevent it from happening again. Finally, the problem is fixed.

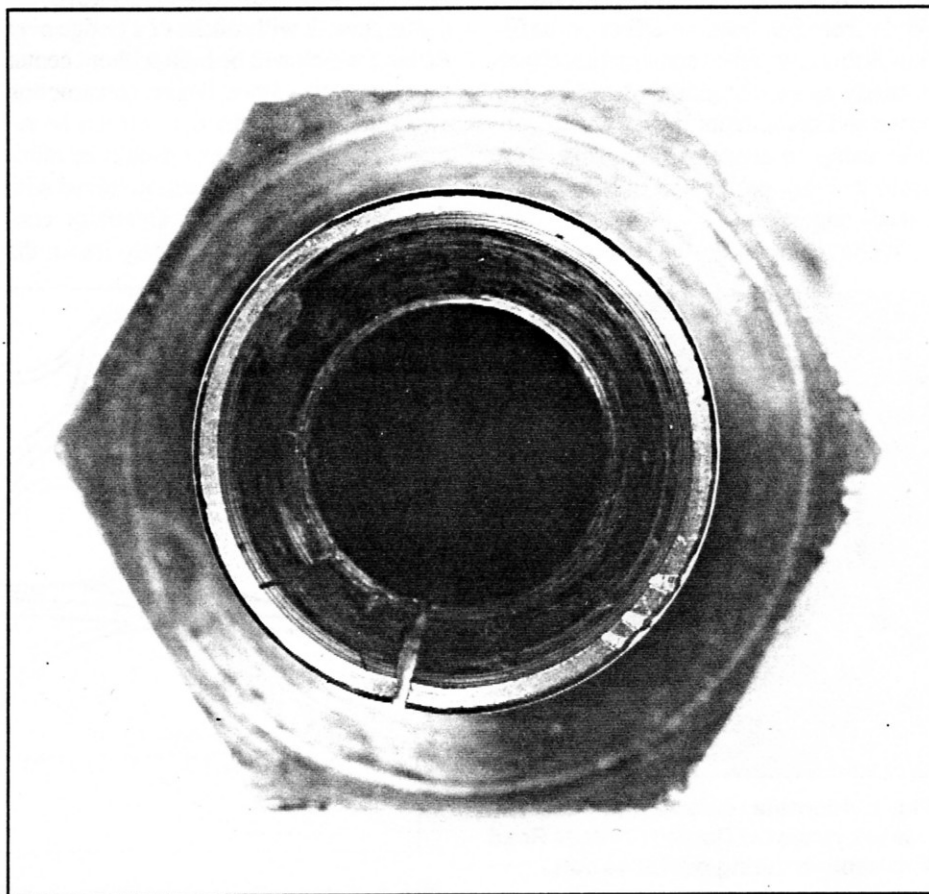
Failure Reports help Procurement Quality Assurance evaluate vendors and their products. If the trend analysis indicates a problem with a particular vendor or product, steps are taken to solve the problem. The goal is to improve the quality and reliability of PPPL equipment, allowing us to conduct our experiments knowing everything will work when needed.

PPPL FAILURE REPORT		No	1
System	Assembly	Date	2
Cog		Time	3
Failure Description & Apparent Cause			
(Ref. FR No) 7			
Location of Failed Part			
CORRECTIVE ACTION			
PART NUMBER (FROM CRITICAL PARTS LIST)	Initial Repair Action (Adjust, Replace, Etc.)	DURATION (HOURS)	Date
Prepared By			
ORR SYSTEM REPRESENTATIVE: IF "CLOSEOUT BY COG" Type "CLOSED" Else Blank 11			
FOLLOW-ON ACTION			
RETURN THIS FORM TO QA AFTER COG SIGNS			
7/11/88			

PPPL Failure Report.

For Failure Reports to do their job, accurate and complete information is vital. Each time *you* complete one of these forms

you are helping to improve the quality and reliability of equipment at the Laboratory. ⚙



(Photo by Dietmar Krause)

This is a cracked hose fitting. Initial failure was identified as a water leak, which caused a ground fault, which prevented TFTR from operating. Upon analysis, it was determined that the crack was caused by over tightening of the fitting. People were trying to prevent leaks, but by torquing (over tightening) the fitting too much they were actually creating leaks! As a result of the analysis, new procedures were developed to prevent over tightening and a different type of fitting, stainless steel instead of brass, is used whenever a new fitting is installed or an old one is replaced.

Winter Getaway Offered

The Princeton University Education Center at Blairstown, N.J. is once again offering its "Winter Weekend" to University faculty, staff, students, and their families and friends. Scheduled for 24, 25, and 26 February, the cost is \$68 for adults, \$47 for students, and \$32 for children 12 and under. All meals and accommodations are included. Advance registration and a non-refundable deposit of \$25 per person or \$50 per family are required.

The weekend begins Friday night at 6:00 p.m. with check-in, a light supper at 7:00 p.m., and an evening of fireside activities. It ends Sunday about 3:00 p.m. Activities are varied and include dam rappel, high ropes, initiative games, a day hike and, weather permitting, ice and snow activities. There are special evening programs including a night walk and owl prowl, slide shows, and fireside fun.

Meals are served family style with hot

beverages and snacks available at all times. Sleeping arrangements are in a woodheated, bunk-room-style log cabin.

Call the Princeton Education Center at Blairstown at 201-362-6765 to make reservations. February 17 is the deadline for reservations; the weekend is limited to 60 people. Saturday arrival will be accepted, if space is available. Cost is \$58 for adults, \$37 for students, and \$22 for children 12 and under. ⚙

If you haven't completed the questionnaire on the Cafeteria please do so in the next few days. Return it to Dottie Pulyer, Room B364, C-Site by February 13.

Update: College Road Overpass Construction

Work on the overpass at Route 1 and College Road (Fig. 1) began in November. While there has been no effect on traffic flow at this time, when construction efforts intensify some disruption of traffic may occur and commuters may want to consider using an alternate route (Fig. 2) to avoid lengthy delays and to help relieve traffic congestion.

When completed, the overpass will

eliminate the traffic light at this intersection and will significantly improve the traffic flow. It will consist of a bridge over Route 1 which will be built without center support posts. Since heavy construction along the Route 1 divider will not be required, traffic diversions should be minimal (compared to what was involved with the Quakerbridge Road Overpass construction) and this should help lessen the

impact on PPPL.

The estimated cost for overpass design and construction is \$20 million of which Princeton University will pay nearly 90% and the Robert Wood Johnson Foundation the remainder. The project will take from 12 to 18 months to complete, a somewhat shorter time than if it were being done by the New Jersey Department of Transportation. *

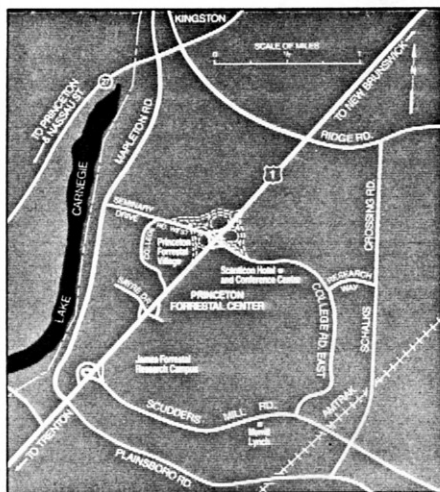


Fig. 1. Alternate routes commuters can use to bypass the Route 1/College Road intersection during overpass construction.

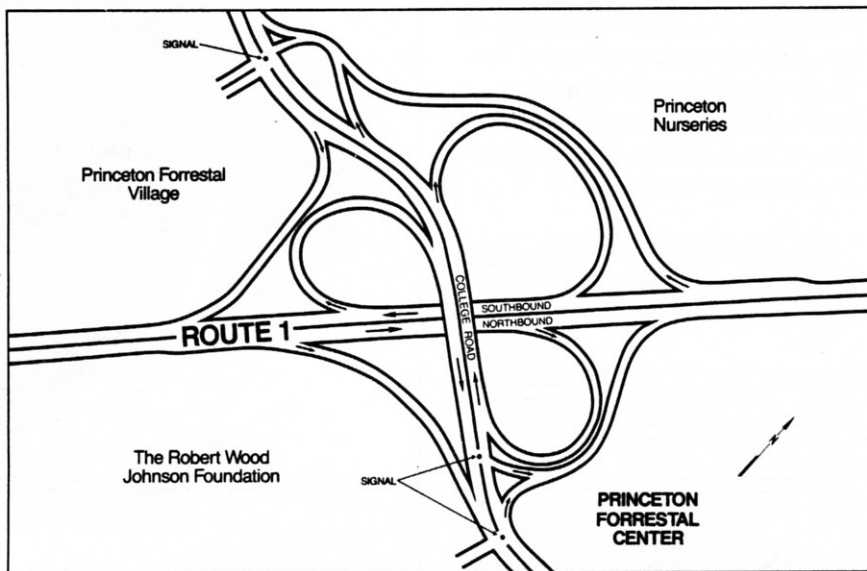


Fig. 2. Schematic of how the College Road Overpass will look when completed.



Computer Corner

Password Security Counts!

Password integrity is the first line of defense against unauthorized computer usage. This fact is self-evident but in practice its importance is often ignored.

Passwords should be a least six characters long (more is preferred) and they should be changed periodically. Avoid the temptation to use common words, phrases, personal names or nicknames, or their variations! There are (unfortunately) commercial password checkers readily available which can easily check and scan thou-

sands of combinations in a matter of seconds.

It is the responsibility of users to protect their computer accounts. Horror stories ("It can't happen to me!") in the form of case studies are cited in a book entitled "Computer Insecurity," by Adrian Norman. It is available in the PPPL Library. *

Colloquia

Colloquia are held each Wednesday from September to June at 4:15 p.m. in the MBG Auditorium, C-Site, unless otherwise noted. Speakers for February are given below:

February 8 — "Recent Developments in Cosmology," by Jim Peebles, Princeton University, Princeton, New Jersey.

February 15 — "X-Ray Lasers," by Dennis Mathews, Lawrence Livermore National Laboratory, Livermore, California.

February 22 — "Progress and Prospects—Direct Drive Laser Fusion," by Robert McCrory, University of Rochester, Rochester, New York. *

"Plastic" Chains Available

As there has been some concern regarding the safety of the metal chains used with PPPL's ID badges, especially with regards to them conducting electricity, a supply of plastic chains has been purchased by the Public Safety Department. Staff who are concerned may obtain a plastic chain by calling the Public Safety Office, ext. 2896, or by picking up a chain at the Chemical Sciences Building between the hours of 8:30-10:00 a.m. and 1:30-3:00 p.m., Monday-Friday. Only one chain per person will be given out, as the supply is limited.

Continued on Page 5

ATTENTION

BY ENTERING THIS AREA YOU CONSENT TO THE FOLLOWING PROCEDURES:

ALL PERSONS, VEHICLES AND ITEMS ENTERING AND LEAVING
THIS FACILITY ARE SUBJECT TO SEARCH.

SEARCHES ON ENTRY ARE TO PREVENT THE INTRODUCTION OF
PROHIBITED ARTICLES. PROHIBITED ARTICLES INCLUDE FIREARMS
OR OTHER WEAPONS, EXPLOSIVES, INCENDIARY DEVICES,
OR OTHER ITEMS CAPABLE OF CAUSING PERSONAL INJURY OR
PROPERTY DAMAGE; ALCOHOL OR CONTROLLED DANGEROUS SUBSTANCES.
PROHIBITED AND UNAUTHORIZED ARTICLES FOUND MAY BE SEIZED.

SEARCHES ON EXIT ARE TO PREVENT THE UNAUTHORIZED REMOVAL
OF GOVERNMENT PROPERTY.

NO TRESPASSING BY ORDER OF THE UNITED STATES DEPARTMENT OF ENERGY

THE UNAUTHORIZED ENTRY UPON THIS FACILITY WHICH HAS BEEN DESIGNATED
AS SUBJECT TO THE PROVISIONS CONTAINED IN 10 CFR PART 860 OF THE
RULES AND REGULATIONS OF THE DEPARTMENT OF ENERGY, IS PROHIBITED,
AND THE UNAUTHORIZED CARRYING, TRANSPORTING, OR OTHERWISE
INTRODUCING OR CAUSING TO BE INTRODUCED, ANY DANGEROUS WEAPON,
EXPLOSIVE, OR OTHER DANGEROUS INSTRUMENT OR MATERIAL LIKELY TO
PRODUCE SUBSTANTIAL INJURY OR DAMAGE TO PERSONS OR
PROPERTY, INTO OR UPON THIS FACILITY IS PROHIBITED.

WHOEVER WILLFULLY VIOLATES THE AFORESAID REGULATION SHALL, UPON
CONVICTION THEREOF, BE PUNISHABLE BY A FINE OF NOT MORE THAN \$1000.
WHOEVER WILLFULLY VIOLATES THIS REGULATION WITH RESPECT TO THIS
FACILITY, SHALL BE GUILTY OF A MISDEMEANOR AND, UPON
CONVICTION THEREOF, SHALL BE PUNISHED BY A FINE NOT TO EXCEED \$5,000
OR IMPRISONMENT FOR NOT MORE THAN 1 YEAR, OR BOTH.

THIS FACILITY HAS BEEN DESIGNATED AS BEING SUBJECT TO SECTION 229
OF THE ATOMIC ENERGY ACT OF 1954, AS AMENDED, AND 10 CFR
PART 860 OF THE RULES AND REGULATIONS OF THE DEPARTMENT OF ENERGY.

ATTENTION EFFECTIVE AUGUST 1, 1988

ALL GOVERNMENT VEHICLES MUST
SIGN OUT OR SHOW TRIP PASS
TO THE GUARD WHEN LEAVING
AND UPON RETURN TO C-SITE.
CONTACT THE C-SITE SECURITY
DESK AT EXT. 2536 FOR OFF-SITE
TRAVEL AFTER HOURS, WEEKENDS
AND HOLIDAYS.

Recently, new signs have been posted near the C-Site Security Booth. They tell us and our visitors about some of the security rules and safety procedures practiced here at PPPL. These regulations are not new and have been in effect for many years now. Like the rules we follow when driving our cars, they are for our protection as well as that of the Laboratory. We hope you will take the time to familiarize yourself with these postings. Security, ext. 2894, will be happy to answer any questions you may have. (Photos by Ed Farris)

P.S.: A plastic chain is also an option for those who have an allergic reaction to some types of metal. ✨

Call for Volunteers

The Department of Public Safety is recruiting volunteer fire police. As a volunteer you receive training, uniforms, and a feeling of personal satisfaction in helping others during emergencies. Interested staff members should contact Rosemary Shangle, Department of Public Safety, C-Site, ext. 2893.

Expecting Cat Call

During the Christmas Holidays, someone took a grey male cat from the C-Site Module area. Would that someone please call Kathy at ext. 3533—I have several boxes of cat food for you. And thanks for giving our “little wander” a home. ✨

Tell Us A Story

Our best story ideas for HOTLINE and “In Focus” come from you. So if you have an idea for an article or video segment, call Information Services. For HOTLINE, call Carol Phillips at ext. 2754. “In Focus” ideas can be channeled to Ed Farris, ext.

2090, or Phyllis Rieger, ext. 2752. What’s your news? ✨

TRANSITIONS

The HOTLINE offers congratulations to the following employees:

John J. (JJ) Clark who retired January 1 after almost 15 years of service. JJ was a Technician in Administrative Operation’s Plant Maintenance and Engineering Division.

James (Jim) Dovicsak who retired January 1 after 22 years of service. Jim was a Technician in the Engineering Department’s Neutral Beam Systems Branch.

Henry (Hank) Dymowski who retired January 1 after almost 36 years of service. Hank was a Technical Associate in the Engineering Department's Diagnostic and Engineering Branch.

Stan Kaye, PBX-M, and his wife, Donna, whose son, Joel, was born November 26.

Thomas Fratticcioli, Mail Room, and his wife, JoAnne, whose son, Thomas John, Jr., was born December 23.

Jerry Williams, Plant Maintenance, and his wife, Cheryl, whose daughter, Ashli Lynn, was born October 10. *

Let's Talk Benefits

Contributions, Accruals, and Vesting

Pension Contributions and Accruals

July 1, 1988 marked the effective date for new laws governing pension contributions or accruals. For Bi-Weekly employees enrolled in the Princeton Pension Plan it means that beginning in July service credits and salaries earned after age 65 will be used in the calculation for determining the final pension benefit when an employee retires. For employees in the monthly TIAA/CREF pension plan, the University will continue to make contributions on salaries earned after age 65. Participants whose contributions ceased will be reenrolled in the old plan or new plan consistent with their prior coverage.

Vesting

Beginning July 1, 1989 Bi-Weekly Princeton Pension Plan participants will be 100% vested after completing five years of service as opposed to the former ten-year service rule. There will be no partial vesting. *

Safety Training

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

Course	Date/Time/Location
Basic Electrical Safety	08 February 9:00-10:30 a.m. Safety Training Trailer
Radiation Safety Training	15-17 February 8:30 a.m.-12:00 noon Rm B318, LOB, C-Site
PCB Handling/Spill Response	16 February 9:00-11:00 a.m. Safety Training Trailer
Initial Crane Operator Training	20 February 9:00 a.m.-12:00 noon Safety Training Trailer
Confined-Space Entry	22 February 9:00-11:00 a.m. Rm B318, LOB, C-Site
RF/Microwave Presentation	27 February 10:00 a.m.-5:00 p.m. LOB Auditorium
Crane and Rigging Refresher Training	27 February 9:00-11:00 a.m. Safety Training Trailer
Laser Safety	28 February 9:00-11:00 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 is offered every Monday 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 Mary Ann 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, PPPL HOTLINE, P.O. Box 451 Princeton, NJ 08543 or telephone 609-243-2754; Interoffice correspondence should be addressed to Room B366, James Forrestal Campus, C-Site.

Layout by Carol Phillips

PPPL Employees say 'We Care About You'

by Carol Phillips

Laboratory employees sent a clear message to their neighbors and friends during this year's United Way Fund Drive. With employee contributions totalling over \$27,095 and a participation rate approaching 70%, they said "We care about you!"

Jim Clark, PPPL's Deputy Director for Administrative Operations and United Way Campaign Chairman, said, "This

year's United Way Campaign was very successful for PPPL. We surpassed last year's total dollar contribution by an impressive 22.5% and the goal amount set at the beginning of the drive by nearly 12%. Coupled with an increase in employee participation from 50% to 68%, we had a banner year."

The Laboratory was recognized for its significant accomplishments at the United Way's Annual Banquet where it was presented with the United Way Gold Award. PPPL was also mentioned in a *Town Topics* article dated February 1 as one of several companies that had significant increases in employee campaigns. This was an important factor which contributed to the United Way exceeding its \$2.6 million goal for this year.

Incentives Spark Campaign

Two new elements were introduced into this year's fund drive by Laboratory United Way organizers: Employees who contributed \$20 or more were automatically eligible to win one of eight \$25 gift certificates given away by PPPL and Good Time Charley's, and the Engineering Group challenged the rest of the Laboratory to beat its participation rate and offered a party at the Gun Club to any group that succeeded.

The winners of the gift certificates were Marjorie Barnett, Diane Carroll, Elmer Fredd, John Frankenberg, Walter Maciolet, Richard Newman, Charlene Onofri, and Robert Wilson. And, with a commendable 87.1% participation rate, the Admin-

Continued on Page 2



(Photo by John Peoples)

The United Way thermometer was located near the entrance to the Laboratory during this year's fund drive. Updated weekly, it charted the steady growth in employee participation. Final Laboratory participation was a healthy 68%.



(Photo by John Peoples)

Fulfilling the promise of a party at the Gun Club to any group who could beat his Engineering Group in total participation during the United Way Campaign, Jack Joyce looked very dapper in tux and serving towel as he personally greeted and congratulated members of the Administrative Operations and Director's Office team on their victory. Jim Clark, Deputy Director for Administrative Operations, is served by Joyce as he enters the Gun Club to enjoy the victory spoils.

istrative Operations and Director's Office team beat Engineering and won the challenge.

Engineering Pays Up

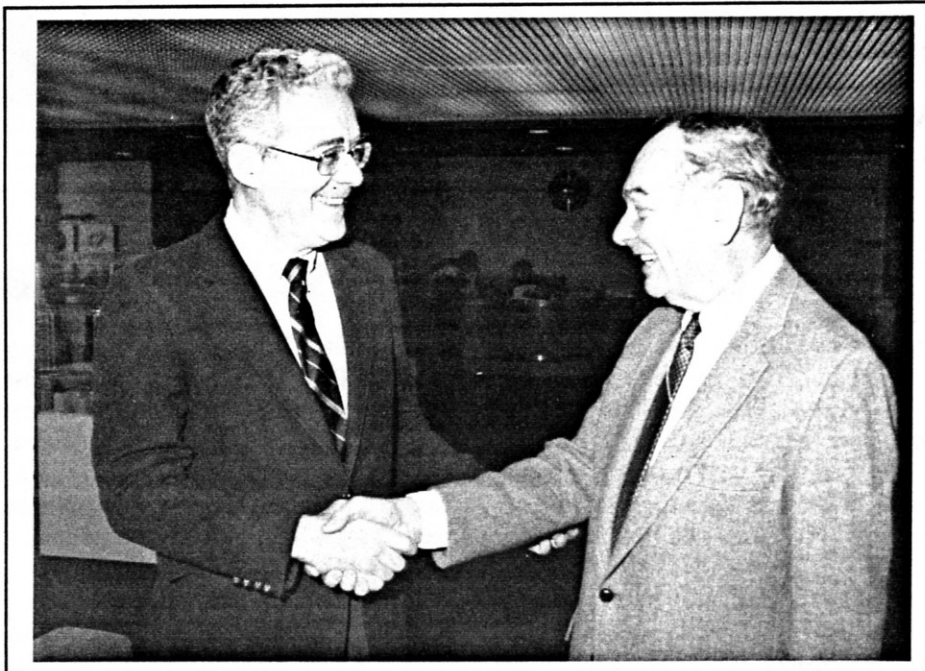
True to his word, Joyce and his group hosted a party for the winners. Wearing a black tuxedo and a white serving towel over his arm, Joyce personally greeted each winner with a formal bow, a big platter of food, and a pledge for a rematch next year. Commenting on behalf of Adm Ops, Bob Smart said, "Everyone on the team contributed to this win. The managers and volunteers were very supportive and worked especially hard. Besides, Administration loves a good party, especially when Jack Joyce offers to host. We accept Jack's challenge for a rematch and are looking forward to him hosting again next year." Bob also noted the strong leadership provided by Mary Ann Brown who did a great job keeping pressure on team leaders and filling in for Jack during his absence.

Final Breakdown

Laboratory contributions totalled \$27,095.50, a more than \$5,000 increase over last year. The participation rate was 67.9% and broken down by teams is as follows: Administration and the Director's Office, Bob Smart team leader, 87.1%; Engineering Group, Jack Joyce team leader, 75%; Deputy Director for Technical Operations' Office, CIT, and Experimental Projects, Harry Howard team leader, 65%; Experimental Physics and Theoretical and Applied Physics, Don Monticello team leader, 56%, and TFTR, Halsey Allen team leader, 40%.

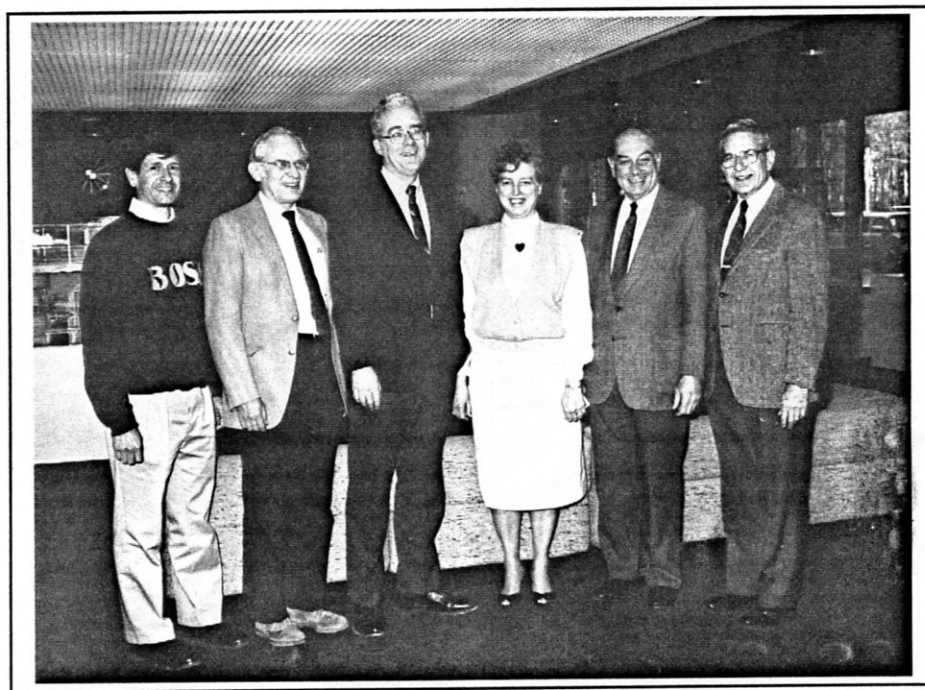
When asked about next year, Clark said, "We are looking forward to next year's campaign. We had a lot of fun this year with the new incentives, the special posters, and the employee photo collage in the Lobby. There really was an air of excitement in the Lab, and the result is an impressive contribution to our community. Thanks to all!"

Anyone who would like to be involved in next's years fund drive activities is invited to contact Steve Iverson, ext. 2007, or Mary Ann Brown, ext. 3045. ★



(Photo by John Peoples)

Jack Joyce (right) and Bob Smart are still friends even though Joyce's Engineering Group had to pay up on the challenge it issued at the beginning of this year's United Way Fund Drive: "Any other group attaining a higher percentage of participation than Engineering will be treated to a party at the Gun Club." Smart's team, which included Administrative Operations and Director's Office personnel, achieved a participation rate of over 87%, while Joyce's team came in second with 75%. When issuing the party invitation, Joyce challenged the winners to a rematch. "Enjoy your victory, for we in Engineering can't wait for the return match this year," he said.



(Photo by John Peoples)

1988 United Way team leaders and organizers are from left to right: Don Monticello, Experimental Physics and Theoretical and Applied Physics; Halsey Allen, TFTR; Bob Smart, Administrative Operations and the Director's Office; Mary Ann Brown, Laboratory Coordinator; Jack Joyce, Engineering; and Jim Clark, United Way Campaign Chairman. Harry Howard, not pictured, was team leader for the Deputy Director for Technical Operations' Office, CIT, and Experimental Projects.

Your Role in PPPL's Future

In a time of very tight federal budgets, especially for research and development, the Laboratory has done well, despite the recent budget cut. For the current fiscal year PPPL's total budget is approximately \$102 million. This reflects continuing progress toward our stated goal of providing the scientific and technical basis for the development of controlled fusion.

To remain in the mainstream of fusion research, PPPL must offer continuing assurance to the Department of Energy, the University, and our neighbors that we can rise to the requirements demanded for tritium operations, whether they are undertaken now or two years from now. To do so, we need to recognize and respond to a new, high level of detailed planning and especially respond to safety concerns. Many of you are now involved in this planning and already are experiencing the application of more formal procedures in TFTR operations, the expansion of training programs, etc. These are designed to assure safe work habits by a competent and knowledgeable staff.

Many of you have given generously of your time to conduct tours, give talks and, in other ways, speak out for the Laboratory's fusion program. However these activities, involving some 5000 members of the public each year, reach only a small portion of the surrounding population. A small oil spill which finds its way into Bee Brook, and then into the newspapers, can leave many more people with a perception that PPPL is careless about environmental matters. Accidents of any kind, even those involving no environmental consequences, carry a message that damages our credibility with respect to overall safety.

The bottom line is that each and every one of us must do our job with a constant awareness of safety and the environment, not only to keep us from injury, but to assure the funding and public confidence that is vitally important to our continued existence. We must have an extraordinary safety record that speaks for itself.

All of us are involved. One person, with one careless act, can undo the efforts of many. Please do your part.

Oil Spills Waste Resources

On January 25, approximately five quarts of oil (one oil change) was found floating in a waterline access-valve pipe next to the RESA building. Although this was a very minor spill with no impact beyond the Laboratory, it will require an unnecessary expenditure of program funds and manpower for cleanup.

For example, last year a subcontractor dumped 2.5 gallons of diesel fuel on the ground and it cost the Laboratory over \$10,000 to conduct a cleanup which met the standards of the New Jersey Department of Environmental Protection (NJDEP). PPPL is required to submit a written report of such incidents to the NJDEP, with the potential for poor public relations.

Accidents do happen, despite our best efforts to prevent them. However, no one will be pleased to learn of the unnecessary expenditure of limited program funds because of one individual's thoughtless behavior. Appropriate disciplinary action will be taken in all cases involving employee negligence. Methods are available for the proper disposal of oil and hazardous materials. PPPL's HAZMAT Coordinator, Scott Larson, ext. 3387, will provide information and assistance. Employees may also call Joe Stencel, ext. 2529, Head of PPPL's Project and Operational Safety Office and the Laboratory's Environmental Coordinator. The cooperation of all employees is essential. ☼

Procedures, No Longer a Mystery

by Carol Phillips

If you have been reading the PPPL News Alert bulletin, you know that a series of training sessions on the newly developed PPPL Procedures Manual have been taking place since the beginning of the year. As advertised, these one-hour sessions provide a general overview of the manual, as well as an in-depth look at a particular subset of procedures dealing with specific functions such as procurement, administration, physics or engineering. You probably have a pretty good idea as to what a procedure is and what it is attempting to do if you have attended one of these sessions. But, for those of us not yet initiated, procedures and their purposes are still a mystery.

To help clear up this mystery for myself, I started with Webster's New Collegiate Dictionary, which defined a procedure as "a particular way of accomplishing something or of acting; a series of steps followed in a regular definite order; a traditional or established way of doing things." So, the PPPL Procedures Manual must be a set of documents that explain the best way to do a particular job.

Interesting, but why do we need procedures and what good are they? I went to Harry Howard, Head of PPPL's Quality Assurance/Reliability Program and the person responsible for Technical Operations' procedures documentation for my answer.

Harry told me that procedures are like maps. A quick look shows you the general organization (like the relationship of the states to each other), while a closer examination shows the best way to accomplish a given task (like how to find the fastest and safest route from one state to another). "You may not need to refer to a map to get from home to PPPL each morning, but you quickly get out the latest map to plan a vacation," he said.

Harry further explained that we at PPPL need procedures because it is good management to document the best way to do a job. Procedures help avoid errors because they explain in detail how to do a specific task; they save time because they are a

Continued on Page 4

training tool for new or transferred employees and a source for seasoned employees who need to review how to do a job; they provide for consistency and standardization because different groups performing similar tasks use the same procedures; and they are a simple and convenient way to communicate to people. Procedures also provide a basis for monitoring our performance against DOE requirements and expectations.

Procedures are characterized as "living documents." This means they are constantly being changed and updated. "Conditions are continually changing, and as we get smarter frequently we do things better," said Harry. He continued, "This is one of the advantages with written procedures, we can easily update them and get the information out to the employees." If anyone believes that a current procedure can be improved, he/she should let his/her supervisor know or he/she can send a note to the Quality Assurance Group. Someone will review the recommendations and take appropriate action to initiate the revision process.



(Photo by John Peoples)

The Technical Operations and Administrative Operations Departments have been documenting approaches and methods used at the Laboratory. The result is the new PPPL Procedures Manual. Here, Deputy Directors Tip Brolin (left) and Jim Clark examine the new manual.

It is clear that procedures are a useful tool for us all. To further remove the mys-

tery, I intend to attend the next scheduled training sessions. See you there! *

New Signs for TFTR



(Photo by John Peoples)

Tokamak Operations technician Mike Anderson installs sign identifying the RGA, the Residual Gas Analyzer of the TFTR. Various diagnostics and parts of the TFTR are now identified due to the efforts of graphic artist Terry Birch and others. A factsheet defining the signs and other TFTR information is being devised as part of an information program.

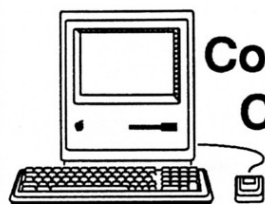
Graphic Services Modernized

The Graphics Services Section of Information and Administrative Services is now utilizing the latest Macintosh computers and software to produce camera-ready artwork for the Laboratory. All technical graphs, organization charts, flow diagrams, illustrations, etc. are produced to required publications standards using Adobe Illustrator 88 software. The Section also has the capability of accepting technical data graphs on floppy disks and converting them directly to camera-ready Adobe Illustrator 88 artwork and supplying photo-quality reproduction from a laser printer. This is an important time saving capability. In addition, utilizing a DEST scanner, Graphic Services is capable of scanning your hardcopies and converting them to Adobe Illustrator 88 documents on floppy disk. Because the artwork is stored on disks, revisions can now be done in a very short amount of time.

Continued on Page 5

Along with the new computer capabilities, the Section is still providing publication design and printer preparation. The group continues to produce color illustrations, airbrush art, posters, banners, and four-color separations. Although the Section is now working with reduced staff, the new computer capabilities allow it to serve the Laboratory in a timely, professional, and efficient manner.

The Graphics Services Section consists of Bernie Giehl, Section Head; G. Terry Birch, Graphic Artist/Illustrator; and Greg Czechowicz, Graphic Artist. The Graphic Services Section is located in the LOB, Rooms 344, 345, and 346. Hours are from 7:00 a.m. to 5:00 p.m. All job requests should be submitted to Bernie Giehl, LOB Room 344, ext. 3370. ✱



Computer Corner

Recycling Benefits Everyone

It has been barely six years since the IBM PC-XT and the Apple Macintosh were first shipped. In that time large quantities of hardware (CPU's and peripherals) and software have been acquired at PPPL.

A significant part of this material is gathering dust on shelves.

Please turn in any hardware and/or software for which you have no plans. Someone may be able to use that monitor or software package that didn't meet your needs.

Software should be turned into Sally Connell in LOB B206, ext. 2689. Please be sure to include all documentation and your name on the software so that any update registration changes can be made and any questions can be answered.

Hardware should also be turned in to Sally, but please call to make arrangements if it is a large package. If the hardware is registered in the PPPL Property Control System, a change in custodianship will also be required. ✱

At the Movies

Travel to California, Moscow and other locations via the PPPL Videotape Library. Tapes on subjects ranging from building the TFTR to the beginnings of fusion are available and may be borrowed overnight.

To obtain a copy of the videotape list or to borrow tapes, call the Photography Services Section at Ext. 2090. ✱

R.G. Mills Named ANS Fellow

Robert G. Mills, director emeritus of the Plasma Science and Fusion Reactor Technology Program, has been named a Fellow of the American Nuclear Society. Bob was cited for direction of the engineering of experimental machines at PPPL for over 20 years; for invention of the D-shaped coil; for conception of the catalyzed-D advanced fusion fuel mixture; and for his leadership as the first director of Princeton's Interdepartmental Program in Plasma Science and Fusion Technology. He retired from the Laboratory in 1987, after forty-four years of service. ✱

TRANSITIONS

The HOTLINE offers congratulations to the following employees:

Births

Jim Conover, Materiel Control, and his wife, Patti, whose son, Andrew, was born January 28.

Sue Pontani, Computer Division, and her husband, David, whose daughter, Adrienne, was born February 22.

Linda and Kenneth Silber, Computer Division, whose daughter, Lisa Michelle, was born February 16.

Retirees

Marjorie F. Barnett who retired March 1 after 24 years of service. Marjorie was Manager of Telecommunications in the Administrative Department.

John G. Murray who retired February 1 after 34 years of service. John was a member of the Engineering Department.

Frank Tiffenbach who retired March 1 after 12 years of service. Frank was a

Technician in Technical Operation's Mechanical Engineering Shop.

Emil Yeager who retired March 1 after 10 years of service. Emil was a Technician in Technical Operation's Mechanical Engineering Shop. ✱

Obituary

Mrs. Irene R. Long, who was associated with PPPL's engineering effort for more than 25 years, died Friday, February 24th, at her home in Jackson, New Jersey. She retired from the Laboratory in 1983.

A former, lifelong Princeton area resident, Irene began her career on Main Campus, transferring to the classified Project Matterhorn, a forerunner in early fusion research, in the 1950's. A few years later, after Project Matterhorn became the Plasma Physics Laboratory, Irene joined the Engineering and Development Division, which had been created by combining the former Engineering Division (where she then worked) and the Machine Design Division.

At that time Irene acquired a new supervisor, Dr. Robert Mills, whom she would serve well for more than a decade as unofficial liaison between the professional staff and the Laboratory's technical expertise. From then on, if an engineer or a technician had a question — no matter how vague — he/she hastened to ask Irene for the answer. And she never failed them — if she didn't know, she would find out. Mostly she knew.

After her retirement, Irene moved to Jackson where she lived quietly with her dog, K.C., enjoying a life for which she never had time while PPPL was her life.

Donations in Irene's memory may be made to the American Cancer Society.

Written by Connie Hopkins a former Administrator in the Engineering Department and a long-time friend of Irene's. ✱

Obituary

John Nicol died on March 7. John, who was a Technical Associate in the Engineering Department, had been a Laboratory employee since 1956.

John is survived by his wife, Adrienne, and his son, John. ✱

Faxs Flash Facts Faster

Facsimile equipment, commonly referred to as "fax machines," are becoming more common in the modern office. Faxes are used to rapidly transmit or receive information from one location to another, and it is recognized that faxes can increase productivity, save time, and enhance decision-making and collaborative efforts. There are a number of fax machines at the Laboratory for employee use. Their locations and telephone numbers are given below.

PPPL Facsimile Equipment

<u>Group/Location</u>	<u>Use</u>	<u>Contact</u>	<u>Model</u>	<u>Fax Phone (609) 243-</u>
Procurement Module I Room 140 C-Site	Restricted	E. Spears Ext. 2428	Xerox 295	2021
Accounting Module II C-Site	Restricted	L. Manuel Ext. 3512	Murata F-30	3520
Materiel Control Property Trailer C-Site	Restricted	R. Cargill Ext. 3573	Pitney-Bowes	2709
Research L246 C-Site	General Research	N. Shakir Ext. 2897	Murata F-50	2418
TFTR Operations LOB B314 C-Site	General TFTR	A. Rosenwasser Ext. 3303	Canon FAX-230	3248
CIT 305 College Road E	General CIT	G. Marshall Ext. 3517	Xerox 295	3315
Director's Office LOB B382 C-Site	General LOB Third Floor	L. Wohar Ext. 3048	Murata F-30	2749
Applied Physics, ITER LOB B143 C-Site	General LOB First Floor	E. Carey Ext. 2646	Murata F-50	2160

Our best story ideas for HOTLINE and "In Focus" come from you. So if you have an idea for an article or video segment, call Information Services. For HOTLINE, call Carol Phillips at ext. 2754. "In Focus" ideas can be channeled to Ed Farris, ext. 2090, or Phyllis Rieger, ext. 2752. What's your news?

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, PPPL HOTLINE, P.O. Box 451, or telephone 609-243-2754; Interoffice correspondence should be addressed to Room B366, James Forrestal Campus, C-Site.

Layout by Carol Phillips

Controller On Board

by Carol Phillips

Edward (Ed) H. Winkler joined the Laboratory as Controller on February 27th. Before coming to PPPL, he was Director of Finance for GE's Government Communications Systems Divisions in Camden, New Jersey. This Division was responsible for developing the communication system used on the Space Station and various other communications equipment principally for the Department of Defense.

Born in West Germany, Mr. Winkler came to New Jersey with his parents when he was five years old. He received a B.A. in Business Administration from Rutgers in 1972, his M.B.A. from Drexel University in 1975, and a J.D. (Juris Doctoral) from the Delaware Law School in 1978. Winkler is a member of the New Jersey Bar, and he can, although he quickly pointed out he doesn't, practice law in the state of New Jersey. "I wouldn't feel very comfortable giving people legal advice because the law is so specialized these days. But, in terms of being a financial person, it's been a good addition to my background because it's hard to be in finance and not get involved in contractual issues. That's where the legal background has really helped," he said.

Mr. Winkler reports to Deputy Director for Administrative Operations James Clark. He has responsibility for the Accounting and Financial Controls Division, the Budget Office, and the Information Resources Management Office.

In the short time he has been at the Lab, Winkler has met with all the employees in his organization. He commented, "I am very much impressed with the personnel in the Controller's Office. In fact, that has been a pleasant surprise. My initial impression is that this is a high-quality organization which has done a lot of positive things for the Lab over the last several years. I am excited about the prospect of having such



(Photo by Dietmar Krause)

Edward (Ed) Winkler, new PPPL Controller.

a competent organization to work with and look forward to providing the Laboratory with first-rate financial support."

Mr. Winkler recognizes that working at PPPL will be different than working in industry, where he has worked for the past 16 years. At the Laboratory, he will not have to address such concerns as share holders and the need for always increasing profit margins. Still, there are some very fundamental elements that are the same. For instance, the financial support system is basically the same: good systems and controls must be in place to accurately record financial transactions; assets must be utilized in a manner to obtain fair value; and the organization must be compliant to the terms of its contract with the Department of Energy. As Controller, Mr. Winkler will be responsible for these basic elements. "I like what I see here. I'm excited about being part of the Laboratory's project. I think with my skill sets and experience I'll be able to make a contribution to the success of the Laboratory's mission," he said.

Mr. Winkler resides in Medford, New Jersey with his wife Denise and his two year old daughter Sloan. He enjoys running (maybe we'll see him pounding the pavement with the rest of the PPPL runners when the weather gets a little nicer), basketball, restoring old cars (he sometimes drives his restored 1973 Cadillac convertible to work), and in quiet moments reading detective stories and books on economics. ✱

Inside

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Survey Results Surprising

by Carol Phillips

The PPPL Cafeteria Committee recently asked employees to rate various aspects of cafeteria operations, food preparation, and service. The rating values used were poor, fair, good, and excellent, and the categories rated included quality, quantity, variety, and temperature of prepared foods. In addition, employees were asked how many times per week they use the cafeteria for breakfast and lunch, and what is the average amount they spend on each of these meals. Employees were also encouraged to state their opinions on such things as: What can the food service do to have you visit the cafeteria more frequently? Would you like to extend the cafeteria service hours? If so, at what time? Please list menu items that you would like featured. Questionnaires were attached to the *PPPL News Alert* bulletin dated January 19th; They were due February 13th. One hundred and forty-nine surveys were returned, although not everyone answered every question.

Breakfast

Fifty people responded to the questions regarding the quality, quantity, and variety of food served for breakfast. Of these responses, 53% rated the quality of the food good and 30% rated it fair. The ratings for poor and excellent were about even at 8% and 9%, respectively. Ratings for quantity of food were surprisingly similar to those for quality: 53% thought the quantity was good, 27% thought it fair, and the poor and excellent rating were the split at 10% each. For variety of food, 30% rated it fair and 45% said it was good.

Lunch

Almost all of the people who returned the survey responded to the questions regarding the food served at lunch. Ratings were generally higher than those for breakfast.

Sixty-seven percent of the responders thought the quality of food was good, 20% said it was fair, 9% gave it an excellent rating, and 4% rated it poor. The breakdown for quantity of food served at lunch was about the same: 63% said the quantity of food served was good, 19% thought it fair, while the ratings for excellent and

poor were even at 9% each. Results for the variety of food served at lunch were: 10% excellent, 52% good, 31% fair, and 7% poor.

Employees were also asked to rate specific menu items served at lunch. It was encouraging that over 80% rated the salads, vegetables, pastas, beef, seafood, poultry, and desert items fair to good, that 90% thought the prepared veal fair to good and 77% rated the soups fair to good.

Operations

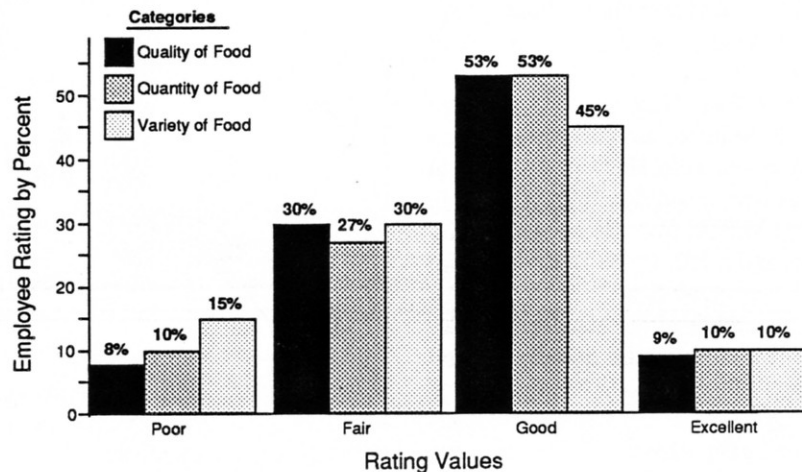
A large majority, 86%, of the responding employees rated the "helpfulness and

friendliness" of the cafeteria staff as good to excellent, while 10% said it was fair and 4% thought it was poor. Regarding the speed of service, 51% thought it was good, 30% said it was fair, 15% felt it was poor, and 4% rated it as excellent.

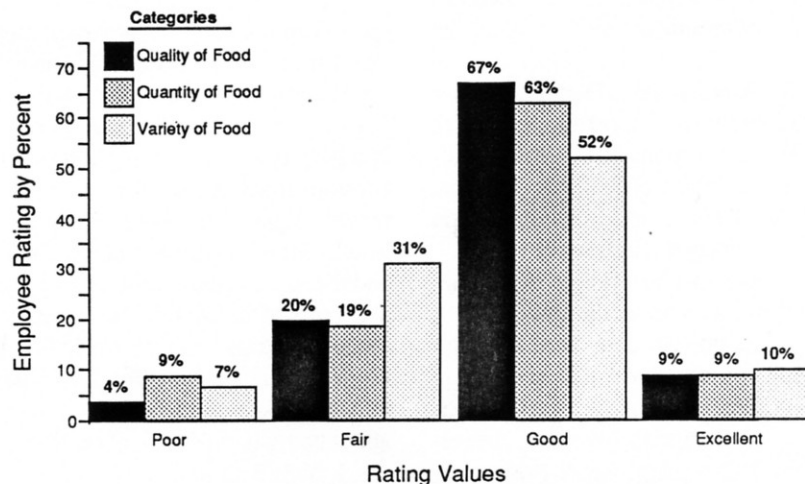
Ratings for overall cleanliness of the serving and dining areas were high: 19% rated the cleanliness of the service area as excellent while 18% rated dining area cleanliness as excellent; 61% thought service area cleanliness good while 64% thought the dining area cleanliness good; 18% and 15%, respectively, said the areas

Continued on Page 3

Breakfast Ratings



Lunch Ratings



Employees' ratings of the quality, quantity, and variety of cafeteria food were generally high. Except for the category "variety of food served at breakfast," 80% or more rated it fair to good.

were fair with regard to cleanliness; and 2% and 3%, respectively, rated the areas as poor.

The final category regarding operations dealt with the appearance of the staff. Of those responding, 88% rated staff appearance as good to excellent and 12 % rated it fair. Not a single rating of poor was received.

General Information

Employees were asked to give the number of times per week they bought breakfast or lunch at the cafeteria. Fifty people said they used the cafeteria for breakfast. Of these, 17 said they bought breakfast once a week, 7 said twice a week, 7 said three times a week, 4 said four times a week, and 15 said five times a week. The

average amount spent on breakfast was \$1-2.

More people used the cafeteria for lunch. One hundred and twenty-eight answered this question: 79 said they bought lunch four to five times a week, 44 said two to three times a week, and 5 said one to two times a week. The average amount spent was \$3-4.

Summary

It seems the employees who use the cafeteria are generally well satisfied with cafeteria operations, food preparations, and service. The table shows that for breakfast 83% of the responders rated the quality of food fair to good, while for lunch 87% said it was fair to good. Eighty percent rated the quantity served at breakfast fair to

good, while 82% rated the quantity at lunch fair to good.

It was helpful that many of the responders included comments and suggestions on their questionnaires. One comment was particularly appropriate. It said, "I'm not sure that improvement is possible in the current price range and relatively inexpensive and good is better than expensive and excellent."

Cafeteria Committee members Stefano Bernabei, Chairperson, Tim Bennett, Tony DeMeo, Jerry Hart, and Dottie Pulyer, would like to thank everyone who took the time to return the questionnaire. If you would like more information regarding the results please contact any member of the Committee. ✱

Tech Team Finds a Better Way

by Phyllis Rieger

Creativity mixed with experimentation and on-the-job experience helped neutral-beam source technicians Henry Swiderski, John Swatkoski, and Don West develop the Hydrostat 10.

While it sounds like something from a science fiction movie, the Hydrostat 10 is actually a hydraulic hose pressure testing system with ten times the capability of a more traditional single hose testing method. The unit consists of a hydraulic hose dispenser, hose cutter, measurement brace, stainless steel fill and holding tanks for water, a compressor, and a 10 hose capable manifold. It can be adapted to any size configuration. This time-saving device has been tested using three-quarter inch hoses under 1100 pounds per square inch for 8 hours revealing no leaks and, according to Henry, "it's now undergoing a 20 hour test." The hoses tested are used for neutral-beam ion sources on the TFTR.

Henry, John, and Don developed the "10," as they call it, "because we knew there must be a better way to increase production while decreasing time frames," said Henry who's also been responsible for designing a modular containment system for compressed gas cylinders and other containers. Called the "Saf-T-Rak," he and John again decided that there must be a better and safer way to store the containers.

"We feel the 'Saf-T-Rak' is a sturdy, safe, and economical way of storage compared to the previous way of using chains, ropes or bailing wire to hold the tanks in place," explained John who also pointed out its other attributes including quick

assembly and disassembly of all stock unistrut items and its quick release pins. Both devices are currently being used in the CAS building, and the Safety Department has given thumbs up to both inven-

Continued on Page 4



(Photo by John Peoples)

(Left to right) Technicians Henry Swiderski, Don West, and John Swatkoski found a better way to test hoses, called the Hydrostat 10.

tions. In fact, patents are being sought for both through the University patent program.

TFTR Heating Systems Division Head Mike Williams said, "It's encouraging to

see people take such an interest in their work that they think of ways to improve production safely and economically. I commend John, Henry, and Don for their initiative." ✱



(Photo by John Peoples)

(Left to right) John Swatkoski and Henry Swiderski pose with their invention, the "Saf-T-Rac."

Milt Machalek on Special Assignment to DOE

by Phyllis Rieger

For the next year, Dr. Milton Machalek is on special assignment from PPPL to the Office of Fusion Energy (OFE), U.S. Department of Energy Headquarters in Washington, D.C. He's assigned to the Development of Technology Division headed by Robert Dowling.

A major part of Milt's responsibilities will be assessing, reviewing, and monitoring the United States portion of the technology and physics for the International Thermonuclear Experimental Reactor (ITER). Milt said, "In this special assignment I will remain a PPPL employee and, therefore, will not be allowed to direct any DOE programs. However, I do look for-

ward to providing useful support to OFE in organizing, coordinating and monitoring the ITER Research & Development in the United States."

A second major responsibility Milt will have is in the superconducting Demonstration Poloidal Coil (DPC) project, a cooperative effort between the U.S. (Massachusetts Institute of Technology) and Japan. Additional assignments have been offered, depending upon available time, including technology transfer, in which Milt has had an active interest for several years.

Milt holds A.B., M.S., and Ph.D. Degrees in Physics from Harvard, the University of Chicago, and the University of Texas, Austin, respectively.

He came to PPPL in 1980 from Los Alamos, where for six years he gained experience in such areas as operating the Scylla experiment, managing construction of the Scylla IV-P project, managing building of the world's first radio-frequency quadrupole (RFQ) accelerator, and contributing to various plasma pinch experiments and the Fusion Material Irradiation Test (FMIT) project. At PPPL, Milt headed the TFTR Core Engineering Group from which he became the initial Head of TFTR Operations. For the last four years, he has been a member of the small group that began on the Tokamak Fusion Core Experiment (TFCX), evolved into the Ignition Studies Project (ISP), and is now the Compact Ignition Tokamak (CIT) Project.

Ever since his first trip to the Soviet Union in 1976, and his four-month exchange to the Efremov Institute in Leningrad in 1977, Milt has maintained a strong interest in scientific and technology exchanges with the USSR which includes maintaining his Russian language skills. Milt has been the key individual at PPPL coordinating the possible CIT collaboration with the Soviets, and he will retain that responsibility during his DOE assignment.

While at DOE Headquarters in Germantown, MD, Milt can be reached at (301) 353-4954. ✱

PPPL



(Photo by John Peoples)

Milt Machalek

Learning About Careers

by Phyllis Rieger

The Laboratory will again offer "Science on Saturday," a series of seminars designed to familiarize high school students with recent advances in science and to stimulate interest in pursuing scientific careers.

Beginning April 29 and lasting until June 10, the program runs from 9 to 11 a.m. for six Saturdays (Memorial Day weekend excluded). Students will have the opportunity to learn about fusion energy research, recent advances in laser technology, the greenhouse effect, and other topics.

Many of the seminars will be conducted by Laboratory staff who have volunteered to participate in the program and to talk about their area of expertise. The program is an important way in which the Laboratory can serve the community.

In the past as many as 180 area students have participated. The seminars are open to high school students, teachers, and parents free of charge. Registration is at the first session on April 29 in the M.B. Gottlieb Auditorium or call Meg Harmsen at extension 2659. ✱

Attention Runners

It's been a couple of years since the last Fun Run was held at PPPL. With spring and warmer weather just around the corner, renewed interest is being shown towards this event, and organizers are now trying to get an idea of the level of interest for this activity.

The race would follow the same format as in the past. That is, it would be 5K (3.1 miles) in distance and follow a circular route around C- and B-Sites. Tentative plans are for the race to be held in the Spring, if enough interest is shown.

If you are interested in participating and/or helping, please let Barbara Sarfaty, ext. 2440, or Tom Voigtsberger, ext. 2688, know.

Remember, check with your doctor before starting any new exercise program. If you decide to start to exercise after his/her approval, be sure to pace yourself in the beginning, and do only what you can. ✱

1988 Service Awards Ceremony

The 1988 Service Award Ceremony for employees with a 5, 10, 15, or 20 year service anniversary during calendar year 1988 will be held on Thursday, April 13th, 1989 at 1:00 p.m. in the M.B. Gottlieb Auditorium at C-Site. This year employees who have attained 30 or more years of service during 1988

will also be honored. Employees receiving awards and their supervisors will receive invitations to the ceremony.

If you are eligible for an award but will not be here on April 13th, contact Bobbie Forcier on ext. 2101 to make arrangements to receive your award.

1989-1990 Holiday Schedule

<u>Holiday</u>	<u>Date</u>	<u>Week Day</u>
Independence Day	July 4, 1989	Tuesday
Labor Day	September 4, 1989	Monday
Thanksgiving	November 23, 1989	Thursday
Thanksgiving	November 24, 1989	Friday
Christmas	December 25, 1989	Monday
Christmas	December 26, 1989	Tuesday
New Year's	January 1, 1990	Monday
Memorial Day	May 28, 1990	Monday
Optional Holidays		Three Additional*

Optional holidays may be used at the staff member's discretion and with the approval of the supervisor for religious holidays or any other personal reason. Alternate holiday arrangements may be made by Departments and Offices such as the Library and Food Services where work schedules or union contracts dictate other holiday schedules.

*Because New Year's falls on Monday in 1989-90, one of the usual designated holidays around New Year's has been changed to an optional holiday.

Safety Training

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

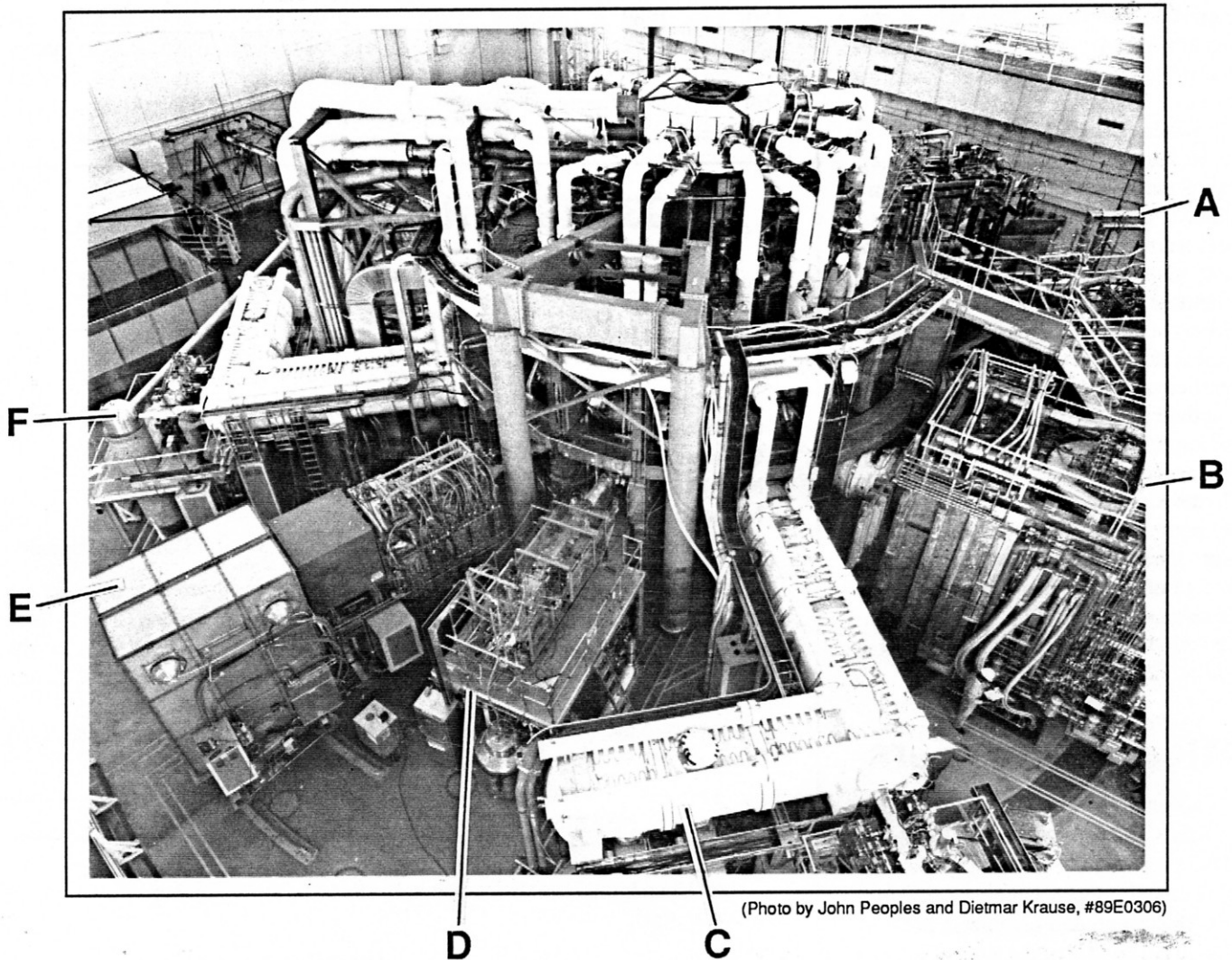
<u>Course</u>	<u>Date/Time/Location</u>
Radiation Safety Training	11-13 April, 8:30 a.m.-12:00 noon Safety Training Trailer
Forklift Operator Training	20 April, 8:45-11:30 a.m. Safety Training Trailer
Respiratory Protection	25 April, 9:00-11:00 a.m. Safety Training Trailer Fit test is in the afternoon

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 is offered every Monday 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 Mary Ann McBride, ext. 3468, to enroll.

Tokamak Fusion Test Reactor 1989



The Spring-Summer experimental run on TFTR will begin in April and will continue until the beginning of October, when the next major opening is planned. High-power operation is scheduled for the middle of May. Shown in the photo above are: On the right-hand side near the top just behind the stairs is the ion cyclotron radio-frequency heating apparatus (A); still along the right-hand edge and in front of the stairs is one of the four neutral-beam injectors (B) that provide auxiliary heating to the plasma; the vacuum pump duct (C) is the large, white, L-shaped object in the right foreground, it creates and maintains the vacuum; next to the vacuum pump is the Oak Ridge National Laboratory deuterium pellet injector (D), which is used for plasma fueling; the rectangular box on the left is the diagnostic neutral beam (E), which is used for ion temperature measurements; and the dome-shaped object (F) houses a mirror for the TV Thomson scattering diagnostic used for electron temperature and density profile measurements.

PPPL'S premier precisionists

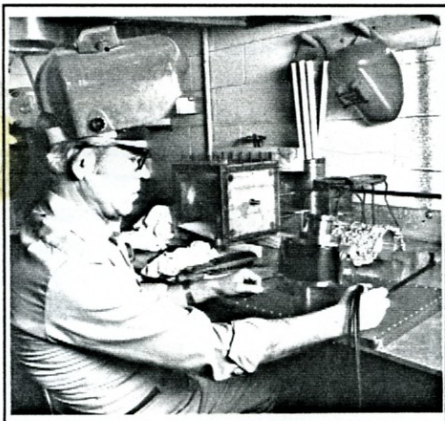
by Phyllis Rieger

"Being a machinist is like being a surgeon. You have to be precise and skilled," said Jack Mount, Supervisor of the C-Site Machine Shop. Jack heads a team of four experienced machinists who include Dave Allegretti, Nick Dereka, Walt Maciolek, and Sylvester Luyber. Together, they have a total of 66 years of experience working at PPPL.

"As part of the Engineering Division, our main responsibilities are repairing,

replacing, and fabricating parts for the TFTR, the PBX-M, the CDX, and the space craft glow project," says Jack who often can be found in the experimental areas consulting with physicists, engineers, and lead technicians about the inner workings of the energy devices.

"The parts vary in size and shape and the materials used include stainless steel, aluminum, Inconel, and other nonmagnetics," points out Jack who's been at PPPL for nine years, five of those as supervisor. "The type of parts we fashion range from camera parts for the PBX-M to probes for TFTR diagnostics. We also help the maintenance department keep things running



(Photo by John Peoples)

Sylvester Luyber welds a vacuum bellows.



(Photo by John Peoples)

Nick Dereka mills stainless steel bus work for PBX-M.



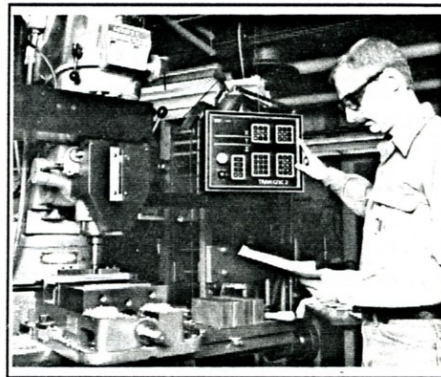
(Photo by John Peoples)

Machinist Dave Allegretti measures a pocket for the PBX-M with a vernier tool.

by repairing parts for boilers and air conditioning systems."

He explained the C-Site Machine Shop (there are other machine shops throughout PPPL) has been an integral part of the Lab since its inception in 1955 when the fusion energy devices began requiring specialized parts and a skilled work force to make them.

Don Grove, former Deputy Director for Technical Operations, reminisced about the machine shop's birth. "The shop began

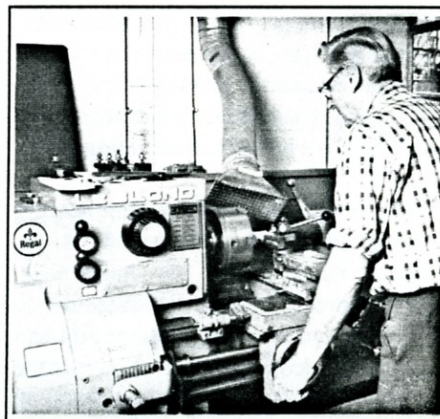


(Photo by John Peoples)

C-Site Machine Shop supervisor Jack Mount programs the CNC, the computer numerical control milling machine.

at A-Site and in 1958 the shop at C-Site was built with certain design specifications including a wooden floor. That was for two reasons: it was easier on the feet and if someone dropped a fragile part it wouldn't be chipped as it would if the floor were concrete." He explained the machinists received special training in ultra-high vacuums so they'd better understand the types of parts needed. "It's a shop known for its high quality and interaction among the machinists and the physicists and engineers," said Don.

Continued on Page 2



(Photo by John Peoples)

Walt Maciolek machines a Mirov coil in macor (ceramic material).

The C-Site Machine Shop has a separate welding and soldering area and contains: 9 milling machines, 7 lathes, 4 drill presses, 2 grinders, 3 saws, 1 shaper, and assorted other tools of several shapes and sizes. Computerization has also come to the machine shop in the form of the CNC, the computer numerical control, a programmable machine with a capability limited only by the imagination, according to Jack.

Deputy TFTR Project Head Jim Sinnis finds the CNC, "very impressive. It frees the machinists to do other jobs." Jim, who relies on the machinists for many jobs, said, "The shop is a valuable facility. The machinists are part of the TFTR team because without good working parts we wouldn't be able to carry out our plans and achieve our goals."

The shop is also an asset in the money and time savings department. When some beryllium windows on the neutral beams needed replacement, the machine shop did the job at a savings of \$100,000 for the Lab and in a shorter-time frame than a subcontractor.

"Besides replacing and repairing, we also manufacture components," said machinist Nick Dereka who explained he usually works from blueprints to fabricate diagnostic parts for TFTR. Dave Allegretti, who works with Nick, said, "Sometimes the parts are 'exotic,' that is they're unusual designs. Besides blueprints, we work closely with the physicists and engineers to devise a particular part. Sometimes they send us a hand-drawn sketch to work from. Communication is essential when you're doing something like that."

Besides placing a high priority on the quality of work produced, Jack sees safety as ranking #1 in importance. "All of my crew are radiation qualified and wear safety glasses and shoes when working," said Jack. "We have an outstanding safety record."

Jack Joyce, Head of the Engineering Division under whose purview is the machine shop, lauds the machinists, "who've been an indispensable resource in keeping the experimental devices up and running. The dedicated staff we have in the machine shop has been instrumental in helping the Laboratory achieve its outstanding experimental record." *

New medical director named

An extensive search for Laboratory Medical Director has been successfully concluded. The candidate of choice is Dr. John Caruso, Jr., a retired Navy Captain and present Director of Occupational Medicine at U.S. Steel Corporation's Fairless Works in Pennsylvania. Dr. Caruso will assume his duties at PPPL on Monday, May 15.

Dr. Caruso is a highly experienced physician who is trained and certified in both internal and occupational medicine. He received his B.A. and medical education from Boston University. His residency in internal medicine was done at Hartford Hospital and his residency in occupational medicine was completed at the University of Pittsburgh. According to Steve Iverson, Director of Personnel, "He is one of only several hundred physicians nationally who is Board Certified in Occupational Medicine."

Before deciding on a career in the navy, Dr. Caruso maintained a private practice in internal medicine. In the Navy, he initially served as medical officer on nuclear submarines. He was subsequently assigned to shore bases where he began his work in occupational medicine. Captain Caruso remained in the Navy until 1981. During his naval career, he commanded a large staff that included many medical professionals such as doctors, nurses, and industrial hygien-

ists. In this capacity, he had direct responsibility for occupational medicine at various types of naval bases throughout the U.S. Upon his retirement in 1981, he became Director of Occupational Medicine at U.S. Steel Corporation's Fairless Works where he was responsible for over 4,000 employees. He was instrumental in establishing the occupational medical program there.

At PPPL, Dr. Caruso will be responsible for directing the Occupational Health Program in coordination with the Health and Safety Branch. As such, he will be responsible for implementing occupational health programs and for recommending to Laboratory management improvements in the effectiveness of these programs.

James Clark, Deputy Director for Administration, says, "Dr. Caruso is uniquely qualified for the position of PPPL Medical Director. He has in-depth experience in the field of occupational medicine which will be most relevant to PPPL. He is articulate and balanced in discussing aspects of health and safety issues, and his naval experience prepares him for working with large organizations, like the Department of Energy. Additionally, he exhibits a strong interest in preventive medicine and in promoting wellness/fitness activities. He is a welcome addition to PPPL"

When you speak, EAP listens

by Phyllis Rieger

(This article was prepared before Dr. Tobin's retirement from the Laboratory. Dr. Tobin was PPPL's Medical Director for six years.)

Problems. We all have them at some time or other but sometimes we can't resolve them and they begin to affect us and the quality of our work.

As a special benefit for employees, PPPL contracted last year with the Corporate Health Department of the Medical Center at Princeton to provide a more complete program of assistance for PPPL employees and their families. The Em-

ployee Assistance Program (EAP) is designed to help employees and family members deal with interpersonal problems in the workplace or home. The primary goal of the program is to retain valued employees.

According to Mary Elwood, a social worker who coordinates the program, "Problems can range from alcohol/drug dependency to legal and financial crises. People call us to talk about aging parents or how to resolve a child care issue.

"Sometimes people need to just talk and other times they seek extensive help. No

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problem is too small or too large that we can't work in the direction of a solution."

She stressed, "Confidentiality is a key element. I know people are concerned about this and that's understandable. We're here to help, not violate confidences. Sometimes people call us and just use their first name and that's fine. Our main interest is to listen and to help. The Medical Center will not identify PPPL employees who utilize the EAP or discuss their problems with PPPL supervisors or management." She pointed out counseling is often done over the telephone because some prefer that to in-person meetings.

Ms. Elwood heads a team of three who provide services 24 hours a day, 365 days a year. Team members include John Byron, Jr. and Patricia Roberts, R.N.

To use their services, employees first call a toll free number. In New Jersey the number is 1-800-624-1754 and in Pennsylvania 1-800-527-0035. Usually an initial meeting is set up with one of the team members. At this meeting the problem is discussed and a "game plan" formed for resolving it. Relatively minor problems may be addressed in a few additional counseling sessions at the Center. More complex situations involving long-term counseling or financial or legal counseling are handled by referral to other agencies.

"Often we act as advocates for our clients," said John who pointed out that the counselors help pave the way for treatment programs, conduct follow-up, and occasionally negotiate fees. Since the counselors are familiar with the community and other resources they often are liaisons for employees with other agencies or in-patient facilities.

He also explained, "Sometimes employees are referred to the EAP by their supervisor because his/her work performance has deteriorated to the point where intervention was necessary. In cases where the supervisor referred the employee in

lieu of disciplinary or other administrative action the Medical Director will be kept informed of the employee's cooperation, but details of the problem and its treatment will be not released. The Center will not furnish additional information to the Laboratory supervisor or PPPL management."

PPPL Medical Director Dr. John Tobin said, "I'm pleased with the EAP. It's proven to be a valuable benefit for our employees. About 6% of our employees have opted to use the Center's services which were chosen over others because it provides service 24 hours a day, seven days a week. The program's purpose is to help employees address their problems and keep their mind on their work and it's succeeded in doing that."

He emphasized, "The Lab has gone to great lengths to maintain employee confidentiality which is a mainstay of the program. The Lab does receive quarterly reports from the Center with statistics about the types of problems, treatment referral, contacts, etc. but specific information is not included."

Dr. Tobin stressed, "Employees and their family members living with them can use the services as often as they wish. While the Laboratory pays a flat fee per employee, long-term counseling or in-patient treatment is an employee's or family member's responsibility." The University's health insurance benefit program will cover those services to the extent normally included in the program as usual medical expenses. *

DOE labs to research cold fusion

Due to the worldwide interest in announced research results in electrolytic or "cold" fusion in metals, Secretary of Energy James D. Watkins has directed that the Department of Energy's (DOE) national laboratories intensify their research efforts to more clearly understand the

phenomenon. Admiral Watkins also will request DOE's Energy Research Advisory Board (ERAB) to establish a panel to conduct an independent review of the entire research situation. The Los Alamos National Laboratory, under the auspices of the DOE, will sponsor a scientific workshop on the subject May 23-25 in Santa Fe, New Mexico.

Department of Energy laboratories have been conducting experiments in the area since Brigham Young University and the University of Utah announced research results. The intensified work at the national laboratories includes continued attempts to reproduce the experiments in order to confirm research claims. Additional experiments include conducting tests for chemical reactants and products resulting from the experiments. Control experiments using light water in addition to heavy water are also being performed. Scientists will seek to determine the mechanisms for the production of a fusion reaction in solids

The ten participating laboratories are: Ames Laboratory, Argonne National Laboratory, Brookhaven National Laboratory, Idaho National Engineering Laboratory, Lawrence Berkeley Laboratory, Lawrence Livermore National Laboratory, Los Alamos National Laboratory, Oak Ridge National Laboratory, Pacific Northwest Laboratory, and Sandia National Laboratories.

The main reason for the research by DOE laboratories is the potential for a new energy source. However, the origin of any heat released has not been established, be it nuclear, chemical, mechanical, or another process. Similarly, a mechanism for production of a fusion reaction, if any, at room temperature in solids has not been established.

The ERAB panel will consist of experts in the fields of electrochemistry, solid state physics, nuclear physics, engineering and other fields important to the type of experiments conducted. The purpose of the review is to provide DOE with an assessment of this new area of research. The ERAB provides guidance to the Secretary of Energy and advises on overall research and development conducted in the Department. The DOE will request the ERAB prepare an interim report by July.

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The scientific workshop to be held at the Sweeney Convention Center in Santa Fe will provide an interdisciplinary forum to discuss recent experiments and calculations involving cold fusion phenomena. Invitations have been sent to some 2,000 scientists worldwide. The workshop will be co-chaired by Robert Schrieffer and Norman Hackerman. Dr. Schrieffer, a recipient of the Nobel Prize in physics in 1972, is director of the Institute of Theoretical Physics at the University of California at Santa Barbara. Dr. Hackerman, a member of the National Academy of Sciences, served as President of the University of Texas at Austin from 1967 to 1970. He is currently Emeritus Professor of Chemistry at both the University of Texas and Rice University.

[Reprinted from a DOE News Release dated 21 April 1989.] *



National Geographic produces film on fusion

by Phyllis Rieger

When two world renowned entities get together, the result can only be a winning combination.

Last spring the National Geographic Society, known worldwide for its outstanding documentaries and magazine, sent science filmmaker Joe Aiken to PPPL to focus on fusion energy and technology. According to Donald Cooper, Associate Director of the Society's Educational Films Division, "The film, geared toward high school and college students, addresses the quest for a new energy source: fusion power. The film discusses the differences between nuclear fission and fusion and animation helps to explain the natural fusion process in the sun and the major methods by which scientists are attempting to imitate it on earth." The film,

25 minutes long, is in color and is available in film and video.

Mr. Cooper explained, "The Society decided to do the fusion film based on a survey of educational librarians, media personnel, and students. Statistically tabulated, the survey ranked fusion highest; hence, the Society's strong interest." He also said the Society looks for subjects not only science-related but those that involve social topics. "Will the energy sources we

"... lead to students exploring the idea that people can solve problems people create."

now have last a lifetime? What alternatives do we have? These and many other questions lead to students exploring the idea that people can solve problems people create. We want people to think, and I believe that our fusion film presents that opportunity as well as making the subject of fusion interesting and understandable to high school students and others," said Mr. Cooper.

During last spring and summer a film crew, headed by Joe Aiken, spent several days at the Laboratory filming in various locations including the TFTR test cell, the PBX-M control room, and CICADA. Assisted by PPPL Photography Service Section employees John Peoples and Ed Farris, the crew spent considerable time setting up for each shoot to insure accuracy and clarity. PPPL personnel play prominent roles and interviews with Harold Furth and Lyman Spitzer, PPPL's first director, are film highlights. Physicists Steve Cowley, Brent Stratton, and Rob Goldston are also featured. Besides PPPL, other film locations include: Cornell University; Lab for Laser Energetics in Rochester, New York, and the Sandia National Laboratory.

Producer Aiken appreciated the cooperation of PPPL employees and said, "The assistance of Lab personnel helped to make our job easier. Our thanks to all those who helped."

Employees are invited to special showings of "Fusion: Work in Progress" on

Tuesday, May 16 at 12 noon in the M.B. Gottlieb Auditorium, and Friday May 19 at 1:00 p.m. in the M.B. Gottlieb Auditorium. *

SOSSO celebrate secretaries' week

PPPL Secretaries and Office Support Staff celebrated National Secretaries Week by attending a luncheon at the Bonzai Restaurant. Guest speakers were Richard Rossi, PPPL Associate Director and Head, Administration Department and Rice Lyons, Office of Population Research, Princeton University, and Chairperson of LAFF, Life After Forty-Five. Angelo Candelori, Assistant Head, Administrative Department was a guest.

Mr. Rossi spoke about the original purposes for establishing the Secretarial and Office Support Staff Organization (SOSSO), and he expressed the Laboratory's appreciation to all members of these staffs. Ms. Lyons talked enthusiastically of an involvement with the excitement and pleasure in life that everyone can experience.

The SOSSO was formed in 1975 by Marianne Weissenburger, a former secretary in the Theoretical Division. The present officers are: Chairperson, Edna S. Kalmus; Vice-Chairperson, Sophie M. Monaghan; Corresponding Secretary, Joyce Bitzer; Recording Secretary, Athene Kan; and Committee Members Dolores Bergmann and Patricia Stephens-Buggs. The organization hosts professional seminars throughout the year. *

Florida condo for rent

For Rent: Furnished condo on the beach at Daytona Beach, Florida. Sleeps four — one bedroom with sleeper couch. Available 24 June to 1 July 1989. \$600. Call JoAnn Palladino, ext. 2453.



Kids' poster art all about safety

PPPL "Kids Safety Poster Contest" winners gathered Tuesday, April 25 in the LOB Commons for a brief ceremony. As their proud parents watched, Ellis Simon, Head of Technical Operation's Project Planning and Safety Office, presented the winners with gift certificates for Quakerbridge Mall. First prize winners received \$100 and second prize winners received \$50. Following the ceremony refreshments were served.

Winners pictured here with Ellis Simon (standing far right) are: (standing, l-r) Shannon Furman, Thomas Furman, Mira Manikam, and Vanessa Bischoff; (kneeling, l-r) Jonathan Ammons, Christine Williams, Michelle Swiderski, Chris Swiderski, and Kristi Dudek. Not pictured, Susan Malsbury.

All of the posters will be reproduced and displayed around the Lab. They are original and colorful and add much to the Laboratory's safety campaign. Watch for them! ✱



(Photo by John Peoples)

ASQC certified reliability course in planning stage

The Princeton Section of the American Society of Quality Control is considering offering a refresher course in the Fall as preparation for taking the Certified Reliability Exam. While this course is geared to those desiring to take the exam in the Spring, it will also provide an excellent opportunity to learn more about reliability in general. Most likely the course will be given one night a week for 8-10 weeks.

If you have any questions or are interested in learning more about the course, please contact Judy Malsbury, extension, 2415. ✱

Colloquia

Colloquia are held each Wednesday from September to June at 4:15 p.m. in the Melvin B. Gottlieb Auditorium, C-Site, unless otherwise noted. Speakers for May/June are given here:

May 24 — "Opportunities in Arms Control," Jeremiah Sullivan, University of Illinois.

May 31 — "Trapped Particle Instabilities and Anomalous Transport in the Columbia Linear Machine," Amiya Sen, Columbia University.

June 7 — "Recent Results from TEXT," Ken Gentle, University of Texas at Austin. ✱



Safety Tip

Are you worried about your teenagers staying alone at home after school? Public Safety offers these ideas to help lessen this worry.

- Check in with them during the day. Ask them to let you know if they're going to be late or are going home with a friend.

- Check with the local recreation department or organizations like the Boys Clubs or the Y about their activities for teens. They may have classes, sports, movies, or places where teens can just drop in and listen to records and talk.
- Encourage your teens to volunteer to help others. Young people all over the country are using their after school hours to make their communities safer places to live (and having a good time too). Teens have formed youth patrols that help keep streets or apartment buildings safe, tutored younger kids, and cleaned up vacant lots and parks. Your community crime prevention group or local law enforcement agency can provide more information about problems teens can help solve.
- Give teens some daily responsibilities at home and clarify house rules.
- Don't invite problems by leaving liquor and money out in the open.
- Above all, talk to your teens often and listen to their concerns. ✱

In the news



(Photo by John Peoples)

Rip Perkins

PPPL Physicist **Francis (Rip) Perkins, Jr.** was recently named vice-chairman of the newly established National Research Council's Committee on Plasma Science. The Committee was set up to review issues in plasma physics, plasma chemistry, plasma engineering, and a broad range of applications. As well as serving as Vice Chairman, he will also head a working group that will seek to identify new research opportunities in plasma science. Rip said, "I would welcome thoughts on where the basic frontiers of plasma science lie."

The National Research Council, which is part of the National Academy of Sciences, serves as an independent advisor to the federal government on scientific and technical questions of national importance. The idea for the Committee originated in a proposal from the Executive Committee of the Plasma Physics Division of the American Physical Society. Support comes from a consortium of federal agencies: the Department of Energy, the National Science Foundation, the National Aeronautics and Space Administration, and the Office of Naval Research.

Mary Ann Brown has been named Secretary of the Year by the Mercer County Chapter of Professional Secretaries International (PSI). The announcement was made at the April seminar and annual luncheon celebrating National Secretaries Week. She was presented with a plaque recognizing her accomplishments and a bouquet of silk roses.

"I was very surprised and, of course, very pleased to be so honored by my peers. You always think it would be nice if you could win, but you never think it will happen to you," she said.

Mary Ann, a PPPL employee for 13 years, is presently Executive Secretary for Jack Joyce in the Engineering Department Office. She is active in PPPL's Secretary and Office Support Staff Organization and has held every executive position in the organization; she was Chairperson in 1979.

Currently Vice President of the Mercer County Chapter of Professional Secretaries International, Mary Ann has been nominated to serve a second term in this position. Professional Secretaries International is the world's largest secretarial organization with over 700 chapters and a total of 40,000 members. It promotes excellence, competence, and recognizes people in secretarial careers. ✱



(Photo by John Peoples)

Mary Ann Brown



The HOTLINE offers congratulations to the following employees:

New Assignments

George Renda who has been appointed Head of the Diagnostic Engineering Branch in the TFTR Diagnostics Division.

Births

Tom Carroll, Computer Division, and his wife, Diane Carroll, Information Services, whose daughter, Eileen Mary Nicole, was born April 19.

Art Kolupanowich, TFTR Heating Systems Division, and his wife, Toni,

whose son, Curtis Patrick, was born in March.

Fred Wasylenko, MG Section, and his wife, **Sheryl Wasylenko**, X-Ray Laser Project, whose daughter, Nicole Ann, was born April 18.

Marriages

Nathan Schechtman of the Computer Division and **Nadine** who were married April 29.

Graduations

Toni Lynn Tucker, daughter of Bob Tucker, Technical Operations Carpenters Shop, will graduate from Howard University in May. Ms. Tucker majored in Specialized Nursing—Pediatrics. Upon graduation she will join Baltimore Maryland Hospital where she will work with children with Aids.

Retirements

Robert W. Delany who retired April 1 after 16 years of service. Robert was a Plumber in Technical Operation's Mechanical Engineering Shop.

Matthew Edgar who retired April 1 after 15 years of service. Matthew was Lead Layout Draftsman in Technical Operation's Engineering Department.

Howard B. Henry who retired April 1 after 21 years of service. Howard was a Technician in Technical Operation's Mechanical Engineering Division.

Joseph A. Kaytus who retired April 1 after 10 years of service. Joseph was a Technical Assistant in Technical Operation's Mechanical Engineering Division.

Joseph A. Malinowski who retired April 1 after 32 years of service. Joseph was a Technical Associate in Technical Operation's Engineering Department.

Robert Sheldon who retired January 1 after 13 years of service. Robert was Controller in Administrative Operations.

Roy J. Whitley, Sr. who retired April 1 after 12 years of service. Roy was a Carpenter in Administrative Operation's Plant Maintenance and Operations Division.

Obituary

The HOTLINE is saddened to report the death of former employee **Barton Reavis** in November last year. Barton was a Technical Associate in the Engineering Department for thirty-two years. He retired in 1984. ✱



(Photo by Dietmar Krause)

Employees with thirty years or more of service during 1988 were honored recently at the Service Awards Ceremony. Hank Dymowski and Tom Stix were honored for 35 years of service and Bernie Glehl for 36 years. Photographed with PPPL Director Harold Furth are (standing, l-r): Dick Farley, Tom Stix, Sam Hand, Louise Schaufler, Don Carter, Bob Kneeshaw, Bob Ellis, Jr., Dr. Furth, Dirk Dimock, Frank Homan, Mike Capone, Dave Mullaney, and Joe Davenport; Kneeling are (l-r): John Peoples, Vince Corso, Dick Palladino, Dan Zydorski, Tom Devine, Don Muschal, Kris Mann, Bob Majeski, and Ken Wright. Honorees unable to attend the ceremony were: Jim Beach, Uffe Christensen, Warren Class, George DePagnier, Hank Dymowski, Bernie Glehl, Joe Hengeli, Ken Hobson, Russell Kulsrud, Joe Malinowski, George Martin, Bob Motley, John Murray, John Nicol, Carl Oberman, Milt Pelovitz, Dick Shamon, Ellis Simon, and Bill Walker. This was the first time PPPL has had the opportunity to honor staff members with thirty years or more of service. The total number of years represented by these employees is 1,276.

Safety Training

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

<u>Course</u>	<u>Date/Time/Location</u>
Respiratory Protection (Training must be repeated every year.)	16 May, 9:00-11:00 a.m. Safety Training Trailer
ASC Training/Meeting	18 May, 9:00-10:00 a.m. LOB B318 Conference Room or 22 May, 3:00-4:00 p.m. LOB B318 Conference Room
Confined Space Entry (Training must be repeated every two years.)	23 May, 9:00-11:00 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.



Fun Run Scheduled for May 18



The Spring Fun Run is on! Starting time is 12:30 p.m. on Thursday, May 18, just below the Visitor's Parking Lot at C-Site. Total distance is 5 k or 3.1 miles.

As in the past, the race will begin at the entrance to the Visitor's Parking Lot. The course will follow the road past the air field and Gun Club, make a left at the intersection at Sayre Drive, proceed around the A- and B-Sites' outer loop, take a right back on to the entrance road, and retrace the first part of the course past the Gun Club through the C-Site Security Booth to the Visitor's Parking Lot entrance.

Those interested in participating are asked to register by completing the form below and returning it to Barbara Sarfaty, Theory Division, C-Site, by May 16. **The race will be held only if enough people register.** Participants will be issued racing numbers to be worn during the race.



Registration Form 'Fun Run'



I am interested in participating in the Fun Run on May 18.

Name: _____

Extension: _____

Address: _____

Return by May 16 to:

Barbara Sarfaty
Theory Division
C-Site

Our best story ideas for HOTLINE and "In Focus" come from you. So if you have an idea for an article or video segment, call Information Services. For HOTLINE, call Carol Phillips at ext. 2754. "In Focus" ideas can be channeled to Ed Farris, ext. 2090, or Phyllis Rieger, ext. 2752. What's your news?

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Produced by Carol Phillips using PageMaker 3.01 software, a Maintosh SE computer, and a LaserWriter printer.

ITER: thinking together internationally for fusion

by Phyllis Rieger

When international collaboration on fusion was first proposed, it seemed to some an impossible feat. Physicists and engineers speaking different languages and having varied backgrounds and cultures would have to think and work together in designing and, hopefully, implementing the world's next large step for testing the science and technology of thermonuclear fusion—the International Thermonuclear Experimental Reactor, better known as ITER (pronounced “eater”).

The overall objective of ITER is to demonstrate the scientific and technological feasibility of fusion power. ITER will accomplish this by demonstrating controlled ignition and extended burn of a deuterium and tritium plasma with steady state as an ultimate objective. The experiment will demonstrate technologies essential to a reactor in an integrated testing of a high heat flux and nuclear components required to utilize fusion power for practical purposes. The operation of ITER should demonstrate the potential for safe and environmentally acceptable operation of a power-producing fusion reactor.

Since the spring of 1987 when the International Atomic Energy Agency (IAEA) invited representatives of the European community, the U.S., the U.S.S.R. and Japan to discuss enhanced international collaboration on fusion, several significant steps toward the building and operation of an international reactor have been accomplished.

Instrumental in this multinational achievement are PPPL physicists Drs. Paul Rutherford, Douglass Post, Jr. and Sam Cohen. Dr. Rutherford, head of PPPL research, is one of 12 members of the ITER Scientific and Technical Advisory Committee (ISTAC). Dr. Post is leader of the ITER Physics Group with Dr. Cohen in charge of the impurity control work for ITER in the U.S.

The ITER Physics Group consists of about 15 physicists who engage in the joint work at Garching, West Germany (the central site for discussions for the physics and engineering aspects of ITER), plus about 20 physicists per country who remain in each home country. These individuals are assigned to subgroups which work on specific tasks and with different engineering groups.

Other PPPL physicists who are leaders of ITER Physics work in the U.S. include Roscoe White, Alpha-Particle Physics, and Ken Young, Diagnostics. About ten other PPPL physicists are involved in various aspects of the design work.

“Even though we had very different backgrounds and languages, we quickly began to function as a team working towards a single goal...”

According to Doug, “The Physics Group has the responsibility for providing physics guidance and specifications for the tokamak design. These include: physics guidelines, such as optimum methods to use for current drive; specifications, such as plasma current required for ignition, maximum toroidal field ripple, etc.; plans for the experimental operation of ITER, and identification of the physics research and development required for ITER.” He said the group spends about six months a year in Garching for discussions.

Doug stated that, “During these meetings, the Physics Group identified a number of physics areas which are crucial for ITER. These are: enhanced energy confinement, working conditions of the plasma-facing components (such as plasma wall interaction) and the impact of plasma disruptions on these components and the mechanical structure of the machine.” Doug said other discussions focused on the choice of heating and current-drive systems and plasma equilib-

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Law enforcement awareness at PPPL

PPPL employees are reminded of their obligation to report criminal conduct at the Laboratory, including waste, fraud, and abuse of federal property. There are several avenues open to staff.

An individual may report suspected waste, fraud, and abuse of federal property or other criminal conduct, in confidence, to his or her Supervisor, the Supervisor's Manager, or the Division Head. In criminal matters, the individual must ensure that Allan Guyet, Director of Public Safety, has been notified. In all instances, Mr. Guyet will work with the appropriate local, state and/or federal law enforcement agencies in a confidential investigation of employee complaints.

Another option open to employees is the Office of the Inspector General of the U.S. Department of Energy. This office maintains a 24-hour telephone Hotline specifically for reporting fraud, waste, and mismanagement. The toll-free number is 1-800-541-1625; the commercial number is 1-202-586-4073; and the FTS number is 896-4073.

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rium control. Data from TFTR and PBX-M are expected to contribute heavily to the design as well.

During last summer the physics group of 15 met in Garching for intense discussions and Doug said, "Even though we had very different backgrounds and languages, we quickly began to function as a team working towards a single goal: the best possible design for ITER. The result was agreement of all parties on the set of para-

meters and specifications that were incorporated in the ITER concept definition."

November 1988 marked the issuance of the ITER Definition Phase Report. The team will meet again in Garching from June to October to finish the next phase of the design. This is one accomplishment that signifies progress toward the many other steps involved in such an international undertaking. A detailed engineering design is expected to be completed by 1990 with site selection in 1994. Doug said, "At this point where to site ITER is a very open

question. The U.S. Department of Energy has formed several committees to discuss the siting issue."

He also said from the U.S. ITER team perspective that, "We feel we (the U.S.) have had a reasonable impact on the choice of the parameters of ITER and on the design."

Doug continued, "We're looking forward to the work session this summer to develop a more detailed picture of the physics issues for ITER and to look for ways to improve the design." ✱



Working together for fusion is this group of scientists and engineers from various countries. PPPL's Doug Post is at far left. The photo was taken at Garching, West Germany.

PPPL opens physics world to students

by Phyllis Rieger

Usually the first question asked on a job interview is: what's your job experience? For most college graduates the answer is none, but not for some students at Drexel University in Philadelphia enrolled in the Cooperative Education Program. This program enables students to gain on-the-job experience while earning college credit. Participating in the program does mean that it takes five years to complete college instead of the usual four, but as Peter LaSalle, a student who just completed his term at PPPL, said, "Nowhere else would I be able to work with physicists

of such high caliber and work in an environment where I'm treated as part of the project."

Peter, a physics and math major, said an additional bonus is the money he earned which paid about half of his yearly tuition of \$8500. Because of his PPPL experience, he plans to continue his education by going to graduate school for a program of applied physics in computers or solid state physics.

While at PPPL, Peter worked with physicist Dr. Ken Hill, Head of the TFTR Spectroscopy Branch of the Diagnostics Division. Coincidentally, Ken is a graduate of Drexel with a B.S. Degree in Phys-

ics. "I also participated in a cooperative education program while at Drexel," said Ken, who spent his cooperative time at the Oak Ridge National Laboratory.

He explained, "Peter carried out a number of assignments while working at PPPL. He helped with diagnostics measurements, wrote computer programs, analyzed data, etc. Having him work here helped me and others gain time to do other projects."

Ken said, "I think this type of program is invaluable. You're introduced to the type of work you may be doing later in your

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field of study and to professionals in your field. It seems to be a rewarding experience for most."

Physicist Dr. Alan Ramsey, who's worked with Drexel students for the last five years, said, "I think cooperative education programs provide valuable job experience in many ways. Students obviously gain on-the-job experience, but also have the opportunity to see if a physics career is really for him or her. Or a student may decide that a certain aspect of physics is more appealing than others. The time spent here is intensive and a student works very hard."

He explained that Drexel University organizes the program, and resumes of candidates are reviewed by the PPPL research staff. A student is assigned to work with a particular physicist who acts as a mentor helping the student while he/she's here.

Dr. Ramsey said, "I've taught several of the students who worked with me to turn on diagnostic equipment and to verify its operation. This saves a lot of time for the permanent research staff. For example, I usually show a student how to analyze simple data from a TFTR run, which enables me and the other physicists to spend time doing more detailed data analysis. The program is a good introduction to the working world of physics." *



(Photo by John Peoples)

Physicist Ken Hill (rear) works with Drexel University Cooperative Education student Peter LaSalle.

Cafeteria—seats, eats, and treats

by Phyllis Rieger

"A cafeteria should be a place where you take a break from the work day so you can feel refreshed," said graphic artist Terry Birch who patronizes the cafeteria every day for lunch and afternoon coffee.

"I rate our cafeteria B+ for its well-prepared, varied selections. Overall, I think the staff is courteous and friendly," said Terry among whose favorites are tomato soup and tuna fish sandwiches.

Such comments please Cafeteria Manager Jackie Yull who explained, "All of our salads are fresh and prepared from scratch." The cafeteria is under the management of Brock & Co. with Jackie overseeing its daily operation. "Essentially this means I'm a kind of a jill-of-all-trades,"

said Jackie. "I'm responsible for planning and ordering the food which means I work with 19 different vendors weekly. Sometimes I handle the cash register and when necessary help in other areas. I also plan the menus which change weekly and are not repeated," she pointed out.

A new menu is generated each Thursday and includes two kinds of soup, two hot entrees, a hot and cold sandwich and a dieter's special although Jackie said she doesn't notice a trend by PPPLers toward lean cuisine.

"However, Mexican food is popular so we will be serving more of it in the future. We're also planning a 'make your own sandwich' bar," she said. From her informal research, PPPL favorites include reu-

bens, pork roll with cheese, and grilled cheese with tomato sandwiches. About 400 cups of coffee are sold a day, making coffee another favorite.

Overseeing food preparation is chef Clarence King who can be seen dressed in his "whites" while cooking. A graduate of the Maritime Culinary Institute in New York, Clarence obviously relishes his role as the concocter of culinary delights, such as his special meatloaf a la Clarence. He has been managing PPPL's kitchen for five years and can be seen greeting customers with a friendly smile announcing, "We have some very fine roast beef today." He personally carves the roast or serves whatever his specialty is that day. "You can tell

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he enjoys his job," said Terry Birch. "He always has a positive attitude."

Food preparations begin with the first cafeteria employee arriving at 5:30 A.M. so that breakfast will be ready for the first Lab staff. Working with Clarence and Jackie are: Vi Lewis, supervisor; Marion Smith, breakfast cook; Jeff Brian, dishwasher; Clarence Canty, cook's helper; Dick Donovan, general utility; Rose Barnes, salad bar and sandwiches; Cynthia Stoddard, grill; Simone Thomas, cashier, and Talaya Stoddard, cashier.

Jackie stated that sales vary depending on the week and menu. "For example, Ethnic Week was not a big seller but every Thursday is Italian Day which is successful."

This month the cafeteria is sponsoring a "Trivia" contest with a new question written on the blackboard each day. The prize is a free breakfast or lunch. A weekly raffle is also planned.

"PPPLers do voice complaints and suggestions," according to Jackie who noted, "About 98% of the people are easy to talk to, and if they have a problem, it's usually legitimate."

A recent survey by the Cafeteria Committee showed employees who use the

cafeteria are well-satisfied with cafeteria operations, food preparations and service with 83% of responders rating the quality of food at breakfast as fair to good and 87% saying the same about lunch.

All PPPL employees are encouraged to use the cafeteria. Higher sales help keep

prices down, and all cafeteria customers benefit. Comments relating to menus and cafeteria service may be directed to any member of the PPPL Cafeteria Committee, including: Stefano Bernabei, Dottie Pulyer, Tony DeMeo, Tim Bennett and Olga Bennett. ✱



(Photo by John Peoples)

Cafeteria Manager Jackie Yull with Chef Clarence King prepare a big batch of pasta for Italian Day.



(Photo by John Peoples)

These students are all smiles as winners of the SEER competition. PPPL engineer Charles Ancher (left) and secretary Mary Ann Brown (right) served as judges.

PPPL honors eight corporate award winners

by Phyllis Rieger

Budding scientists and engineers toured PPPL on June 1 and had the opportunity to discuss their top-ranked science projects as PPPL hosted eight winners of the Student Exposition on Energy Resources (SEER) competition.

The students from grades six, seven and eight, represented schools from around the state in the science fair which celebrated its tenth anniversary this year. Because there are almost 1,000 entries, the competition is held simultaneously at two different locations, Morristown and Lakewood.

The SEER competition is sponsored by the New Jersey Chapter of the National Energy Foundation. The science-fair-type

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competition is designed to stimulate and challenge students to think about energy and energy-related technologies and to provide them with an opportunity to develop their skills in scientific research and experimentation. Many of the students, such as PPPL Corporate Award Winner James Izzo who plans a career in robotic engineering, will pursue science careers.

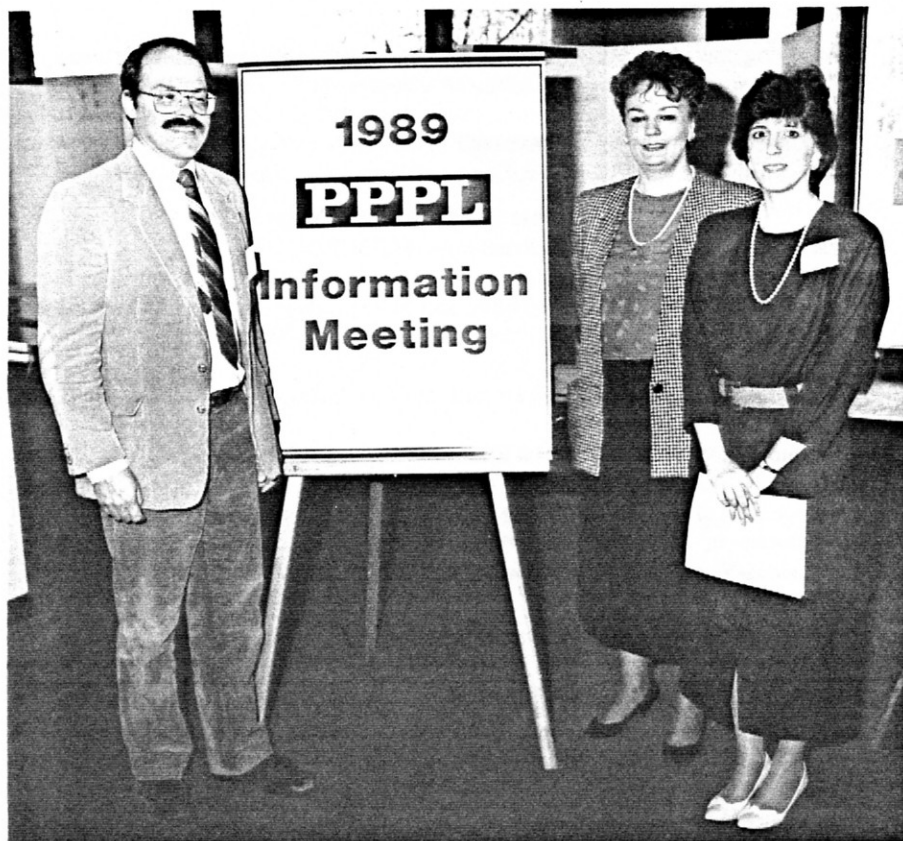
New Jersey companies and institutions are invited to sponsor corporate awards, which are given in addition to the National Energy Foundation's SEER awards. Since 1983, PPPL has been involved in SEER in two ways. Awards are given to the winning students and PPPL staff serve as judges. PPPL judges for 1989 included: Mary Ann Brown, who coordinated PPPL's awards presentation; Head of Engineering Jack Joyce, and engineer Charles Anchor. Other judges included: Martin Brown, an engineer at AT&T, Brian Brown and John Bradish from Princeton University's Engineering Department.

Each year winners are invited to tour the Laboratory and be recognized for their achievements at a special luncheon. ★

Our best story ideas for HOTLINE and "In Focus" come from you. So if you have an idea for an article or video segment, call Information Services. For HOTLINE, call Carol Phillips at ext. 2754. "In Focus" ideas can be channeled to Ed Farris, ext. 2090, or Phyllis Rieger, ext. 2752. What's your news?

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Produced by Carol Phillips



(Photo by Ed Farris)

Representatives from industry, universities, government, and other fusion laboratories attended the 1989 PPPL Information Meeting on May 9. Opportunities for collaboration with other academic institutions, laboratories, and industry and potential avenues for extending this cooperation into the future were the main topics of the meeting. Formal presentations describing PPPL's research programs were given in the morning. In the afternoon, attendees toured TFTR, perused the posters on display, and had private discussions with PPPL staff. Physicist Pat Colestock (left) served as Program Chairperson. He was assisted by Dolores Lawson (far right) and Gloria Cain (center).

1988 inventors recognized; technology transfer potential emphasized

Nearly forty PPPL inventors were honored May 18, 1989 at the annual Patent Recognition Dinner held at Prospect House. The Committee on Inventions hosted the dinner for inventors and guests as part of the PPPL Patent Awareness Program. John Lowrance and Shoichi Yoshikawa were also recognized during the dinner for their service on the Committee on Inventions, since this marked the end of their participation, and Charles Staloff was introduced as a new member of the Committee.

Chairperson John Johnson remarked on the importance of and desirability of filing more invention disclosures and the very real potential for inventors to see their patents licensed by the University and the technology transferred to industry. Al Sinisgalli, Associate Provost for Research and Project Administration, emphasized the University's continued strong support and involvement with PPPL's patent program, and local U.S. Department of Energy Area Office Head, Milt Johnson, reaffirmed DOE's objective of giving inventors and the University the opportunity to transfer technologies developed at PPPL to private industry.

Laboratory Director, Harold Furth, arriving directly from a meeting in Washington with Secretary of Energy Watkins, encouraged the inventors to continue inventing and

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developing new ideas, particularly with technology transfer potential. He also shared with the group some of the vision Admiral Watkins showed during their earlier meeting; namely, that we should share our scientific and engineering expertise with local communities, specifically by getting involved in the science education of children of all ages.

Dr. Furth then presented Certificates of Recognition to the following:

Patents Issued in Fiscal Year 1988

First Wall for Polarized Fusion Reactors — #4,721,595

H. Greenside, R. Budny, D. Post

Apparatus and Method for Generating Soft X-Ray Lasing Action in a Confined Plasma Column Through the Use of a Picosecond Laser — #4,704,718

S. Suckewer

Compact Waveguide Power Divider with Multiple Isolated Outputs — #4,704,589

C. Moeller

Spheromak Reactor with Poloidal Flux-Amplifying Transformer — #4,713,208

H. Furth, A. Janos, T. Uyama, M. Yamada

Enhancement of Soft X-Ray Lasing Action with Thin Blade Radiators — #4,771,430

S. Suckewer, C. Skinner, D. Voorhees

Anomalous-Viscosity Current Drive — #4,767,590

T. Stix, M. Ono

Rotating Shielded Crane System — #4,746,485

J. Commander

Fusion Reactor Pumped Laser — #4,746,484

D. Jassby

Statutory Invention Registration in Fiscal Year 1988

Method of Controlling Fusion Reaction Rates — #H446

R. Kulsrud, E. Valeo, H. Furth, M. Goldhaber

Inventions Disclosed in Fiscal Year 1988

Method of Measuring Plasma Density and Density Gradient by Use of a Waveguide Array

R. Pinsker

Rotatable "L" Probe

J. Bilinski, A. Janos, Y. Ono

Multichannel Detector Data Acquisition and Analysis Software for Apple Macintosh

Y. Chung, S. Suckewer

Use of Neutral Probe Beams to Study MHD Mode-Energetic Ion Resonances in Fusion Plasmas

R. Kaita, V. Varadarajan, R. White

Method of Sustaining a Radial Electric Field and Poloidal Plasma Rotation Over Most of the Cross Section of a Tokamak

D. Darrow, M. Ono

Spoke Wheel Magnetic Probe Array

R. Labaw, J. Bilinski, A. Janos, Y. Ono

Pole-Biased Sputtering System

S. Cohen

Compound Divertor Plate

S. Cohen, M. Petravic

Ion Cyclotron Window Washer

R. Goldston

Amplitude and Phase Detector for Radio-frequency Measurements

G. Cutsogeorge

Poly WEP Neutron Moderator

A.L. Roquemore, S. Raftopoulos, R. Shoemaker

Rotatable Target System for X-ray Laser

D. Kim, C.H. Skinner, S. Suckewer

Saf-T-Rak

J. Swatkowski, H. Swiderski

Pyrolysis of Chemical Compounds by High-Speed Injection of the Solid or Liquid into Large, High-Temperature Plasmas

D.H. McNeill

Safety Training

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

- **Laser Safety** — 20 June, 9:00-11:00 a.m. in the Safety Training Trailer
- **Fire Extinguisher** — 21 June, 9:00-10:30 a.m. in the Safety Training Trailer
- **Basic Electrical Safety** — 22 June, 9:00-10:30 a.m. in the 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 is offered every Monday at 1:30 p.m. in the Safety Training Trailer.

Obituary

George Ioannidis died on June 1. George, who was a Technical Assistant in the Engineering Department, had been a Laboratory employee since 1974. He is survived by his wife, Irene, a daughter, Joanna, and a son, George.

Correction

In the last issue of HOTLINE it was incorrectly stated that former employee Barton Reavis died in November 1988. This was incorrect. Mr. Reavis died in April of this year. We are sorry for this misinformation.

Thank You

I would like to thank everyone for the warm personal concern shown by my friends and co-workers here at PPPL and for the many cards of condolences I received when my sister died.

Eleanor Schmitt

PPPL Broadens Program Base

by Phyllis Rieger

If you ask someone what PPPL is known for, the words "fusion energy" come to mind. Spacecraft glow or plasma etching aren't usually mentioned. But in the future that may change.

To broaden its program and funding base, PPPL has launched a number of proposed project initiatives. Essentially, this means the Lab will be linking the interests and capabilities of the research and engineering staffs with the research and engineering programs of government agencies and industry. At PPPL, diversification seems to be the wave of the future, particularly with the reality that traditional sources of funding can be limited.

"The recent fluctuations in DOE funding for fusion research serve to remind us of the advantages of broadening the Laboratory's range of research to some extent," said PPPL Director Harold Furth. "The presence of diversified activities is poten-

tially helpful in stabilizing the effect of budget fluctuations by supporting part of the cost of Laboratory staff and facilities."

He continued, "Greater breadth of research is intellectually stimulating; such diversity is particularly valuable as the size of fusion experimental devices increases and the number of operating machines decreases. Our recent experience shows that participation in non-fusion projects can help broaden professional career opportunities."

Several years ago the Laboratory adopted a policy governing non-fusion research, which states: "The scope of research activities at PPPL may encompass research in plasma physics and other scientific disciplines related to fusion (examples: X-ray laser and space plasma physics). Non-fusion research projects have the same status as fusion projects, in the sense that new staff can be hired, and/or new facilities and support groups estab-

lished according to the available project funding."

Richard Rossi, coordinator of the diversification efforts, said, "We're aiming for

"Diversification is a Lab-wide effort and one that's important to broaden and strengthen our economic base over the next 10 to 15 years."

10-15% of the budget to be eventually directed toward new endeavors. With the Lab's strong research capabilities and outstanding scientific staff, we have the potential to meet this goal."

Surveys Indicate Strong Interest

A survey, conducted by PPPL Head of Research Dr. Paul Rutherford, identified over 25 research areas and more than 60 physicists interested in participating in diversification efforts. Based on the information collected, Dr. Rutherford formed 12 research groups, each headed by a physicist, with a listing of researchers interested in pursuing particular projects. The groups and their chairman are: Materials Science and Semiconductor Processing, Joe Cecchi; X-Ray Sources, Ken Hill; Microwave Sources, Phil Efthimion; Laser Physics, Gary Taylor; X-Ray Lasers, Ernest Valeo; Space Physics—Data and Theory, Stan Kaye; Space Physics—Ground-Based Experiments, Rip Perkins; Particle Beams, Henry Kugel; Astrophysics, Russell Kulsrud; Advanced Scientific Computing, Russell Hulse; Fluid Mechanics, Neil Pomphrey; and Miscellaneous, Wolfgang Stodiek.

X-ray Laser Group Wins R&D 100 Award

PPPL's X-ray Laser Group, under the direction of Professor Szymon Suckewer, will be awarded a 1989 R&D 100 Award by R&D Magazine. This is the second such award for the group.

R&D Magazine recognizes laboratories responsible for the development of the 100 most significant technical products of the year. PPPL's X-ray Laser Group will be honored for the development of a Composite Optical X-ray Laser Microscope (COXRALM). The award will be made at a banquet at the Museum of Science and Industry in Chicago on September 28.

COXRALM combines an inverted phase-contrast optical microscope with a soft X-ray contact microscope. A complete description of this invention, as well as other exciting work currently underway in the X-ray Laser Group, is contained in the May 1989 PPPL Digest available in the LOB literature rack.

Dr. Suckewer and his team won an R&D 100 Award in 1987 for the development of a 18.2-nanometer soft X-ray laser. The COXRALM is an important application of this original invention. Scientists envision numerous applications for X-ray lasers in a variety of fields including physics, electronics, biology, and medicine.

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Rossi commented, "I've attended many of the exploratory meetings of the research interest groups and it's encouraging to see the enthusiasm shown by the scientific staff to pursue independent research programs."

In conjunction with the research survey, PPPL Technology Transfer Officer Joe File undertook a detailed analysis of the Engineering Department outlining its specific areas of expertise for the various engineering divisions including electrical, mechanical, engineering analysis, engineering computing, and drafting. A brochure describing PPPL's engineering capabilities has been prepared for dissemination to other laboratories for possible new projects.

Touting PPPL's Expertise

Rossi said his new responsibilities include stimulating staff interest in program diversification, providing administrative

support for proposal preparation, and making potential sponsors aware of PPPL's expertise. "We've had a number of communications with area corporations and government agencies regarding our staff resources and interests. Securing sponsor support for research is a lengthy process. It begins with identifying an interest, then ascertaining the feasibility of sponsorship, preparing the proposal, etc. It can take from 12 to 18 months to complete all the steps involved."

He said, "Recently, technical and scientific representatives from the Marshall Space Flight Center met with PPPL staff to explore potential areas we could research in support of its programs. Additionally, a group of PPPL research staff, interested in space physics, discussed possible collaborations with representatives from the John Hopkins Applied Physics Laboratory."

Rossi pointed out, "Our program diversification efforts are patterned on similar endeavors conducted for main campus and

industry. Potential sponsors are identified by using past contacts of PPPL staff or by developing new referrals. We've had people come here and take a firsthand look at the Laboratory and meet with some of the staff. This type of outreach gives us a one-on-one opportunity to tout our current capabilities. In the Fall we plan to hold a

"Our program diversification efforts are patterned on similar endeavors conducted for main campus and industry."

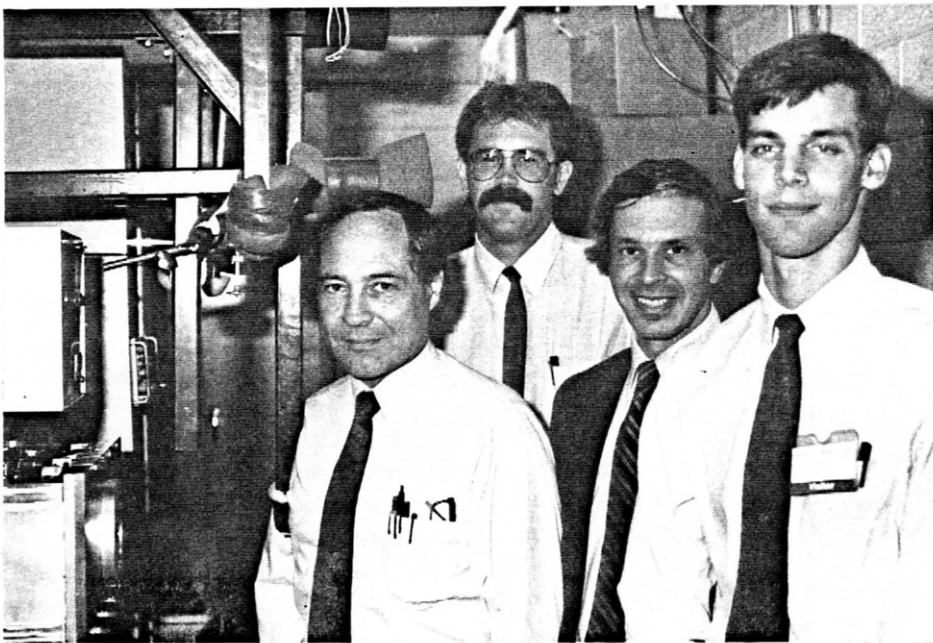
workshop on-site to which Federal Agency Program Directors will be invited to discuss sponsored research funding opportunities." He stressed that new research activities must be compatible with PPPL's DOE mission and not detract from on-going projects.

PPPL is a late comer to diversification. Idaho National Engineering Laboratory (INEL) and others have been doing this for some time with successful results. Although it took INEL five years to break even in the development of new contracts, it now is seeing the payoff.

Technology Transfer Possible

Hand in hand with research diversification is the possibility of technology transfer, allowing research to be more readily available to interested parties. The 1980 Stevenson-Wydler Technology Innovation Act and the 1984 Bayh-Dole Act stipulate that federal research should be made more readily available to private industry, and federally funded institutions must be held accountable for the transfer of research with commercial potential. The goal is a better integration of private industry and government.

Rossi stressed, "Diversification is a Lab-wide effort and one that's important to broaden and strengthen our economic base over the next 10 to 15 years. News of contracts, grants, etc. will be printed in **HOTLINE** on a periodic basis so that the staff is aware of our successful efforts." *



(Photo by Dietmar Krause)

One example of the Laboratory's diversification and Technology Transfer efforts is PPPL physicist Joseph Cecchi's participation in the New Jersey Sematech Center of Excellence (NJSCOE) for Plasma Etching. NJSCOE is one of nine national centers of excellence chosen by Sematech to conduct research in various areas pertinent to semiconductor fabrication. Sematech is a nationally based industrial consortium, located in Austin, Texas, established to improve U.S. competitiveness in the manufacture of computer microchips and semiconductors. Shown here are, from left to right: David Richman from the David Sarnoff Research Center and NJSCOE Director; Terry Turner, from Sematech and advisor to NJSCOE; Joseph Cecchi, who is directing the plasma etch reactor development phase of the NJSCOE; and John Swyers, also from Sematech and advisor to NJSCOE. At the far left of the photo is the radio-frequency planar triode plasma etching reactor.

Pitch In, Recycle

Recycling Begins at PPPL July 17

by Phyllis Rieger

Recycling has come to PPPL. Effective July 17, all employees are required to separate for collection recyclable waste, such as glass, aluminum, paper, and cardboard. These materials should be separated where generated, then disposed of at the proper collection station.

Let's say you're eating lunch at your desk and reading the newspaper. When you're done, you might have a soda can, some waxed paper and aluminum foil, a brown bag, and the newspaper. You would empty and rinse the can, throwing it into the container labeled, "aluminum products." Containers for glass and aluminum will be placed near rest rooms for easy rinsing.

Your lunch bag, waxed paper, and aluminum foil would go into your office can or a nearby trash can that says "garbage only." The newspaper will go into a container marked "paper products" and these containers will be positioned near copiers, doorways, elevators, and other convenient locations.

Materials that can be thrown into "garbage only" trash cans include: air freight envelopes, carbon paper (shred if information on it is confidential), cellophane, damaged binders (but recycle the paper), foam cups, plates and trays, food waste, metal waste (for example, broken scissors, staplers, etc.), plastic utensils, rubber products, tobacco products, used paper cups, waxed paper, and writing implements (pens, markers, pencils, etc.)

Specific practices for collecting recyclable materials in your workplace, prior to depositing them at collection points, are up to you. You may want to place some small containers for paper and aluminum cans in a convenient location in your own office or work station. Then, at your convenience, you can bring your recyclables to a nearby collection point. However, all containers should be clearly marked so that janitors and others will not mistake them for other uses. Labeling these containers is important and questions should be directed to Jerry Williams, who's heading the recycling effort.

Why is the Lab recycling? "It's the law," says Associate Director for Administration Bob Smart. "New Jersey Law prohibits the disposal of recyclable materials into the waste stream. Like all other businesses and homes in Middlesex County we must carry out a source separation program. This program also affects 305/307 College Road."

Jerry Williams says, "Recycling does take a few minutes of extra effort. In the beginning, some people might forget to separate their trash. The janitorial staff will leave a 'pink slip' for those who forget, but we hope that everyone will pitch in to help. If you have any recycling questions, call me at extension 3595 or on pager #582."

What you always wanted to know about recycling and other questions will be answered in a future **HOTLINE**.

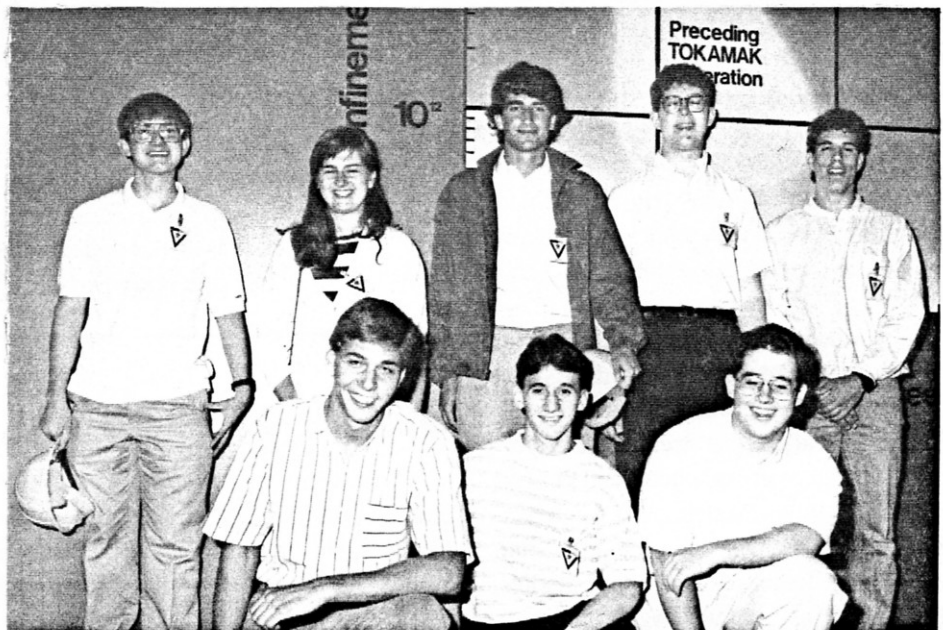
Summer Students Introduced to Science Careers

by Phyllis Rieger

Ten high-school students from Mercer and Middlesex Counties are being introduced to physics and engineering careers this summer while participating in the Lab's Science Award Program. U.S. Energy Secretary Admiral Watkins has encouraged research laboratories to participate in and devise science and math courses and opportunities for students in high school and earlier.

PPPL's program, in its sixth year, gives students a firsthand look at various kinds of careers and the chance to work one-on-one with science and engineering personnel. During the eight-week program, students may be analyzing data for physicists or assisting with an engineering project.

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(Photo by John Peoples)

High school students participating in PPPL's Science Award Program are: standing, left to right, Jonathan Fetter, Eliana Miller, Ian Nyberg, Greg Landweber, Glenn Pilato, and kneeling, left to right, Tom Bucsku, Mark Golden, and Matt Rockmore. Not pictured are Arnold Engelmann and Michael Marr.

Continued from Page 3

Student participants are selected on the basis of their academic achievements and interest in science and math. Meg Harmsen is program coordinator.

The 1989 students include: Tom Bucsku and Matthew Rockmore, Ewing High School; Mark Golden, Hightstown High School; Arnold Engelmann, Hopewell Valley Central High School; Jonathan Fetter and Eliana Miller, Lawrence High School; Ian Nyberg, Princeton High School; Michael Marr and Glenn Pilato, South Brunswick High School; and Gregory Landweber, West Windsor-Plainsboro High School. *

Saturday Science Success

by Phyllis Rieger

An introduction to fusion energy research proved to be the most popular seminar of the "Science on Saturday" program as more than 100 high school students, parents, teachers, and area community residents crowded into the M.B. Gottlieb Auditorium to listen to PPPL's Dr. Fred Dylla on May 6th.

Fred's own display of magnetic fusion energy in a vacuum wowed the audience as the purplish glow of plasma shone in the dark auditorium. Fred also updated the group on PPPL's progress and the growing interest in fusion. At another seminar, PPPL's Dr. Dennis Mansfield talked about horizons in laser technology to students who came from as far as south as Cherry Hill.

According to Meg Harmsen, program coordinator, "Science on Saturday is part of the Lab's educational outreach. Energy Secretary Watkins has stressed the importance of science in our schools and PPPL is committed to encouraging our future scientists of tomorrow." The 1989 program focused on fusion, lasers, space studies, fiber optics, and immunology.

She said a total of 79 high school students participated in the lecture series with eight awarded certificates for attending all six seminars. *

TFTR Poetry

Earlier this year, while on tour at PPPL, Mrs. Georgia Strong Witt of Hopewell, New Jersey felt inspired to write a short poem describing her impressions of TFTR. Her poem the "Tokamak" is given below:

T O K A M A K

Amid swales and woods and ploughed plains
at Princeton's plasma physics laboratory,
a twisted magnetic field is created in
a stainless steel, doughnut-shaped, trussed-up vacuum vessel
so that the ions and electrons within,
heated to a world-record 300 million degrees centigrade
(fifteen times hotter than the core of the great Day Star),
follow this field (not hitting and melting the steel walls)
long enough to collide, fuse, and
through their fusion produce power.

No uranium here, no plutonium or toxic waste.
Rather, the forms of hydrogen: deuterium
from the myriad surface waters of the Earth
and tritium from lithium
in limitless lodes on land and sea.
See Tokamak Fusion Test Reactor:
the eighty-ton eight-feet-high torus
contained in magnetic coils, with a crown of pipes,
and its contiguous neutral beam injectors, from which
the current shoots in to heat the plasma,
with added puissance from radio frequency force
and the huge flywheels on the motor generator,
environs of hundreds of hoses and tubes,
a substructural thicket of flues —
the whole immense awesome intricacy
is poetry when you think of your
great-grandchildren's warmth,
when energy spent will in some decade
reach "scientific breakeven":
the point at which fusion sustains its own heat
and harvests the much greater energy needed —
energy made, not the nuclear fission way,
but the clean way, the $E = mc^2$ way, the Sun's way.

Detour at Entrance to C-Site Planned

While Route 1 is widened from two to three lanes, it will be necessary to close the North Gates (in and out) for about one month. The Sayre Drive ramps will remain open; appropriate detour signs will be posted on Route 1 south of Sayre Drive advising people of the detour.

At this time, it appears that the closing will take place in the August/September

time period. The Lab will be advised about two weeks prior to the closing. At that time, appropriate notification will be posted in the *PPPL News Alert*.

If you know of anyone who will experience any unique problems that will require special traffic arrangements due to this closing, please let Bob Smart, extension 2652, know. *

307 Move Slated for 1990

by Phyllis Rieger

Plans are underway for the relocation of about 100 employees from 307 College Road East to C-Site. The move, slated for September, 1990, involves several steps including conversion of the C-Site Technical Building into offices with completion targeted for July, 1990. During the next few months the braze and tech shops will be relocated to the CAS and RESA Buildings so that renovations can begin by this October.

According to Bob Smart, PPPL General Manager of Facilities who's overseeing the reconstruction, "PPPL will be completely vacating 307 by October, 1990. This is both an economic and practical measure. Currently, most of those based at 307 are engineers but their projects are at C- and D-Sites. By having them in close proximity to the experimental devices and shops, they'll save time."

He explained a second floor will be installed in the high bay portion of the

Technical Building. The new offices will be comparable to those now at 307 with a mix of open and closed space. Many of the partitions at 307 will be used in the new offices. He does not expect the proposed Fusion Engineering Building (FEB), which would be next to the LOB, to be a reality in the foreseeable future.

Bob continued, "Some drafting staff will also move to C-Site while Computer-Aided Drafting and Design (CADD) will go to 305 College Road East which we'll continue to lease. The electronics shop at 307 will be relocated to a module at the CAS Building this winter."

Bob said he and the several others involved in the relocation are not daunted by the hard work ahead. "We all worked together before to meet the deadline for the previous consolidation," said Bob. "Cooperation is essential for a smooth transition and I know the Lab will meet this challenge with the same spirit." *

\$ Chairmats \$ Save Dollars

As the Lab does everything possible to squeeze more and more out of its maintenance dollars, worn carpets become both a safety and aesthetic concern. Deferring carpet replacement where it can be done without affecting safety, does offer the opportunity to at least delay significant costs while we are experiencing our present budget crisis.

In many cases, carpet replacement can be delayed many years by the simple use of vinyl chairmats under chairs with casters. Newer chairmats on the market are far easier to use than older ones, and they do not detract from a pleasant work environment. Staff in carpeted spaces should consider the purchase of these chairmats before their carpet becomes threadbare. They are available from Philadelphia Stationers.

Something's New at the Credit Union

Something new has been added at the Princeton University Employees Federal Credit Union. It's "Call-24 Audio Response Teller," and it allows you to request a withdrawal check or check your account balance or get other useful information about your accounts via a touch-tone phone. Here's how it works for a share withdrawal [be sure to press the pound (#) sign after each entry]:

Dial: 1-800-456-5038

The operator will ask for your account number. This is your social security number.

Enter: 1 + * + your social security number.

Press: #

The operator will ask for your personal identification number or "pin." This is your birthday. For example, June 2nd is 0602.

Enter: Month and day of birth

Press: #

The operator will ask for a transaction code. For a share withdrawal check the

code is SW (79 on the buttons); for a share balance the code is SB (72 on the buttons).

Enter: SW

Press: #

The operator will ask for an account suffix. In most cases this is 00 (zero zero).

Enter: 00

Press: #

The operator will ask for the amount of withdrawal. Say the amount of withdrawal is \$125.50, then you enter 12550.

Enter: Amount

Press: #

The operator will confirm the amount and ask you to press "P" to process the transaction or "C" to cancel the transaction. To proceed:

Enter: P

Press: #

To end the transaction you enter 1.

Enter: 1

Press: #

A check will be waiting for you at the Credit Union the next day. It's just that

simple. But, to make it even simpler there is one thing you can do and that is: have all of the above information written down in the order you will use it. If you get confused or make a mistake there is built-in "help" along the way.

It's hard to break old habits, but learning and using this new system will free up Credit Union personnel for other tasks and will help insure the accuracy of your transactions. Try it, you'll like it. *

New Telephone Prefix for Main Campus

Princeton University will be changing over to a new telephone system on Friday, September 1, at 5:00 p.m. This changeover will only affect Princeton University Main Campus employees. Their telephone numbers will no longer begin with 452; their new exchange will be 258.

There will be no impact on the PPPL CENTREX III telephone system; PPPL employees will continue to dial 7 + extension number to call Main Campus.

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If you experience difficulty reaching anyone at Main Campus on Friday, September 1, it may be due to telephone company activity on that line. Just hang up and try your call again later.

If you have any questions, contact the Telecommunications Office on extension 2694. *

Rain Men: PPPL's Softball Teams

by Phyllis Rieger

"A force to be reckoned with" is how coach Bob Raimond describes the PPPL "A" Softball Team, top ranked of the Princeton Business Softball League. So far, the League leading team has racked up 17 wins with only 3 losses in a season characterized by sudden downpours, gray skies, and soggy fields.

"We're a competitive team with the bottom line we want to win although we have a lot of fun doing it," said Bob who's a rookie coach with ten years of playing under his belt. "Lee Ellingham helps me out though," he said. Lee is a retired PPPL machinist who literally raises cane during the game by lifting it high in the air, shouting, "Jimmy, Jimmy, this guy's a hitter. Get out there. Get out there!" During a recent game with Base 10, an electronics firm based in Trenton, Lee expounded on the team's origins, tracing its birth to the old accelerator days, around 1959. The "B" Team evolved from the intramural games and has been in existence for the last six years.

Players represent various areas of the Lab, from Administration to Warehouse. Any PPPL employee is eligible to join. Almost 50 PPPLers gather Tuesday and some Mondays and Thursdays to play. Both PPPL's "A" and "B" teams are part of the Princeton Business Softball League which has an A and B Division and is divided into East and West. There are 20 teams in each division. PPPL's "A" and "B" teams play on Tuesday. While one team plays at home, the other plays away. The season lasts until August.

Some of PPPL's opponents include: McGraw-Hill, FMC, Paine Webber, General Foods, and Carter Wallace, among

others. Home games are played on the softball field behind the dispensary and most away games are played nearby.

"We encourage participation in two ways," said Bob. "You can be a player or root, root, root for the PPPL team. Seriously, we'd like to see more support from the Lab." Call Bob at ext. 3785 for schedule information or for "B" team information call coach Tom Holoman at ext. 2776. Games start at 6:00 p.m. with doubleheaders beginning at 5:30 p.m.

Those on the PPPL "A" team are: Tom Brophy, Colin McFarlin, Bob Kokal, Chris May, Ron Hatcher, Carl Scimeca, Phil LaRue, Sylvester (Bubba) Vinson, Ted Terpstra, John Wheeler, Jim Stevens, Joe Frangipani, Tim Tracy, Dave Wilbur, Ed Synakowski, Tom Gribbin, Bob Horner, Ray Pressburger, Rich Myslinski, Ken Silber, Jerry Williams, Ed Weisenberger, and Jim Synder.

The "B" team members are: Tony Bleach, Carl Bunting, Mark Bannister, Rich Meagher, Andy Vanisko, Joe Greco, Steve Raftopoulos, Dave Hwang, Jack Bartow, Dave Gayley, Frank Wasiowicz, Buddy Kearns, Rich Scillia, Lane Roquemore, Jose Aquino, John Luckie, and Harris Kohen. *

The Tireless Wonder

by Phyllis Rieger

You might call Jack Bartow the Nolan Ryan of PPPL. The 61-year-old project engineer has been a mainstay of Princeton Lab's softball teams, both A and B, for 28 years since he joined in 1961.

"Softball has been a major part of my life and I've really enjoyed it," said Jack who began his baseball career in Blue Bell, PA (outside of Philadelphia) as a pitcher for Whitpain High School.

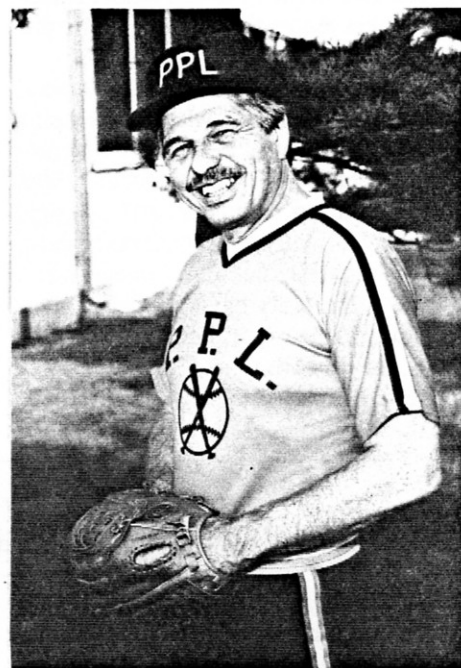
"Age is no barrier for a pitcher since pitching is primarily concentration and accuracy," explained Jack who estimates he's won over 300 games in his Princeton career. Currently, he pitches for PPPL's "B" team.

He reminisced about his early softball days at the Princeton Penn Accelerator (PPA) "where we practiced every day on the same field they use now," he noted. "A group of us were totally dedicated to the

sport. PPA's team often ranked first in the League and in 1969-70 we defeated the N.J. State champions in tournament play."

Besides softball, Jack's also bowled on PPA's team as did Lee Ellingham (see "Rain Men: PPPL's Softball Teams") who played with him.

This is Jack's last year for PPPL, but memories of his Princeton golden days on the diamond will go with him wherever he goes. *



(Photo by Ed Farris)

Jack Bartow

Looking for Keys

A set of keys on a red spiral key ring has been lost. If you find them, please call Security on extension 2536. *

Inter-office Envelopes Needed

Mail Room personnel will gladly pick up any excess Inter-Office envelopes. Leave them at the mail stop in your area. Please don't hoard. *

PPPL

In the News



(Photo by Dietmar Krasue)

Harry Howard

Harry Howard, Head of Quality Assurance and Control, was recently elected to the Borough Council of Barnegat Light, which, according to Harry, "is a little bitty town at the end of Long Beach Island that has a winter population of 700 and a summer population of 9,000 and is probably best known because it lies adjacent to Barnegat Inlet, the most dangerous inlet on the East Coast." Harry and his wife, Cathy (former Administrator for the Research Department at PPPL), have owned property at Barnegat Light for the past eighteen years, but have only been full-time residents for the past two years.

This is Harry's first experience with local politics. If asked, even as little as two years ago, he would have answered, "Not for me. It's a waste of time." What changed his mind? "I got involved," he said. "I attended a few Council meetings because I had something to say about an issue under discussion. I began to have fun, and I found out that you can really make a difference, especially in a small town. Also, I decided it was time I gave something back for all the services I have received over the years."

As a member of the Council, Harry also serves as the Commissioner of Water Supply and Sewage, a position he finds quite interesting. "You're really running a small utility," he said. "I enjoy working on the day-to-day problems. I get a great sense of satisfaction when I make a small change that improves the system."

Harry is trying to get more members of the community involved in Borough affairs. Looking to the future, he is encouraging the development of five-year plans for the various areas of township responsibilities such as water supply and sewage, docks, recreational lands, etc. He wants to draw on the talents of the local residents to make sure these plans are right for the community. ✱

TRANSITIONS

The **HOTLINE** offers congratulations to the following employees:

Births

Bill Davis, Computer Division, and his wife, Deborah, whose son, Kyle, was born April 2.

George Gammel, PBX-M, and his wife, Barbara, whose daughter, Joanna Elissa, was born May 24.

Tom Goodwin, AC Power in the Engineering Division, and his wife, Donna, whose son, Matthew, was born May 9.

Retirements

John Brown, Jr. who retired July 1 after 12 years of service. John was a Technician in Technical Operation's Electronic and Electric Shop.

Andrew S. Siroki who retired July 1 after 18 years of service. Andrew was a Technician in Technical Operations. ✱

Let's Talk Benefits

Vesting

On July 1 biweekly staff members who have been employed by Princeton for at least five years will be 100% vested in the Princeton Pension Plan. In the past, plan participants were not 100% vested until they had completed ten years of service.

Biweekly staff members with less than five years service on July 1, as well as those joining the University after that date, will attain 100% vesting on the date of the fifth anniversary. Employees who leave the University before accumulating five years service will have no vesting.

Vesting means that employees are entitled to receive a benefit from a pension plan when they retire even if they left the plan many years before. The shorter vesting period gives members of our mobile work force the opportunity to accumulate pension benefits from several employers over the course of their working lives.

Anyone with questions about the new vesting procedure or about the Princeton Pension Plan can call Bobbie Forcier, extension 2101.

Keeping Beneficiaries Up-to-Date

Are your life insurance beneficiaries up to date? If you'd like to check on them or make changes please see Eleanor Schmitt in LOB 151.

For changes in beneficiaries on your TIAA/CREF accounts, please see Bobbie Forcier in LOB 134. ✱

Obituary

Michael T. Ignas was killed in an accident on June 11. Mike was an Apprentice Computer Operator in the Computer Division. He is survived by his parents, Joseph and Dolores, three brothers, Joseph, Robert, and Shawn, and a sister, Susan. ✱

Our best story ideas for **HOTLINE** and "In Focus" come from you. So if you have an idea for an article or video segment, call Information Services. For **HOTLINE**, call Carol Phillips at ext. 2754. "In Focus" ideas can be channeled to Ed Farris, ext. 2090, or Phyllis Rieger, ext. 2752. What's your news?

The **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 609-243-2754; Interoffice correspondence should be addressed to Room B366, James Forrestal Campus, C-Site.

Produced by Carol Phillips

Martin House Works for the Poor

Recently, area business and community leaders attended a breakfast meeting hosted by American Re-Insurance Company of Princeton to preview a video telling about Martin House, a Trenton-based, nonprofit organization that helps Trenton's needy to help themselves. Featured in the video was actor Martin Sheen, an active supporter of the organization.

Martin House, which is located in Trenton, is a nonprofit outpost of the Catholic Church. It was established twenty years ago by Father Brian McCormick who manages the organization; its programs are staffed and run by volunteers. Martin House programs include the Better Community Housing of Trenton, Inc., which purchases dilapidated houses from the city and organizes volunteers to repair them; the Martin House Learning Center, which provides pre-school and after-school programs, tutoring, G.E.D. high school equivalency preparation, Boy and Girl Scout programs, sewing classes, and adult education programs; the Martin House Clothing Store, which sells used clothing that has been cleaned and mended; and other community outreach programs such as children's day camps and classes in health education, reading, and religion.

Better Community Housing of Trenton, Inc. (BCHT) is Martin House's biggest program. Since its beginning 18 years ago, BCHT has renovated 70 homes in the Trenton area, eleven of which have been fully paid off by their homeowners.

It is a lengthy and arduous path to become a homeowner under the BCHT program, but one well worth the effort. Participants must attend 50 hours of classroom training in carpentry, plumbing, and electrical work at the Mercer County Vocational College, must donate 50 hours in sweat equity (working with trained volunteers on someone else's home), and must work a minimum of 100 hours with skilled mechanics, laborers, and volunteers renovating their own house. As part of the purchasing contract to buy their homes, participants must pledge to work one day a month for the duration of the contract to "help a neighbor" build his or her home.

On the video Martin Sheen says, "More than 100 volunteers are working for Martin House right now. Everyone has their own



Father Brian (left) and Martin Sheen (right) talk during Sheen's recent visit to Trenton to make a video telling about Martin House, a self-help organization Sheen actively supports.

reason to get involved. Many do it out of love, to give something back to make the system we live in work better for all of us, not just for a chosen few. Martin House needs your help. If you can, come down and climb a scaffold with us, paint a wall, hang some sheetrock. I'm sure you all have some skills we can utilize, and you can share them with others who want to learn. If you can't, we also need your money.

And we promise it'll be used efficiently. Your own company should be run as well."

If you would like more information about Martin House or BCHT, would like to become a volunteer, or would like to make a monetary contribution contact the Martin House Community for Justice Foundation, P.O. Box 1025, 792-802 East State Street, Trenton, NJ 08606 or call Father Brian at 609-989-8143. ✱

Safety Training

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

<u>Course</u>	<u>Date/Time/Location</u>
ASC Training/Meeting [For all Technical (Lab and Shop) ASCs]	19 July, 3:00-4:00 p.m. Theory Conference Room
Fire Extinguisher	20 July, 9:00-10:30 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 is offered every Monday at 1:30 p.m. in the Safety Training Trailer.

Preventative Maintenance Saves \$\$\$

by A.R. DeMeo

Recent national studies indicate that one-third of all equipment failures can be traced to improper maintenance. Given the complexity of PPPL's magnetic fusion devices, especially TFTR with its hundreds of thousands of subcomponents, one can easily imagine the potential for downtime.

For this reason the TFTR project established a Preventative Maintenance (PM) program coordinated by TFTR Project Engineering Head Myron Norris and Administrator Louise Schaufler. This program is serving as a model for expansion throughout Tech Ops, now underway.

"Our first priority is safety for people, then high on the list is equipment critical to the operation of the major experiments," Myron Norris said. "Our primary thrust is for critical systems that keep TFTR running—large power supplies, neutral beams, computers."

PM is not just "doing something to a piece of equipment, like changing oil in a pump or calibrating electronic gear," according to Myron. "It involves training existing staff, upgrading their skills."

Team Channels Concerns

People are not hired solely to perform PM, and there is no separate PM organizational unit within Tech Ops. It is performed by staff within each division. Division Maintenance Representatives have been appointed within the TFTR Project. These people meet weekly with Myron and Louise to establish PM policy and procedures and organize PM activities. They are the points of contact for all PM within their divisions. According to Myron, "we serve as a team to organize and expedite PM. The Division Maintenance Representatives are the people who understand the requirements for PM in their organizations. They serve the best interests of the people who perform the maintenance by channeling



(Photo by John Peoples)

TFTR PM TEAM: Seated (l to r): Louise Schaufler, PM Administrator; Bob Sissingh, Tritium Operations; Larry Corl, Heating Systems; Standing: Paul Hurst, Computer Division; Vincent Mastrocola, Diagnostic Systems, and Project Engineering Manager Myron Norris. Ray Pysher, PM Representative for the Tokamak Operations Division, was not available at the time of the photo.

their concerns up the chain of command."

Louise supervises a personal computer data base that provides recordkeeping, reporting, and feedback, where all PM activities are logged by people doing the maintenance. The computer issues bright orange activity cards to remind people of the required PM. When work is completed the cards come back to the computer. The information they contain is logged into the data base to indicate completed activities. Myron noted that the cards work very well. "People like to get them rather than listings or notices. The Cards command attention. It's something they can stick in their breast pocket and carry with them to the workplace."

Larry Corl, PM Representative for the TFTR Heating Systems Division, echoed this sentiment, "the cards are great, they give a name and date they've got to be dealt with." Larry noted that over the past year a

lot of work has been done setting up the system. The biggest part of this job was writing procedures. This is the responsibility of the people performing the maintenance, those most familiar with the hardware. They are required to complete entry forms which are sent to Louise who sees that the information is entered into the data base from which activity cards are triggered.

Meters and other devices requiring calibration play an important role in PM and in research itself. For this reason, the use of activity cards was recently extended to remind staff of the need for routine calibration of equipment. Much of this work is carried out by the PPPL Calibration Lab under the supervision of John Gennuso.

In most cases divisional PM representatives must coordinate the preparation

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and implementation of procedures beyond their organizational subunits. For Larry, who is a neutral-beam operations supervisor, this means dealing with folks outside of his home base, including staff responsible for radio-frequency heating and field coil power conversion. Mr. Corl feels that the strong support he received from upper management was essential for his success to date.

“Tech Ops PM Program is creating a safer atmosphere...”

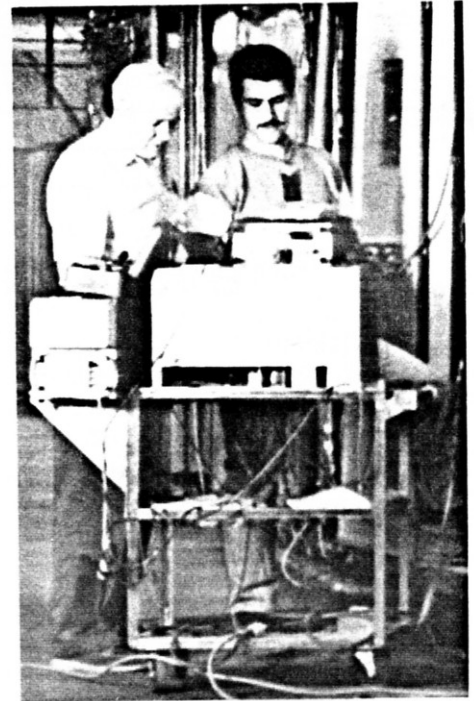
Ray Pysher, Water Systems Supervisor and PM Representative for the Tokamak Operations Division, also stressed the importance of management's involvement. He noted that the PM program is a “viable tool for management” because it identifies work that has been done, that which remains to be done, and the required resources. As with Larry, Ray's PM responsibilities extend beyond the realm of water systems to the TFTR machine, including the vacuum system, pellet injector, and ion cyclotron radio-frequency controls.

Extensive Computer PM

One of the most extensive PM programs for TFTR has been proposed by the Computer Division. It involves the 500+ power supplies which energize approximately 7000 Computer-Automated Measurement and Control (CAMAC) modules. CAMACs serve as interfaces between the TFTR's Computer Instrumentation Control and Data Acquisition (CICADA) System and individual diagnostic devices and control systems. A failure in one of the supplies could knock out as many as 25 modules, depriving physicists of important data.

Recently Bill Bergin noticed an increased failure rate for the supplies. This prompted him to study the records where he uncovered a pattern which enabled him to identify parts likely to fail in the future. Bill notes, “there's just an inherent lifetime for these components, just like the fuel filter or tires on your car. They wear out and you've got to replace them.” As Bergin's colleague Bill Rauch points out “the important thing here was to identify this problem to Laboratory management, rather than wait for more of the power supplies to fail, which would prove costly.”

Rauch and Bergin have devised a plan



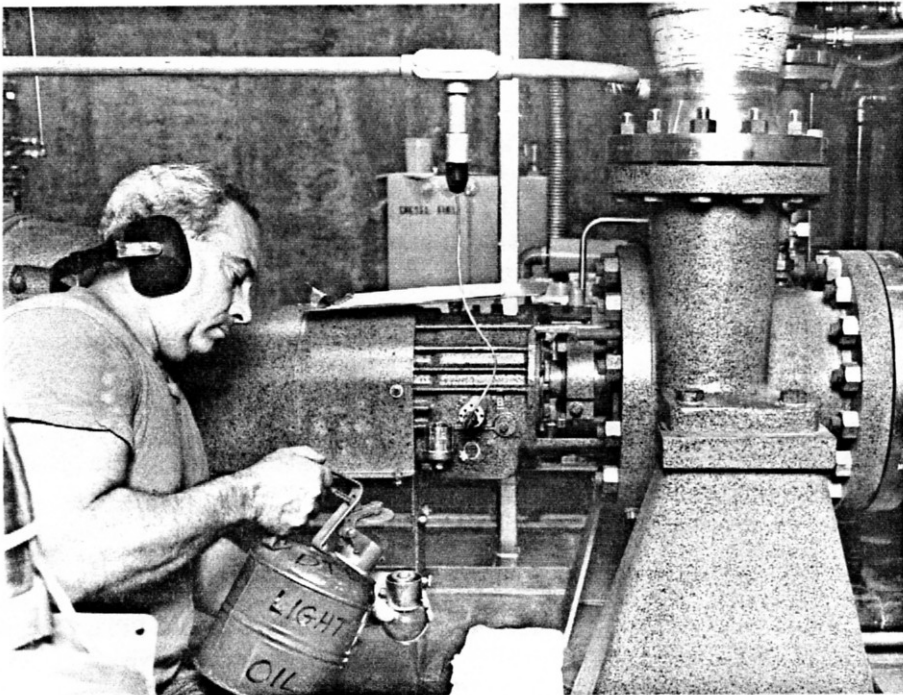
(Photo by John Peoples)

Ron Barrett (left) and Michael Hoare calibrate the TFTR neutral-beam power supply modulator/regulator following preventative maintenance of the system.

for the phased replacement of potentially troublesome capacitors within the CAMAC power supplies. By refurbishing rather than replacing entire power supplies, a savings of approximately \$2,500 per unit is estimated. The replacement plan is in addition to ongoing PM activities for CAMAC modules, which include routine cleaning of power supply filters and fans and the monitoring of voltages by PPPL's Calibration Laboratory to detect impending equipment failures.

Task Force

Larry, Ray, and the other divisional PM representatives comprise a task force. They audit each other routinely by conducting walk-throughs during which they check procedures and make sure that staff are properly trained. But most important, walk-throughs give staff an opportunity to express their views regarding the safety and effectiveness of the PM procedures they must implement. As Larry Corl notes, “Tech Op's PM program is creating a safer atmosphere, because it is requiring staff to follow maintenance procedures that have been carefully thought out with safety as the number one priority.” ☼



(Photo by John Peoples)

Joe Bonfonti performs a preventative maintenance check on a 350-hp motor used in TFTR's field coil power conversion system.

The Changing Face of Forrestal

by Phyllis Rieger

During the next few months, Forrestal Campus will be undergoing a face-lift of sorts.

For now, the changes mean that some well-known landmarks will be gone. According to Lou Pizzarello, Princeton University's Manager for the Forrestal Campus, "The Gun Club and nearby garages will be demolished and the two houses across from them will also be torn down. The U.S. mailbox by the bus shelter will be relocated but where is unknown at this point; the airstrip is slated to become a heliport."

A large piece of property on the north side (PPPL side) of Scudders Mill Road, including a portion of the runway, has been sold to Squibb Corporation and will be the site of a large complex of buildings.

The face of Forrestal has changed many times from its inception as the Rockefeller Institute for Medical Research in 1914. The 850-acre tract became the James Forrestal Research Center in January, 1951, but was not officially dedicated as such until May 17, 1952. James Forrestal, a Charter Trustee of Princeton and a member of the Class of 1915, served as the first Secretary of Defense. A bronze bust of him can be seen at A-Site.

Throughout the past 38 years, many campus changes have taken place. At one time, the University maintained 24 dwellings for 24 families on this campus, including the Theobald Smith House named for the first director of the Rockefeller Institute and used as a guest house for visiting students and scientists. There were Auditory Research Laboratories, nine specially constructed buildings grouped west of Route 1, that provided facilities for studies in the nature of hearing. At one time the campus housed other special laboratories including ones for flight mechanics and instrumentation and control. The airfield consisted of a 3,000 foot landing strip and a hangar for the Department of Aerospace and Mechanical Sciences. Students performed flight experiments on the Department's aircraft and an air cushion vehicle was among the types of equipment available.

Of all of the buildings though, the Gun



(Photo by Ed Farris)

Slated to be demolished, the Gun Club will soon be gone but not forgotten.

Club probably holds some of the fondest memories for PPPLers even though most don't know its colorful history or that it played a significant role in PPPL's experimental program. But more of that later.

Officially, the club is called the "Nassau Gun Club because the treasury had the stationary printed that way," according to a history of the club compiled by Archie Browne whose father Charles began the club at Tusculum, off of Cherry Hill Road in Princeton. In 1952, the club set up its headquarters on Forrestal because E.A. MacMillan, Class of '14, proposed the idea and was in a good position to do so, since he was then serving as the Director of the University's Department of Grounds and Buildings. For the first time in its history, the club found itself with an efficient kitchen (the founder an excellent cook, often honed his culinary skills on members), a tight roof, central heating and wonder of wonders—indoor plumbing. A member fired the first shot from the club's Forrestal site on December 30, 1951.

On your visit to the club you may have noticed the photos and paintings of days gone by. These mementoes with the painting of "Circe and the Swine," the carved tables, panelled bar, and other treasures will go with the membership to its new home which it's now seeking for the fifth time in its history. There are about 90 active

members.

While many think of the Gun Club as a gathering place, in days gone by it often served as the site for PPPL lectures and special meetings. In October 1954, the renowned physicist Edward Teller addressed scientists at a Sherwood conference held at the Gun Club. According to Lisa Bromberg in her book, "Fusion: Science, Politics, and the Invention of a New Energy Source," in his address opening the meeting, Teller presented a new preliminary calculation about the premise of stellarator and mirror stability. His views shook the fusion community. Other discussions followed and for a time Princeton followed the plan it had charted while simultaneously exploring Teller's instability theory. By the end of 1956, however, the theoretical results were to lead Princeton to alter its program strategy significantly, putting aside for the time the rapid and straightforward progression to a demonstration reactor originally envisaged and taking up a program oriented toward experimental research.

The Gun Club wasn't just a place for fine shooting and camaraderie. New and old ideas were discussed there and re-hashed and re-rehashed. The little, white building, now somewhat dilapidated, will be gone but what took place there won't be forgotten. ☺

Science Intrigues Summer Students

by Phyllis Rieger

Ten top-ranked students from area high schools spent their summer exploring engineering and physics careers at PPPL as part of the Lab's Summer Science Award Program. Meg Harmsen coordinated the program which is part of PPPL's educational outreach.

In its sixth year, the program gives students like Mark Golden from Hightstown High School, "a chance to see what an engineering and physics career involves. I wouldn't be able to have this opportunity anywhere else," said the affable junior. He shared an office with Jonathan Fetter from Lawrence High School who wants to be a physicist and is enrolled at Oberlin College, Ohio, for the fall semester. Jonathan's interests include particle physics and cosmology and, "I'd like to teach one day," he said.

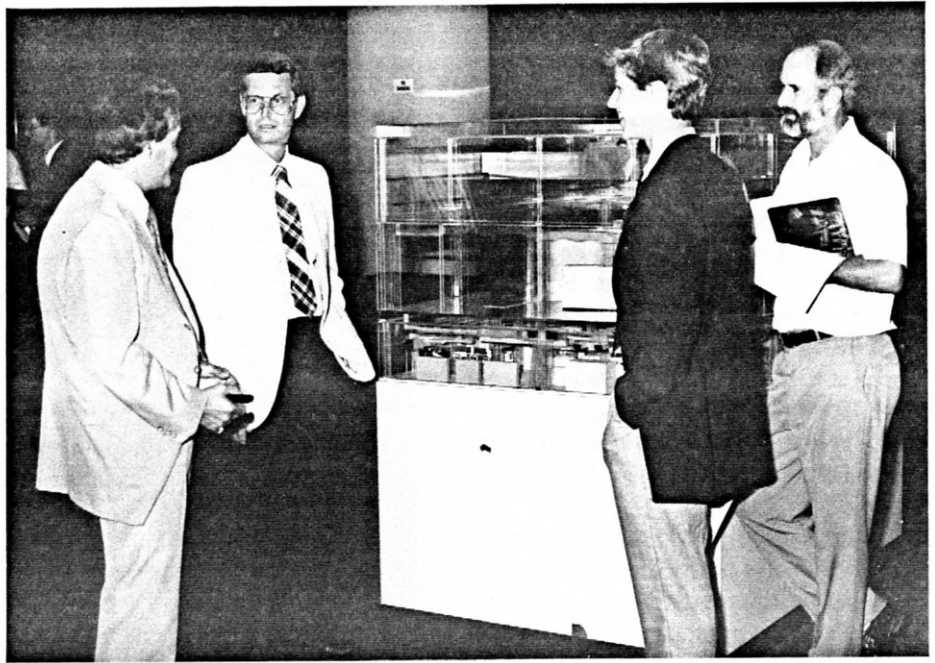


(Photo by John Peoples)

Hightstown High School student Mark Golden, planning to pursue an engineering career, analyzes data from a high potential test for a neutral beam ion source.

His classmate, Eliana Miller, also worked at PPPL with the neutral-beam group. She'll be going to Swarthmore College next month.

South Brunswick valedictorian Glenn Pilato "found electrical engineering interesting," so he returned to PPPL this summer. He participated in the 1988 program as well. Enrolled at Rutgers University School of Engineering for the fall term, Glenn will major in engineering "using the



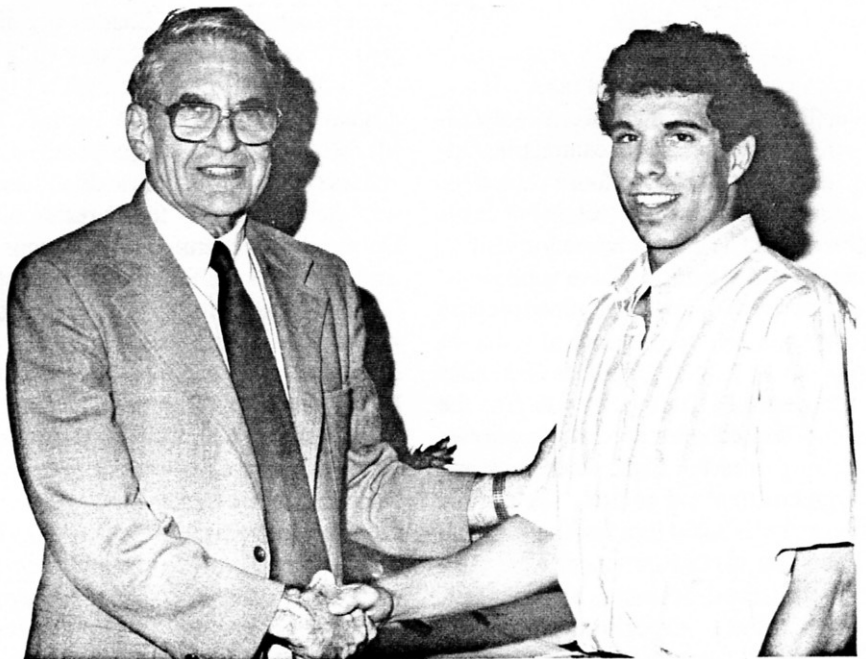
(Photo by Dietmar Krause)

Discussing the TFTR at the awards evening are: (l to r) PPPL Information Services Manager Tony DeMeo, Mr. Marr, South Brunswick student Michael Marr and Sid Medley who addressed the audience.

skills I learned at PPPL." While working here he accomplished a number of jobs including writing test procedures, performing electrical tests, and designing tests for logic boards, among other responsibilities.

Matthew Rockmore from Ewing High School will study physics at Penn State while Gregory Landweber from West Windsor-Plainsboro High will pursue mathematics at Princeton. Michael Marr

Continued on Page 5



(Photo by Dietmar Krause)

Deputy Director for Administrative Operations Jim Clark congratulates summer student Glenn Pilato from South Brunswick at the special recognition presentation.

Continued from Page 4

from South Brunswick finds aerospace engineering his baliwick and Arnold Engelmann from Hopewell Valley Central plans to probe world environmental problems. Ian Nyberg, from Princeton High "finds science and math intriguing," and he'll be exploring these subjects in detail at the University of Chicago this semester.

Besides their interest in science-related careers, these students share many other interests. All are involved in various activities ranging from athletics to volunteering at hospitals and churches.

Admission to the Science Award Program was competitive and based on academic achievement and recommendations from school officials. PPPL Selection Committee members included: Barry Cohen, Robert Kaita, Judy Malsbury, John Wheeler and Ken Young.

PPPL student supervisors included: George Christianson, Larry Dudek, Boris Grek, Jim Kamperschroer, Steve Kilpatrick, Tom Kozub, Greg Lemunyan, Dennis Manos, Dennis Mansfield, and Sid Medley.

PPPL Technical Assistant Greg Lemunyan, who worked with student Glenn Pilato, commented, "The program is worthwhile for both PPPL and the students. Extra help is always appreciated and the students have an opportunity to experience the work world."

PPPL recognized students on August 3 at a special ceremony with Jim Clark, Deputy Director of Administrative Operations, presenting the awards. PPPL Lab Director Harold Furth addressed the group and Sid Medley gave an overview of PPPL's program. ☼

PPPL Seen Worldwide

by Phyllis Rieger

Cameras from Canada, Scotland, and New Jersey recently focused on fusion, and PPPL's role in particular.

Producing a show on energy alternatives, Michael Steele from Queen's Cross, Aberdeen, Scotland, said, "I was told no show on energy would be complete without a segment on PPPL." Steele directed the segment for Grampian Studios which will eventually show it on Channel 4, England, somewhat akin to our educational television. Steele said, "We plan to market the show worldwide. That's why we didn't use a narrator, so we could dub the show in a variety of languages."

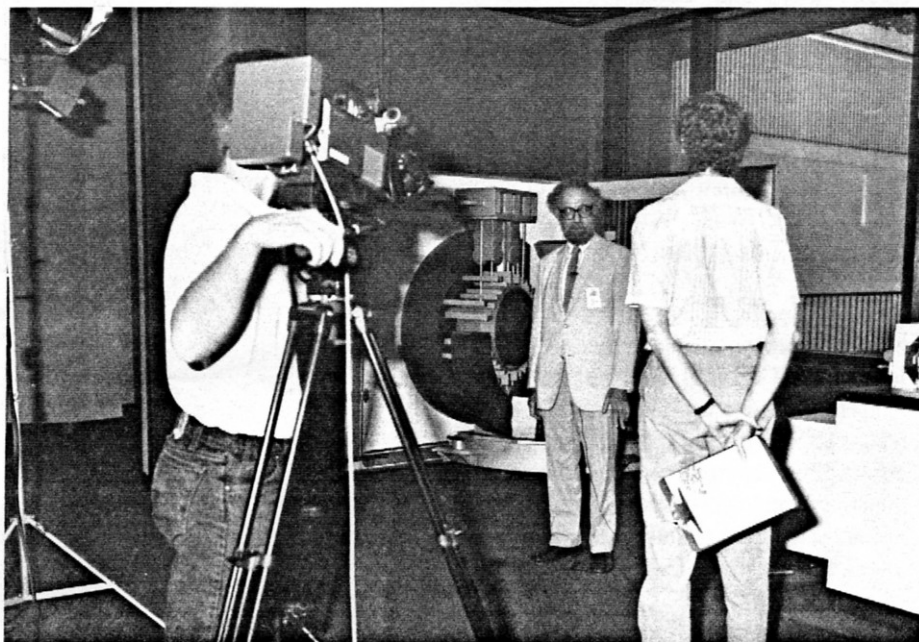
The Scottish crew marvelled at the TFTR "and the greenness of America." Production assistant Sheila Gordon said the crew didn't mind the sweltering temperatures in the high 90s "as Scotland is often damp and rainy."

Their show, called "Energy: The Alternative," includes an interview with the Lab's Director Dr. Harold Furth.

In June, a crew from the Canadian Broadcasting Company focused on fusion, including shots of the Test Cell and the TFTR Control Room. Several PPPL physicists, engineers, and technicians are featured in the broadcast to be aired in both English and French. Alain Borgonin interviewed Dr. Dale Meade as part of the segment.

Also during June, Steve Pender, an independent producer working for Jersey Central Power & Light (JCP&L), brought a crew to interview Dr. Furth on fusion and its commercial application. The segment is for "Newsbreak," a video program for JCP&L employees and it will be broadcast this month.

Information Services plans to show the segments when copies are available. ☼



(Photo by John Peoples)

PPPL Director Harold Furth is taped by Jersey Central Power & Light crew for company's in-house video show.

TRANSITIONS

The HOTLINE offers congratulations to the following employees:

Births

Sharon Brown, PPPL Library, and her husband, Craig, whose son, Steven Joseph, was born July 19.

Connie Cummings, Accounts Payable, and her husband, Dale, whose son, Jonathan, was born July 12.

Gary Drozd, X-Ray Laser and Spectroscopy, and his wife, Marge, whose son, Jeffrey, was born August 7.

Cathy Saville, Safety Office, and her husband, Michael, whose daughter, Amanda Lynn, was born July 28.

Retirements

Steve Duritt who retired July 31 after 29 years of service. Steve was a member of TFTR Engineering and Scientific Staff.

Sam Hand who retired July 31st after 33 years of service. Sam was a Technical Associate II for PBX-M.

Grace Emma who retired August 1 after 10 years of service. Grace was a Secretary in Technical Operation's Quality Assurance Section.

Coach Crook— A Special PPPL Person

by Ed Farris

"I've been choked up with tears at least 100 times."

This describes the feelings of vacuum technician Dan Crook, who's been involved with the New Jersey State Special Olympics for the past seven years. The Summer Special Olympics, held the end of June in Princeton's Palmer Stadium, offer athletic competition for persons who have mental retardation, and physical and learning disabilities. Although geared for special athletes, the games maintain the tradition of the actual Olympics.

The 1989 NJ Summer Games were the largest in their history. More than 1600 athletes from across the state jumped, swam, lifted weights, and participated in events which included track and field, aquatics, gymnastics, softball, weight lifting, tennis, and developmental sports.

According to Dan, the Special Olympics are aimed at "getting the disabled back into the mainstream." Many area school districts have special education programs which offer athletic training. "I've been active year-round in the Mercer County program," said Dan who a few years ago earned a Special Education Coaching Certificate from the State of New Jersey. He now teaches a variety of sports, including track and field and nordic and alpine skiing. "My coaching has brought me into contact with most of the athletes in the Mercer County district, and many of them are from the West Windsor-Plainsboro community," he explained.

"I tremendously enjoy working with the athletes," he said. "I must say at first it was a bit scary and somewhat nerve-racking. I discovered dealing with an individual who is retarded or has a learning disability means I had to think differently in terms of basics. For example, you just can't tell many of them to get dressed or get ready to go out. You have to tell them what to do and coax them along the way. You have to learn to talk in steps."

He explained his early experiences with Special Olympics were made easier with help from other volunteers, many of them the parents of the students he worked with.



(Photo by Ed Farris)

We did it! PPPL's coach Crook shares a victory smile with one of his Special Olympics participants.

"I got support from the other chaperones and from my wife, Wendy," said Dan. "They told me to just jump in feet first and get involved. And that's what I did."

He emphasized the importance of encouragement. "It's exciting to watch the progress of an athlete, especially after seeing how much hard work he/she puts into it. But the frustration level can be very high for some, particularly when they first begin training. I try to give them a lot of encouragement. When they finally reach the level where they start to believe in themselves and they start competing—that's a terrific moment. It's just great to see their success."

During the recent games Dan chaper-

oned three athletes. This meant he slept in the same rooms, took them to the stadium, and prepped them for the events. But most importantly, he gave them continued support. Their efforts and training paid off as the three collectively won a total of five medals, including one gold.

"You bet we were thrilled. Cloud 9 never felt better," said Dan. "The Special Olympics stand for courage, sharing, and joy. Where the athletes place in competition is secondary. That they're trying is what's important. That what's make them all winners." ☺

Those interested in volunteering for Special Olympics can call Dan Crook at ext. 2178.



(Photo by Ed Farris)

PPPL vacuum technician Dan Crook (middle) is on Cloud 9 with his Special Olympics winners and volunteers.

PPPL Publications Updated

Information Services personnel have updated a number of PPPL publications, available at the literature rack in the LOB lobby.

Information Services Department Manager Tony DeMeo edited and wrote from technical reports the recent PPPL Digest on the X-Ray Laser Microscope. The six-page digest details the progress in this field by Dr. Szymon Suckewer and his X-Ray Laser group who recently won their second Research & Development 100 Award.

An Information Bulletin on the Compact Ignition Tokamak, edited by Phyllis Rieger, outlines the genesis of this next step tokamak with principal parameters listed. A project plan is included.

A new Overview booklet, edited by Phyllis Rieger, is also available. This gives a concise description of the different Lab projects and includes sections on neutral-beam injection, computer systems and graduate education. Many PPPL personnel are featured in the photos throughout the 40-page booklet.

Working as a team, Information Service employees have coordinated the production of these publications. Graphic artist Terry Birch prepared the layouts and Greg Czechowicz produced the artwork. John Peoples, Ed Farris, and Dietmar Krause provided photos. Marilyn Hondrop assisted with word processing, and Terry Daynorowicz and Peggy Goldsmith printed some publications with Pat Buggs handling distribution. ☉



Softball Success

"We're out of the Playoffs (Princeton Business Softball League)," said PPPL "A" Softball Coach Bob Raimond, "but we had a lot of fun."

Congratulations to the team who over-all this season were indeed "a force to be reckoned with."

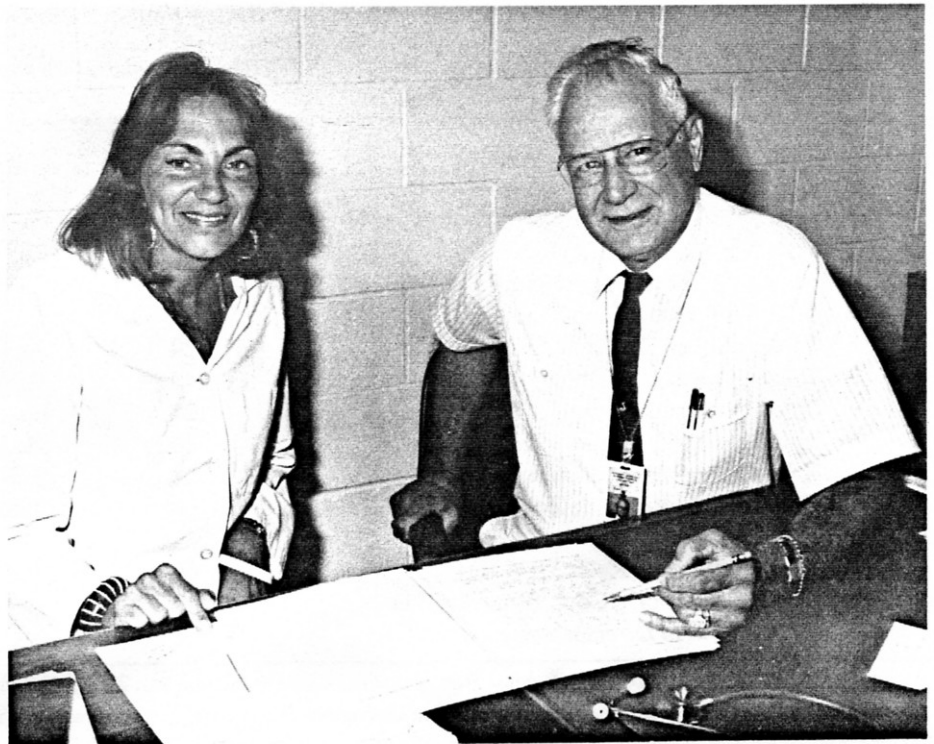
Safety Training

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

<u>Course</u>	<u>Date/Time/Location</u>
Proper Use of Fire Extinguishers	13 Sept, 9:00-11:00 a.m. Safety Training Trailer
Respiratory Protection (Training must be repeated every year.)	14 Sept, 9:00-11:00 a.m. Training Trailer D41-5
Radiation Safety	19-21 Sept, 8:30 a.m.-12:00 noon Training Trailer D41-5
ASC Training	20 Sept, 9:00-10:00 a.m. LOB Commons or 27 Sept, 3:00-4:00 p.m. LOB Commons
CPR Training	26 Sept, 8:30 a.m.-12:30 p.m. LOB Commons

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 is offered every Monday at 1:30 p.m. in the Safety Training Trailer.



(Photo by John Peoples)

To Your Health. . . PPPL nurse Faith Robak discusses special project with new doctor, Dr. John Caruso who is available from 8:00 a.m. to 2:00 p.m. everyday at the dispensary.

Educational Outreach



(Photo by Ed Farris)

As part of PPPL's educational outreach, Information Officer Phyllis Rieger shows the TFTR model to Plainsboro Twp. Day Campers who ranged in age from preschool to sixth grade. She talked about fusion in simple terms and asked the youngsters to draw their idea of what the TFTR looked like before she unveiled the model she had brought along as a visual aid.

PPPL CONFERENCE ROOMS

C-Site

	Capacity	Contact Person	Phone
LOB M.B. Gottlieb Auditorium	284	Pat Buggs	2750
LOB, 3rd Floor (TFTR) (B318)	40	Kay Collins	2202
Director's Conference Room (LOB, B331)*	30	Gloria Cain	2103
DOE Conference Room (LOB, B252)	30	Sarah Thomas	3711
The Commons (LOB, 2nd Floor)	20	Pat Buggs	2750
Theory Conference Room (A168)	40	Terry Greenberg	2629
Procurement Conference Room (Rm. 111)	20	Eugenia Spears	2428
PBX Conference Room (S213)	30	Madge Mitas	3100
X-Ray Laser Conference Rm. (Rm. 245)	15	S. Wasylenko	3277
Computer Conference Room (B229)	30	Beth Ann Reardon	2416

Building 307

Main Conference Room (Rm. 03)	60	Jean Salerno	3003
Mechanical Engr'g Conf. Rm. (Rm. 31)	12	Sonya Patterson	3469

**Subject to Director's need.*

Our best story ideas for **HOTLINE** come from you. Call Carol Phillips at ext. 2754 when you have news to report or an idea for a story.

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, **PPPL HOTLINE**, P.O. Box 451, Princeton, NJ 08543 or telephone 609-243-2754; Interoffice correspondence should be addressed to Room B366, James Forrestal Campus, C-Site.

Produced by Gregory J. Czechowicz.

Rush D. Holt New Assistant Director

by Phyllis Rieger

Rush D. Holt joined the Laboratory on August 7 as Assistant Director of PPPL. He reports to Director Harold Furth and replaces Dr. Mary Shoaf who recently retired.

"I'm impressed with the dedication, competence, and friendliness of the people here at PPPL," said Dr. Holt who holds a Ph.D. in Physics from New York University and a B.A. in Physics from Carleton College in Minnesota.

"As Assistant Director, I'll be responsible for a variety of internal and external administrative matters, including government relations, with frequent trips to Washington," explained Dr. Holt. But that's nothing new for him since he spent the last two years at the State Department there as Chief of the Nuclear and Scientific Division of the Office of Strategic Forces Analysis.

Commuting long distances is a way of life for Dr. Holt who spent two years going from his home in Wilmington, Delaware to Washington, D.C. and who now crosses three states to come to PPPL. "I've just bought some books on tape to help ease the commute, and we may move before long," he said.

Before his stint in Washington he taught for nine years at Swarthmore College, near Philadelphia. In 1982-83, he spent a sabbatical as a Congressional Fellow of the American Physical Society (APS). Currently, he's a member of the APS Panel on Public Affairs.

Dr. Holt's principal areas of physics research have been solar magnetic fields and fluid mechanics. He's been a visiting researcher at the Woods Hole Oceanographic Institution in Massachusetts, the National Solar Observatory at Kitt Peak in



(Photo by Dietmar Krause)

Rush Holt joined the Laboratory as Assistant Director in early August. In this position, Dr. Holt will have a number of important internal and external administrative responsibilities, including government relations. Pictured with Dr. Holt is his secretary Gloria Cain.

Arizona, and the National Center for Atmospheric Research in Boulder, Colorado.

A native of West Virginia, Dr. Holt said, "I've lived in about ten different states. In my free time, I like to sail and to work on carpentry projects at my cabin in the Adirondack Mountains. I also enjoy tennis, although I haven't played for a while. I'd like to take it up again." In the 1970's, Dr. Holt was a champion on the TV show Jeopardy.

His unusual first name, Rush, is a family tradition. "It was my father's and his

grandfather's name, too, and we were named after Dr. Benjamin Rush, a Philadelphia physician and political gadfly."

Dr. Holt's family includes his wife, Margaret, a physician who practices internal medicine in Philadelphia, and their three children, "who're now out in the world."

He said, "I am pleased to join my colleagues at PPPL in promoting magnetic fusion and to help PPPL retain its place as the world's preeminent center for plasma physics." ★

PPPL's 'New Heroes'

by Phyllis Rieger

Dick Wieland and Jane Murphy are heroes, new heroes to be more exact. The Smithsonian Institution honored these two members of PPPL's TFTR Physics Program Division as finalists in the Computerworld Smithsonian Awards for Innovative Use of Information Technology.

According to the Institution, "Information technology is becoming the largest industry in the world. The public honoring of visionary use of technology establishes a tradition that inspires responsible implementation of this powerful tool. Making heroes of creative users both personalizes and demystifies technology, allowing it to be a positive player in our collective vision of the future."

Nominations for the awards were put forward by a select group of computer industry leaders from some of the best known hardware and software companies in the country. MINGL (the <M>ighty <ING>res <L>ocus System) was one of the entries in the competition. Dick and Jane developed MINGL as a means of collecting and managing diagnostic data and transport code results from TFTR. It uses INGRES, a commercial relational data base product, as its engine, so to speak, for retrieving and updating data. It provides the interface for moving TFTR data, which is stored in various formats on our computer system, into the central data base. Once the data is in the data base, tools like LOCUS are used to access and analyze that data.

"We wanted to provide an environment where users could examine, compare, and analyze any laboratory data," said Dick. "We also wanted to make it easy for novice users to gain access to the data." PBX-M uses it as well for some of its data bases.

At present, TFTR has logged over 40,000 shots. A typical shot results in about 10 million pieces of data which are stored on the computer. In order to make sense out this wealth of information, physicists need sophisticated data analysis tools. With MINGL they can extract a subset of the shot data, such as plasma current, beam power, and confinement time for all shots. Then LOCUS allows them, for example, to select those shots with plasma current equal to 1.4 MA and

plot the plasma confinement time against the neutral-beam power. This enables TFTR physicists to test theories of the plasma confinement. Such theories can be used to guide future experiments on TFTR and are a crucial component in the design of future machines, such as CIT.

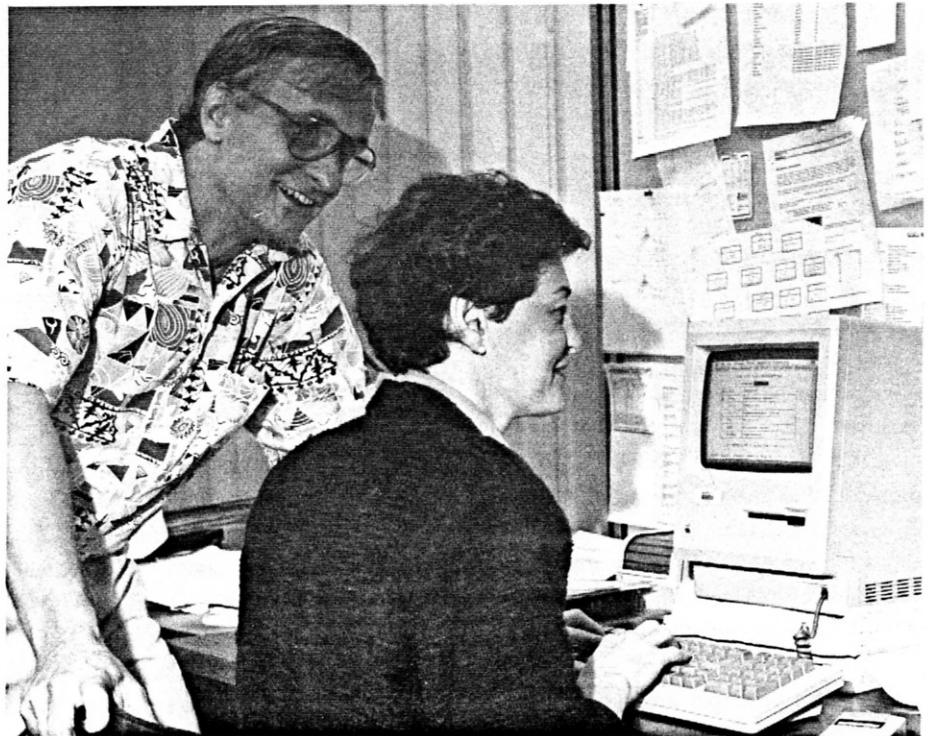
Dick and Jane pointed out that while every laboratory engaged in magnetic fusion research has some system for storing, examining, and analyzing data, none is as comprehensive and powerful at the upper levels of data analysis as PPPL's. Other laboratories have expressed an interest in using MINGL, and an exportable version currently is being developed.

They competed in the "Energy, Natural Resources and Agriculture" category, and as one of ten finalists in that category were honored at an awards dinner in New York City. The winners will participate in an information technology exhibit which will open in 1990 at the Smithsonian Institution's Museum of American History. Dick said, "Although we didn't win the top prize, we were pleased to be chosen as finalists for the Award."

Dick has been at PPPL for five years in the TFTR Data Analysis Branch of the TFTR Physics Program Division. He came here from Oak Ridge National Laboratory where he had worked on the ISX-B tokamak program there in data analysis and modeling for seven years. He holds a Ph.D. in nuclear physics (which "I got a long time ago," said Dick) from Yale University which is where he got started in data manipulation and modeling. Now he specializes in the development of data-base-related software for TFTR.

Jane's been at PPPL for 15 years. "I started as a programmer in the Data Acquisition Section when ATC (Adiabatic Toroidal Compressor) and FM were running and the Princeton Large Torus was under construction. I'm now a member of the TFTR Data Analysis Branch and one of my primary responsibilities is the data analysis program, LOCUS," explained Jane. In addition to her job at PPPL, she is also working on her master's degree in computer science at Drexel University in Philadelphia.

Congratulations to PPPL's new heroes!



(Photo by Dietmar Krause)

Dick Wieland and Jane Murphy were finalists in the Computerworld Smithsonian Awards for Innovative Use of Information Technology. Their computer program "MINGL," used to collect and manage diagnostic data and transport code results from TFTR, was one of the entries in the competition.

PPPLers Bring Civil War to Life

by Phyllis Rieger

Sometimes Joe Majeski lives in the past. He can be seen talking with Abraham Lincoln or drilling with soldiers dressed in gray with swords at their side. The burly electronics technician, a Civil War buff, becomes a Confederate soldier living his life as the militia would during the 1860's.

"Sometimes I walk up to 15 miles a day in hot, muggy weather wearing a wool uniform and lugging 40 lbs. of equipment," explained Joe who it said it was not uncommon to trek as many as 37 miles in one day during those dire days.

"We sleep in tents and cook over fires," said Joe. "There's even one regiment that just sleeps under the stars with blankets. That's how it really should be."

During a re-enactment men drill, march, and fire. Interspersed with the drilling are explanations of weaponry, uniforms, camp routines, punishments, and cooking.

Recreating the life of a soldier also means reliving the battles, using real cannons, muskets (but just gunpowder no bullets), and swords. "Some men even have authentic equipment," he said. He explained most Civil War buffs collect some kind of memorabilia from that era. He doesn't collect himself.

Joe is a sergeant in the 12th Georgia Volunteer Infantry Regiment, first mustered in 1861. His fellow participants come from nine different states and although some battle re-enactments take place in New Jersey, it's not unusual for Joe to travel five to six hours for an event. "Many are held in West Virginia, Virginia, and Maryland, but I've been as far south as Alabama," he said.

Joe pointed out that New Jersey almost joined the 11 states of the Confederacy that seceded from the United States (Joe says for information about this see the book "Succession in the Mid-Atlantic States").

New Jersey passed a resolution condemning President Lincoln for starting the Civil War and the State contributed two generals to the Confederate forces.

When Joe's not reliving the Civil War, he's reading or researching it. A book he

".....recreating the past means access to adventure, fun, and learning."

just finished is "History of the Doles-Cook Brigade" by Henry Thomas which is the history of the 4th, 21st, 12th, and 44th Georgia Infantry.

Why would anyone want to recreate Civil War? "It's a time in history that always fascinated me," said Joe. "It was an unusual chapter in our Nation's past, a grassroots war that often pitted family against family." He said many participants are veterans of various wars although he isn't.

"Members of our regiment come from all walks of life, and it's just a lot of fun, kind of a club," said Joe whose 17-year-old son, Chris, joins him in his portrayals as a corporal of the infantry. "It's a unique way for Chris to learn first-hand about history," his dad explained.

Besides his son, Joe's supervisor, Carl Szathmary, sometimes joins him although Carl is with the Union forces of the 110th Pennsylvania Volunteer Infantry Regiment. "I've always been an avid reader of Civil War literature," said Carl. "For about two years I've been actively involved in re-enactments including the 125th anniversary battle at Gettysburg last year. Reliving the battle is like being transported by a time machine to that place and actual time. During the re-enactment, I didn't even really see the 65,000 spectators because I was so engrossed in what I was doing."

Carl explained, "It's interesting and fun to recreate the battles, but you can also feel the horror, death, and destruction that took place."

Joe pointed out, "You do have to pay attention to what you're doing. Sometimes people do get hurt."

Continued on Page 4



Joe Majewski, standing at the far right, is a Civil War buff. He participates in about 15 re-enactments a year. During a re-enactment men drill, march, and fire and learn about weaponry, uniforms, camp routines, punishments, and cooking.

In early August, Joe and Carl were part of an encampment and re-enactment at Batsto Village in south Jersey. Joe organized this two-day event which even included the set-up of a full war hospital, ministers who conducted services, and photographers who took pictures just as they did during Civil War times. "Governor Kean signed a proclamation commemorating this re-enactment which celebrated the 125th Anniversary of the Fourth Year of the Civil War," said Joe who participates in about 15 re-enactments a year.

"Joe and I have discussions on how we would have directed our forces during a battle or various tactics that we would have used if we were in charge," said Carl. "We've had some interesting conversations."

These two PPPLers dispel the notion that history can be dull. For them, recreating the past means access to adventure, fun, and learning. ✪



Carl Szathmary has been involved in Civil War re-enactments for about two years. He's with the Union forces of the 110 Pennsylvania Volunteer Infantry Regiment.

Athletic Teams Budgets Due

Athletic teams wishing Morale Fund contributions must submit proposed budgets to Bobbie Forcier, LOB 172, as soon as possible. All requests for funds should include the following:

- Team roster.
- Requested amount.
- A breakdown of anticipated expenses.
- Name of person to be in charge of athletic team during FY90.

Please contact Bobbie Forcier, ext. 2101, if you have any questions. ✪

Safety Training

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

<u>Course</u>	<u>Date/Time/Location</u>
Confined-Space Entry	10 Oct, 9:00-11:00 a.m. Safety Trailer D41-16
Radiation Safety Training	17-19 Oct, 8:30 a.m.-12:00 noon Training Trailer D41-5
Forklift Operator Training	17 Oct, 8:45 a.m.-12:00 noon Safety Trailer D41-16
Fire Extinguisher Training	26 Oct, 9:00-10:30 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. Employees should call Mary Ann for directions to the trailers.

Basic Safety is offered every Monday at 1:30 p.m. in the Safety Trailer D41-16.

FIRE PREVENTION WEEK

OCTOBER 8-14, 1989



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Our best story ideas for HOTLINE come from you. So if you have an idea for an article, call Carol Phillips at ext. 2754.

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, PPPL HOTLINE, P.O. Box 451, Princeton, NJ 08543 or telephone 609-243-2754; Interoffice correspondence should be addressed to Room B366, James Forrestal Campus, C-Site.

Produced by Carol Phillips.