

## Chinese Scientists Here To Study Accelerators

8-54-78



A delegation of accelerator specialists from the Peoples Republic of China arrived at Brookhaven on July 31 to become acquainted with our accelerator research and development. This week they attended orientation lectures on the design and operation of the AGS. The scientists are affiliated with the Institute of High Energy Physics of the Chinese Academy of Sciences and are visiting BNL after completing their stay at Fermilab. This delegation will form the nucleus of the team that will build China's first high energy accelerator.

## Mobile Medical Unit Will Go Where Needed

Staff members from the Medical Department will "hit the road" in a few months, traveling to Colorado to examine industrial workers who have been exposed to cadmium—a toxic metal which can cause kidney damage and may play a role in the development of high blood pressure and emphysema. They will be using a new mobile neutron activation facility which can go anywhere in the country to test the levels of cadmium found in the livers and kidneys of living persons. The mobile unit, now under construction, will be the only one of its kind in the United States.

Cadmium has many industrial uses and is found in many products in common use. A rust inhibitor, it is often used for plating or galvanizing metal. It is present in aluminum solder, in many paints and pigments, and in certain types of batteries and light bulbs.

It is also highly toxic—so much so that its potential as a weapon (in the form of cadmium oxide fumes) was considered during World War II. Acute cadmium poisoning—either from inhaling fumes or from ingesting heavily contaminated food or water—can kill a person within 24 hours. Acute

at the Lab for the last year and a half. The existing facility was designed and built by Ken Ellis and David Vartsky of the Medical Department, and is the only machine in the country which can make direct measurements of cadmium in the liver and kidney of living subjects.

When the facility is used for kidney measurements, Ellis explained, the patient lies on a bed which is positioned above the neutron source. The source is shielded in such a way that the subject's kidney is exposed to a collimated beam of neutrons. As neutrons pass through the kidney, they are absorbed by the nuclei of the cadmium atoms present in the organ. In the "capture" process, the cadmium gives off gamma rays which can be counted by special detectors placed next to the bed. The process takes about half an hour.

The neutron source consists of two 1½'-long cylinders made of double-welded stainless steel and containing a mixture of plutonium 238 and beryllium, said Stanton Cohn, head of the Medical Applications of Nuclear Technology Group. The source for the mobile unit is being manufactured by Monsanto Chemical Corporation, using

**WEEKEND TOUR**  
A team of scientists, engineers, and technicians from the Accelerator Department have built a prototype Heliostat that can track the sun across the sky. The Heliostat, a 16-foot reflecting mirror, concentrates solar energy and redirects it to a target which collects the energy. In addition to seeing the actual Heliostat, weekend visitors will view a film showing its ability to concentrate solar energy on targets.

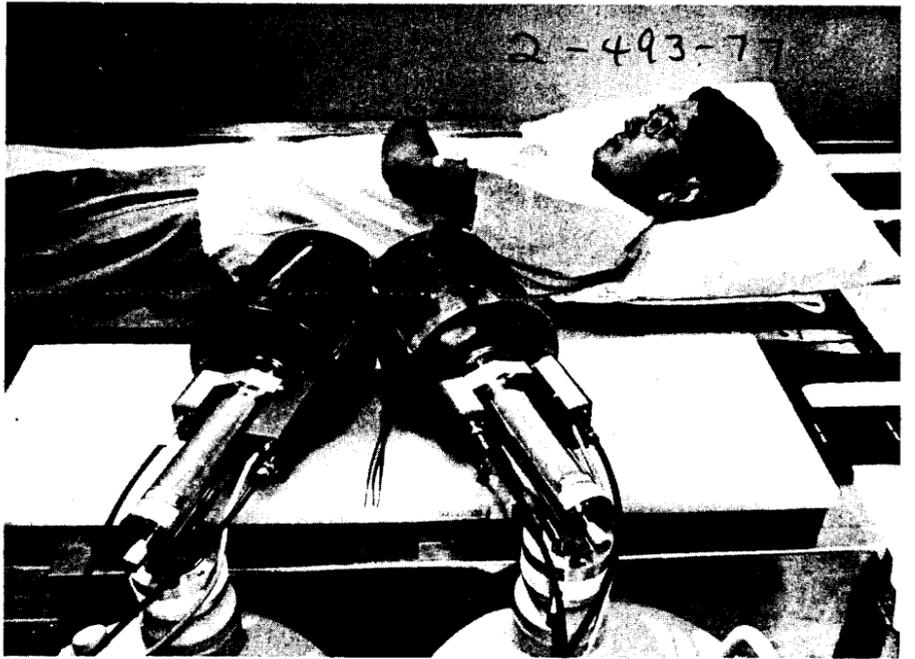
**EXHIBIT CENTER**

## Union Contract Ratified

At their regular monthly meeting on July 27, members of the IBEW Local Union 2230 voted in favor of ratifying a new one-year labor agreement with the Laboratory. IBEW Local Union 2230 represents employees in Plant Engineering, Central Shops, Supply and Materiel, the Fire Department, and Staff Services.

A wage increase of 7.3 percent is effective Monday, July 31. Other changes, which will be made applicable to all eligible Laboratory personnel, are as follows:

- (1) maximum basic payments under the medical insurance plan for diagnostic X-rays or laboratory tests will be increased from \$150 to \$250 for each accident, and from \$150 to \$250 for all diseases during any period of 12 consecutive months; and
- (2) previous periods of three or more years of continuous service with the Laboratory will be counted in computing the vacation accrual rate of employees who are rehired.



The new mobile unit will contain a prompt gamma ray analysis facility similar to this one, which is now in operation in the Medical Department. The two detectors in the foreground count the gamma rays given off by the cadmium in the subject's left kidney.

## Inside Info

Eric B. Forsyth, Division Head, Advanced Technology Applications, has been elected a Senior Member of The Institute of Electrical and Electronics Engineers. Approximately 12% of the over 180,000 members have been elected to this highest grade of IEEE membership.

## Working For Strong Affirmative Action Programs

8-1-78



Members of the 1978-79 Affirmative Action Advisory Committee are from left (seated), Gregory Bagley (Accel.), Angela Garcia - Secretary (C&P), Frances Scheffel - Chairperson (DNE), Clarence Robbins (S&M), MacHarrell Thomas (DEE), John Grisoli (Accel.), Janet Whitehead (Asst. Personnel Mgr.); (standing) Harvey Thomas (Asst. to the Director for Affirm. Action) and Maurice DuBois (Fiscal). Ellen Cherniavsky (DEE) and Herman Haller (PE) are also members of the committee. Harvey Thomas and Janet Whitehead serve as ex-officio non-voting members. The nine-members are appointed by the Director to advise him on the effective administration of the Laboratory's affirmative action programs of recruitment, placement, training and upgrading, and to make recommendations for the improvement of these programs.

—photos by Reben

poisoning is now relatively rare, but the effects of long term exposure to lower levels of the metal are a growing source of concern to environmental health specialists.

When we are born, our bodies are essentially free of cadmium. But, due to industrial pollution, cadmium has entered the environment and the food chain, and traces of the metal are now found in the air we breathe and in much of the food we eat. Cadmium has an unusually long biological half-life (about 30 years) and as we grow older, it accumulates in our bodies until, as adult Americans, we have a total body burden of about 30 mg of cadmium. About half of the total body burden is sequestered in the liver and kidneys. The highest concentration is present in the kidneys, where it is known to cause renal damage at high levels.

Everyone is exposed to traces of cadmium released by pollution into the environment. But the Americans who run the greatest risk of ill effects from cadmium exposure are the 100,000 people who work in industries which process the metal or use it in the manufacturing of other materials. It is this group of industrially exposed workers that the Medical Department will measure with the new mobile facility.

The heart of the mobile unit will be an irradiation and counting facility which measures cadmium levels with a neutron activation technique called "prompt gamma ray analysis." The facility (which uses a plutonium 238-beryllium source) will be similar to one which has been in operation

plutonium 238 obtained from Oak Ridge National Laboratory.

The BNL group has had many years of experience in the *in-vivo* measurement of calcium, phosphorus, sodium, and chlorine by neutron activation employing plutonium 238-beryllium sources. This work suggested the possibility of measuring metals in the body by a modification of the technique. Thus, they were the first to measure cadmium levels in the kidney of living man by prompt neutron activation analysis.

This technique provides unusual sensitivity, allowing measurement of both high industrial levels of cadmium, and lower levels that fall within the "normal" range. The plutonium-beryllium source is very reliable and provides a fixed output of neutrons so that constant dose monitoring is not needed. And since the equipment is quite compact, the new mobile facility will be easily transportable in its special trailer.

The trailer is now being built by Medical Coaches Inc. (of Oneonta, N.Y.) and will be delivered to BNL in about two months. It will be about 30 feet long and towable by a regular one-ton pickup truck. Air conditioning and a heating system will make it suitable for use year 'round, in all climates, and electrical power will be available either by external hook-up or through the trailer's own generator system.

Inside the trailer, a rear compartment will contain the neutron source, shielding, and the detector system for performing cad-

(continued on page 2)

8-129-78



The North Room of Theodore Roosevelt's Sagamore Hill estate: "After all," he once said, "fond as I am of the White House, there isn't any place in the world like home - like Sagamore Hill."

## A Visit To Sagamore Hill

The gong is gone, no one eats at the dining table and the pages of the books are no longer turned. Although 50 years have passed since President Theodore Roosevelt's home at Sagamore Hill has been occupied, there remains, however, a sense of life lived in a grand, full way.

Completed in 1885, the expansive Victorian estate cost \$30,000 and was designed by the New York firm of Lamb & Rich. The President, his wife Alice and their six children lived most of their lives in their home at Sagamore Hill, Long Island.

Theodore Roosevelt was an extremely active man, politically, socially and athletically. The effects he left upon his death in 1919 attest to his interest in hunting, learning, sports and philanthropy. Possibly the most impressive room in his home is the 1905 addition known as the North Room, in which are many of TR's artifacts. The North Room is a very large room, paneled in mahogany, black walnut, swamp cypress and hazel. The room and the entire home is quite dark and cluttered in the customary Victorian style. TR filled the North Room with his trophies, skins, and books including his hat and gun used in the charge up San Juan hill.

There are over 5,000 books in the home. Visitors might wonder when, amidst all the reading, the family found time to lead the "strenuous life" TR advocated for himself and his children.

One of the principal rooms on the first floor is Mrs. Roosevelt's Drawing Room which is a large, delicately furnished room containing none of the hunting artifacts which clutter TR's personal study and the North Room. The only skin in the Drawing Room is a polar bear rug which was given Mrs. Roosevelt by Admiral Robert Peary.

The dining room is set for the family of eight who, it is said, despite busy personal schedules attempted to convene at each meal and especially for breakfast when a gong, held in place by two tusks, was struck promptly at 8 a.m.

Outside, the historic piazza affords a very fine view of the surrounding marine area. It is the spot where Roosevelt was notified of his nomination for governor of New York in 1898, for Vice President in 1900 and for President four years later.

From the piazza, visitors may proceed to the second floor. To do so, you must pass through a hallway where recently, historians with good eyes and flashlights looked for places where the original paint has been untouched. In an effort to restore the home to closely approximate its original state, intact wall paint is sought in this way. In fact, \$10,000 has been appropriated for restoring the hallway alone.

The family kitchen is a pleasant, unassuming place. It is outfitted with the usual appointments, including a large hearth and pantry. Electricity was not brought to Sagamore Hill until 1919 because the Roosevelts preferred a more rustic atmosphere. For this same reason, the family also did not have a telephone until quite late. It became obvious, however, when TR was elected President that politics would overrule their personal preferences and a telephone (#67) was installed in the early 1900's.

The family bedrooms are located on the second floor. There was at one time only one bathroom for the eight-member household in which was a very large porcelain tub, dubbed "sarcophagus" by one of the children. The room of the eldest Roosevelt daughter, Alice, is neat, airy and contains a rocking chair, photos and books. In the next room was her younger brother Quentin. Quentin's is considered a typical boys room of the period and, again contains many books.

Also on the second floor is the sunny, southern bedroom used especially in the winter months. In it is the Shaker rocking-chair which was a family favorite. There is the very large master bedroom which seems suited to a President and avid outdoors-

men. The furniture is highly polished and ornate. Starched towels with the monogram, "R of S," for Roosevelt of Sagamore, are draped over the racks.

A nursery and school room are also located on the second floor in addition to the cook's and maids' rooms. In each case, the rooms are full of the original furnishings and contribute to the sense that Sagamore Hill, unlike other sprawling estates, was truly lived-in and not simply maintained for appearances.

On the third floor is the Gun Room which houses many of Mr. Roosevelt's hunting arms collections. A view of the Bay, the Sound and the Connecticut coast is afforded from the Gun Room's windows. Mr. Roosevelt enjoyed having his children visit him in his study.

In all, the home of Theodore Roosevelt at Sagamore Hill is what a visitor might anticipate. It suggests the grandness of its owner's tastes and interests while providing a sense of family life and comfort at the same time. Even in the rain, a visit to Sagamore Hill and the Old Orchard Museum is very worthwhile.

By car, Sagamore Hill can be reached by taking Long Island Expressway Exit 48 (NY 106 North). This road leads directly to Oyster Bay. Upon arriving, turn right at the third traffic light and follow the signs to Sagamore Hill.

The Planting Fields Arboretum is also located in Oyster Bay. This horticultural center features guided tours, nature trails, collections of camellia, rhododendrons, dwarf conifers and herbs, and a synoptic garden. The 400-acre arboretum is located on the former private estate of the late William Robertson Coe. Open daily throughout the year, the arboretum charges a \$1.50 admission for visitors over 12 years old.

—Rosanne Pagano

## Service Awards

The following employees will receive service awards during the month of August.

### Thirty Years

Murray J. Klein..... Reactor  
Smith G. Pearsall..... Safety & Envir. Prot.

### Twenty-Five Years

Walter R. Jacobs..... Accelerator  
Charles O. Theisen..... Accelerator

### Twenty Years

Benon H. J. Bielski..... Chemistry  
John Ferrero..... Central Shops  
Leon Green..... Nuclear Energy  
Blanche R. Laskee..... Personnel  
Dorothy C. Luther..... Plant. Engr.  
Benjamin Magurno..... Nuclear Energy  
Paul A. Michael..... Energy & Environment  
Edward A. Pluta..... Central Shops

### Ten Years

Victor D. Bremenkamp..... AUI - Wash.  
Mary Doroski..... Systems & Data Proc.

## Lost

During the week of June 19, 1978, a BNL report may have been delivered to the wrong building. S&EP is looking for report number BNL 50796, Radiological Analyses of Marshall Islands Environmental Samples, 1974-1976, N.A. Greenhouse, R.P. Miltenberger, F.T. Cua.

If you locate a box containing 75 copies of this report, please notify us at Ext. 4207.

## Medical Unit

(Continued)

mium measurements. The forward compartment will contain additional scanning equipment and will also serve as a mini-clinic for brief examinations of the industrial workers. Initially, the staff members will number three or four, and at least one M.D. will be among them.

Safety precautions in the trailer (in addition to elaborate shielding for the source) will include burglar, fire and radiation alarms, and the installation of a CB radio.

The first trip for the new mobile unit—to a zinc smelting plant and cadmium refinery in Denver—is tentatively slated for late this fall, said Cohn. The trip was arranged through the International Lead Zinc Research Organization (ILZRO).

The first tests, said Ellis, will be done on workers who have already taken part in other research studies on the effects of cadmium. One of the things that BNL will be looking for is a relationship between liver and kidney cadmium measurements, and other previously performed tests, such as cadmium levels in the blood and urine.

"So far, at normal exposure levels," he said, "we've seen no definite relationship between the total body burden of cadmium and the amount that can be measured in the blood and urine. In a year, we'll know more definitely if a relationship exists."

An added advantage of the prompt gamma analysis facility, said Cohn, is the fact that it can easily be modified (by using different detectors) for use in measuring total body nitrogen. It also has the potential for use in measuring mercury levels in the body, he said.

Although cadmium's effect on the kidneys is well established, its role in the development of other diseases is less well understood. At Brookhaven several members of the Medical Department are involved in research of the effects of cadmium exposure. A group headed by Cohn has just completed a study which shows that cigarette smokers actually double their body burden of cadmium: each cigarette contains between 1 and 2 micrograms of the metal, and smokers retain half of that amount in their bodies. Junichi Iwai is among the researchers who are seeking to establish whether exposure to cadmium plays a role in the development of high blood pressure. Cadmium is also suspected of involvement in emphysema, and Italo Zanzi and Julio Acevedo are currently studying patients in the Medical Department's pulmonary program, to see if this is indeed true.

## Notice

The Safety Glasses office will be closed on August 9.



The monument at Mt. Rushmore is larger, but TR's pose is the same. This bronze bust, on view at the Old Orchard Museum located on the Sagamore Hill grounds, is among diverse "Roosey" memorabilia including photos and furnishings from the home.



"I wished a big piazza, where we could sit in rocking chairs and look at the sunset," remarked TR in the late 1880's when drawing up plans for his 23-room Victorian home on 95 acres.

8-134-78

# BROOKHAVEN BULLETIN

Published weekly for the employees of  
BROOKHAVEN NATIONAL LABORATORY

**BERNICE PETERSEN**, Editor  
**ANNE BAITTINGER**, Staff Writer  
**DOUG HUMPHREY**, Photo-Journalist

40 Brookhaven Ave., Upton, N.Y. 11973  
Telephone (516) 345-2345

**CARL R. THIEN**, Public Relations Officer

## More On King Tut

There appears to be some confusion about the notice that appeared in the *Bulletin* last week concerning the group tours of the King Tut exhibit. Some explanation is in order.

The reservations were sent to the Met in the proper form and at the proper time and there was no suggestion that a limit would be imposed. Our sources say that the Museum has now received about 400,000 requests for the Monday tours, considerably more than can be accommodated. To date, they have accepted 160 reservations from Brookhaven and we are given to understand that that is all we are likely to get. However, even this is not yet clear.

When everything settles down, the names of the 400 who sent in reservations through Brookhaven will be entered in a drawing for whatever number of slots are finally allocated to us. As soon as this is firmly established, the drawing will be held and the names of the winners published in the *Bulletin*. The unlucky ones will get a refund.

## Upton Nursery School

The Upton Nursery School, a cooperative preschool for the three and four year old children of BNL employees, will begin classes in mid-September. Children attend school, at the Recreation Building, two or three mornings a week. They participate in a varied program including art, music and outdoor activities, as well as an occasional field trip.

The teachers are experienced professionals and the classes are small enough for each child to receive individual attention. The teacher is assisted by one parent in each class at each session. Parents cooperate in the running of the school and this allows tuition fees to remain low.

At present the three year old classes are filled, and there is a waiting list. The four year old classes have openings. If you are interested in enrolling your child, please call Marie Murtagh, 821-9587, for further information.

## Cafeteria Menu

### Week Ending August 11, 1978

<b>Monday, August 7</b>		
Tomato vegetable soup	(cup)	.30
	(bowl)	.40
Chicken chow mein on rice		1.20
Grilled ham steak and 1 veg.		1.30
Hot Deli - Pastrami	(on bread)	1.15
	(on roll)	1.25
<b>Tuesday, August 8</b>		
Cream of potato soup	(cup)	.30
	(bowl)	.40
Meatloaf and 1 veg.		1.20
Macaroni and cheese and 1 veg.		1.10
Hot Deli - Corned beef	(on bread)	1.25
	(on roll)	1.35
<b>Wednesday, August 9</b>		
Vegetable beef soup	(cup)	.30
	(bowl)	.40
Tuna noodle casserole		1.20
Lemon baked chicken and 1 veg.		1.20
Hot Deli - Veal & Peppers Hero		1.25
<b>Thursday, August 10</b>		
Chicken noodle soup	(cup)	.30
	(bowl)	.40
Sweet and sour pork on rice		1.30
Salisbury steak and 1 veg.		1.25
Hot Deli - Baked Virginia ham		1.25
	(on bread)	1.25
	(on roll)	1.35
<b>Friday, August 11</b>		
New England clam chowder	(cup)	.40
	(bowl)	.50
Broiled filet and 1 veg.		1.20
Roast sirloin of beef and 1 veg.		1.40
Hot Deli - Meatball and Peppers Hero		1.25



Hear Jane Love and Bob Kinsey sing songs from vaudeville's heyday.

## Vaudeville Night!

Light the lights, roll the drums, the Lab Theatre Group presents an Evening of Old Time Theatre in a Cabaret setting at Brookhaven Center, Saturday, August 12 at 8:30 p.m. Tickets may be purchased at the door for \$2. This is a good way to spend a summer evening—songs, dances, magic, clowns and snappy patter—The Best of Vaudeville, or Who Threw the Overall's in Mrs. Murphy's Chowder—One performance only—DON'T MISS IT!!



Behind that well known leer is Joseph Indusi.

## Hospitality News

A morning coffee will be held on Monday, August 7, from 9:30 to 11:30 a.m., in the Brookhaven Center.

All wives of Laboratory employees are welcome. Please come and bring the children. Babysitting will be provided free of charge. It is suggested that you bring along a toy or two for your child to play with.

## Folk Dancing

Everyone has been having a great time! Come out and join us, Tuesday August 8 at 8 p.m. in the Brookhaven Center North Room, even if you have never folk danced before. Dances are taught and directed by Walter Kane. For more information call Jolie, Ext. 3723 or Walter, Ext. 3841.

## Summer Rec Program

### On-Site Program

Treasure Island was alive again last Friday morning when the kids of the Apartment Area searched for hidden goodies with the help of maps and clues provided by the pirate counselors. As cryptic as the clues were, and undaunted by thunder, lightning and rain, the searchers were clever enough to seek out every nook and cranny and come up with all the treasures that the ghost of Captain Kidd had hidden away.

### Coming Events:

This week - Olympics Day  
Next week - Halloween Day

### Pool Special

While the older children displayed their various talents by executing zany dives off the diving board, the younger ones had their share of fun reaching the finish line of the ever popular paper plate race. The winners were:

<b>Crazy Dive</b>	
1st	Allison Niederer
2nd	Sean Holden
3rd	John Sondericker
<b>Paper Plate Race</b>	
4 to 6 year olds	
1st	Keith Holden, Melanie Epel
2nd	Tim Fox, Kathleen Holden
3rd	Ernesto Fontenla, Amon O'Grady
7 to 9 year olds	
1st	Megan Holden
2nd	Jennifer Smith

## Arrivals & Departures

### Arrivals

Francis W. Ascolese	Accelerator
Robert A. Chmiel	Accelerator
Hwei-Lin Hong	Energy & Env.
Raymond C. Karol	Reactor
Ronald S. Longacre	Physics
Elbio R. Schachner	Medical
Maria C. Srivastava	Accelerator
Gerard E. Tanguay	Accelerator
Martin H. Woodle	Accelerator
Demetrios Voreades	Biology
Chaing Yuan Yang	Energy & Env.

### Departures

Thomas J. McMahon	Energy & Env.
Allan L. Rosenthal	Biology
Julius Stapon	Plant Engrg.
Martha Tsien	Director's Ofc.

## Tennis

In the BNL Tennis Tournament this past weekend, more than 60 matches were completed in men's and women's singles, mixed doubles and men's doubles. Quarter-final matches will be held in all events on Saturday starting at 0830 hours, followed by semi-finals on Sunday. Good weather has again been requested for the weekend and for finals week August 7-11.

## Softball

### LEAGUE I

#### Six Pax 9 - Dirty Sox 6

Ken Asselta went 3 for 3 and Charlie Bohnenblusch Jr. had a home run for the Six Pax.

#### Phoubars 16 - Ravens 14

#### AMD 10 - Titans 4

### MIXED LEAGUE

#### Thrids 12 - Diamonds 10

A long, long time ago (last week) at the softball field not too far away, a big defensive battle raged for 8 innings. Exciting plays were provided by the females. Thrids slugger Dave Lieberman was robbed of a double by a great catch by the Diamonds right fielder, Carey Miller. At second base, Cheryl Miezianka robbed the Diamonds of several base hits as she made fantastic stabs at hard hit grounders. A good effort was put forth by the players on both teams.

#### Oh Kays 17 - E-Z Riders 3

Just an all around well played game. Home runs were made by Bootie Woodson, Bob Brown and Jim Garrison. A couple of nice double plays were made by Jim Garrison at short stop and Reggie Hunt at first base.

#### Balls & Strikes 4 - Trouble II 3

#### Who's on First 18 - TNT 15

An excellent game played by all.

#### Turkeys 14 - Who Cares 12

Turkeys pulled one out in extra innings. Beth Salata made a good catch at home plate. A three-run homer by Harry Ackerman saved the game.

### MIXED LEAGUE

#### (Make-up Game)

#### Oh Kays 10 - Who Cares 9

In a 4½ inning game (called on account of darkness) the Oh Kays came from behind to win the game.

## Think Bowling

BERA sponsored bowling leagues are now being formed for the fall season. There are men's, ladies' and mixed leagues with room for bowlers of all abilities.

Entry blanks have been mailed to last year's captains. New teams wishing to enter may obtain entry blanks at the BERA Sales Office in Berkner Hall.

The number of alleys available is limited, so if you would like to join in the fun the earlier you get your entry in the better!

If you are not a member of a team but would like to bowl, call Carol Beckner, extension 3483, who will try to match you with a team.

Note: Wives of BNL employees are eligible to bowl in the Port Jeff ladies' leagues.

## Women Bowlers

There are still several openings in the BERA Monday night Ladies League in Selden. Interested bowlers please call Bea Pyatt, Ext. 3592 or Doris Pion, Ext. 3639.

## Runner's Corner

The Town of Brookhaven is sponsoring a 7.6 mile run in Setauket on August 12 for town residents only. Registration is from 7:30 to 8:30 a.m. at the Main Street School in Setauket with the race starting at 9 a.m. There is no registration fee. Trophies will be awarded to the top five in various categories. T-shirts will be awarded to the first 500 finishers. For further information, call Ted Landry, Ext. 2959.

The club is holding a marathon-preparation meeting in Room D Berkner Hall on August 11 at noon. The group will discuss training and plans for upcoming marathons. All those interested in marathoning are invited. Bring your lunch, notebook and ideas.

## Classified Advertisements

### Placement Notices

The Laboratory's placement policy is to select the best-qualified candidate for an available position, with consideration given to candidates in the following order of priority: (1) present employees within the department, with preference to those within the immediate work group; (2) present employees within the Laboratory as a whole; and (3) outside applicants.

Each week, the Personnel Office lists new personnel placement requisitions. The purpose of these listings is, first, to provide open placement information on all nonscientific staff positions; second, to give employees an opportunity to request consideration for themselves through Personnel; and, finally, for general recruiting purposes. Because of the priority preference policy stated above, each listing does not necessarily represent an opportunity for all candidates. As a guide to readers, the listings are grouped according to the anticipated area of recruitment, as indicated below. Except when operational needs require otherwise, positions will remain open for one week following publication date.

For further information regarding a placement listing, contact the Personnel Placement Supervisor, Ext. 2882.

**LABORATORY RECRUITMENT:** Opportunity for present Laboratory employees.

**740. OFFICE SERVICES ASSISTANT** - Responsible position with growth potential. Diversified duties include maintenance of logs and records, information gathering, telephone work. Requires relevant experience plus good organizational ability; technical orientation desirable. Central Shops Division.

**741. OFFICE SERVICES ASSISTANT** - Requires excellent office and communications skills. Industrial Medicine Clinic, Medical Department.

**742. SECRETARY** - Requires excellent office skills. One-half time position. Safety and Environmental Protection Division.

**743. AUTOMOTIVE OFFICE CLERK** - Staff Services Division.

**OPEN RECRUITMENT:** Opportunity for present Laboratory employees and outside applicants.

**744. DEVELOPMENT ENGINEER** - Requires BS or its equivalent in electrical engineering or physics. Background in circuit design and testing desirable. Recent graduates considered. ISABELLE Project, Accelerator Department.

**745. DEVELOPMENT ENGINEER** - Requires BSEE or its equivalent and broad experience in the field of fast high voltage, high current excitation circuits. National Synchrotron Light Source, Accelerator Dept.

**746. CHEMISTRY ASSOCIATE** - Requires BS or equivalent. Must have experience in instrument design, construction, testing and use and background in gas chromatography techniques for atmospheric sampling. Department of Energy and Environment.

**747. PHOTOGRAPHY & GRAPHIC ARTS TECHNICIAN** - Photo composition trainee willing to work days or nights. Photography & Graphic Arts Division.

### Autos & Auto Supplies

67 DODGE CORONET - body good and runs well; 1971 TOYOTA CORONA - orig owner, 67,000 miles, needs paint and muffler, recently tuned w/ many new parts, including tires. \$525. Frank, Ext. 4173 or 281-4179.

60 FALCON - recent carb, starter, 5 good tires, auto, 6 cyl, valve job in June 77, needs shocks and body not so hot. \$75. Firm. Terry, 281-0360.

72 PONTIAC - Granville, 4 dr/HT, full power, tow bar, good mechanical, \$695, will dicker. Ext. 2599 or 821-0599.

66 CORVETTE - Classic, 2 tops, stock, new paint, top, radials, looks and runs excel. \$4750. Ext. 4701 or 271-2877.

66 FORD FAIRLANE - 40,000 mi, like new cond, p/s, p/b. 286-8512.

74 DATSUN - B210, good cond, high miles, runs well, must sell. Stan S., Ext. 4278.

RIM - 14" for Plymouth Duster. \$5. Joe, 231-8479 after 6.

67 MERCEDES BENZ - 205s, 4 spd, excel cond, excel gas mileage, must sell, best offer over \$2200. Gail, 878-4664 after 5.

69 FORD FAIRLANE - 2 dr, good cond, new starter, brakes, wheel cylinders, just tuned, \$500. Ext. 4012 or 3104 after 6.

64 PONTIAC - ('67 engine) Catalina Sta Wag, good for parts or if used for trans, needs tune-up and body work. \$75. Ext. 2907 or 698-0576.

65 PONTIAC - engine good, body fair, make offer. Mike, Ext. 4601.

71 VW SQUAREBACK - auto, am/fm, roof rack, excel cond. \$1250. 751-2655.

70 BRIDGESTONE - road machine, 175 cc, like new, \$275. 325-0837.

72 HONDA - 500 cc, 4 cyl, 8000 miles, 55 mpg, "must see" for this must sale. \$1000. Bob, 399-2621.

58 IMPALA - 4 dr, \$100. Ext. 4108.

70 TRIUMPH - GT6+, rebuilt engine, am/fm cassette deck. Ext. 2831.

75 VOLVO WAGON - Standard, am/fm CB trl, excel cond, must sell. Ext. 4042 or 821-3019.

76 FORD SUPERCAB - F-250, camper-special, auto, p/s, p/b, cap, reese hitch, 15,000 mi, like new cond, \$5200. Kurt, Ext. 4698 or 744-2097.

73 DATSUN - 1200 cpe, am/fm stereo, snows, make offer. Sam, Ext. 2675.

72 CHEVY PICK UP - 1/2 ton, newly rebuilt 283 cu in engine, 16,000 on new engine, clean in and out. \$1800. 924-4284.

**NEW & USED TIRES** - rims, repairs, MAG wheel service, reg, radial, Dunlop-Firestone, ferr instal, balance avail. Fred Usack, Ext. 4597 lunchtime or 475-4935 eves.

73 GREMLIN - 6 cyl, good trans, \$650; 73 CHEVY PICK UP - 6 cyl, 1/2 ton, green. \$1650. Ext. 2546 or 744-4047 eves.

64 PLYMOUTH - 6 cyl, reg shift, runs well. \$125. Jack, Ext. 2377 or 283-5865.

66 MARLIN - Classic Bufts only, 8 cyl, fast back, snow tires, radio, heater, a/c, one of a kind. 878-4241.

**TIRES** - pr 15x10 super Tricks w/M&H 11 1/2 slicks, \$350; pr 15x8 Corvette Rally wheels w/M&H 9" slicks, \$200. 744-3968.

69 CHEVY VAN - auto, good running cond, new battery, some rust, \$650. Joe, Ext. 2832 days or 427-9362 eves.

**TIRES** - (2) C78-13 snow tires, new \$50; (5) B78-13, \$75; rims for Ford Falcon, \$5 ea. Rex, 744-3968.

71 TVR VIXEN - hand crafted English sports car, 4 spd stick, custom wheels, am/fm Blaupunkt radio. Gwen, Ext. 3624.

69 DODGE - Coronet, 2 dr H/T, 318 engine, excel cond, tires very good, blue w/white vinyl top. Jim, Ext. 4040 or 289-0876.

74 PEUGEOT - 504, stnd, new radial tires, 2 snow tires, am/fm Blaupunkt radio, sunroof, excel cond, \$4000. Ext. 2921 or 728-9106.

77 CAMARO - blue w/white int, auto, 6 cyl, am/fm stereo, a/c, p/s, p/b, tilt steering wheel. \$4800. Jeanne, Ext. 2921 or 325-1109.

73 VEGA - good radials, auto, new exhaust, must sell. \$250. Jolie, Ext. 3723.

VW ROOF RACK - fits bug, can be bent to fit Pinto, \$5. Alan, Ext. 2924 or 821-0761.

67 DODGE POLARA - 383 V8, p/s, p/b, a/c, new tranny, ball joints, strut bushings, brakes, wheel cylinders and bearings, fuel pump, rebuilt carb. \$450. Tom, Ext. 2959.

**BRAKE DRUMS** - set of 4, resurfaced, fits Dodge and Plymouth 14" wheels. Joe, Ext. 2251.

71 PINTO - 2 dr, 4 spd, 4 new tires, new brakes, good dependable gas mileage and transportation. \$525. Ext. 2534 or 727-1346.

70 DODGE VAN - good running cond, pkwy windows, \$1600. Medina, Ext. 3284.

72 HONDA - Chopper, fully customized and chromed, continental rear, damaged. \$600. Medina, Ext. 3284.

66 OPEL STATION - good running. \$200. Ext. 3030.

74 LINCOLN - Continental Mark IV, 35,000 mi, reg gas, mint cond. \$6,000. Mike, Ext. 2575.

76 PLYMOUTH - Volare Station Wagon, V8 Premier, 27,000 mi, auto tr, p/s, p/b, 60/40 seats, am radio, \$3,500. Ext. 3767 or 744-3744.

67 AMERICAN - 6 cyl, auto, body, exterior, engine fine, tranny reverse and muffler system N.G. \$100. Rino, Ext. 2012 or 273-2958.

CHEVY - full competition small block Muncie Trans, super tricks w/M&H slicks, serious inquires only. 744-3960.

67 MUSTANG - 4 spd box, tach good cond. \$350. Colin, Ext. 4154 or 286-9616 after 6.

71 VW - squareback, new tires, muffler, brakes and battery, good cond. \$625. 325-0113.

68 PONTIAC TEMPEST - p/s, a/c, no rust, 95-96,000 mi, \$650. Will negotiate. T. Turner, Ext. 4324.

67 VOLVO - Classic P-1800S, 72 engine, maroon, good cond, \$1600. John, 472-1735 after 6.

### Boats & Marine Supplies

18' LAPSTRAKE - hard top runabout w/new trailer, \$450 or best offer. Ext. 3063 or 744-4066 after 6.

MARINE PAINT - 5 gal, gray, \$25. Ext. 4597.

76 MERCURY OUTBOARD - 40 hp, long shaft, electric w/controls, cables, gas tank and hose. \$900. 727-5467.

18' FIBERGLASS - Correct Craft, 225 C.I. Chry Marine, inboard, new navy top, very low hours, excel cond. Scott, Ext. 4364 or 878-1777.

TRAILER TIRES - tubeless, tread like new, 600 by 9, \$10 ea or 2/\$18; 400 by 8 mounted on 4 hole rim, \$12. Ext. 4058 or 286-0436.

### Miscellaneous

**YARD SALE** - Aug 5 & 6, Woodville Road, Middle Island, off Route 25, 1 block east of TSS. Large assort chairs, beds, tables, sofas, TV's, most of everything. Rhodus, Ext. 3284 or 924-3522.

**YARD SALE** - Aug 5 & 6, 10 am to 4 pm, 23 Briarcliff Rd, Shoreham. Toys, household items, guitar, etc.

**GARAGE SALE** - Yaphank, Aug 5 & 6, 2nd house from beach, Lakeside: Sofas, \$20 ea; pewter, lamps, chairs, beds, household collectibles. Ext. 3561.

**COCKTAIL TABLE** - and 2 end tables, \$130. (used 6 mos.) crib w/mattress, \$25. Ext. 4399.

12' FIBERGLASS - screen house, new; 4' rake for Garden tractor. 475-5273 after 5:30.

**BEAR BOW** - Kodiak hunter, left hand, 50 lb, like new, arrows quiver etc. Pluss, Ext. 3280.

**BEDROOM SET** - triple dresser and mirror, chest, nite table, queen size headboard, \$325. 2 yrs old, like new, pecan tone, 588-7625.

**JUV. FURNITURE** - 17"x50" dresser and 16 1/2x30" dresser, \$40 for set. Child's lamp, \$3, assorted pictures for child's room, \$5. Ext. 2447.

**NEW AMERICAN FLAG** - 5'x8', \$9. 727-1617.

**LAWN MOWER** - hand, excel, \$7; polaroid super-color pack, \$10; 6000 BTU a/c, \$40; 22"x42", port. dog pen, \$15. Ext. 3630.

**TURN-OF-THE-CENTURY** - furniture, marble topped chest, loveseat and chair, drop front secretary, bedroom set, lamps, mirrors, rugs, etc. 929-8725.

**CHAIN SAW** - pull on gas powered saw. \$120. 30" blade; Sewer and drain cleaner, plumbing feedomatic w/foot accelerator & attachments, \$300; Mushroom Anchor, 100 lb w/chain and buoy, \$100. Vera, Ext. 2540 or 979-0635.

**SEARS GAS DRYER** - 1g capacity, very good mech cond, connecting line incl; Ping pong table, heavy 2 pcs, folding legs, \$15. Bill Sanchez, Ext. 3848 or 698-3145.

**BICYCLE** - Women's 10 spd, \$25; sewing machine w/ zipper foot, \$7. Jolie, Ext. 3723.

**CAR STEREO** - Blaupunkt, in dash, 8 trk, f/m, FF 20 oz coaxial speakers, \$65. 878-1829 after 6.

**HEDGE TRIMMER** - Sears 14" electric, single edged, \$5; Gerry's baby pack, \$5. Alan, Ext. 2924 or 821-0761.

**CEMENT MIXER** - Sears, 378-2560.

**PINE DESK** - small slant top, \$75; full size sofa bed, perfect cond, cost \$575, will sacrifice, \$350. 286-0761.

**CANNING JARS** - (glass top) quarts; Dresses, 2 short Bridesmaid, matching crowns (dark green-light green) size 8-10; phonograph, motorola stereo Hi Fi, detachable speaker. 584-5919.

**ANTIQU** - walnut china closet, 70" hi x 14" lg x 44" wi. 586-3574.

**BIRCH CABINETS** - 12' w/counter top, excel cond. \$150; 1 single porcelain sink, \$15; 1 upright radiator, 44" lg, \$35; 1 kitchen table w/leaf, \$15. Sharon, Ext. 3312 or 878-2591 eves.

**BICYCLES** - 7 and 9 year, \$10 ea; TV 12" portable B&W, 10 months old, \$60; steam iron, excel cond. \$8. Alain, Ext. 3020 or 3414.

**FOR ADOPTION** - 8 wk old female Huskie/German Shepherd mix, desperately needs home. 744-9423 after 6.

21' FAN TRAILER - self contained, sleeps up to 8, bunk beds, awning, etc. Ext. 4291 or 727-2861.

**CARDBOARD BOXES** - for moving, 3/\$1. 265-3612.

**GOLF CLUBS** - lefty (3-9) irons, 1 & 4 woods, putter, \$50; **POOL LADDER** - stainless steel, 3 step, \$45; **GOLF CLUBS** - lefty woods 1, 3, 4 MacGregor 1 month old, must sell. Mike, Ext. 4601.

71 POP UP CAMPER - sleeps 6, 2 ice boxes, pull out kit, 12x12 canopy, stove. John, 298-4263 after 5.

**DOUBLE BED** - mattress and box spring, all foam, good cond, make offer. 475-4891.

**BOY SCOUT UNIFORMS** - short pants, size 12 slim and size 16 regular, sweaters, size 10, 12, 14 and winter hat. 363-6850.

**DOVETAIL FIXTURE** - for 1/4" or 1/2" stock up to 8" wide incl fittings and router blade, used once. \$18. 744-3744.

**BABY ITEMS** - convertible carriage, \$12; crib, \$20; swing, \$8; Gerry carrier, \$10; portable chair, \$9; car seat, \$4. 744-2514.

**PORTA CRIB** - and mattress, like new, cost \$50 sell for \$25. Laffer, Ext. 3354.

**RATTAN FURNITURE** - couch, 2 chairs, ottoman, coffee table, 2 end tables and lamps, complete set, super new pillows. \$100. Paul, Ext. 4665 or 727-4859.

**HONER CLUB III** - M Diatonic Accordion w/chromatic feature, read pearl w/case, mint cond. Cost \$975. Sacrifice, \$550. H. Rhodus, Ext. 3284 or 924-3522.

**BABY ITEMS** - bouncing, \$7; diaper changer/table, \$15; Crib, \$25; potty, \$5; all like new or good cond, better price on whole package. Sue, Ext. 4207.

**CAMPER** - 10' for 3/4 ton pick up, sleeps 6, stove, heater, sink, bathroom. \$1200. 588-4759.

**COX CAMPER** - 10' pop up, sleeps 6, excel cond, stove, heater, ice box, clothes closet. 473-7906.

**MOWER** - self propelling, 3 yrs old, 1/2 orig price, picnic table and benches, etc. Ext. 3060.

**DANISH MODERN DINING RM SET** - table, 2 leaves and four chairs, buffet, china closet, w/beveled glass doors. \$395. Ext. 4532.

**KITCHEN SET** - table w/leaf and 4 chairs, excel cond. \$60. F. Leon, 475-8187.

**BEDROOM SET** - (3 pieces) \$95; 20" bicycle, pool table, baby equip, clothing, toys, and other household and misc items. Palais, Ext. 2907 or 698-0576.

**BOY'S BIKE** - red, 20" stingray, like new, \$40. 475-5543.

**LAWN MOWERS** - rotary, gasoline, one good running cond, \$30; one needs work w/spare motor, \$10. Ext. 4058 or 286-0436.

**ALUM WINDOW FRAME** - 5 trk, 5 1/4 by 40 1/4 window's - storms and screens. \$25. 473-4541.

**CONSOLE STEREO** - dark walnut cabinet 5'x24x30 am/fm radio turntable and speakers, bar and storage. \$100. Ext. 3739.

**COLONIAL HARD ROCK** - maple dining room set - 36" Hutch, table extends to 85", 5 chairs, \$250; Female Shihtzu, 2 yrs old, AKC reg, excel pet for mature family, \$150. Peggy, 727-4859 or Ext. 4665.

**VANITY** - table & bench, glass top, \$12; Sunbeam Mix Master 2 bowl's, \$12; floor polisher and rug cleaner, \$10; Sewing machine cabinet desk model 3 drawers, \$10; fireplace, artificial, \$15; Lane cedar chest, \$10. 473-4541.

**TABLE SAW** - w/stand, Rockwell 10", \$60. Jayson, Ext. 2341.

17" TROTWOOD - travel trailer, sleeps 6, sink, stove, head, ref, and hot and cold water, clean. Dom, 732-2668. \$1900 firm.

**REFRIGERATOR** - good cond, approx 5x3x3, \$60. Dan, Ext. 3145.

**COUNTRY FRENCH** - Dining Room table w/leaf and pad, 6 chairs, high caned back brocade seats for formal dining, excel cond. \$550. 331-1798.

**MAGNAVOX TV** - stereo theatre, combination am/fm radio, phonograph w/diamond stylus, 25" b/w TV, ebony cabinet, good cond, \$50; UNIVOX guitar amplifier, 1 channel, 60 watts, \$50; Motorcycle brackets for car, complete hook-up, \$20. 585-9816.

**STEINWAY PIANO** - upright, 1957 perfect cond, w/ matching seat. Nick Alonzo, 924-4123.

**AWNINGS** - (3) green stripe, draw type: (1) 8'5", (1) 10'3", (1) 7'8", frames can be shortened. \$5 ea or 3/\$12. Pat, Ext. 4519.

**GOLF CLUBS** - two woods, irons and a bag, \$25. Frank, 281-4179.

**REFRIGERATOR** - GE, frost free, top freezer, 18 cu ft new cond, \$150; Portable Sears washing machine, apt size, 11 months old, \$150; Kitchen utility cabinet, metal, formica top, \$15. J. Pruzansky, Ext. 4532, 589-0826 eves.

**WOMEN'S** - 10 spd Schwinn Suburan, excel cond, \$100. Ext. 4145 or 929-8204 after 5.

**BICYCLE** - 10 spd, Peugeot, excel cond. Ext. 2041.

**TRUNK** - (foot locker), old but very well made, excel cond, ca. 1'x2'x3'. \$10. 589-3269.

**AM FM STEREO** - turntable console, 2 speakers, \$85; new excel mixer, \$9. Ext. 3030.

**STEREO** - GE Mediterranean style console, am/fm radio, very good cond. \$100. 928-4270.

**PORTA CRIB** - \$10. 744-3744.

### Real Estate

**Real Estate advertised for sale or rent is available without regard for the race, color, creed or national origin of the applicant.**

### For Sale

**BELLPORT VILLAGE** - 1/2 acre, 2 car garage, screened porch, 2 baths, attached greenhouse, many extras. \$47,500. 281-8570.

**CORAM** - Townhouse, 3 bdrm, eik, clubhouse, pools, much more, no cash required, take over mortgage. 473-7914.

**ROCKY POINT** - large 3 bdrm ranch in "The Tides," assumable 8 1/2% mort, 2 car garage, den w/fp, office in bsmt, priv beach, price negotiable. Ext. 3063 or 744-4066.

**HOLTSVILLE** - 2 bdrm, Condo, excel cond, new appl, central a/c, low taxes, assumable 7% mortgage. 289-9677.

**BROOKHAVEN** - 3 bdrm, custoc ranch, new 20x20 barn on 1 1/2 acres, very desirable area, lux landscaping, extras too numerous to list. 286-0246.

**SHOREHAM INC VILLAGE** - large Clarendon custom Colonial, 4 bdrms, 2 1/2 baths, den w/fp, eik, formal D/R, 1 1/4 wooded acres, deck, walk to tennis, beach, country club, (reduced) \$80,000. 744-1935.

**PATCHOGUE VILLAGE** - price area, excel 2 family house, 4 rms and bath, 3 rms and bath, garage, low taxes. \$39,000. 289-8438.

**WADING RIVER** - 1961 Ranch, walk to Sound, deeded beach rights, 2 bdrms, fp, OHW heat, low taxes, fully landscaped. 727-0187 or 722-3789.

**ROCKY POINT** - "The Tides," 70 ft ranch on 1/2 acre, 3 bdrms, L/R, D/R, den, eik, full bsmt, fp, 2 patios, \$45,000. 744-6482.

**STONY BROOK** - 3 bdrm ranch, RAPCO foam insulated, L/R, D/R, eik, paneled den w/fp, w/w carpeting, 2 baths, fin bsmt, auto U/G sprinkling system, pool Cabana/Storage shed, 1/2 mile to SUNY. 751-6569.

**SOUTH SETAUKET** - Strathmore "Framingham," 5 bdrms, 3 full baths, central a/c, underground sprinkling system, wall to wall carpeting throughout, many extras, \$49,000. 698-1785 after 5 and weekends.

**WEST ISLIP** - Hi ranch, So Montauk Hwy, docking rights, 3 bdrms, L/R, D/R, eik, fam rm, den, 2 1/2 baths, 2 fp's, deck, patio, low 60's. 661-3732.

**ROCKY**