BROOKHAVEN BULLETIN
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BROOKHAVEN NATIONAL LABORATORY

bnl Lecture: Tailoring Surface Properties

Powerful new ways of studying surfaces are now being being discovered. As a result, the interaction of molecules with surfaces has become an active research area drawing on the expertise of both chemists and physicists.

One place where this is happening is at BNL. Here, during experiments on the surface properties of elements known as transition metals, a very unusual discovery was made: When layers of palladium were deposited on niobium, remarkable changes occurred in the rate of hydrogen uptake into niobium. And when the added layers of palladium were pared down to just a monolayer, the properties of the bilayer surface changed again, achieving a result that was impossible with either metal alone.

Similarly drastic changes in the surface reactivity were discovered in studies involving platinum and rhodium on various metals.

To Senior Physicist Myron Strongin, Associate Chairman of the Physics Department, a true understanding of these changes in reactivity requires a combination of the intuitive bonding concepts of chemists and the electronic surface structure ideas of physicists.

It is this view that he will stress when he discusses "Tailoring Surface Properties — An Interface between Physics and Chemistry," at the 263rd Brookhaven Lecture, on Wednesday, October 17, at 4 p.m., in Berkner Hall. Strongin, who will be introduced by Senior Physicist Victor Emery, will be the first lecturer of the 1990-91 series (see box).

When he and his colleagues investigated the electronic properties of the bilayer systems, Strongin will explain, it became evident that the changes were due to the interaction of the monolayer and the underlying substrate. It was this new electronic structure that dominated the interaction with other molecules.

After describing these experiments, Strongin will discuss the array of techniques, including those available at the National Synchrotron Light Source, used to investigate the structural and electronic properties of surfaces, and how molecules interact with them. The conditions for obtaining stable monolayers have recently been investigated by Brookhaven theorists, and Strongin will show how some of this work relates to the results of the BNL experiments.

Once the exact process is understood, researchers can "tailor" surfaces to get desired properties by changing the metals being used in the alloy. From this work, Strongin will show how concepts and ideas from basic research can provide insights into important technological areas. For example, the understanding of monolayer behavior and how it changes the chemistry of molecules on surfaces may be applied eventually in improving catalysts.

Strongin earned his B.S. in physics at Rensselaer Polytechnic Institute, and his M.S. and Ph.D., both in physics, at Yale University. After two years at Massachusetts Institute of Technology Lincoln Laboratory, he

(continued on page 3)

Myron Strongin checks thermocouple connections in an experimental apparatus used for diffraction and photoemission studies of bilayer surfaces. — Photos in this issue by Roger Stoutenburgh

Brookhaven Lectures, 1990-91

The Brookhaven Lecture Series was initiated to acquaint members of the Lab community with developments and ideas in their own and other important fields of science, and to heighten awareness of the aims and potential of BNL.

Carrying out this charge is the Brookhaven Lecture Committee, which is now chaired by Jonathan Hanson, Chemistry Department, with Graham Smith, Instrumentation Division, serving as secretary.

Other committee members include: Morris Beller, Department of Applied Science (DAS); Edward Bleser, Alternating Gradient Synchrotron Department (AGS); James Bullis, Medical Department; Yung Yee Chu, Chemistry Department; Anita Cohen, ex officio, Public Affairs Office; Doon Gibbs, Physics Department; Gertrude Goldhaber, ex officio, Physics; James Hainfeld, Biology Department; Walter Mangel, Biology; William Morse, Physics; James Niederer, Computing & Communications Division (CCD); George Rabinowitz, ex officio, CCD; James Reilly, DAS; Ann Reisman, Department of Nuclear Energy (DNE); Mort Rosen, ex officio, Photography & Graphic Arts Division; Suresh Srivastava, Medical; Gregory Van Tuyle, DNE; Peter Wanderer, Accelerator Development Department; Gwyn Williams, National Synchrotron Light Source Department (NSLS); Avril Woodhead, Technical Information Division; and Martin Woodle, NSLS.

Each Brookhaven Lectures is scheduled on a Wednesday at 4 p.m. The following talks are scheduled for the remainder of the 1990-91 series:

Date	Speaker	Subject
Nov. 14	John Haggerty, Physics Department	Experiment 787 at the AGS
Dec. 12	Trevor Pratt, Department of Nuclear Energy	Reactor Accidents and Consequences
Jan. 16	Richard Hahn, Chemistry Department	Solar Neutrinos
Feb. 20	David Weber, Medical Department	SPECT — Single Photon Emission Computed Tomography
Mar. 20	William Thomlinson, National Synchrotron Light Source Department	Angiography at the NSLS
Apr. 17	Robert Sweet, Biology Department	Protein Crystallography
May. 15	Terje Skotheim, Department of Applied Science	Conducting Polymers
Jun. 12	Graham Smith, Instrumentation Division	Imaging X-Ray Detectors

FY91 Budget Still Uncertain

The fate of BNL's budget for fiscal year (FY) 1991 is still pending in Congress.

It is dependent upon the destiny of the second proposed deficit-reduction act, the compromise budget resolution that passed through the House of Representatives on Monday, October 8, and the Senate last Tuesday.

The first deficit-reduction act went down to defeat in the House last Friday, October 5. After President Bush vetoed a stopgap spending bill to keep the federal government funded until October 12, the House failed to override his veto on Saturday, October 6.

By Columbus Day, with nonessential government services shut down, a divided House passed a general budget resolution that leaves Congressional committees with the power to decide on specifics. Like its predecessor, the revised budget calls for reducing the FY91 deficit by $40 billion and balancing the budget by FY96.

Under a stopgap spending bill passed on September 30 and good until October 5, BNL received money for five days, but at a reduced funding rate. The Lab expects the receipt of 14 more days' funding under the continuing budget resolution signed by President Bush this past Tuesday that allows the federal government to continue spending through October 19.

"The budget story has changed since last week, but two things are still the same," comments Associate Director for Administration Henry Grahn. "Our FY91 budget is still uncertain, and we are concerned that we may receive less than what was proposed by President Bush last January."

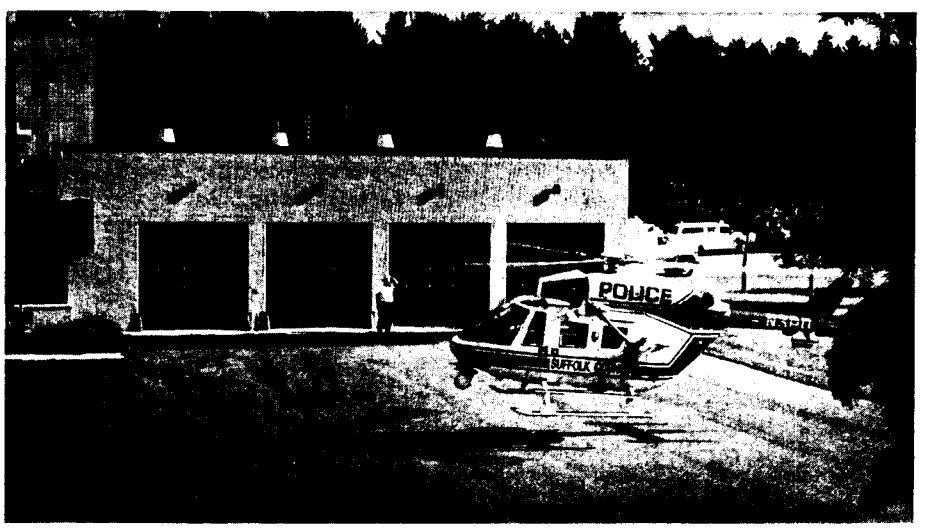
In fact, the 19 days of funding that have been earmarked for BNL so far are a fraction of a conservative temporary budget that is $20 million lower than what was slated for the Lab under Bush's proposal.

According to what Grahn has been reading and hearing about the Congressional budget negotiations, "It seems that the budget for domestic programs — including Brookhaven — may only grow by an inflation rate of 4.2 percent over FY90."

Therefore, though the Lab is funded with fresh money through October 19, it is at a reduced rate, and the future funding for FY91 is still uncertain.

"I am still cautioning all to spend slowly so no mandatory actions have to be taken until the budget comes in," concludes Grahn.

— Marsha Belford



Requiring a minimum of 100 square feet on which to land, the Medevac helicopter of the Suffolk County Police Department sets down in front of BNL's firehouse. (See "In Case of Medical Airlift" on page 3.)

Tips of the Trade

Mum's the Word in Fall Plants for the Grounds & Sanitation Crew

"Tips of the Trade" is an occasional series highlighting the work and sharing the expertise of BNL's tradespeople and service staff.

The Grounds & Sanitation crew in BNL's Plant Engineering Division has planted almost every tree, shrub, outdoor plant and blade of grass on the Lab's 5,265-acre site that wasn't put down by Mother Nature, the Civilian Conservation Corps during the Great Depression, or the Biology Department as part of an experiment.

Their planting is most visible during mid-May and mid-September, when they put in spring and fall flowers, respectively.

"Every fall, we plant mums," explains Tage Carlsson, Grounds & Sanitation Supervisor, "but, this year, we decided to leave the more hardy summer flowers like the geraniums in because they'll also last to the first frost."

Not only do the 14 permanent utility workers and drivers plant and grow, but they also water and weed; prune, trim and mow; tend nursery stock; pick up and dump garbage; eliminate pests and insects; clean out gutters and basements; pick up litter and sweep the streets; put up snow fence; blow leaves and shovel snow; and maintain their own tools.

"When it rains, we don't have to water the flowers but we do have more grass to cut — it's always one thing or the other with everything we do," comments Carlsson.

His permanent Grounds & Sanitation crew includes: utility worker Arthur Anderson, driver Howard Bell Jr., driver Robert Callister Jr., driver Keith Detmer, driver Richard Gagliardi, driver Hubbard Harris, tool crib attendant Dollie Johnson, utility worker Larry Jones, driver John Kulesa, driver Joseph Lopez, utility worker Philip Sgro, utility worker Johnnie Turner Jr., driver Paul Williams, and utility worker Frank Zambriski.

Planting fall chrysanthemums are (from left) Howard Bell Jr., Frank Zambriski, and John Van Gelder of the Grounds & Sanitation crew.

During the summer, Carlsson's staff increases to 20, when six custodians, who are replaced indoors by summer students, join the outdoor crew. On the Grounds & Sanitation crew until October 1, this summer's six were: Darren Harris, Antonio McGill, Michael Piccione, Robert Recame, Felix Thompson, Joseph Tullo, and John Van Gelder.

All year round, the Grounds & Sanitation crew rotates through the everyday and seasonal assignments.

Besides planting during the fall, Grounds & Sanitation prepares for winter by mulching leaves, driving snow stakes, putting up snow fence, etc.

Advice From the Experts

"We also prefer to transplant trees in the fall — if you plant them in the spring and you have a hot summer, then they don't take as well as if you waited for fall," advises Carlsson.

Grounds & Sanitation grows its own small trees at their nursery near the observatory; larger trees, shrubs and flowering plants are purchased locally. The crew grows new grass all over the site by spraying paper mulch, water, lime, fertilizer and seed as a green film over the ground using a hydroseeder.

"Because the crab grass is dying out, fall is a good time to spot seed bald areas," explains Robert Recame.

Richard Gagliardi recommends, "Instead of bagging leaves, buy a leaf shredder and add the leaf mulch to a compost pile. Then in the spring, use the decomposed compost for mulch."

"After their leaves fall, trees can be pruned since they are dormant and sap isn't running," says Larry Jones.

"Wait until the end of October to prune your roses, cutting them back about six inches from the ground," advises Keith Detmer. "Then use leaves or straw to cover the stalks to protect them from frost."

"We're not indoor plant experts, but if we get a call about drooping leaves or some sort of bug, I'll send Frank Zambriski out," reports Carlsson. "If he doesn't know, he'll consult with Rich Sautkulis in the Biology Department greenhouse."

As Zambriski suggests, "Now is the time to take in house plants. But before you do, check each plant — including the root system — for bugs."

Adds Arthur Anderson, "You can take in outdoor geraniums, but, to encourage growth, remove the flower buds first."

— Marsha Belford

In Memoriam

William E. Keating Sr., who retired from BNL in 1979 after 32 years with the Reactor Division, died on August 25. He was 67 years old.

Keating came to the Lab as a technician in July 1947, one month before ground was broken for the Brookhaven Graphite Research Reactor (BGRR). Once the BGRR was in operation, he became a pile operator. In 1964, he became a nuclear reactor operator, a profession which he followed at the High Flux Beam Reactor after it was commissioned in 1965.

Keating was a resident of Patchogue. He is survived by his wife Mary; two sons, William and Thomas; two daughters, Marlene Stokes and Constance Poggi; and nine grandchildren.

•

Joan Simecek, who had retired from the Lab as an administrative services assistant in December 1982 after 35 years of service, died on September 28. She was 73 years old.

Simecek began her Brookhaven career in April 1947, the Lab's first year, as a clerk in the then Technical Services Division. After four promotions, she moved into the Director's Office in 1960 and into what was then the Security & Plant Protection Division in 1966.

After three more promotions, Simecek became an office service assistant in 1971. She joined the Staff Services Division in 1973. Simecek was made a staff services assistant in 1977 and was named in 1980 to the position from which she retired.

A resident of Patchogue, she is survived by her daughter, Jake Bottinger of Wading River; son-in-law William Bottinger, who works within Photography & Graphic Arts; and their daughter and her granddaughter Danielle Bottinger.

Patent Awarded

Richard Sapienza of the Department of Applied Science has been awarded U.S. Patent no. 4,904,700 for inventing a process and a catalyst used in that process to convert gas containing carbon monoxide into polymethylene, which is suitable for use as diesel or jet fuel.

The catalyst is composed of iron, 40-60 percent by weight, which is deposited on a surface that is 1-2 percent platinum or palladium or a mixture thereof. Total metal concentration of the catalyst should be from 40-100 percent.

The catalyst can be prepared by the new process and either used in situ or separated for later use. It is superior to those used in the conventional syntheses of polymethylene for four reasons.

First, it is relatively inexpensive and effective at moderate pressure. Second, it can be used in a dilute slurry form, with dilute concentrations having improved heat transfer properties. Third, since it can be stored for a long time either dried or in slurry form, it has superior stability. And finally, the major product of the catalyzed reaction is the long-chained hydrocarbon polymethylene.

The catalyst is prepared using a support, solid-phase material such as alumina, silica or zeolite. To impregnate the support with platinum and/or palladium, the solid-phase material is immersed in an aqueous solution of metal salts, such as salts of chloroplatinic acid, palladium chloride or ammonium chloroplaninate.

After the support system dries at temperatures between 80-200°C, a precursor such as iron nitrate, acetate or oxalate is deposited onto the supported platinum and/or palladium either by precipitation, gelation or impregnation. When it is dry, the iron-impregnated component is calcined at about 400°C and contacted by a stream of hydrogen to reduce the iron precursor to its metallic form.

After the catalyst is prepared in this manner, by maintaining the temperature and pressure along with an appropriate amount of agitation, polymethylene can be produced by reacting a mixture of either gaseous hydrogen and carbon monoxide, or water and carbon monoxide, or mixtures thereof.

Inside Information

Richard Spellman, Manager of the Central Shops Division (CSD), has announced two promotions within CSD. Effective October 1, **Edward Harmer** became Assistant Division Manager, and **Thomas Lambertson** assumed the position of General Supervisor.

Harmer came to BNL and CSD in 1974 as an experimental machinist in the Heavy Machine Shop. He was promoted to Shop Supervisor in 1977 and performed that function in both the Light and Heavy Machine Shops until becoming General Supervisor in 1986.

Lambertson started at the Lab in 1979 as an experimental machinist in the Light Machine Shop. In 1980, he moved to the Fabrication Section, where he became Fabrication Supervisor in 1985. He has also been a Shop Supervisor in the Light Machine Shop and is the current Supervisor in the Heavy Machine Shop.

Learn English

The Lab is offering English as a Second Language classes to employees, guests, visitors and their spouses on Monday evenings at 7 p.m.

Those interested in joining the free classes may enroll simply by attending an orientation and assessment meeting, which will be held on Monday, October 15, in the Personnel Training Room, Bldg. 459, as follows:

- Beginner — 7:00 p.m.
- Intermediate — 7:30 p.m.
- Advanced — 8:00 p.m.

For more information, call Starr Mattone, Ext. 7631.

Attn: Retirees

Next month, the Bulletin will publish the annual Special Edition updating retirees' names and addresses, just in time for the holiday season. We'd also like to include some "Retirement Notes" — your messages, stories or reminiscences that are of interest to the entire BNL community.

To share your "Retirement Note," send it to the Brookhaven Bulletin, Bldg. 134, Brookhaven National Laboratory, Upton, NY 11973. To be considered for publication, your note must be received by Wednesday, October 31. Submittals will be published as space permits.

Lecture Today

The annual Long Island Physics Teachers Association Meeting is being held on site today, hosted by BNL's Office of Educational Programs. The keynote address, "Just a Second," will be given at 10:45 a.m. by Peter Brancazio, professor of physics at Brooklyn College and a leading author on the physics of sports.

Focusing on the idea that, to an athlete, a second is a long time, Brancazio will demonstrate how some basic concepts of physics can be illustrated with examples from the physics of sports. The lecture will be held in Room B, Berkner Hall, and is open to the Lab community.

Arrivals & Departures

Arrivals

Zhi-Xiong Cai.....App. Science
Achyut M. Tope.....S&EP
Susan A. Vogt.....Medical
Mary F. Ward.....Medical

Departures

None

In Case of Medical Airlift

All three shifts of BNL's Fire/Rescue Group familiarized themselves with Suffolk County's primary medical evacuation helicopter, when the twin-engine BK-117 landed in front of the firehouse, Bldg. 599, on Friday, September 28, and Sunday, September 30.

Friday's was the first on-site landing of the BK-117 "Medevac" helicopter. One of the County's Bell 206b Jet Rangers, a smaller, single-engine helicopter which is also used for medical evacuation, had landed here before for BNL's inspection.

Operated by the aviation unit of the Suffolk County Police Department, Medevac is used to move seriously injured patients to treatment centers when air transportation would take at least ten minutes less than ground transport. Patients considered for medical airlift include those with life or limb-threatening conditions, second or third degree burns, or spinal cord injuries.

Flying out of MacArthur Airport, the County's Medevac flight crew is on duty from 7 a.m. to 11 p.m. everyday. With one pilot and one copilot, the BK-117 can carry one patient plus up to six medical attendants or two patients as well as up to three attendants.

So, if Medevac were requested, some of BNL's 23 emergency medical technicians (EMTs) within the Fire/Rescue Group, Safety & Environmental Protection Division, could be called upon. Therefore, during these visits, Lab EMTs got themselves acquainted with the type and placement of Medevac's on-board medical equipment, and its safety procedures.

BNL Fire Chief James Roesler (left) and BNL's Police Group Manager Russel Reaver (right) greet Steven Wagner (center left), pilot and Medevac instructor, and Sgt. Charles Downey, commanding officer of the aviation unit of the Suffolk County Police.

Be a Recyclist!

When BNL's comprehensive recycling program kicks off next month, it will have a very special logo — thanks to Liz Seubert, Public Affairs Office. She designed the clever logo urging each and every BNLer to "Be a Recyclist!"

Here, Seubert and Nelson Tyler, who is coordinating the recycling program within the Plant Engineering Division (PE), hold a copy of the winning design, while Tyler presents Seubert with her prize — a $25 gift certificate to the BERA store.

"It's a wonderful logo," said Tyler, "one we can expand on as we add more types of materials to the recycling program."

The program is slated to begin in November with the collection of office papers. As the Lab completes negotiations with appropriate contractors, the program will be expanded to include such materials as cardboard, glass, paper, wood and metal.

Tyler also wanted to thank everyone who participated in the contest. "There were some great ideas. There are obviously a lot of clever and concerned people at BNL."

Other submitters were: Ollie Booker Jr., PE; Al Borrelli, National Synchrotron Light Source Department; Theresa Clark, PE; Kenneth Davis, PE; Susan Rackett, Safeguards & Security Division; and Morris Strongson, Computing & Communications Division.

Note to Employees:

Attendance at lectures, meetings and other special progams held during normal working hours is subject to supervisory concurrence.

Service Awards

The following employees celebrated BNL anniversaries during September 1990:

35 Years

Nicolas Cipolla Jr......Plant Eng.
Lawrence B. Leipuner.....Physics
Thomas W. Morris.....Physics

30 Years

Nicholas C. Combatti.....Biology

25 Years

John Bennett.....Supply & Mat'l
Gloria Cusimano.....MIS
Beverly R. Gwathney....Sfgrds. & Sec.
Mordechai Montag.....Physics
Ralph T. Sanders.....AGS
Herbert Schulman.....S&EP
Sharon L. Smith.....Physics
Suzanne C. Van Der Kolk.....DNE

20 Years

Frank E. Paige Jr......Physics
Carole L. Kerr.....Director's Off.
Lydia Schlichtcroll.....Medical

10 Years

Violet Bezler.....Physics
Kevin M. Cosgrove.....S&EP
Annette M. Gremme.....Medical
Victor O. Gutierrez.....Director's Off.
Francis J. McNeil.....Reactor
David C. Onsrud.....NSLS
Stephen R. Plate.....Accel. Dev.
Sathyavathi Ramavataram.....DNE
Barbara A. Royce.....S&EP
Camille A. Saville.....Occ. Medicine
Michael S. Seidman.....MIS

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BNL Lecture (cont'd)

joined BNL's Physics Department as an assistant physicist in 1963, becoming a physicist in 1967 and a senior physicist seven years later.

In 1985, Strongin became Head of the solid state physics group and Associate Chairman of Physics. He is a member of Sigma Xi and a fellow of the American Physical Society. From 1986-87, he was acting editor of *Physical Review Letters*.

His present and recent research interests include transport and surface properties of superconductors, amorphous materials, the action of hydrogen on metals, photoemission spectroscopy, properties of metal bilayers and chemical reactions both on bilayers and at low temperatures.

After the lecture, those attending are invited to join the speaker for discussion and hors d'oeuvres. Those interested in also joining the lecturer for dinner at a restaurant off site should call Pat Kriss, Ext. 3827.

— Liz Seubert

Archery Club

The Archery Club will hold an instructional and safety clinic on Tuesday, October 16, at noon at the archery range. All are welcome. For more information, call Bill Schoenig, Ext. 2377.

Microcomputer Club

The next meeting of the Microcomputer Club will be held on Thursday, October 18, at noon in the conference room of Bldg. 475. Ralph Fullwood, Department of Nuclear Energy, will give a talk and demonstration on simple BASIC programs used to solve and plot physics, titled "Ppfun Physics with a Pfee Cee."

These ideas are part of his upcoming book, *Natural Philosophy: Physics With a Personal Computer.*

Among the topics and pnumerical solutions Fullwood will discuss are: Simpson's rule for integration, Lagrange interpolation of a steam table, ballistic trajectory with air drag, Kepler's equation, Laplace's equation for flow around a corner, transient heat conduction in a solid slab, and vibrational modes of a drumhead. Contact Irv Montanez, Ext. 2540, for further details.

PSI Meeting

The next meeting of the Upton Chapter of Professional Secretaries International (PSI) will be held on Tuesday, October 16, at 6:30 p.m., in the south dining room of the Brookhaven Center. A video on fire prevention will be shown after the regular meeting.

You're Invited To a Star Party

The BERA Astronomical Society is holding an All-Star Party on Saturday, October 20, at 7:30 p.m. Everyone is invited to put on sweaters and warm socks, drive to the on-site observatory and star gaze. Bring your own telescope if you can — even if you don't know how to use it, there will be several experts to help.

Admission is $1 for nonmembers. Call Keith Power, Ext. 7772, for directions and weather information. Rain/cloud date is October 27.

Cooking Exchange

The Cooking Exchange will hold a varied-menu demonstration at the Recreation Building in the apartment area on Wednesday, October 17, at 12:30 p.m. A new committee will also be formed on that day.

Newcomers to BNL are especially welcome to come and get acquainted. Your participation and your ideas are encouraged.

A donation of $2 per adult is requested to cover expenses for the ingredients and light lunch. There is a $1 charge per child for baby-sitting.

For more information, call Eiko Tanaka, Ext. 3017, or Miriam Rothenstein, Ext. 3092.

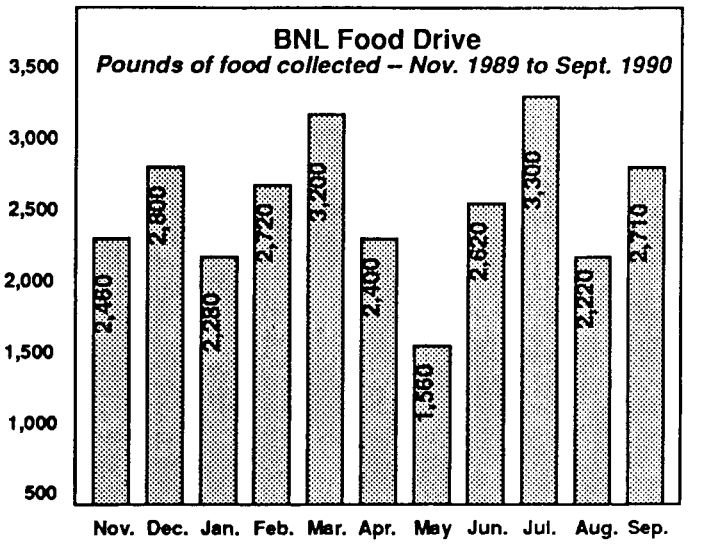
Go for the Goal

When the BNL Food Drive began in November 1988, Food Drive Chair Carole Kerr set a collection goal of 2,000 pounds per month. In November 1989, the goal was surpassed for the first time.

Since then, BNLers have given well above the goal in every month but one.

To reach these impressive totals, BNL employees have donated in three ways: They have given generous amounts of food for Brookhaven Town's needy, written personal checks with which Kerr has gone shopping, and sent Kerr their receipts from Finast and King Kullen Supermarkets, which can be applied toward a discount when she shops for the needy.

October's Food Drive will take place all next week. Drop your food donations in the food cans all around site, or send checks and receipts to Kerr in Bldg. 460.



Cafeteria Menu

Luncheon served 11:15 a.m. to 1:30 p.m., grill open to 3:45 p.m., Cafeteria closes 4 p.m.

Monday, October 15

Soup: Vegetable beef	.75/.95
Entree: Hot turkey w/gravy & 1 veg.	3.10
Entree: Pasta primavera	3.10
Fitness: Chef's choice w/1 veg.	3.10
Carvery: Hot pastrami sandwich	2.85
Grill: Phili-steak	2.95
SPICE: Try a "deli-style" bagel lunch	

Tuesday, October 16

Soup: Split pea	.75/.95
Entree: Stuffed green peppers w/1 veg.	3.10
Entree: Seafood seashell Newburg	3.10
Fitness: Baked chicken w/1 veg.	3.10
Carvery: Hot roast beef sandwich	2.85
Grill: Chili burger	2.35
SPICE: Try a bagel breakfast sandwich	

Wednesday, October 17

Soup: Chicken noodle	.75/.95
Entree: Fried chicken w/1 veg.	3.10
Entree: Manicotti w/1 veg.	3.10
Fitness: Jambalaya	3.10
Carvery: Hot Black Forest ham	2.85
Grill: Patty melt on rye	2.45
SPICE: Join the bagel sandwich for lunch bunch	

Thursday, October 18

Soup: Mushroom barley	.75/.95
Entree: Chicken fajitas w/1 veg.	3.10
Entree: Baked potato w/broccoli cheese sauce	1.50
Fitness: Baked stuffed fish Creole w/1 veg.	3.10
Carvery: Hot corned beef sandwich	2.85
Grill: Grilled Reuben	2.45
SPICE: Break faster with a bagel sandwich	

Friday, October 19

Soup: Seafood bisque	.75/.95
Entree: Fish and chips	3.10
Entree: Croissant entree w/1 veg.	3.10
Fitness: Chef's choice w/1 veg.	3.10
Carvery: Hot turkey sandwich	2.85
Grill: BLT melt	2.10
SPICE: Bite into a bagel sandwich	

Breakfast w/coffee, 7:30 - 10:30 a.m. 2.65

Mon.: 2 eggs, bacon & pancakes
Tue.: Western omelet, French fries, toast
Wed.: Spanish omelet, home fries, toast
Thu.: 2 eggs, bacon, cheese on croissant, fries
Fri.: French toast, 2 eggs, bacon, home fries

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 and/or appropriate bargaining unit, with preference to those within the immediate work group; (2) present employees within the Laboratory as a whole; and (3) outside applicants. In keeping with the Affirmative Action plan, selection decisions are made without regard to age, race, color, religion, national origin, sex, handicap or veteran status.

Each week, the Personnel Office lists new personnel placement requisitions. The purpose of these listings is, first, to provide open placement information on all non-scientific 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.

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 Employment Manager, Ext. 2882.

The vacancy listed below has been exempted by the Director's Office from the current freeze on open requisitions.

LABORATORY RECRUITMENT - Opportunities for Laboratory employees only.

4333. ENGINEERING POSITION (Quality Assurance) - Requires a minimum of BS degree in an appropriate field and substantial comprehensive engineering experience. Knowledge of environmental regulatory issues highly desirable. Responsibilities will include implementing, documenting and auditing the Division's QA, safety and training programs, and maintaining status and tracking of compliance regarding ES&H commitments. Additional duties include updating and maintaining policies and practices manual, and serving as project manager for fire protection improvements. Plant Engineering Division.

Motor Vehicles & Supplies

89 KAWASKAI KX250 - very fast, expertly maintained, extras, $1,600; '87 Jayco motor home, 25', best offer. Lois, Ext. 4904, Bob, 929-4753 eves.

88 HONDA ACCORD LXI - 4-dr., champagne, 55k mi., p/sunroof, loaded, excel. cond., $9,200. Don or Sue, 473-6570 after 7 p.m.

88 CAMARO - 46k mi., 5-spd., fully loaded, all options, black/gold, excel. cond., $8,000. Ji Xu, Ext. 2183 or 689-8284.

87 HYUNDAI EXCEL GLS - w/extended 7 yr. warr., gray, 3-dr. hatch, $4,500. 289-7607.

86 SUBARU GL-10 - 4wd, turbo wagon, 12-mo. warr., 5-spd., all elect., every option, mint cond., asking $5,000. Henry, Ext. 4547/5385 or 727-7227.

86 300-ZX - loaded, T-top, $8,500. Emil, Ext. 4289.

86 BUICK CENTURY - custom, 4-dr., a/t, ac, p/b, p/s,. 74k mi., looks great, runs well, must sell, $3,650. Ext. 5240 or 821-6321.

86 MERCURY GRAND MARQUIS LS - all power, ac, stereo cass., landau roof, 2-dr., tilt wheel, excel. cond., $7,800. 821-0695.

86 DODGE VISTA - 7-pass. wagon, ac, a/t, p/s, p/b, am/fm cass, new tires & exhaust, silver, mint cond., $5,500. Louie, Ext. 7609.

85 CHRYSLER LASER TURBO - 5-spd., new turbo, brakes, more, excel. cond., $2,500 firm. Vito, Ext. 5385 or 243-2743.

85 GMC PICKUP - 4wd, 6-2L diesel, a/t, cap, loaded, must see, $8,500. 475-6961.

84 FORD LTD II - 4-dr., gray, ac, cruise, new engine, 15k mi., v.g. cond., $2,200 or best offer. 665-0331.

84 SUZUKI RM250 - liquid-cooled DG racing engine, new tires, chain, sprockets, very fast & clean, well maintained. Glenn, 499-6341.

84 TOYOTA CELICA GT - a/t, fully loaded, immac., $4,250. Bob, 585-6020.

84 DODGE COLT TURBO - 135k mi., body rust, runs well, $400. Ext. 3983 or 3214 eves.

83 NISSAN SENTRA - 4-dr. wagon, am/fm, ac, 74k mi., must sell, best offer. Ext. 7139 or 878-1831 eves.

82 DODGE - 6-cyl., new brakes, good tires, ¾-ton, $875. 924-5192.

81 KAWASAKI 440 LTD - 12k mi., new brakes, battery, tires, chain, sprockets, sissy bar, v.g. cond., must sell, moving, asking $650. 474-5715.

81 OLDS - diesel, uses oil, 81k mi., good tires, good cond., $250. 281-5827, leave message.

81 VW VANAGON - m/t, 7-pass., trailer hitch, rebuilt engine, excel. cond., $2,995. Bob, 289-8167 after 6 p.m.

80 FORD F250 4x4 PICKUP - 33" tires, eng. runs well, 3" lift kit, new brakes & trans., cap, toolbox, 4 extra tires. 475-9452.

80 EAGLE WAGON - 6-cyl., a/t, 4wd, am/fm stereo cass., $650 as is. Bob, Ext. 2088 or 399-3197.

80 TOYOTA CELICA - h/b, good running cond. & body, clean, reliable, recent maintenance & repairs, $1,000 firm. Lois, 928-5053 after 6 p.m.

80 HONDA MOTORCYCLE CB900 - custom, low mi., excel. cond., ask. $1,200. Len, 475-7272.

80 MAZDA RX7 - 5-spd., sunroof, runs well, body needs work, asking $750. Jim, 244-3577.

80 KAWASAKI - many new parts, v.g. cond., $500. Dan, Ext. 4605.

79 SUBURBAN SCOTSDALE - 4wd, a/t, p/s, am/fm cass., recent front springs, tires & battery, 36k mi., $2,500 neg. Tirre, Ext. 3288 or 281-0360.

79 OLDS WAGON - p/s, p/b, ac, am/fm, $500. Tony, Ext. 5508.

79 280ZX - loaded, 77k mi., $2,700 or best offer. Emil, Ext. 4289.

77 MERCURY MARK 5 CONTINENTAL - good mech. cond., some rust, $750 neg. Bruce, 924-2033 after 6 p.m.

77 CHEVY MONZA 2+2 - factory V-8 pkg., deluxe int., runs well, body & int. like new, $2,200. 924-0310.

76 DODGE CAMPER VAN - fully equipped, sleeps 2, additional snap-on room, air brakes, hitch, CB, tape deck, make offer. 929-8772.

74 DODGE SWINGER MOTOR HOME - 38k orig. mi., sleeps 6, completely self-cont., ac, stereo, CB, like new cond., asking $8,900. 473-1456.

73 VOLVO P1800ES SPORT WAGON - a/t, ac, leather, 4-cyl., fuel inj., 68k mi., factory mags, new tires, fair cond., classic. Bruce, Ext. 4956.

73 OLDS CUTLASS - 2-dr., V-8, p/b, p/s, a/t, ac, many new parts, runs well, $550. Bill, Ext. 4986 or 563-1940.

67 JAGUAR - model 420, 4-dr., sedan, restorable, 6-cyl., a/t, wire wheels, leather int., make offer. Tony, Ext. 2023.

31 CHRYSLER - all original, low mileage, runs well, excel. cond., $7,000. Ext. 3160 or 289-5704 after 5 p.m.

CAR RADIO - Sharp, auto reverse, 12 preset, orig. $120, sell $55, still in box. Jie, Ext. 3449.

CAP - for Subaru Brat, fiberglass, as is $150, custom painted for you, $300. Harvey or Jeanne, 395-1078.

Boats & Marine Supplies

27'7" SEARAY SUNDANCER 270 - 1987, 10' beam, twin 205 h.p. Mercs, sleeps 6, low hrs., many extras, orig. owner. Christine, 475-0828.

25' SEIDELMAN SLOOP - cruising equipped, ib. diesel, VHF, D.S., K-log, steel cradle, excel. cond., $12,000. Jim, Ext. 4584.

25' RINKER FIESTA V - cruiser, 1989, hot water, stove , fridge, aft cabin, VHF, full canvas, many extras, $22,000. Jeanne, 395-1078.

19' BOWRIDER CRUISER - 1972, w/1976 115-h.p. Johnson, canvas, trailer, w/elec. winch, $2,500. Frank, Ext. 2314 or 567-5131.

13½' BOSTON WHALER - 1965, w/1984 35-h.p. Evin., v.g. cond., $2,350 or best offer. 665-0331.

13' BOMBARD - 1987, inflatable, 30-h.p. Mariner, '87 trailer, all access., excel. cond., great scuba diving, must sell, moving, $3,500. 474-5715.

Furnishings & Appliances

WALL UNIT - rattan, 18"d x 6'h x 6'l, w/desk, 3 drawers, $100. 654-5479.

ANTIQUE TABLE - oak, w/5 matching chairs; oak dresser w/mirror & 4 drawers. Bob, Ext. 3084.

COUCH - 2 chairs, end table w/lamp, coffee table, TV unit, matching, $300/set. 698-5762 after 6 p.m.

DISHWASHER - portable, wood grain top, excel. cond., $100. J. Grogan, Ext. 4986.

DRAWING TABLE - metal; loveseat, gold; 2 green chairs w/wood trim. Jack, Ext. 4054 or 289-1989 eves.

TYPEWRITER - Remington Selectric 100E, electric, commercial, $20. Victor, Ext. 2395.

DINING ROOM SET - contemp., table w/leaf, 6 chairs, china closet, $650; coffee table & 2 end tables, contemp., $85. 589-3072.

WATER BED - waveless, queen size, 3 yr. old, oak frame & headboard, like new, $300. Ext. 7918 or 744-3068.

TRESTLE DESK - Yield House, good cond., asking $200. Pete, Ext. 7955 or 929-3847.

REFRIGERATOR - GE, frost-free, 15.6 cu. ft., excel. cond., $150; GE washing machine, like new, $100. 289-7902, leave message.

DISHWASHER - GE Potscrubber, extra quiet, 2 yr. old, $250; loveseats, matching pair, covered in floral chintz, $500. Ext. 4567.

WALL UNIT - bookcases, storage, 2 pieces, $100; Raleigh woman's bicycle, 26", $50. Ext. 4247.

LOVESEATS - 2, light blue, excel. cond., $250. Emil, Ext. 4289.

DRESSER - solid wood, $50; antique princess dresser, oak, $450; contemp. wool rug, 9'x12', light blue, $75. Henry, Ext. 4547/5385 or 727-7227.

DINING ROOM SET - antique, sideboard, chairs, glass top, mahogany, end tables, $350. 929-4014.

BEDROOM SET - 4-piece, Colonial, queen size, 8 mo. old, asking $650. Ext. 2951.

Tools, House & Garden

CAR RAMPS - $10; electric drill, $5; trailer tires, $35/two; trailer winch, $5; hatch cover table. Carl, Ext. 4420.

WORK TABLE - 72", $20; sets of foreign stamps, $3/ea.; seasoned hardwood, full truckload, $150; Hoover vacuum, new, $50. Tim, 744-2203.

Sports, Hobbies & Pets

COCKATIELS - terrific singers, $50/pair, $35/one; chrome parrot cage, large, $35. 744-3069.

PIANO - Waters, full upright, good cond., ivory keyboard, mahogany, $700. Ext. 4932 or 928-8993.

LASA PUPS - AKC, 10 weeks old. Ramona, 928-3088 or Whitey, Ext. 2913.

BIKE - Schwinn, woman's, 12-spd. traveler, 3 yr. old, like new, asking $100. 472-4133.

CAMPER TRAILER - Tag-along, 73, 14', sleeps 4, $800. Chris, 345-3858.

WOOD CAGE - good for rabbits, etc., new, orig. $50, now $40. Sue, Ext. 7235.

CHRISTMAS TREE SKIRTS - handmade, quilted, 48" dia. w/3" ruffle, $65. Henry, Ext. 4547/5385 or 727-7227.

FISH TANKS - 20 gallon w/gravel & screen, $20; 30 gallon w/hood, gravel & filter, $50. Ext. 4695 or 744-1917.

DRYSUIT - Poseidon, man's, large, v.g. cond., must sell, orig. $1,500, sell for $500. 474-5715.

TOYS - & children's books, many battery operated, toddler to pre-teen, $5; Buddy-L typewriter; GI Joe Stealth fighter, $10. Shu, Ext. 2419.

Audio, Video & Computer

COMPUTER - Tandy 1000EX, PC compat., dual 5¼" drives, 640k, RS232, clock, color mon., NLQ print., joy., software, $700 neg. John, Ext. 7982.

TV - RCA Colortrack, 19", remote, cable ready, almost new, $200 neg. John, Ext. 4153.

SPEAKERS - w/equalizer, Bose 901 series, $250. Brian, Ext. 2799.

Miscellaneous

TICKETS - 2, round-trip, to Orlando from Islip, American, Oct. 31-Nov. 7, may change but must use by Dec. 15, $158/ea. 929-4437 after 6 p.m.

BOY'S CLOTHES - winter jackets, size 6 & 8, $8/ea.; pants, velour shirts, size 5-10, $4; storm coat, size 7, $15. Shu, Ext. 2419 or 499-0637.

BABY'S CAR SEAT - Fisher Price, up to 40 lbs., v.g. cond., $30. 281-0268.

TICKETS - 2, Shanghai Symphony, various pieces, Oct. 20; 2, Pittsburgh Ballet, *Swan Lake*, at SUNY Stony Brook, $15/ea. Peter, Ext. 4094.

Free

CAT - female, black, very friendly, needs a house before the winter. Veronique, Ext. 3396.

Yard & Garage Sales

CORAM - Oct. 13-14, 9 a.m.-5 p.m., 27 Amber Lane, furniture, household items. 928-9136.

PATCHOGUE - Sat., Oct. 13, 10-5 p.m., 185 Maple Ave. 289-1989.

Car Pools

BOHEMIA-OAKDALE-SAYVILLE - need 1 more driver for car pool. Frank, Ext. 2314 or 567-5131.

BELLPORT - save gas, enjoy charming conversation. Ralph, Ext. 2180.

Real Estate

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

For Rent

BELLPORT - 3-room apt., $650/mo. includes all utilities & cable. 286-8916 after 8 p.m.

BELLPORT VILLAGE SOUTH - 3-bdrm. house, furn., 2 baths, gar. winter rental, $900/mo. + util. 286-9389 or 286-0466.

BROOKHAVEN HAMLET - top-floor apt., l/r, bdrm., eik, full bath, priv. ent., w/w, just painted, new appl., walk to water, next to wildlife preserve, $650/mo. incl. util. Linc or Dorry, 286-8689.

EAST SETAUKET - room in house to share, use of l/r, kitchen, d/r, large backyard, w/d, dw, 25 min. to Lab, $300/mo. + ¼ util. Darryl, Ext. 4561 or 928-3416..

MASTIC BEACH - 2-bdrm. house, furn., fp, fenced yard, 15 min. from Lab, $750/mo. 212-777-3449 or 281-4372.

MATTITUCK - 1-bdrm. apt., quiet wooded area, near water, full bath, large l/r & closets, kitchenette, priv. ent., nonsmoker, $450/mo. pays all. Ext. 7657 or 298-9560.

MIDDLE ISLAND - large priv. bdrm., full bath, cable, priv. ent., nonsmoker, limited cooking facilities, 5 min. to Lab. M-T, 8:30-3:30; W-F after 4:30, all weekend, 732-3187.

NORTH SHIRLEY - 1-bdrm. apt., priv. ent., quiet neighborhood, 5 mi. to Lab., $550/mo. + util & cable. Drue, Ext. 2290 or 286-8543.

PORT JEFF VILLAGE - 1-room apt., priv. bath, priv. ent., $375/mo. 473-7739.

PATCHOGUE VILLAGE - 1-bdrm. apts. in 2-family house, both ground floor, sep. entrances, bath, newly redone, $600/mo. + util. 289-7902, leave message.

RIDGE - furn. studio apt., w/w, kitchen, bath, priv. ent. & priv. yard, 3 mi. from Lab., $475/mo. incl. all. 744-8632.

RIVERHEAD - small bdrm., priv. bath, kit. privileges, nonsmoker preferred, Marylin, Ext. 3484.

ROCKY POINT - 3 bdrm., eik, laundry, fenc yard, new carpets, paint, $800/mo. Don or Su 473-6570 after 7 p.m.

RONKONKOMA - Nob Hill, 2-bdrm. condo, LIE 58, tennis, pool, clubhouse, w/w, patio, all appl., ac, $900/mo. incl. heat. Bill, 878-6016.

SHIRLEY - 3-rm. apt., $450/mo., responsible. 399-0969.

SHIRLEY - 1-bdrm. apt., top floor, l/r, eik, full bath, w/w, like new appl., $575/mo. incl. util., single adult, no pets, 15 min. from Lab. 281-1840 after 6 p.m.

SOUND BEACH - 2 bdrm., eik, bath, carpet, fenced yard, bsmt., laundry, $700/mo., avail. Nov. 1. Don or Sue, 473-6570 after 7 p.m.

STONY BROOK - 3-bdrm. ranch, 2 baths, fam. rm., l/r, d/r, eik, gar., 3-V Schools, walk to SUNY & shopping, reas. rent, quiet neighborhood. Feng, Ext. 2683 or 751-2469 eves.

STONY BROOK - 3-bdrm. Colonial, 2½ baths, ⅓ wooded acre, quiet neighborhood, 5 min. to SUNY. 751-8351.

HILTON HEAD, SC - 2-bdrm. condo, sleeps 6, 2 baths, tennis, golf, beach, pool, Oct. & Nov. $300/wk. 689-5378.

For Sale

BELLPORT - 3-bdrm. ranch, eik, 1 bath, fp, gar., move-in cond., $180,000. 286-0466.

BROOKHAVEN HAMLET - 4-bdrm. Cape Cod, 2 baths, d/r, l/r, eik, 2-car gar., 20' deck, patio, more, close to bay, ¾ acre, red. to $219,000. Ext. 7108 or 286-0271 eves, or Carl, 214-708-2058.

CALVERTON - 2-bdrm. townhouse, 2 stories, carpeting, 2 decks, 5 new appl., Andersen windows, fenced yard, 1½ baths, assum. mortg., $82,000. Steve, 369-9884.

CORAM - Strathmore East, 4-bdrm. ranch, 2 baths, cathedral l/r, 2-car gar., gas heat, fenced corner lot, $120,000. Ext. 3791 or 928-7154 after 7 p.m.

EASTPORT-WESTHAMPTON - 3-bdrm. ranch, 2 baths, fam. rm., deck, 1½ car gar., quiet loc., ask. $145,000. Artie, Ext. 4988 or 325-0743.

MASTIC - 3-bdrm. T-ranch, den, l/r, d/r, eik, w/skylight, deck, pool, fenced yard, new w/w, new windows, extras, 10 min. to Lab, priced to sell. Bettie, Ext. 3046 or 2253.

MIDDLE ISLAND - Coventry Manor, 3-bdrm. townhouse, 2 baths, kit., l/r, d/r, w/d, cac, 5 appl., pool, tennis, clubhouse, new carpet, ask. $99,000. Rosalie, Ext. 3160 or 289-5704 after 5 p.m.

MIDDLE ISLAND - Lake Pointe, 2 bdrm., l/r-d/r area, cac, gas heat, all appl., w/d, wood deck off master bdrm., pool, tennis & clubhouse, best offer over $70,000. Bob, 924-7316.

MIDDLE ISLAND - 2-bdrm. co-op, 2 yrs. old, deck allowed if desired, maint. is 80% tax deductible, assume $50,000 mort. + $5,000 cash, $500 closing cost, motivated seller. Chris, 345-3858.

MOUNT SINAI - 4-bdrm. Colonial, l/r, d/r, den, eik, 2½ baths, 2-car gar., fence, ig pool, 0.4 acre, corner lot, $179,000. 331-3785.

RIDGE - 3-bdrm. townhouse, 1½ baths, cac, w/w, all appl., upstairs, newly carpeted, encl. redwood patio, storage rm., low monthly maint., 5 min. to Lab, reduced, $90,000 neg. Mary, 924-4328.

SHOREHAM - 4 bdrm., 2½ baths, 2-car gar., ⅓ acre, energy efficient, full fenced, close to schools, shopping, $165,000. Rich, 744-0960.

STONY BROOK - 3-bdrm. Colonial, l/r, d/r, eik, 2½ baths, 2½-car gar. on ⅓ wooded acre, ask. $160's. 751-8351.

HUBBARDTON, VT - 38 deeded acres, situated on town-maintained road w/power & telephone, southern exposure, view of Lake Bomoseen, $38,000 neg. Tom, Ext. 2823.

Wanted

APPLE CIDER PRESS - used & working cond. Ken, Ext. 2022.

BICYCLE - mountain or 12-spd. for 5'10" male teenager, used, good quality, good cond. Ext. 7657 or 298-9560.

BROWNIE UNIFORM - Size 10/12, prefer jumper and handbook, will pay. Betty, 758-2653.

CEDAR TREES - 3'-4', field or nursery grown, will dig, reasonable. Tony, Ext. 2023.

FIREPLACE SCREEN - w/glass doors, 33½" x 26½". Pete, Ext. 3297 or 821-9547.

HOUSEMATE - share 3-bdrm. house, E. Setauket, large room w/fp, priv. ent., gar., w/d, $395/mo. + ⅓ util. Joe, Ext. 2215 or Joe or Chris, 689-7719.

HOUSEMATE - to share 4-bdrm. house in Ridge, 4 mi. from Lab,, $270/mo. + ¼ util. Mike,. Ext. 2671 or 924-2865.

PEOPLE TO JOIN - nondenominational Christian fellowship group, every Thurs. at noon in the Rec. Bldg., apt. area. Pete, Ext. 3297.

PEOPLE TO JOIN TOASTMASTERS - improve your public speaking, meetings Tues. 5:15 p.m., Brookhaven Center. Margaret, Ext. 3644.

TIRE - 155SR13 or 15580R13, good cond. Mike, Ext. 4199.

TIRE - Goodyear 721 mounted on an Eldorado rim, must be in good cond. Steve, Ext. 5385.

TUBED AUDIO COMPONENTS - working or not, by Marantz, ARC, Macintosh. Jim, Ext. 4584.

DECK HOCKEY PLAYERS - to form BNL team, need aggressive forwards, strong defensemen, intimidating enforcers. John, Ext. 2512.

FRIENDS OF ROBERT HILL - retired from PE 1960, will celebrate 95th birthday Sun., Oct. 14, to join party, call 758-1841.

Ads left out of this issue due to lack of space need not be resubmitted to appear in the next issue.