

Excellence in Plasma Physics Research Award Shared by PPPL Physicists

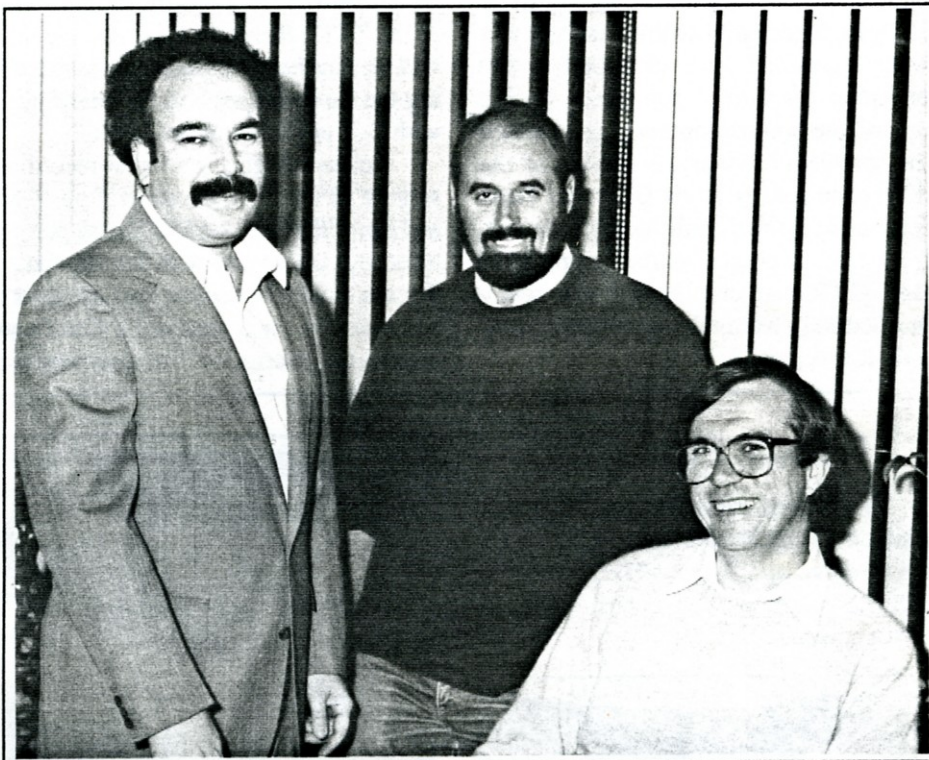
Efforts of TFTR Team Recognized

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

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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.

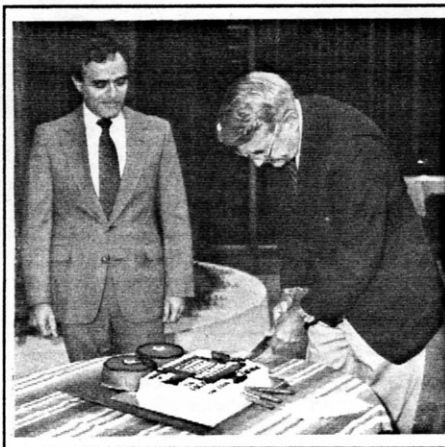
Focus Fest Fun

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 "In Focus," 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.