



Directed by Otto White (left), the new Center for Assessment of Chemical and Physical Hazards is staffed by industrial hygienists Ralph Wilson, Rabelan Baloyi, Bernard Silverstein and Nicole Bernholz.

Center Studies New Hazards

New technologies on the energy horizon include solar, wind, geothermal, and coal conversion. The Department of Energy supports research and development in these new areas. Since much of this work is in uncharted territories, occupational and environmental hazards are often not well known.

To help DOE develop in-house health and safety guidelines for potentially hazardous substances, the Center for Assessment of Chemical and Physical Hazards has been established at Brookhaven. At the Center, special attention will be given to those technologies having a high probability of commercialization. DOE is concerned not only with on-the-job hazards, but also with potentially hazardous exposures to the general public when a technology is commercialized.

After an initial period of staffing, the Center started operating in November, 1979. Within the Safety and Environmental Protection Division, it is directed by Otto White. The technical staff is funded by DOE at two persons per year, but all of the division's industrial hygienists - Rabelan Baloyi, Nicole Bernholz, Bernard Silverstein and Ralph Wilson - share the Center's work. Assisting the team of five is an advisory panel made up of scientists from other BNL departments and from SUNY at Stony Brook.

According to White, some of the potentially hazardous substances associated with new energy technologies are coal dust, shale oil emission, polycyclic aromatic hydrocarbons and fiberglass. The group is doing a procedural "shake down" on 2-mercaptoethanol, a chemical used in diagnostic biological tests. Concurrently, in response to a formal DOE request, they are developing guidelines for acetylacetone, a cleaning agent.

Briefly, this is how the Center operates: An employee of DOE or a DOE contractor identifies a potential health problem associated with a material for which no standard is set. DOE is notified of the potential health hazard and asks the Center to prepare a report on it.

First, White and his team do a

literature search by computer, seeking already published information on the substance. They also tap other sources, such as government agencies, manufacturers, unions, and health and safety foundations and societies.

After gathering all available data, they next consult the advisory panel. Comments from the panel are incorporated into a preliminary report, which is independently reviewed by experts outside the DOE community. Then a final report is submitted to DOE in which they recommend health and safety guidelines for the substance in question.

These guidelines are only for DOE facilities and contractors. They are intended to provide an additional margin of safety for employees. And because they are specifically associated with new energy technologies, they address potential health and environmental problems not already regulated by agencies such as the Occupational Safety and Health Administration and the National Institute of Occupational Safety and Health.

"The key to the Center is its flexibility and speed," said White. "Ordinarily, it takes two to three years for an agency like OSHA to promulgate a safety and health standard. We can complete a study in six to seven months, and, if need be, in-house regulations on a particular substance can be quickly implemented by DOE."

Patents Awarded

Albert H. Walenta, Instrumentation Division, was issued U.S. Patent No. 4,179,608 for "Right/Left Assignment in Drift Chambers and Proportional Multiwire Chambers (PWC'S) Using Induced Signals." Walenta's invention is an improved multiwire chamber having means for resolving the left/right ambiguity in locating an ionizing event.

Hugh S. Isaacs, DEE, and John R. Weeks, DNE, were issued U.S. Patent No. 4,181,882 for "Corrosion Monitoring Apparatus." They invented a device which can monitor corrosion in crevice areas of pressurized water reactor steam generators.

Light Source Business

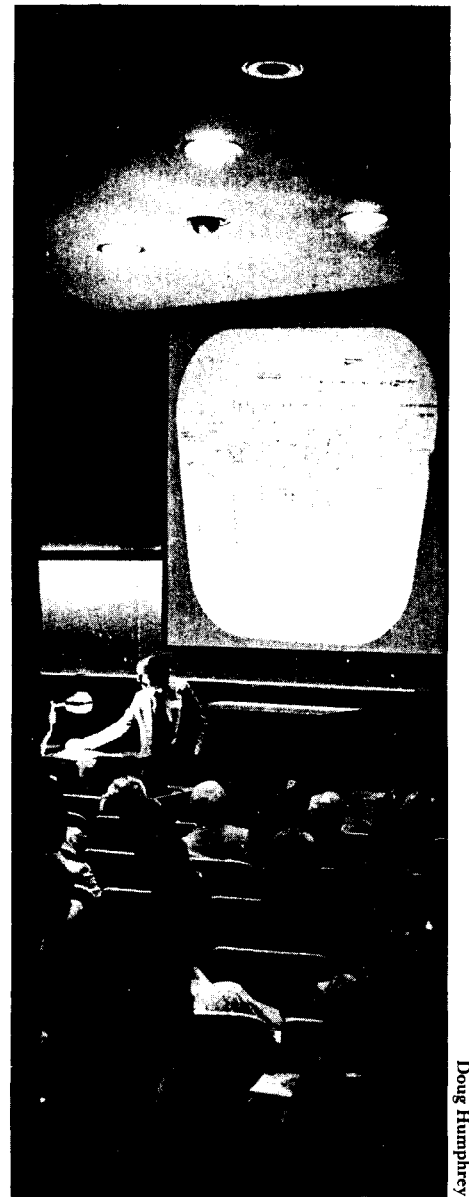
Although universities and government laboratories have always been users of BNL machines, the National Synchrotron Light Source (NSLS) will also have on its roster a considerable number of "blue-chip" companies. Among these corporations are IBM, Eastman Kodak, Exxon, General Electric, Xerox, Mobil and Bell Laboratories. The participation of industrial users at the NSLS is part of a national policy to encourage more basic research at the industrial level.

At a NSLS General Users Meeting last week, representatives from various U.S. corporations with large investments in research and development were among the 200 attendees. Their primary use of the Light Source will be for basic research, but some firms will also use it, on occasion, for what is known as proprietary research.

According to Martin Blume, head of the Synchrotron Radiation Scientific Program, proprietary research is work which the company may not wish to publish immediately, as is done in basic research. This may be because such research could lead to a patentable process, or because of competition in the marketplace. For instance, oil companies are always seeking cheaper and more effective catalysts for the breakdown of crude oil into various components. They would wish to have time to review any new findings before the results become public knowledge.

Inquiries have also been received from small firms about using the NSLS for what Blume calls commercial purposes. For example, a company may do x-ray analysis for its customers with a conventional x-ray source. Because the NSLS provides a much brighter source, however, the company might wish to take some spectra here and do the analysis back at its own lab.

There is no charge for basic research at the NSLS. For proprietary research, the Federal government requires that operating costs, plus a percentage of the construction costs

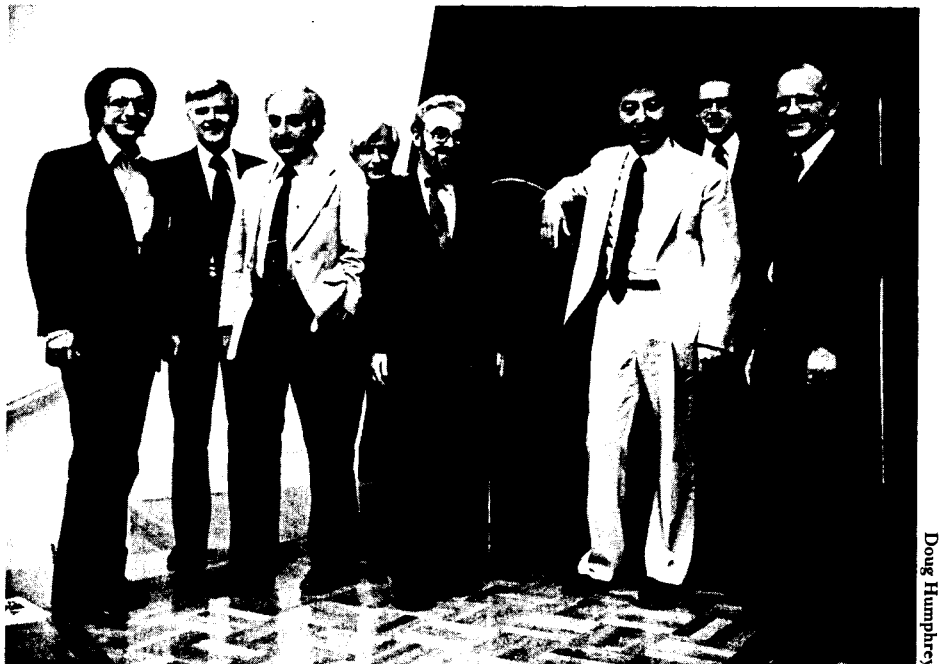


At the General Users Meeting on June 9, NSLS scientist Gwyn Williams (above) reported on VUV beam lines, followed by Bill Thomlinson on X-ray beams. The meeting also heard from two spokesmen for the Participating Research Teams (PRTs) - Cully Sparks, ORNL, and Ward Plummer, U. of Pennsylvania. PRTs will be building some experimental apparatus at the Light Source and the spokesmen informed the users of these plans. The newly elected chairman of the Users Association is Peter Eisenberger of Bell Labs. He succeeds Richard Deslattes, National Bureau of Standards.

of the Source, be recovered. Blume estimates that accrued costs for use of a single spectrometer for proprietary and commercial purposes would be about \$200/hour.

No limit will be set on the amount
(Continued on page 2)

A Salute To The AGS



A distinguished group of speakers took part in last month's celebration of the 20th anniversary of the AGS. Their topics ranged from the early history of the AGS to the search for new particles. The speakers (from left) were Nicholas Samios, BNL; Kjell Johnsen, CERN; Melvin Schwartz, Stanford University; John Blewett, BNL; Ernest Courant, BNL; Nobel laureate Samuel Ting; BNL Director George Vineyard; and Val Fitch, Princeton University.

A Better Cut

This is the time of year when lawn mowing is a weekly ritual for most home owners. But did you know that there is a right way and a wrong way to mow your lawn?

According to the Cooperative Extension, you shouldn't get into the habit of following the same route each time. Tracks tend to become fixed, high and low spots may become worse, and the lawn surface may develop a wavy appearance.

If you want a more uniform and neater lawn, change your pattern of mowing. Your lawn clippings will also be distributed better, and the soil will be less packed if the wheels don't go over the same tracks time after time.

One way to change your pattern is to mow crosswise to the direction you used the last time. If this is impractical, then alter the pattern somehow so you don't go over the same tracks. It's better to follow a back-and-forth pattern rather than an around-and-around-routine. Also be sure to overlap cuts by a fourth to a third of the width of the mower.

And whatever pattern you use, keep your mower sharp and adjusted. Your lawn will look even better.

A Musical Triplet: Part Two

The second concert in the baroque music festival sponsored by BERA will be held on Tuesday, June 24 at 8:30 p.m. in Berkner Hall. Flutist Nina Barwell and harpsichordist Peter Wolf will be joined by guest artist Samuel Baron, flute.

Samuel Baron is one of the foremost American flutists now appearing before the public. A New York musician, he studied at the Juilliard School, where he held simultaneous fellowships in flute playing and conducting. He was a founding member of the New York Woodwind Quintet, and is the flute soloist of the world-



Samuel Baron

renowned Bach Aria Group. Mr. Baron has recorded a wide range of flute music, including contemporary compositions written for him by American composers. He currently teaches at the State University of New York at Stony Brook and at the Juilliard School.

The program will include music by J.S. Bach, K.P.E. Bach, Quantz and Telemann. Following the format of last night's first concert in the series, the performers will talk about their pieces before playing them.

Coffee will be served after the performance, and concert-goers will have an opportunity to chat with the musicians.

Tickets will be sold at the door. General admission is \$5; students and senior citizens are \$3.

Ticks: Tiny But Troublesome

Ticks, those nasty, little vampires, are in season once again. They are waiting patiently in weeds and bushes to complete a portion of their life cycles, namely, a blood meal. Without such a meal they will die of starvation. There are very few people in this area who have not, at one time or another, played unwilling host to these parasites.



Scanning Electron Microscope Image of an adult tick, *Ixodes dammini*, magnified 60 times. Note the long mouth parts in the head region.

Ticks belong to the arthropod family which includes mites, spiders, scorpions and horseshoe crabs. The head, thorax and abdomen are fused together forming an unsegmented body which is covered with a leathery cuticle, capable of great expansion in females. Tiny to begin with, when fully engorged they resemble beans or nuts. To date, taxonomists have described about 450 distinct species.

Life Cycle

These hardshelled creatures pass through four stages in their life cycle—egg, larva, nymph, and adult.

After several days of mating, the females attach to their host (generally a mammal) to engorge blood, and then drop to the ground to lay from 200 to 10,000 eggs. The eggs incubate for a period of two to three weeks depending on the temperature of the

soil. Newly hatched larvae are known as seed ticks. These six-legged creatures then look for a blood meal. If they are successful, they drop to the ground and emerge as eight-legged, but sexually immature nymphs. Once more, they climb onto the weeds seeking a suitable host for a second blood meal. If this, too, is uninterrupted, they become adults and mating occurs. In all species, the males die after mating, but the females continue the life cycle.

Removal and Identification

Most people do not suffer any illness as a result of a tick bite, but it is important that the tick be completely removed. If the head and mouth parts are embedded in the skin, the area should be coated with petroleum jelly or some kind of oil. This seals the pores through which it obtains oxygen, and the tick comes out. If this doesn't work, it is recommended that a physician remove it and treat the wound to prevent infection.

Dr. Richard Stoner, an experimental immunologist at the Medical Department, who does diagnostic parasitology and protozoology for the Lab, says that it is important that the physician also obtain identification of the tick in case one of the tick-associated diseases appears later in the patient. At the clinic, when a tick is removed from an employee, it is sent to Dr. Stoner who puts it under a microscope to identify the species, and to make sure that no part has been left in the patient. In the last 20 years, he has identified seven species from Long Island, among them *Ixodes scapularis* and *Ixodes dammini*.

Lyme Arthritis

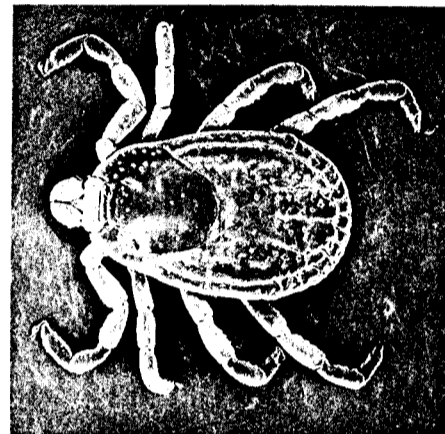
These two species have been in the news the last few years because their bites have been associated with a relatively new disease called Lyme arthritis. The disease is first evidenced by the appearance of a small red bump which can expand to a diameter of 20 inches or more. The rash may be followed closely by a stiff neck or swelling of the joints, fever, chills and headache. Sometimes the arthritis

does not show up until some months later, most commonly in the knees.

At present, nobody knows the causative agent of Lyme disease, and intensive studies to determine it are under way at Yale and Harvard. The *I. dammini* and *I. scapularis* species of ticks are prevalent in Connecticut, Massachusetts, Martha's Vineyard and Nantucket Island. In fact, the disease was named Lyme arthritis because it was first discovered in and around Lyme, Connecticut in 1975.

Now, these species of ticks are being found on Long Island and, Dr. Stoner says, "either they're spreading, or they are just being identified here." The *I. dammini* spends its larval stage on white-footed mice, and as an adult attaches itself to deer. In the nymph part of its life cycle, humans can be the objects of bites.

Ticks also serve as vectors of organisms resulting in such other diseases



Adult tick, *Dermacentor variabilis* (magnification 15x). This species has very short and broad mouth parts. Magnifications by George Schildovsky, Medical Dept.

as relapsing fever, spotted fever, babesia, tularemia, and encephalomyelitis.

During the summer months, it is difficult to avoid these pests. If one must go in tick-infested areas, protective clothing is still considered the best protection, and some tick repellent sprays are available. Pets should be inspected regularly, and prompt and proper removal of ticks is a must for everyone.

Light Source

(Cont'd)

of time the NSLS can be used for proprietary research, unless it starts crowding basic research, the paramount objective in establishing the facility.

Under Project Head Arie van Steenberg, construction of the Light Source is proceeding on schedule. Users hope to be working at the Vacuum Ultraviolet ring by July 1981, and at the x-ray ring by October of the same year.

Slice And Serve

Two Vermont resorts are offering BERA members a 10% discount on advertised rates at a tennis school in Killington and a golf school at Mount Snow. BNL ID will be required on registering at the resorts. During the summer months, weekend and five-day programs are run continuously for both sports. Brochures are available from the BERA Sales Office in Berkner Hall.

IAEA Notices

Periodically, the International Atomic Energy Agency posts notices of openings on its technical and administrative staff. These positions are generally for a period of two years in Vienna. Anyone interested in investigating the openings should contact the Office of Scientific Personnel, Bldg. 460, ext. 3338. OSP maintains a file of IAEA vacancy notices which describes the appointments available in some detail.

In Memoriam

It has been learned that Nils E. Segerdahl, a former Technical Specialist in the Accelerator Department, died May 13 in Sarasota, Florida at the age of 78. He is survived by his wife, Valborg, who retired from the Medical Department in 1966.

Child Alert

The BNL summer season has started and that means a lot more people on site. Among this influx of summer visitors are a number of small fry who may be charging around site on foot, and on bicycles.

In the interest of safety, BNL drivers are hereby alerted to the presence of these children for the next few months, and should drive accordingly. At the same time, parents are asked to see to it that their children stay in the housing area, and not roam around the core of the site.

Arrivals & Departures

Arrivals

Ravindra L. Arudi	Chemistry
Peter H. Daum	Energy & Env.
Edward G. Gallagher	Adm. Sys. & Data Proc.
Payton T. King	Medical
Claire A. Lamberti	Energy & Env.
Karl Sieradzki	Nuclear Energy
Joseph E. Tuozzolo	Accelerator

Departures

Anthony S. Albanese	Energy & Env.
Walter Bernatzky	Medical
Juanita C. Johnson	Applied Math.
Anne F. Nauman	Biology
Carl C. Otto	Medical
Young S. Park	Nuclear Energy
Patricia A. Pecchio	Accelerator
Metzi L. Shea	Energy & Env.
Thomas J. Ruth	Chemistry

Weekend Tour

Nuclear medicine is the topic of this weekend's mini-tour at the Medical Department. Scientists will describe various nuclear techniques used to analyze and solve medical problems. The whole body counter will be on view, and two short movies will be shown on neutron activation analysis. A radionuclide generator will be demonstrated, and two and three dimensional imaging systems will be explained.

In addition to the mini-tour, visitors will see a slide show, "Brookhaven's Quest;" take a guided bus tour around the Lab site; and visit the Exhibit Center.

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IBEW Meeting

Local 2230, I.B.E.W. will hold its regular monthly meeting on Monday, June 30, 1980, at 8:00 p.m. in the Knights of Columbus Hall, Railroad Ave., Patchogue. There will also be an afternoon meeting at 2:00 p.m. for shift workers in the Union office at 31 Oak Street, Patchogue. On the agenda will be regular business, committee reports and the President's report. Please note date.

Pool Schedule

Starting on Monday, June 30, the following swimming pool summer schedule will be in effect:

Monday through Thursday

- 11:00 a.m. to 1:30 p.m.
employees only
- 1:30 p.m. to 3:00 p.m.
children's swimming lessons
- 3:15 p.m. to 9:30 p.m.
employees/family members/guests

Friday

- 11:00 a.m. to 1:30 p.m.
employees only
- 1:30 p.m. to 3:00 p.m.
children's swimming lessons
- 3:00 p.m. to 4:00 p.m.
children's special events
- 4:15 p.m. to 9:30 p.m.
employees/family members/guests

Saturday and Sunday

- 1:00 p.m. to 6:00 p.m.
employees/family members/guests

An employee is permitted to bring one guest per visit. Advance arrangements may be made for additional guests (maximum of five per visit) at the Recreation Office in Personnel.

Fee Schedule

- Daily Admissions:**
\$1.25 employee/family member
\$1.75 guest
- Season Tickets** (for employees and immediate family members):
\$20.00 individual
\$30.00 family

Season tickets are sold at the pool during open hours and are valid through August 31, 1980. (Costs are not pro-rated.)

Note: Due to the Independence Day holidays, the pool will be closed on Thursday, July 3 through Sunday, July 6.

Looking For Mr. Bad Bar

When you shop for food, what packaging information do you read? None? All? Some?

According to an NSF-funded study by a behavioral scientist, consumers pay more attention to information on what's harmful - not good - for them.

Based on a combination of older and newer reports, consumers apparently want to know more about harmful contents such as cholesterol, sugar, salt, high caloric content and chemical additives.

Conclusions were drawn from data gathered from 7,000 interviews with shoppers at checkout counters, and video recordings of how long shoppers will spend reading posters containing nutrition information about various foods. The majority of shoppers ignored the prominently displayed poster. Of the small number who stopped to read, as much as 50 percent lingered for almost a full second.

The final results of the study will be sent to regulatory agencies, such as the Food and Drug Administration.

Blood Drive In Gear



With Blood Drive Coordinator Len Emma (left), are the first donors to sign up for next week's blood drive. From left, they are Pilar Alverio (Staff Services), Peter Garcia (Police) and Helen Caisey (Director's Office). The blood drive will be held Wednesday and Thursday, June 25 and 26 in the gymnasium from 10 a.m. to 3 p.m. Drive organizers said pledge cards are due today, but phone appointments (Ext. 3334) can be arranged up to the 25th. Walk-in donors are urged to come in the afternoon, to avoid overcrowding.

Doug Humphrey

Cafeteria Menu

Week Ending June 27, 1980

Monday, June 23	
Corn chowder	(cup) .45 (bowl) .55
Beef chop suey on rice	1.40
Scrambled eggs, sausage & fries	1.35
Hot Deli - Roasted turkey breast	(on bread) 1.40 (on roll) 1.50
Tuesday, June 24	
Cream of tomato soup	(cup) .45 (bowl) .55
Roast chicken w/stuffing & 1 veg.	1.45
Beef liver & onions & 1 veg.	1.35
Hot Deli - Barbequed beef	(on bread) 1.40 (on roll) 1.50
Wednesday, June 25	
Beef noodle soup	(cup) .40 (bowl) .50
Broiled fillet of fish & 1 veg.	1.45
Chopped steak & 1 veg.	1.35
Hot Deli - Grilled Reuben	1.45
Thursday, June 26	
Mulligatawny soup	(cup) .40 (bowl) .50
Manicotti & 1 veg.	1.40
Braised beef w/veg.	1.50
Hot Deli - Smoked baked ham	(on bread) 1.40 (on roll) 1.50
Friday, June 27	
Bouillabaisse	(cup) .50 (bowl) .60
Spaghetti & clam sauce	1.35
Breaded pork chop w/applesauce & 1 veg.	1.50
Hot Deli - Fried fillet hero	1.45

CREF Values

September	44.60	October	41.18
November	42.56	December	43.19
January	45.37	February	44.59
March	40.33	April	41.82
May \$43.70			

Grounded Today

An assortment of radio controlled model airplanes will be on display today, June 20, at Berkner Hall. The R/C Model Aircraft Club is hosting a static show in Rooms B and C, from 11 a.m. to 2 p.m. Club members will be on hand to talk about their craft and answer questions.

Equipment Display

The Exxon Corporation will exhibit its latest word processing equipment on Monday, June 23 from 10 a.m. to 4 p.m. in Berkner Hall, Room C.

Anyone who is interested in some of the latest office technology is invited to attend.

Tennis

Players should note the correct time for reserving courts at the BERA Sales Office, the day before play, is 12:15 p.m., and not at noon, as reported last week.

Softball

League I

- Blue Jays 3 - Source I 0
- Ravens 10 - Deegenerates 5
- Blue Jays 7 - Phoubars 2
- Source I 9 - Six Pax 4

League II

- Titans 9 - AMD 8
- Moles 19 - Dirty Sox 1
- Roga 14 - Cardinals 5

League III

- Ice Pops 11 - Huff & Puff 3
- Nuke Powers 12 - Brew Masters 8
- Medical 20 - Binary Bombers 10
- Big Sticks ? - Lights Out ?

League IV

- Diamonds 28 - Turkeys 6
- E-Riders 15 - Nads 7
- Balls & Strikes 13 - Thrids 5
- Survivors 9 - Random Sample 6

League V

- Who's On First 29 - No Feedback 18
- TNT 5 - Underalls 3
- Source III 18 - Mudville Sluggers 8
- Who Cares - No Names
- Game called due to rain.

Gym

Closing

Due to the Annual BNL Blood Drive which will be held in the gymnasium, the facility will be closed to all athletic activities starting at 8:00 a.m. on Tuesday, June 24, and extending through Friday, June 27, at 5:00 p.m.

This closing will not affect the swimming pool schedule or usage of the pool and gym locker rooms.

Men's Lockers

Rental renewals for men's lockers are due no later than Monday, June 30.

Anyone who presently has a registered locker but has not received a notice for renewal through the intra-office mail should contact Rae Marie Stelts, ext. 3347, as soon as possible.

NYC Train Trip

The Hospitality Committee is planning a group railroad trip to the city on Wednesday, July 2. Departure will be at 7:55 a.m. from the Patchogue LIRR station. Round-trip fare is \$2.45, children under six years ride free.

Reserve a ticket by sending your fare through the U.S. mail to P.O. Box 322, Upton, New York 11973, no later than Thursday, June 26. Make checks payable to "Brookhaven National Laboratory." Your tickets will be given to you on the train. Refunds will be made only if cancellations are received by the Friday preceding the scheduled trip.

Children's Program

Registration applications for the 1980 Children's Summer Program may be picked up at the BERA Sales Office in Berkner Hall or at the Recreation Office in Personnel.

Attached to the registration application is an information sheet giving complete details of program activities.

It is requested that registrations (especially for swimming instruction) be submitted to the Recreation Office prior to opening day, Monday, June 30.

So Long, Herman



Doug Humphrey

Herman Bjornstad, who has worked at Paul Lindsay's service station for 16 years and 10 months, will retire on July 2. He is 62 years old. This will be his second leave-taking of the site; the first was after his induction into the Army at Camp Upton in 1941. Bjornstad came to BNL when the service station was opposite the bank. After all these years of repairing cars and pumping gas, Herman says he now plans to rest at his home in Mastic.

