# **IBULLETIN** Volume 32 - Number 24 **BROOKHAVEN NATIONAL LABORATORY**

6-1751-78 **Recent Visitors** 

During his day-long visit to the Laboratory on Monday, Eliot Cutler, (far left), Associate Director of the Office of Management and Budget, observed an automatic sequential precipitation sampler which is used to study acid rain. Cutler was briefed on the Laboratory's current projects and was particularly interested in BNL's environmental studies. With him at Meteorology are (left to right) Laboratory Director George Vineyard, George Hendrey, head of the Land and Fresh Water Environmental Science Group, Bernard Manowitz, Associate Chairman of DEE, and Paul Michael, head of the Atmospheric Sciences Division.



Some key officials of the Egyptian Government visited the United States recently in connection with the Egypt-U.S. Cooperative Energy Assessment. During their week's stay at Brookhaven, they engaged in discussions at the National Center for Analysis of Energy Systems regarding the developing countries energy program. On a tour of some Lab facilities, they were escorted by Associate Director Warren Winsche (at rear) and, at one of the stops, Y.Y. Lee (right) gave an explanation of the 7' Bubble Chamber.

DOE Workshop At BNL



A Hydride Storage Reservoir symposium/workshop concluded a two-day session at Brookhaven on Wednesday. According to Matthew Rosso (right), who was in charge of the meeting, it was an idea exchange devoted to the specific topic of metal hydrides. The symposium was attended by about 50 representatives of other laboratories and industry, and was sponsored by DOE's Division of Energy Storage Systems. Talking with Rosso are session chairmen (from left) Paul Auh, David Dew-Hughes, Gerald Strickland and James J. Reilly.

# Ocean Disposal Site Investigated

Peter Colombo, head of the Laboratory's radioactive waste program, Walter Becker and health physicist John Batdorf, are today aboard the research vessel ADVANCE II, participating in an Environmental Protection Agency (EPA) survey of an oceanic radioactive waste disposal site.

The site is located in the Atlantic at a depth of 13,000 feet, approximately 200 miles east of the Maryland Delaware coast. It is the deepest of the four major oceanic disposal sites used by the U.S. between 1946 and 1970. According to the EPA, an estimated 14,500 drums of radioactive material were deposited in this area about 20 years ago

Over the last two years, Brookhaven has cooperated in the retrieval and analysis of two drums of radioactive materials, one from a depth of 2800 meters in the Atlantic and the other recovered from 900 meters in the Pacific.

On this trip, Colombo is scheduled to be one of those diving in the submersible, ALVIN, which is equipped with manipulators to lift up the cask. Prior to any retrieval, the diving team will examine the condition of the drums and determine the feasibility of recovering one of them for later analysis at BNL.

Over 30 researchers from various universities, U.S. Federal agencies and the Japanese Atomic Energy Research Institute will participate in the survey. Scientists aboard the ADVANCE II will conduct a comprehensive program of water, sediment and biota sampling.

The Brookhaven team is responsible for assisting in the recovery of the drum and for its delivery to the Laboratory for analysis. In addition to Colombo, Becker will give technical assistance and Batdorf is charged with ensuring that no contamination is present aboard ship, during or after recovery. They plan to return to the Laboratory on June 28. If they bring an ocean cask with them, chemical, metallurgical and radiochemical analyses will be conducted on it, and comparisons made with the studies undertaken on the two casks previously recovered.

The practice of dumping radioactive wastes into the ocean was discontinued by the U.S. in 1970. The EPA is required by the "Ocean Dumping" Act of 1972 to set regulations controlling ocean disposal of all materials including low-level radioactive wastes. The disposal of high-level radioactive wastes in this manner is strictly pro-

The current investigation is the twelfth submersible dive since 1974 under the EPA's comprehensive survey program to determine the effects of past dumping of radioactive wastes and the feasibility of developing more comprehensive ocean disposal regulations and standards.

# How You Exhale Is The Test

You step up and take a deep breath; into the cardboard tube which you have just placed in your mouth, you then forcefully exhale all of the air you can. The pen makes a jump. The line it and you are forming curves right, then continues for five seconds to the end of the graph. Your spirometer test is completed.

The spirometer, with which all BNL employees become acquainted during their annual physical exam, measures the subject's ability to move air in and out of the lungs. The testing can aid physicians in diagnosing certain respiratory diseases which produce characteristic patterns on the graph or spirogram.

Factors such as age and cigarette smoking affect the lungs elasticity and capacity, explains Dr. Robert A. Love of the Medical Department. The spirogram of a patient who has smoked 40 cigarettes daily for over 30 years shows an inability to force out the usual amount of air in the usual time. Testing is also important for workers whose jobs expose them to potentially dangerous inhalants such as asbestos, silica, fiberglass

In use for many years, spirometers have become increasingly sophisticated, although the basic operating principle is the same. Today, a fixed, horizontal cylinder with a moving piston has replaced the older inverted, counterweighted containers which had a pen arranged to monitor how much a forced breath has made a piston move. William Harold of the Nuclear Medicine Division states that electronic sensors have greatly improved recordings and have trimmed the bulky appearance of earlier machines.

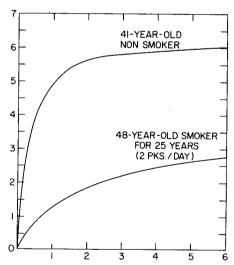
Physicians specializing in occupational medicine have found pulmonary function (spirometer) testing valuable in their evaluation and treatment of patients with obstructive lung disorders, such as emphysema.

According to Dr. Love, the spirograms of Lab employees generally fall within the acceptable range. Again, the graphs of heavy smokers are usually not as favorable as non-smokers. Sometimes, seeing the evidence before him or her, the test can deter one from smoking. Tests performed on many subjects in their early 20's produce "good, beautiful curves" because, Dr. Love suggests, fewer members of this age group

are cigarette smokers.

Increasingly, whether it's industry-related or general, amid the customary pokes and prods of your annual physical, you'll find the six-second puff into the spirometer.

- Rosanne Pagano



The graph above depicts normal spirograms for a smoker and a non-smoker. Doctors use the first second, and how many liters of air the subject can exhale over a six-second period. Respiratory blockages in either the small or large airways of the lung can be detected from the initial portion and the remainder of the curve on the graph.

### **Weekend Tour**

0 Biology's STEM is a 7 foot tall microscope that can picture individual atoms. Size aside, STEM is a delicate instrument with special requirements. To minimize vibration, it sits in a soundproof room on air springs, over six tons of concrete. STEM is featured in this weekend's tour of the Lab. Hours are 10:00  $a.m.\ to\ 3{:}00\ p.m.,\ and\ the$ STEM mini tour runs continuously.

EXHIBIT CENTER

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A day-trip along Dune Road's seven miles in nearby Westhampton Beach impresses visitors with its enticing surf and singular dwellings. When the early morning fog burns off, you find yourself surrounded by remarkable estates and exceptional beaches.

The many striking homes up and down Dune Road are built by the wealthy who can, as one police officer noted, "afford to rebuild what the storms damage every year." Although the weather precludes the use of most external materials other than cedar, and LILCO's heating restrictions limit the number of windows the architect may include, ten or twenty new homes are constructed annually, here, on lots just large enough to meet zoning regulations.

Contractors say that Dune Road is experiencing a building boom even though construction costs alone can run to \$450,000 or more. No one mentions the price of beachfront property. One owner says he prefers Quogue, Long Island to the Riviera

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Roadside daisies by the bay.

or to California. His "house on the beach," (distinguished from a "beach house") was five years in the building.

The area's homes are both unique and alike in that, according to one native, each resident envisions his dwelling as an extension of himself. With the builder's personality as a foundation, he and the architect construct a home which reveals the owner's character and the architect's imagination to thousands of visitors yearly.

The grand residences on either side of Dune Road are well worth the drive to Westhampton Beach; but there is, after all, more to the area than buzz saws and carpenter's spackling.

Three public ocean beaches located along Dune Road are Cupsogue, at the extreme western end, and to the east, Tiana and Ponquogue. Dressing rooms, showers, rest rooms, picnic tables, lifeguards and concession stands are available. Suffolk county residents are required to purchase a \$3 parking sticker, valid for 3 years, which admits one to the lot. A 50¢ per day parking fee is also imposed. Hot Dog Beach is a favorite among younger sun-fanciers in Quogue.

One resort open to the public for breakfast, luncheon and dinner is the Bath and Tennis Club and Hotel which overlooks the Atlantic Ocean in Westhampton Beach. Due to its beachfront location, the Club's exterior is weather-worn and does not prepare you for the attractiveness of its pink, green and white interior. Guests who pass up the discotheque and small specialty shops, will find the large, sunny dining room, which opens onto the surf, at the back

Dinner selections include Sirloin Steak au Poivre Vert, Scampi Provençale and Breast of Capon Chasseur. In addition to a varied choice of appetizers, there are fresh, whole strawberries for dessert, Orange Napoleon or cakes, pies and tarts. Complete dinner, champagne included, will cost approximately \$30 per person.

The Dune and Deli Snack Bar, also in Westhampton Beach, affords a less varied but more modestly priced menu. For about \$3, sunbathers can enjoy a freshly made hamburger and ranch fries, soda and ice cream. The Snack Bar's rocky road ice cream is worth the wait you may encounter here.

For alcoholic refreshment, Dune Road residents recommend the Sandbox, Cat Ballou or the Tiana Beach Club, and Mimosa for a more elevated atmosphere although, they noted, the establishments "may not look like much from the outside."

In Westhampton Beach, Morgan's White Cap General Store sells canned goods, wood, ice and sundry items in addition to housing a "restaurant, rum parlor and dance hall." Locals say the food is good and outside patio dining is available. Seafood, chowder, steamers, sandwiches and ice cream are featured. Morgan's is closed at least until noon.

To enjoy an afternoon exploring the sights, food and drink along Dune Road, take Sunrise Highway to Exit 63 South and follow the signs to either of the drawbridges to the Westhampton beaches. Whether you're looking for architectural and natural beauty, or good beaches and lots of sun, you'll find them along Dune Rood.

—Rosanne Pagano

# **Arrivals & Departures**

#### Arrivals

Trevor J. Aggus	Physics
Juan L. Alvarez	Plant Engrg.
Patricia J. Anderson	Personnel
Edward Baker	
Paul Blacher	Plant Engrg.
Robert P. DiNardo	Instrumentation
James Florakis	Accelerator
Louis C. Gerlach	Nuclear Energy
David V. Kipp	Accelerator
Niels Koudal, Jr	Accelerator
William C. Metz	Energy & Env.
Gary A. Nintzel	Accelerator
Henry P. Serry	Energy & Env.
Philip W. Smith	Nuclear Energy
Edward D. Sperry, IV	Accelerator
Larry Tempesta	
Frederick Williams	Plant Engrg.

#### Departures

Phyleate Harris	Energy & Env.
Janet I. Jensen	
Christopher K. Mirabelli	Biology
Cathleen M. Worthington	Tech. Info.

# How Do You Drive?

The days of filling up a car's gas tank with a five dollar bill have gone the way of the Nehru collar. But there are still ways that costs can be reduced and gasoline saved.

William S. Webster, Manager of the Staff Services Division, notes that identical Labowned vehicles which receive the same maintenance, nevertheless record quite different miles per gallon of gasoline used. When highs of 12.3 miles per gallon are compared to lows of 5.7 miles per gallon, it can't be the vehicle, so it must be the driver.

He points out that prolonged idling, jack rabbit starts, and excessive speed all lead to a greater consumption of gasoline.

BNL cars and trucks are driven over one million miles per year. If the higher mileage per gallon were the norm, Webster estimates that 140,000 gallons of gasoline might be left unburned at a savings to the Lab of \$62,000 annually. Besides the obvious safety factor, responsible driving is both a dollar and energy saver.

# Keep The Blood Flowing



Marilyn Galli of the Technical Information Division will become one of the newest members of BNL's "gallon club," after she

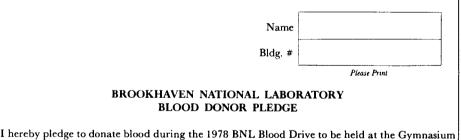
contributes to the 10th BNL Blood Drive on June 28 and 29. She is pictured with Jerry Blackford of the Budget Office who received his gallon pin last June. The pin is awarded to donors who have given blood

The 1978 Blood Drive's goal is 900 pints, but at press time only 660 pledges had been received. More are urgently needed if the drive is to reach its goal. The blood program is important to all employees, since BNL's support insures that all personnel and their families will continue to be eligible for unlimited blood replacement during the coming year.

The Bloodmobile will be at the Gym from 10 a.m. to 3 p.m. on June 28 and 29, and it doesn't take long to donate blood.

If you haven't sent in your pledge card yet, it's not too late to do so. If you can't find your card, use the form below, or simply call Janice Lamb or Jerry Kinne at Ext. 3334 as soon as possible.

Remember-you may not be dying to give blood, but some day you may be dying



from 10:00 a.m. to 3:00 p.m., Wednesday, June 28 and Thursday, June 29, 1978.

Please do not indicate a preference unless necessary. I can donate only on (day)..... at (time)...............

Signature.....Life # Dept. Lab. Phone.....

Please return this completed pledge to G.C. Kinne, Bldg. 460.

# Jazz Festival

Jazz buffs will be interested in three concerts scheduled in Suffolk this summer. Produced by the International Art of Jazz, sponsored by the American Bank, the concerts are free. The following is the schedule:

Friday, June 30, at Lawn of Fine Arts Building Southampton College (Rain Location: Inside Fine Arts Building), featuring Dick Hyman and the East End All-Stars (Bob Haggart, Bob Rosengarden, Hal McKusick, Toots Thielemans).

Friday, July 28 at Waterfront Park, Main Street, Northport (Rain Location: Northport Jr. High School, Laurel Ave.), featuring Maxine Sullivan and the International Art of Jazz Ensemble.

Friday, Sept. 1 at Belmont Lake State Park, Babylon (Rain Location: Robert Moses Jr. High School, Phelps Lane, North Babylon), featuring Lionel Hampton & His Orchestra.

All concerts are from 8:00 p.m. to 10:00

Dial Ext. 2222 for all emergencies.

Reports Available The following reports are now available to the Laboratory Staff and to Affiliates of the DOE, AUI, and NRC. Others may purchase the reports from the National

partment of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161. Staff members should call Ext. 3484:

BNL 50724 The Potential Need for Fusion in the U.S. En-

Technical Information Service, U.S. De-

ergy System. E. Beardsworth and J. Powell BNL 50725 Analysis of Past and Expected Future Trends in U.S. Energy Consumption, 1947-2000. D.J.

Behling, Jr.

BNL 50728 Tritium Storage Development. Progress Report No. 10, October - December 1976. P. Colombo,

Tritium Storage Development. Progress Report

No. 11, January - March 1977. P. Colombo, et BNL 50731 Linear Accelerator Driven (LADR) and Regen-

erative Reactors (LARR) for Nuclear Non-Proliferation. M. Steinberg, et al. RNI 50733 Tritium Storage Development. Progress Report

No. 12, April - June 1977. P. Colombo, et al.

# 6-902-78



Houses on the beach, not beach-houses.

# Selected Reading

Bull. At. Sci. 34, June 1978 Nuclear energy and the freedom of the West. A.D. Sakharov. 12-14

Nuclear energy and independence. J. Rotblat.

Chem. Eng. News 56, June 5, 1978

GAO urges realignment for DOE research labs. Art opens way for science. J.B. Eklund. 25-27 +

New Sci. 78, June 1, 1978

It's a wonderful idea, but . . . A. Hope. 576-81

## **BNL Hot Line**

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BROOKHAVEN NATIONAL LABORATORY

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

CARL R. THIEN, Public Relations Officer

# **New York Train Trip**

The Hospitality Committee is planning a group railroad trip to the city on Wednesday, July 5, 1978. Departure will be at 8:32 a.m. from the Patchogue LIRR station. Round-trip fare for adults 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 29. Make checks payable to "Brookhaven National Laboratory." Your tickets will be given to you at the train station. Refunds will be made only if cancellations are received by the Friday preceding the scheduled trip.

# Children's Rec Program

The Recreation Office requests that all registrations for children's swimming lessons and the on-site recreation program be submitted before Friday, June 30.

Registration forms may be picked up at the Personnel Office or at the BERA Film Service Office between 9:00 a.m. and 1:00

# Cafeteria Menu Week Ending June 30, 1978

9	–
Monday, June 26	
Corn chowder (cu	ıp) .30
(bov	vl) .40
Beef chop suey on rice	1.30
Scrambled eggs, sausages & fr. fr.	1.15
Hot Deli - Pastrami (on bread)	
(on ro	oll) 1.25
Tuesday, June 27	,
Beef noodle soup (cu	.30 (qı
, (boy	• '
Knockwurst and sauerkraut	
Roast chicken w/stuffing and 1 veg.	
Hot Deli - Veal pattie & peppers hero	
Wednesday, June 28	
Cream of potato soup (cu	os. (qu
(bov	vl) .40
Braised Meatballs à la mode	,
w/buttered noodles	1.25
Fried filet w/fr. fr.	1.25
Special:	

8 Foot Hero w/ham, cooked salami, mortadella, bologna, provolone cheese, lettuce, marinated tomatoes, onions, green peppers 60¢ per inch

Thursday, June 29	
Chicken vegetable soup (cup)	.30
(bowl)	.40
Cheese ravioli w/1 veg.	1.10
Sauerbraten and potato pancake	
Hot Deli - Italian sausage	
& peppers hero	1.25
Friday, June 30	
Fish chowder (cup)	.40
(bowl)	.50
Spaghetti w/clam sauce	1.10
Breaded pork chop and 1 veg.	1.50
Hot Deli - Smoked tongue (on bread)	1.15
(on roll)	1.25

## Mountain Club

Everyone is welcome to come to a beach party at the National Seashore beach, on Friday, June 30, at 6 p.m. To get there go to Smith Point and park on the west side of the parking lot. Don't go through the tunnel, but take the walkway west leading past traffic circle to the Ranger trailer. The meeting place is on the beach, one-half mile west of the trailer. Bring your own provisions and, if you plan to cook, take along a stove as no campfires are permitted. For further information, call Don David on extension 3942.



"Anachems" – both Laboratory & Red League Champs - (from left to right) L. Newman, R. Wilson, P. Klotz, E. Gill, C. Bachsmith, T. Prach.



"Good Guys" - Purple & White League Champs - (from left top) D. Murgatroyd, E. Murgatroyd, M. Austin, J. Austin.



"Lickety Splits" - Pink League Champs - (from left to right) C. Sherry, F. Scesney, H. Keeley, M. Grahn. Not present, C. Holland.

Strawberry Bike Tour

For those of you (possibly summer em-

our famous Long Island strawberries, the

Bicycle Club offers the Strawberry Short-

cake Ride this Sunday, June 25th. We'll

meet at Berkner Hall at 8:30 a.m. and cycle to Sabatt's Farm in Baiting Hollow where pick-you-own strawberries are 50¢ a

quart (plus 10¢ for the box if you don't

bring your own). About half-a-pint is

needed for the dessert, but pick extra ber-

ries to take home if you like; a car will be

available to cart them back to the Lab.

After a bag lunch at nearby Wildwood

State Park we return to the Lab Recreation

Building for our reward - fresh, home-

The distance each way is about 15 miles,

the terrain is gentle, and we'll ride at a

casual pace. Registration fee is only 75¢

and that includes the super dessert. We

hope to see our cycling regulars plus lots of

newcomers and summer people. If you like

strawberries, or even if you don't, join us

call Bob Monaghan, Ext. 4824/4688 or

We'll cancel for rain; for other questions,

made strawberry shortcake for all.

for a pleasant ride.

# Gym Closing

The gymnasium will be closed starting on Monday, June 26 and will reopen on Friday, June 30 at 11:00 a.m.

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

# **BNL Dance Club**

The BNL Dance Club has discontinued dance lessons for the remainder of June. July and August. Registration will take place in early September for the Fall and Winter sessions. Watch for the date in the

### Golf

A golf tournament is scheduled for Monday, June 26, at the Bellport Country Club. Tee off time is twelve noon.

Entrants are requested to send \$1.00, which will be used for prizes, to B. Briscoe, Building 930. Briscoe may be reached by calling extension 4592.

1978

# **Bowling** Champs

-Photos by Reben



Champs - (from left to right) R. Brehm, B. Brehm, J. Carroll, C. Beckner. Not present, C. Holland, R. Holland.



"Sparks" - Green League Champs - (from left to right) J. Cochrane, G. Spira, B. Brehm, J. Carroll, R. Sick. Not present, B. Kristiansen.

## Softball

### League I

Six Pax 19 (2-2) Titans 3 (1-3) Ed Meier Jr. (3 for 4 with a HR) and Charlie Bohnenblusch (a bases loaded triple) led the Six Paxs.

# Standings

	(as or	June 19)			
Division I		Division	Division II		
Ravens	3-1	<b>Phoubars</b>	3-1		
Six Pax	2-2	Blue Jays	3-1		
A.M.D.	2-2	Dirty Sox	2-2		
Old Timers	0-4	Titans	1-3		

### League II

### Week of 6/7/78

### Strange Encounters (1-0) 10 Nuke Powers (0-2) 5

Homerun by Terry Owens of Strange Encounters.

Charlie Browns (2-0) 9 Radicals (0-2) 7 Second triple of the year by Hoover O'Hara paced the Charlie Browns.

Lilco (1-0) 24	DEE (0-1) 6
Lilco (2-0) 23	NSLS (2-1) 6
Cardinals (1-1) 16	Medical (0-2) 4
Roga (2-0) 23	DEE (0-2) 5

Homeruns for Lew Snead and Ed Rock.

### Week of 6/14/78

#### Charlie Browns (3-0) 10 Strange Encounters (1-1) 7

Lead off triple by Rich Chester paced the Charlie Browns. Another fine game for Hoover O'Hara. Vinnie Lettieri had a tremendous homerun for Strange Encounters.

Roga (3-0) 28 NSLS (2-2) 1 Two homeruns for Ed Rock.

Cardinals (2-1) 15 Radicals (0-3) 14 Homerun for Eric Frak.

Nuke Powers (0-3) 6 Lilco (3-0) 19 Medical (1-2) 15 DEE (0-3) 12

# **Standings**

# (as of June 14)

Division A		Division B	
Roga	3-0	Lilco	3-0
Charlie Browns	3-0	Cardinals	2-1
NSLS	2-2	Medical	1.2
trange Encounters	1-1	DEE	0-3
Radicals	0-3	Nuke Powers	0-3

### **Employee League**

# Turkeys - Who's On First

Who's on First forfeited Monday evening's game to the Turkeys. Come on guys, read those schedules!

## Balls & Strikes 15 - Thrids 9

Another fine pitching performance by Marsha Kipperman with excellent hitting and fielding by all teammates.

Diamonds 17 - Trouble II 16 Dotty Lundgren went 4 for 5 and Carrie Miller played a good defensive game.

# E-Z Riders 13 - Oh Kays 10

Due to the dedicated cheering of the disabled Mary Jane and Ricky, it was not surprising that the E-Z Riders beat last year's first place winners, the Oh Kays. Mike Hahle had two home runs, one of which went so far that they're still looking for the ball, and Larry Musso had one home run.

# TNT 7 - Who Cares 4

The TNT's were back to their old wonderful selves winning by a score of 7-4 over Who Cares. Artie Coone has a homer and a spectacular double play by Jeanne Weber and Howie Bell even won cheers from the opposing team.

# Women's All-Star Game

The BNL Women's All-Stars will be playing a softball game against Woodson's girls of Riverhead on Sunday, June 25 at 5:00 p.m. at the Brookhaven Recreation Park. Come on down and lend your sup-

### Runner's Corner

There will be an organizational meeting of the Roadrunners on Tuesday, June 27 at noon in the Conference Room, Building 318. Topics to be discussed include: plans for the fall race; the club newspaper; the N.Y. City Marathon; and a special BNL summer fun run. All runners and friends are cordially invited. Contact Ted Landry Ext. 2959 for further information.

eration 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

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

LABORATORY RECRUITMENT: Opportunity for present Laboratory employees.

687. SECRETARY - Requires AAS or equivalent in secretarial science and excellent typing and general office skills. Technical typing experience desirable. Will assist in departmental office. Accelerator Dept.

688. DRIVER - Supply & Materiel Division.

689. MATERIAL HANDLER (2 positions) - Supply & Materiel Division.

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

690. DEVELOPMENT ENGINEER (2 positions) - Requires BS/MSEE or equivalent and broad background in the design, construction, and testing of sophisticated electronic systems. ISABELLE Project, Accelerator Department.

691. DEVELOPMENT ENGINEER (2 positions) - Requires BS/MSEE or equivalent and background in stress analysis, heat transfer, and computer analysis. Knowledge of cryogenic technology is desirable. ISA-BELLE Project, Accelerator Department.

692. SAFETY TRAINING SPECIALIST - Requires excellent oral communication skills and good background in industrial safety including fire, first aid, construction, hazardous materials, and loss control. Specific background in presenting safety training programs would be desirable. Division of Safety and **Environmental Protection** 

693. EXPERIMENTAL MACHINIST - Central Shops Division.

### **Autos & Auto Supplies**

67 DODGE POLARA - 383 V8, p/s, p/b, a/c, new tranny, brakes, wheel bearings, rebuilt wheel cyl & carb, very good running cond. \$575. Tom, Ext. 2959.

70 MAVERICK - p/s, 21/25 mpg, some rust, new valves, hi miles but runs really well. \$600 or best offer. Dan, Ext. 3145.

66 PONTIAC - wagon Bonneville, 400 V8, engine 1970, p/s, p/b, p/seat, p/windows, very good cond. \$425. Ext. 4253 or 928-4926.

72 TOYOTA - Corona Mark II, station wagon, needs some work, 58,000 mi, best offer. Allan, Ext. 3369 or

289-3007. 74 RICKMAN MOTORCYCLE - 700 miles, good cond.

\$500. Peter, 281-5412. 75 PORSCHE - 914, 1.8L engine rebuilt, new clutch,

excel cond. \$4800. 821-1980.

65 FORD WAGON - 1971 302 engine, good trans and rear, body good, under carriage rusted bad, good for parts. Nick, Ext. 4810 or 588-6417.

70 CHEVY NOVA - 2 dr, very good cond, 6 cyl, p/s, new trans, battery and tires, 8 track stereo am/fm. \$800. Medina, Ext. 3284.

71 AMC - 360 engine, parts only, a/c unit for Mercury, everything included. Walt Parsons, Ext. 2907

or 744-3339. 67 FORD - LTD, 4 dr, looks good, runs well; 66 Honda CB-160 600 miles on newly rebuilt engine. Walt Par-

sons, Ext. 2907 or 744-3339. 72 PINTO - Runabout, 2000 cc, 4 spd, excel running cond, great gas mileage, 53,000 mi. \$800. Bob V, Ext.

73 AMC HORNET - vinyl top, a/c, am/radio, p/s, recent valve job, good body, good running cond.

\$650. 878-4268. 72 JEEP - 4 whl dr, CJ5 model, std shift, roll bar incl.

49,000 mi, \$2400; 73 Nova 8 cyl, a/c, auto, p/s, p/b, lime green. \$1800. Ext. 2546 or 744-4047 after 6.

68 MUSTANG - front end parts new, new brakes, radiator hoses, 6 cyl, auto, p/s, s/b, good cond. \$800. Negotiable. Ext. 2064.

64 CHEVY VAN - newer engine. \$175, 475-3792.

62 MERCURY - Meteor super sport (Collector's Item) needs some work. \$150. 475-3792.

77 DODGE MAXI VAN - 7,000 mi, p/s, p/b, auto trans, must sell. \$5,000. 929-8281.

76 HONDA 200 - like new (20 miles) \$750. 331-3358.

64 FORD GALAXIE - 289 V8, auto, p/s, rusted but runs good, good interior, \$75. Joe. Ext. 3273.

MOTORCYCLE - Honda CB-175; excel cond, lug rack, cover, crash bar, carriers, \$495, 722-3692 after 5.

SNOW TIRES - (2) C78-13, brand new, \$50; (5) B78-13, \$75; (2) C78-13, new, \$30; also Ford 4 bolt rims, some Chevy and 70 VW parts. Rex, 744-3968.

71 SUZUKI - 50 cc, dirt bike, can be converted for street use, needs work, best offer, attachments for carrying on car, \$15. 585-9816.

73 DUSTER - 318, V8, 3 spd stick, good mileage, good cond, p/s, pdb, radio/tape deck, \$1275. Tom, Ext. 4671 or 924-6073.

70 CHEVY - Impala, 350 engine, 20,000 mi, trans 10,000 mi, excel running cond. \$200. Harry, Ext. 4722.

68 STEP VAN - 6 cyl, auto, 10 ft cargo area, good for camper. Frank, Ext. 2311 or 567-5131.

BUCKET SEATS - Pontiac, 1 pr black, good cond. \$25.

RALLY WHEELS - (4) new 15" w/chrome rings and center, off of 78 Trans Am. \$120. Bill, 744-7954. 67 MERCEDES BENZ - 250S, 4 spd, excel cond, excel

gas mileage, must see, \$2500, Gail, 878-4664 after 5. 77 FORD GRANADA - blue w/white top, a/c, p/b, p/s, am/fm stereo, radial tires, 4 dr sedan, immac,

71 PONTIAC - Ventura, 8 cyl, 2 dr, auto, copper color, very low mi. \$850 firm. 821-0779 after 8.

13,000 mi. \$4,500. (212)648-1409 eves.

76 CAMARO - p/s, p/b, a/c, am/fm 8 track stereo, extras. \$3700. 475-1696 after 6.

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

CHEVY - full competition race engine, best of everything, Muncie trans, Vette gears, get into racing madness! Rex, 744-3968.

72 DODGE POLARA - station wagon, auto, p/s, p/b, \$550. J. Gabusi, Ext. 4665, 298-4435.

TIRES - (2) Michelins, F78-14, used 6000 miles, like new. \$90. Bernstein, Ext. 4382. VW MOTOR - \$100; 4 spd trans w/Hurst shift for

Mopar, \$100; bike front end for Honda, \$80. 286-75 VEGA - excel cond, 32,000 mi, 23 mpg, steel

belted radials, rear defogger, must sell. \$1650. Ext. 4241, Joe. 68 FIREBIRD - excel cond, 15" chev rim & tire. Vinnie,

Ext. 2951 or 475-2058. 71 CHEV - 2 dr, hardtop, vinyl roof, a/c, p/b, p/s, excel mech, no rust. \$1200. Ext. 3593.

69 PLYMOUTH - Valiant, 6 cyl, auto, running cond. \$200. Ext. 2448.

TIRES - (4) Firestone deluxe Champion, H78-15, practically new (2 mos old) w/2 rims. \$150. 246-5945. 69 MERCURY - Cougar. \$700. Sharon, Ext. 3312,

### **Boats & Marine Supplies**

38' DOWN EAST - diesel sedan cruiser. Ext. 3280.

17' EXPLORER - fiberglass daysailor, cuddy cabin, roomy cockpit, 4 hp Johnson, excel cond, ready for water. Ext. 4335 or 286-9458.

22' VENTURE - fiberglass sailboat, sleeps 5, head, galley, pop-top, roller furling jib, 15 hp Johnson. \$4500. Dacid, Ext. 3501 or 286-8097

20' GLASTRON - 150 hp Merc, I.O. new outdrive and engine 1975, new gas tanks, lounge seats, more. In water. \$2400. Richie, Ext. 4254 or 734-7342.

16' THOMPSON - Lapstreak, + 1976 galvanized (highlander) trailer, good cond. \$375 for both. 363-6406 after 5.

29' JORGENSON - flying bridge, Bimin, full galley, monomatic head, engine just tuned, many extras. 744-2821 or 744-2973.

40 HP MERCURY - electric, 1970, good cond, for parts only, no power head. \$30. Gene Rohde, 363-9527

18' GARVEY - 7' wide, fiberglass over wood 34''bottom, self bailing deck, cabin, foam floatation.

28' SEA SKIFF - 1960 Ulrichson, twin screw, needs engines, sound. \$150. 363-6521 after 6.

8' HYDROPLANE - 2 Merc Hurricane 10s, 1 Mark 20 Merc. \$225, 286-9197.

31' BALTZER - ideal family or fishing boat w/camper back, head, galley & dinette, sleeps 4, twin 125 Chrysler engines w/60 hours. \$1500. 331-1718.

### Miscellaneous

YARD SALE - June 24 and 25, 58 Forestall Dr, N. Shirley, N. Titmus, 10 am to 5 pm.

YARD SALE - June 24 & 25. 9-4 pm. 24 Gilbert Street, Patchoque.

COMMUNITY WIDE - Garage Sale at Hartwood on the Sound-end of Cliff Rd. (off N. Wading River Rd.) Wading River. Sat, June 24, rain date Sun, June 25.

YARD SALE - 4 families, Sat & Sun, June 24 and 25. St. James, corner of Jefferson Avenue and 4th Street.

GARAGE SALE - bdrm set, mini ping pong/pool table, baby equip; bathinette, car seat, etc., childrens clothing, toys, games, etc. 68 Hanrahan Ave, Farmingville. 698-0576.

BIG GARAGE SALES - June 24 & 25. Port Jefferson area. TV set, refrigerator, beds, sofas, tables, chairs, etc. Ext. 2060 or 473-8962.

FLIPPERS - 3-5, like new. \$5. Ext. 3482.

TYPEWRITER - Alder manual, 13" carriage, soft touch, like new. Typewriter dealer set value and price at \$125. Over \$300 new. 286-0932 or 286-3333.

SCHWINN - Girl's 20" bicycle, good cond. \$30. Ext. 2416 or 265-5218.

COFFEE TABLE - maple, dropleaf, 4 drawers, new. \$125; End table, maple, round enclosed, 2 drs, new, \$75; sink, stainless steel, dbl drainboard, faucets, spray, \$25. John, Ext. 2501.

ACCORDION - 120 bass, 2 shifts, good cond. Good for beginner. \$50. Ray, 2952.

Ads left out of this issue because of lack of space need not be re-submitted in order to run in next week's issue.

KAYAK - good cond. \$175. Rowley, 286-0975.

CRIB - baby w/mattress, good cond, \$50; Sears elec adding machine, \$50; new candlecraft kit, \$4.50. Ext.

TWIN BED - frame w/boards, \$10; old sewing machine, working, need adjustment, Free; Tire, JC Penny, brand new, 165-13/6.45-13 w/rim, \$15.654-2591.

CRIB - w/mattress. \$20, 286-3335.

AUDIO COMPONENTS - Mic, electro-voice model 664, \$40; Tandberg model 64, 4 track open reel tape deck, \$250. Ext. 3828 or 751-7250.

1976 COLEMAN - poprup, Concord Model, sleeps 4-5, heater, awning, ice box, excel cond. \$2,000. Arlyn, 727-2700 days. After 6, 727-3528.

JUDO GI - size 3, excel cond, \$15. Joe, Ext. 3789.

KENMORE - portable washing machine, excel cond, \$100. 286-8850.

TWIN BEDS - 2 mattresses and 2 box springs, very good cond, \$30 ea set. 289-1883.

BOWLING BALLS - (2) ladies, \$4 ea. Fred Silkworth, 473-1578 eves. EXERCYCLE - almost new, less than 20 miles, odom-

eter and speedometer. Cost \$65, sell, \$40. Roger, Ext. AIR CONDITIONER - Chrysler air temp 5000 BTU,

\$100; toastmaster deluxe broiler oven w/stand. \$20. 744-3784. STURDY FOOT LOCKER - (30x17x13) \$7; bathroom sink w/faucets, \$7; 2 burner coleman gas stove, \$10.

727-1617. VENDING MACHINE - never used, 6 slots for 2"x5" x%" merchandise, best offer. 924-3066.

KITCHEN SET - white table w/6 newly upholstered blk chairs, \$50; 2 white milk glass vanity lamps w/ shades, \$6. 286-8890 after 1 pm.

24" BLACK & WHITE - Magnovox console TV, good picture tube but needs work, FREE. TAKE AWAY. 475-8971 after 6.

71 COX CAMPER - \$500. Ext. 2582 or 924-8297.

PANASONIC - am/fm radio, 8 track, turntable sound system, \$100. 475-5948.

BOYS BIKE - 20" Schwin, sting ray, 5 spd, \$25. 286-

BICYCLE - 10 spd Peugot, and heavy duty chain, excel cond. \$140. Ext. 2041.

FOX TERRIER - wire hair puppies, AKC, non shedding, frisky. 878-4261 after 7.

SANSUI AU9900 - Integrated stereo amplifier, 160 watts R.M.S. at 20-20,000 HZ, over 2 yr warranty left, "top of the line," w/frequency rollover. Jack, Ext. 2093.

LUGGAGE - Samsonite Silhouette, 4 pc marina blue, tote to pullman, never used. 584-5919 after 6.

BED FRAME - colonial heavy pine, \$60; candelabra lamp, needs shade, \$15; Trains, HO gauge, Tyco assorted loco's, cars, tracks and access; Stereo cabinet, danish modern w/12" coaxial speakers, \$70; Garrard AT6 auto turntable, \$20. Ext. 4769 or 589-7863.

CARTONS FOR MOVING - used by Allied Van Lines, for mirror, clothings and misc, large sizes, excel for relocation packing, 504 ea. Ext. 4798 or 928-6965.

GAS RANGE - w/upper and ower self cleaning oven, Coppertone Kenmore about 6 yrs old. \$130. Chuck, Ext. 4331 or 473-6515.

OIL BURNER - (Heil) pump AT-R side stock switch re-

lay. Vinnie, Ext. 2951 or 475-2058. BICYCLE - women's 3 spd, good cond, \$25. Barry,

EARL GREY TEA - only a few left, \$4/16 oz can. Rino, Ext. 2012.

FOR ADOPTION - white german shepherd, male,  $\boldsymbol{2}$ yrs old, gentle. 924-8547.

DINING ROOM SET - French provincial, antique finish, veneer top table, 6 chairs, w/cushion seats, \$100. Ken, Ext. 2008 or 928-5875.

PIANO - upright, \$225. 732-1913.

Ext. 3370 or 286-9035.

SOFTBALL MITS - (2) like new, one right and one left. \$9 and \$5. Linda, Ext. 3199 or 727-7304 after 5.

SWIMMING POOL - 10' dia, 20" deep, vinvl metal liner, used 1 season. \$10 (about ¼ cost of new one). Ext. 4463 or 929-4923.

MAC BETH - densitometer #TD-500, solid state, will accept reasonable offer. 473-6432.

CHILDS DESK - \$20; kitchen cabinet 36w, 36h, 24d, birch w/yellow formica top. \$50, 475-8971 after 6.

SURF ROD - and reel; old iron sewing machine base; assorted claypots, crocks and plants; childs stroller and backpack. Allan, Ext. 3369 or 289-3007.

ANTIQUE RADIO CABINET - (floor model) \$10; Bissell carpet sweeper, \$5; antique lowboy dresser, \$30. 862-9384.

COLOR TV - 20", Philco console, \$85; good cond. Steve, 473-4982 eves.

DRESS - white A line, full length, size 10, worn twice, \$5. Linda, 281-0843.

% SIZE MATTRESS - and box spring, excel cond, \$60. 36x80 storm and screen door. Ext. 2447 or 878-1486. 10 GA SHOTGUN - spanish, approx 10 bxs shells, 3½" magnums. \$200. Lee, Ext. 2012.

FLUTE - Artley, excel cond, 1 yr old, \$80; guitarspeaker cabinet w/2 12" heavy duty speakers. Will handle 120 watts R.M.S. \$70. Charlie, Ext. 3950.

GAS STOVES - (2) 1 counter top and 1 apt size, good cond, \$25 ea; studio couch w/cover, best offer. 878-1805.

### 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

N. PATCHOGUE - immaculate large Hi-ranch, prime area, low taxes, drastically reduced, owner, low 30's. Ext. 4333 or 654-4394.

TERRYVILLE - 4 bdrm, colonial split, 1½ bath, ½ bsmt, 1 car garage, appl, a/c, \$34,990. 928-4677 after 6.

SHOREHAM - 4 bdrm Colonial, 21/2 baths, laundry rm, eik, 2 car garage, patio, w/w carpeting, Vermont slate entrance hall, many extras, \$56,500. 744-2821.

SETAUKET - owner moving, must sell, 3 Vill Schl Dist, Hi-ranch, 4 bdrm, 2 baths, huge den, 2 kit, 2 zone OHW, small community, 16 mi from BNL, Martha, Ext. 3307 or 751-8649.

TERRYVILLE - 4 bdrm Cape, partly fin bsmt, HTD, ins garage, fenced ¼ acre treed, storage barn. \$32,000. 473-9139.

RIVERHEAD - Mobile home, 1971 Valiant, 12'x60', good starter home, nice location, 2 bdrms, 11/2 baths, eik, shed and awning, excel cond. Ext. 4722 or 727-1827 after 6.

BROOKHAVEN HAMLET - 3 bdrm custom ranch on approx 11/3 acres, 20'x20' new barn, exotic landscaping, prestigious area, other features too numerous to list. 286-0246.

N. PATCHOGUE - 3 bdrm, hi-ranch, Ext. 4442 or 289-3399 after 6. \$37,000.

WEST ISLIP - Hi ranch, So. Montauk Hwy. Docking Rights, 3 bdrms, L/R, D/R, eik, fam rm, den, 2½ baths, 2 fp, deck, patio, low 60's. 661-3732.

SHOREHAM - "Close to Lab," contemporary 3 bdrm ranch, wooded 1/3 acre, eik, D/R, carpet, a/c, fenced appl and more, plus low taxes. \$33,750. 744-6772.

MASTIC BEACH - 2 bdrm ranch, large den/dining, paneled, wood deck, 120x100 corner lot, s/s, full bsmt, low taxes, treed, new kit, storage shed. \$26,500. MIDDLE ISLAND - mother daughter, 6 rm ranch w/

newly fin bsmt, 1-2 bdrm apt, completely carpeted throughout, cyclone fence around ¼ treed acre, quiet dead-end street, mint cond, hold mortgage. \$38,000. Ext. 2413. HFAD-OF-THE-HARBOR - 1 mile from beach, horse

variance, custom farm ranch, 6 bdrms, 5 baths, 3 fp, fin lower level, 2.48 secluded wooded acres, MUST SELL this summer, price negotiable. 584-6058 or 981-

w/w carpeting, wood deck, ½ acre, priv beach. 744-MASTIC - 3 bdrm ranch, fenced, corner 118'x100', beautifully landscsaped, immediate occupancy, many

ROCKY POINT - 4 bdrm Colonial, eik, 21/2 baths, fp,

extras. \$34,500. Ext. 4592 or 281-8195 after 5. E. PATCHOGUE - 3 yr old wide ranch, custom built, 9 rms, 21/2 baths, oversized room, all appl, treed and landscaped, possible M/D or professional (2 en-

trances). Must be seen. 289-0443. CORAM - Dutch colonial, 3 bdrm, 2½ baths, L/R, fp, D/R, eik, 1 car garage, ½ acre beautifully landscaped, school dist #11. 331-1640.

STRATHMORE RIDGE TOWNHOUSE - Take over mort. \$20,500 plus reasonable cash offer. 1½ baths, 2 bdrms, 4 appl, carpeting, toolshed, quiet area. 924-

### 8638. For Rent

MIDDLE ISLAND - 1 large fully furn rm and bathrm, 15 min from Lab, in excel neighborhood. \$30/wk, util

WADING RIVER - 2-3 bdrm house to sublet Aug 15 to May 15, furn or unfurn, beach rights. \$275/mo. Jim,

Ext. 3798 or 929-8462. PATCHOGUE - for rent or sale. 3 bdrm custom ranch,

1½ baths, fp, deck, wooded lot, full bsmt. 289-8733. SHOREHAM VILLAGE - Month of August, unusual 3 bdrm, large rolling landscaped yard, w/big trees, one house from priv beach and tennis court, walk to deli, \$600. Includes util and lawn mowing. Bob Palm-

er, Ext. 3780 or 744-2836.

SETAUKET - 2½ yr Hi-ranch, like new, 3 Vill Schl Dist. 4 bdrm, 2 bath, huge den, eik, cathedral ceiling, w/w carpet, appl, min 1 yr lease for \$500/mo. Martha, Ext. 3307 or 751-8649.

WADING RIVER - cozy 2 bdrm apt, L/R, eik, close to Lab and beach, partially furn, available Sept 1. \$235/ mo incl util. Janet, Ext. 2345, 929-8152.

HOLTSVILLE - for rent or sale. Condominium, ranch, 2 bdrm, L/R, D/R, 5 appl, extra insulation, convenient to Expressway. \$26,990. Low cash, rent \$325 incl use of pool. JU1-5865 or 473-9379.

MIDDLE ISLAND - house, eight rms, 4 bdrms, fam rm, sunroom, lovely priv site, required security, checkable references. \$300/mo, util not incl. 924-5086.

MASTIC BEACH - 3 bdrms, L/R, D/R, large kit, fam rm w/enclosed patio, 2 car garage, large landscaped yard, available Aug 15, \$325/mo without util. Betty, Ext. 3670 or 281-8343 after 5:30.

SHOREHAM - 7 rm house, furn, 2 baths, eik, all appl, Steinway piano, wooded ½ arcre, walk to priv beach, avail Sept 15 thru June. \$375/mo. 744-3744.

CORAM - Strathmore East, furn ranch, 15 min from BNL, 3 bdrm, 2 baths, study, 2 car garage, fencea swings, trees, avail Sept \$425 plus util. Ext. 3791 or 928-5124.

## Car Pools

HUNTINGTON - car pool wanted from area or Sagtikos Parkway for summer. Laura, Ext. 4525.

RIVERHEAD - 1 or 2 drivers wanted to complete existing car pool. Pat, Ext. 4519.