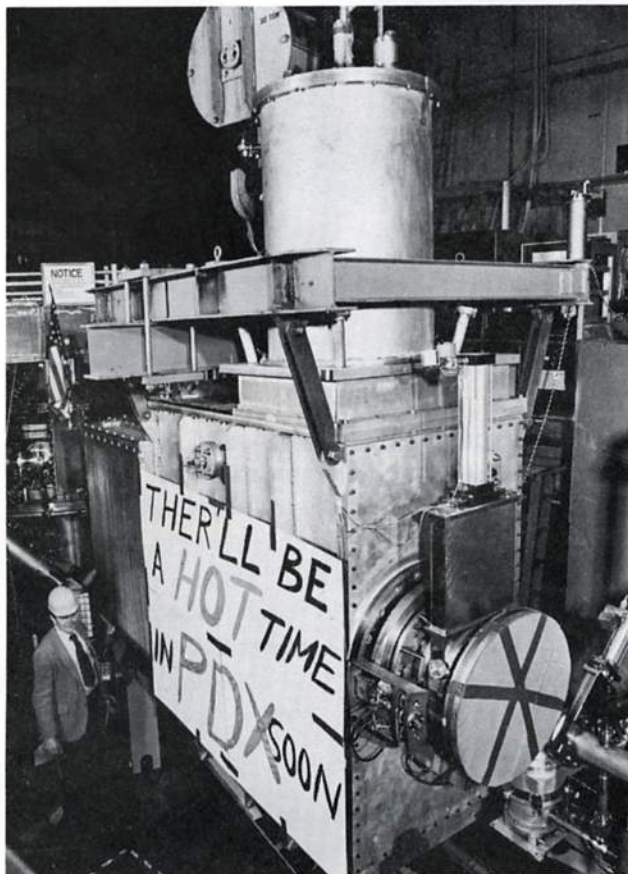


HOTLINE

PRINCETON PLASMA PHYSICS LABORATORY

March 5, 1980

Vol. 1, No. 4

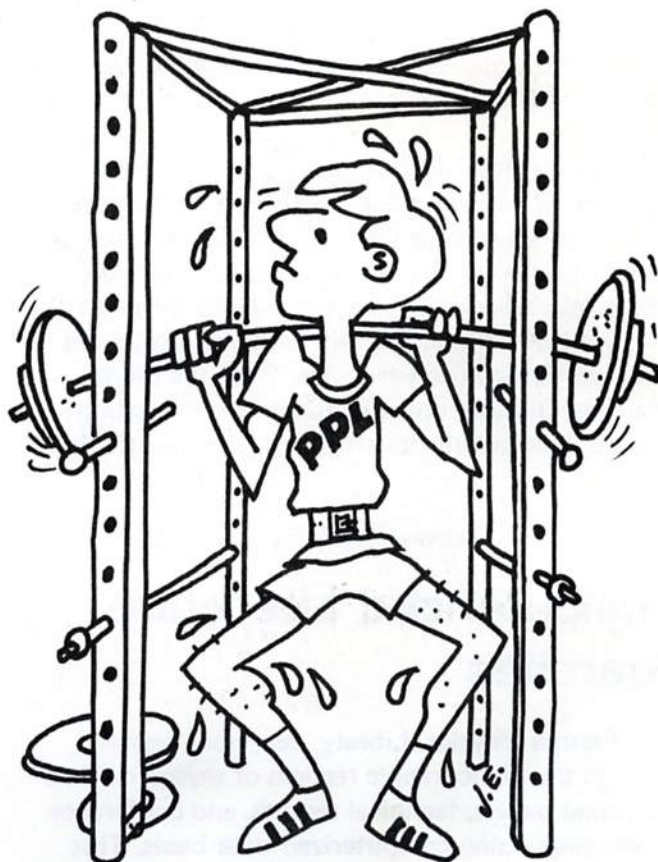


Ellis Simon, Manager of New Projects Office, inspects the first PDX neutral beam line that was delivered to the machine platform on January 23. Fabricated at CVI in Columbus, Ohio and at Oak Ridge National Laboratory, the neutral beam line has been at 1-H building since June undergoing final check-out and qualification testing. Installation of the beam line on the PDX is expected to be completed shortly. It will be used to inject about 1.0 MW into PDX, raising the temperature to about 2 keV. The three remaining neutral beam lines will be installed on PDX by late summer.

Blue Cross/Blue Shield Special Announcement

Employees covered by Blue Cross/Blue Shield are urgently requested **NOT** to pay bills from radiologists belonging to any radiologist group in New Jersey. **SEND ALL RADIOLOGIST BILLS TO ELEANOR SCHMITT, PPL PERSONNEL, FOR IMMEDIATE REFERRAL TO BLUE CROSS/BLUE SHIELD.** Any questions should be directed to Eleanor on ext. 2035.

NEED A MID-WINTER LIFT?



TRY DILLON GYM

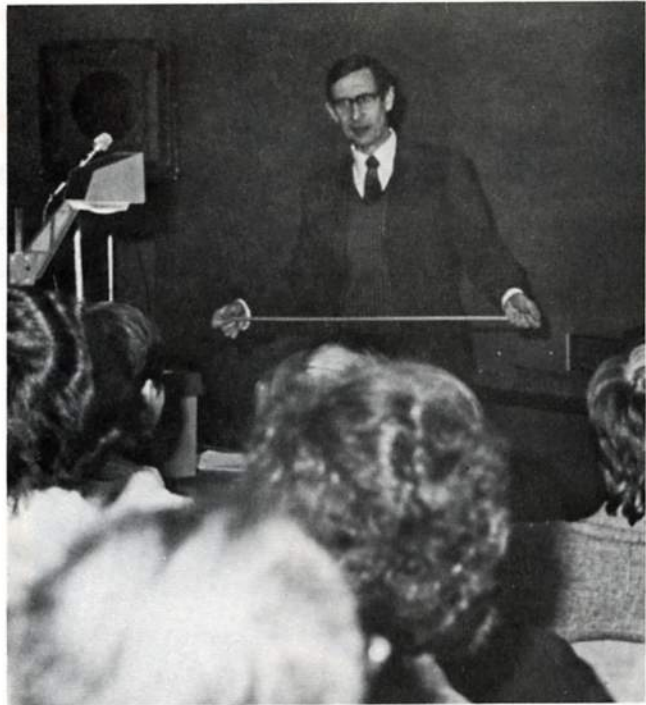
See pg. 3

Freeman Dyson on CO₂

Freeman Dyson, renowned physicist, mathematician, and astronomer discussed his studies of carbon dioxide in the atmosphere at a PPL colloquium on February 6. According to Dr. Dyson, the amount of carbon dioxide in the atmosphere has been increasing since 1958 but estimates of the rate of increase vary. Data indicate that atmospheric carbon dioxide will double in the next 150 to 300 years. Determination of a more definitive estimate is difficult because of the lack of basic research in this area.

Dr. Dyson indicated that most interest by the Government and among the general public has been in the climatic effects of carbon dioxide. The Manabe-Wetherald model predicts that a doubling of atmospheric carbon dioxide would result in increased rainfall in most places and would generally moderate temperatures by lessening seasonal extremes. More importantly, it would result in a worldwide average temperature increase of about 3°C at sea level, with an increase of about 10°C in the arctic and antarctic regions. This would have the much publicized effect of melting the polar ice caps with attendant disastrous results.

Dr. Dyson warned against putting too much faith in the exactitude of these predictions because of the limited knowledge we have of what happens to carbon dioxide in the atmosphere, how it is absorbed and released by the oceans and by plant life, and how it interacts with other atmospheric gases, particularly oxygen. Dr. Dyson is more interested in other non-climatic effects of carbon dioxide, particularly its effect on photosynthesis.



In limited experiments, it was found that an increase in carbon dioxide increased the rate of photosynthesis in a particular plant, while decreasing the plant's water requirements. If this holds true for plants on a wide scale, it would have great importance for world food production. Dr. Dyson stressed that more research into these areas and greater study of all aspects of atmospheric carbon dioxide is necessary before precise predictions can be made.

Dr. Dyson is a professor at the Institute for Advanced Study. His autobiography, *Disturbing the Universe*, was published last year by Harper & Row as the first in a series of personal accounts by scientists, sponsored by the Alfred P. Sloan Foundation.

Computerized Literature Searches

The Plasma Physics Library can now search through the bibliographic records of several million published papers, technical reports, and conference proceedings using computerized data bases. This capability makes it possible to compile a list of works on a subject or by a particular author in minutes. Most of the data bases include items

published since 1970 and provide excellent coverage of all fields of science.

Charges for computerized searches vary depending upon the length of the search and the number of references printed out, but a typical search costs approximately \$15. Searches can usually be planned and performed in less than thirty minutes.

To request a search, call Tom Conkling (ext. 3566) or stop by the library at C-Site.

Athletic Facilities For Winter Sports

Forced indoors by cold weather, PPL athletes will not want for suitable facilities. **Jadwin Gym**, located just south of Palmer Stadium, provides tennis and squash courts, an indoor track, and basketball, volleyball, and badminton courts. The indoor tennis and squash courts are open weekdays 8:30 a.m. to 9:30 p.m. (1:30 p.m. to 6:30 p.m. on the tennis courts is reserved for varsity team practice), Saturdays from 8:30 a.m. to 5:00 p.m. and Sundays from 1:00 p.m. to 5:00 p.m. Hours for the other Jadwin facilities vary and are posted each week.

Faculty and Staff permits for jogging and basketball at Jadwin Gym are \$25.00 for the first family member and \$15.00 for each additional family member, and are purchased at the Jadwin ticket office. All permits purchased now are valid through August 1980. Tennis rates are \$2.00 per person per hour for staff members and their families, and \$5.00 per person per hour for the general public. Jadwin squash rates are \$1.00 per person per hour for staff members and their families and \$2.00 for the public. Courts may be reserved by telephone or in person up to three days in advance. To do this, a reservation permit must be obtained at the Jadwin Gym ticket office. The one-time permit fee is \$10.00 for tennis and \$10.00 for squash and is in addition to court fees. Locker rooms and showers are available for women at Jadwin; men use the lockers in the adjoining Caldwell Field House.

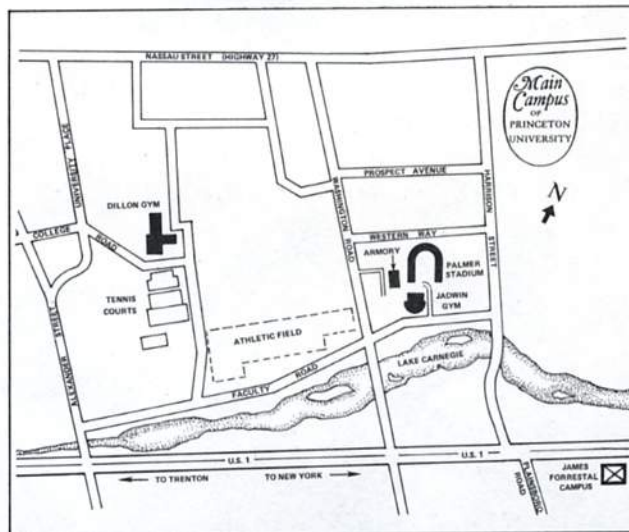
In the center of main campus, **Dillon Gym** provides an indoor pool that is open weekdays 9:00 a.m. to 2:30 p.m. and on Sunday from 2:00 to 4:30 p.m. It is closed on Saturdays. Dillon also contains basketball courts, and 18 squash courts. There is no playing fee for these squash courts; reservations are made in person up to a day in advance. Hours for these facilities vary and are posted each week. Generally, they are open until 9:00 p.m. Monday through Thursday and until 6:30 p.m. on Fridays. Saturday's hours are usually 9:00 a.m. to 5:00 p.m. and Sunday's are 1:00 p.m. to 5:00 p.m.

Dillon Gym also has a health fitness center providing exercise areas, bicycle ergometers, weights, and a variety of Nautilus and Universal equipment. The health fitness center operates on a more limited schedule than the other facilities; it is

cont. on pg. 4



The Universal equipment at the Dillon Gym health fitness center, shown here, can be used for a variety of training exercises both with and without weights.



Dillon and Jadwin Gyms are easily reached by car; adjacent parking facilities are available.

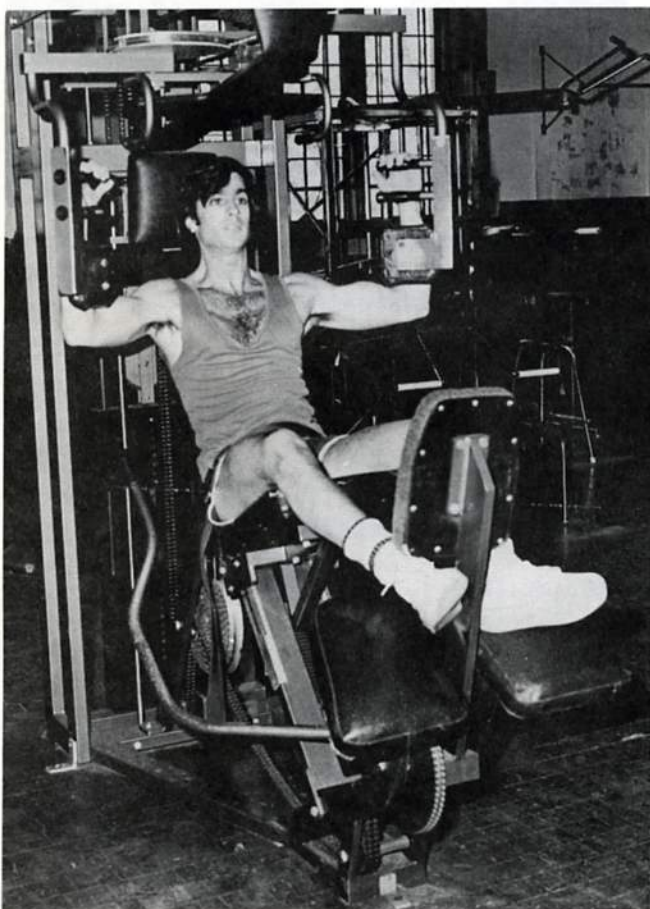
REMINDER: The closing date for the first Energy Conservation Suggestion Contest is March 14. Call 7-2-HELP for more information.

Athletic Facilities *cont. from pg. 1*

usually open during the day, on weekday evenings, and on Saturday mornings. Locker room facilities are available for both men and women.

Faculty and Staff activity fees for Dillon Gym are \$35.00 for the first family member and \$25.00 for each additional family member. Combination permits for both Dillon and Jadwin are \$55.00 for the first and \$35.00 for other family members. Guest fees are \$2.00 per session. Permits are available at the Jadwin Gym ticket office.

In addition to the gymnasiums, **Baker Ice Rink** has public skating sessions on Saturday evenings and Sunday afternoons. The fee for staff members and their families is \$1.00 per person.



This complex piece of equipment is not a tool of the Inquisition but rather one of a series of Nautilus machines at the health fitness center. These devices allow one to exercise each of the body's muscle systems by lifting, pulling, or pushing weights on a pulley system that evenly distributes the force of the weights throughout the entire exercise motion.

Gasoline and Oil Spills

A Spill Prevention Control and Countermeasure (SPCC) Plan has been implemented for PPL to provide for the early detection, reporting and control of oil and gasoline spills from delivery tank trucks or storage tanks. In the event of an oil or gasoline spill, the PPL Fire Brigade, ext. 3333 (or, during off-hours, the Plainsboro Fire Company at 799-2333) is to be notified to respond to the spill scene. After precautionary fire fighting coverage has been called, Conrad W. Stout, Manager of Plant Engineering and SPCC Officer is to be notified immediately (ext. 3378, home: 609-799-3683). If he is unavailable, a list of alternate SPCC Officers is posted in all PPL Security department offices and PM&O operating areas.

Emergency Closings

News of Laboratory closings or delayed opening due to extreme weather conditions, such as heavy snow, icy conditions or floods, will be broadcast on the following stations:

WHWH (Princeton)	1350kc
WTTM (Trenton)	920kc
WPST--fm (Trenton)	975kc
WBCB (Levittown)	1490kc
WCTC (New Brunswick)	1450kc

Credit Union Declares Dividend

A 7% dividend has been declared by the board of directors of the Princeton University Employees Federal Credit Union for the last quarter of 1979. This is the maximum dividend allowed by law, and it is paid by only about one of every 10 credit unions in the country.

For Sale

Complete photo darkroom equipment for black & white. Brand-new. Ext. 2037.

The PPL Hotline is issued by the Princeton University Plasma Physics Laboratory, a research facility supported by the U.S. Department of Energy. Correspondence should be directed to PPL Communications Office, Aero Lab, James Forrestal Campus.
