BROOKHAVEN BULLETIN
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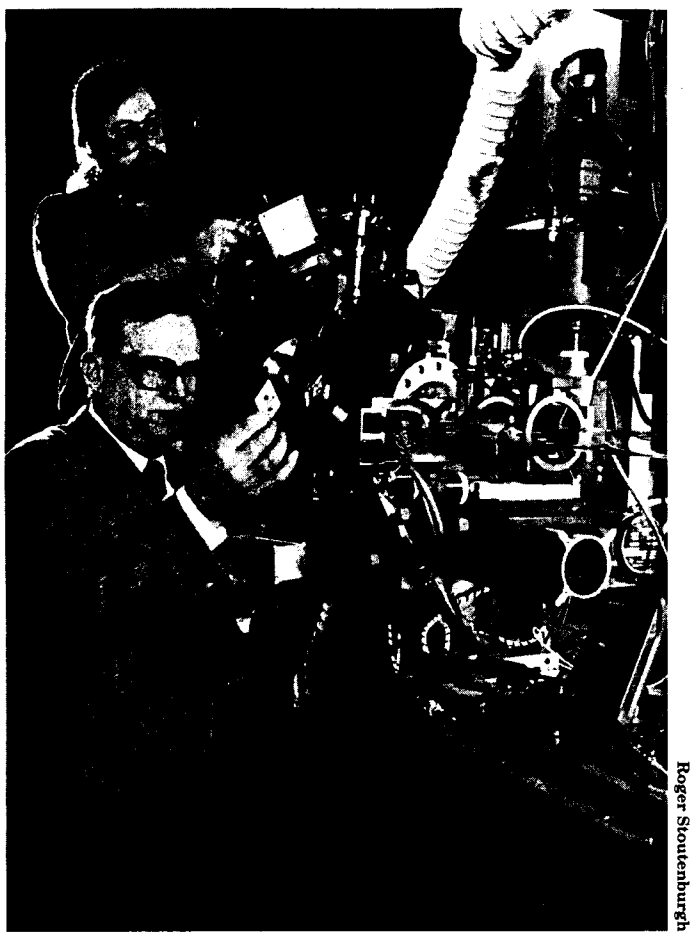
BROOKHAVEN NATIONAL LABORATORY


Roger Stoutenburgh

**At the National Synchrotron Light Source, James Wegrzyn, (foreground) Department of Applied Science, and Malcolm Capel, Biology, use small-angle x-ray diffraction to determine the pore structure of activated carbon adsorbents for possible solutions to problems of fuel storage in natural-gas vehicles.**

# DAS Researchers Aim to Make Natural-Gas Vehicles More Marketable

By the year 2010, about 5 million natural-gas vehicles are expected to be on the road, according to U.S. Department of Energy (DOE) estimates. Today, only a tiny fraction of that number — some 30,000 — are in use.

"To make natural-gas vehicles more acceptable to the general public," said James Wegrzyn, Department of Applied Science (DAS), "their present driving range of 100 to 200 miles would have to be at least doubled. A new fuel storage system needs to be designed that holds more fuel under lower pressures — a space-saving and safety improvement. If the fuel-storage problem can be solved along with improvements in fuel-economy, then the natural-gas vehicle can become the car of the future."

Wegrzyn is managing a BNL program that is looking for a solution to the fuel-storage problem. BNL has signed a $1.6 million, two-year contract with an international research consortium, the Atlanta Gas Light Adsorbent Research Group, to develop a new, low-pressure fuel storage system for natural-gas vehicles. This research has been undertaken in response to several federal mandates, which require that an escalating percentage of fleet vehicles in the U.S. run on alternative fuels.

Also contributing to this research are C.R. Krishna, Tom Lee, Robert Sabatini and Harold Wiesmann, all from DAS; Malcolm Capel, Biology; Jessie Dearo, University of California, Santa Barbara; and Mark Nelkin, a former Cornell University professor who is a consultant in the project.

### Natural-Gas Advantages

Natural-gas vehicles have environmental and economical advantages over those that are gasoline-powered. Provided that they are newly built rather than converted from gasoline-powered vehicles, natural-gas vehicles are cleaner-burning than the latter, so they are better for the environment. In fact, their exhaust emissions are lower than the stringent standards recently set in California.

Further, widespread use of natural-gas vehicles may help the nation's economy. According to DOE and the Energy Information Administration, the U.S. will consume more than 21 million barrels of petroleum daily by 2010, and the amount of imported petroleum is expected to almost double by that time. Since natural gas is abundant in the U.S., a five percent natural-gas fuel share of the transportation market could reduce the U.S. trade deficit by $2 billion per year.

### A Dual Approach

The goal of Brookhaven's natural gas research is to replace the currently used high-pressure, compressed-gas storage system with an adsorbent storage system that can hold

(continued on page 2)

# Northrop Grumman Completes First 30 RHIC Dipoles

**At the Northrop Grumman Corporation's Long Island facility in Bethpage, where superconducting magnets are being made for BNL's Relativistic Heavy Ion Collider (RHIC), management and technical staff celebrated the completion of Phase I, which called for the production of 30 dipole superconducting magnets. Not only was the 30th magnet delivered on September 30, as promised, but all 30 magnets exceeded performance specifications.**

**Attending the September 30 celebration, RHIC Project Head Satoshi Ozaki (front row, second from right) congratulated Northrop Grumman "on the excellent tooling, manufacturing expertise and superior workmanship demonstrated in the production of these magnets."**

**With the successful completion of Phase I, BNL has given Northrop Grumman the go-ahead for Phase II, which is the full-production phase of the contract awarded in 1992 to build 373 dipole magnets for RHIC.**

# *DOE Recognizes Several BNLers for Trimming Their Wastes*

Cleaning up pollution is a messy, expensive business, so it's no wonder that people are working to prevent it in the first place. The U.S. Department of Energy (DOE) has even started giving awards to employees at DOE facilities who come up with the most money-saving and effective ways to keep pollution out of the environment — and this year's winners include several BNLers.

Last May, BNL Pollution Prevention Coordinator George Goode traveled to Denver, where he accepted certificates of appreciation for Art Jens, Central Shops Division (CSD); Richard Skelton, Alternating Gradient Synchrotron (AGS) Department; and Roy McWilliams, Plant Engineering (PE) Division — all finalists in several categories of the national Pollution Prevention competition. Another nominee, John Scharpeger of the Supply & Materiel Division, made it to the next round and became a national runner-up in his category. All four were nominated by Associate Director for Reactor, Safety & Security M. Sue Davis.

What did these BNLers do to merit these awards?

Jens helped the Lab save more than $95,000 per year in waste disposal, man-hours and purchasing by substituting a new cutting lubricant for one that required more cleaning and waste.

McWilliams, together with PE's Oscar Blevins, instituted a Labwide recycling program that saves Brookhaven $51,000 in disposal costs each year and sends many tons of recyclable materials to be converted to new uses.

Skelton encouraged the AGS to replace toxic solvents with more "environmentally friendly" detergents, and played a key role in a radioactive waste segregation and characterization program that eases the disposal process.

And Scharpeger's ongoing efforts in "affirmative procurement" — buying goods for the Lab made from recycled materials — help close the "recycling loop."

Although the DOE awards do not carry a monetary reward, Goode reminds BNLers that pollution-prevention suggestions not made in fulfillment of employee's assigned duties can be accepted by the Employee Sug-

(continued on page 2)

Roger Stoutenburgh

**At a gathering to present DOE Pollution Prevention Awards are: (back, from left) Pollution Prevention Coordinator George Goode; Oscar Blevins, Plant Engineering (PE) Division; finalist Roy McWilliams, PE, who shared his award with Blevins; (front, from left) finalist Richard Skelton, Alternating Gradient Synchrotron Department; M. Sue Davis, Associate Director for Reactor, Safety & Security, who nominated the BNLers; finalist Art Jens, Central Shops Division; and national runner-up John Scharpeger, Supply & Materiel Division.**

# A Dangerous Find Prompts Safety Warning for BNLers

Yet another relic of the BNL site's military past surfaced last week when a still-live World War I or II ordnance was found by two employees strolling through the woods.

The discovery of the device, which was later destroyed off site by Suffolk County's police, has prompted the Lab's safety officials to tell employees and guests again about the safest way to deal with such finds: Stay away from unknown objects on the grounds, and call Ext. 2222 to alert emergency personnel.

**What looked like a rusted muffler found in the BNL woods turned out to be a live munition.**

On the evening of Tuesday, October 18, two employees of the Relativistic Heavy Ion Collider (RHIC) Project were walking in the woods near a RHIC construction area when they spotted a corroded, pipe-shaped object on the ground. Curious, they picked it up, carried it to their vehicle and drove it to Bldg. 835 to clean it. But when they uncovered what looked like a detonator on the pipe's end, they realized that the strange artifact might in fact be dangerous. They left the device near the building and, the next morning, called the Police Group of the Safeguards & Security Division (S&SD) to report their find.

Their decision to alert authorities was proper, says Robert Casey of the Safety & Environmental Protection (SEP) Division. But, he emphasized, employees should never even *touch* unknown, old-looking devices that they come across anywhere on the Lab's grounds. "Be careful at all times," Casey said. "If you see interesting or different-looking items, be careful about them. You're better off to call attention to police or fire personnel to have it evaluated."

And, S&SD's Al Berretta added, the area where the object has been found should be marked with a stick or a rock to help authorities locate it later.

In the case of last week's incident, Berretta said, S&SD personnel responded to the employees' call immediately. After a Police Group lieutenant trained in armament identification confirmed that the device carried a detonator, the area was roped off by SEP's Fire/Rescue Group and the Suffolk County Police bomb squad was called in.

Then, the device was taken to the county's detonation facility in Westhampton, where a charge was attached to it and detonated. Although that explosion destroyed the device, Berretta said, a secondary explosion indicated that the corroded pipe had indeed been a live munition.

In the wake of the incident, Berretta reminded BNLers and contractors that construction areas are especially likely to contain remnants of military equipment left over from the U.S. Army's Camp Upton, which formerly occupied the Lab site. A safety bulletin on the subject will again be sent to all employees and guests, Casey added. Additional copies can be obtained by calling the SEP Training Group at Ext. 7368.

— Kara Villamil

Roger Stoutenburg.

**Emergency personnel from BNL and Suffolk County cordoned off the area surrounding the device, which was later safely detonated off site.**

## Trimming Wastes (cont'd)

gestion Program. And, such suggestions may pay 10 percent of the Lab's savings back to the suggestor. In other words, if you help trim BNL's waste as the award winners did, you may find your wallet getting just a little fatter.

— Kara Villamil

## Learn How to Prevent Pollution

Concerned about hazardous chemicals and materials in your laboratory? Want to learn how to reduce the amount of hazardous waste you create? Sign up for an upcoming workshop on "Pollution Prevention Opportunities in a Laboratory Setting," to be held in Berkner Hall on November 10, from 10 a.m. to 4:45 p.m.

Top experts in microscale chemistry procedures, waste reduction and radioactive waste minimization will offer their expertise to researchers from BNL, hospitals and universities, as well as to local teachers and industrial scientists. Participation in the U.S. Department of Energy-sponsored workshop is free. To register, contact Nicole Bernholc at Ext. 2027 or e-mail bernholc@bnl.gov.

## Natural-Gas Vehicles (cont'd)

a similar amount of fuel, but at lower pressures. A low-pressure tank is safer than a high-pressure one because it is less likely to rupture, for instance, in a vehicle collision.

"This research involves a two-pronged approach," said Wegrzyn. "First, we are studying the structure of carbon adsorbents — high surface-area materials that can store a significant amount of gas in their micropores, tiny spaces less than five molecular diameters thick. Using these adsorbents would allow greater fuel storage at lower pressure."

He continued, "Also, because of the lower operating pressure, we're investigating the feasibility of replacing the conventional cylindrical-shaped natural-gas tank with a flat or conformably shaped tank that matches the contour of the vehicle."

Under otherwise similar conditions, more natural-gas can be stored under high pressure than low pressure. But if carbon adsorbents are added to the storage tank, they adsorb gas molecules much like a sponge soaks up water. Each gram of the material has a surface area up to 2,500 square meters — the equivalent area of a football field. This large surface area creates micropores, which permit natural gas to be stored at lower pressures.

Brookhaven researchers have been characterizing the structures of carbon adsorbents to determine which one would do the job best. Last year they evaluated a dozen carbon adsorbents submitted by industry using small angle x-ray diffraction at beam line X12 at the National Synchrotron Light Source, as well as other standard laboratory techniques such as electron and x-ray diffraction.

"So far, the carbon adsorbents submitted by Allied Signal, Atlanta Gas Light and Westvaco have proven to be the best for natural-gas storage in terms of the amount that can be stored under low pressure and price," Wegrzyn said. "Besides wanting to reduce storage pressure by a factor of six, we also have to keep the natural-gas vehicle affordable — about the same price as gasoline-powered vehicles. Natural gas, as a fuel, is already cost-competitive with gasoline."

### Wanted: Storage Tank Designs

Traditionally, natural-gas tanks are cylindrical, but substituting a larger noncylindrical tank that fits the contour of the vehicle is one way to increase the driving range. Calculations show that 40 percent of a current natural gas-powered vehicle's storage space is wasted with a cylindrical-shaped tank. Thus, Brookhaven is soliciting proposals from industry for a new design for natural-gas tanks. To be considered, the design must conform to the vehicle's available storage space and make better use of so-called dead space. Further, the tank's cost must not exceed $1,000. BNL researchers will evaluate proposals, with the aim of choosing the best for commercialization.

According to Wegrzyn, the current cylindrical storage systems are suitable for fleet market applications in which the driving range is known and less than 200 miles. To be viable in the noncommerical vehicle market, the driving range would have to be doubled to 400 miles. To reach this higher range, fuel economy has to be improved, along with the storage system.

The Partnership for the Next Generation Vehicle, a collaboration between the federal government and a consortium of the "big three" U.S. car manufacturers — Chrysler, Ford and General Motors — was put into effect by an executive order last year to further research for achieving a threefold-better fuel economy. To make natural gas the fuel of choice for this car of the future, BNL is working on the storage problem under this federal initiative.

— Diane Greenberg

## '94 Recycling: Terrific Tonnage, In Just 9 Months

The calendar year isn't over yet, but already, the organizers of BNL's recycling program are thanking the Lab community for doing a great job at separating and sorting recyclable items.

During the first nine months of 1994, 583.9 metric tons of material were sent to be recycled, instead of to be added to the landfill. In metric tons, item totals were as follows:

- Construction Debris — 311.9
- Bottles & Cans — 16.4
- White Paper — 88.3
- Mixed Paper — 87.0
- Cardboard — 55.9
- Tires — 24.4

Recycling Coordinator Oscar Blevins, Plant Engineering Division, encouraged all BNLers to keep up the good work in "rethinking, reducing, and recycling." And when the calendar year ends, remember to add to 1994's recycling total: Recycle your calendar!

## In Memoriam

**Harold Hill Smith**, a senior geneticist in the Biology Department from 1955 until his retirement in 1978, died on October 19 at the age of 84.

Smith was a world-renowned geneticist who used tobacco plants to study the genetic basis of tumor formation. His wide-ranging interests also led him to use plant systems to investigate the effects of radiation and the basic principles of evolution.

In 1976, Smith headed a team of researchers in the Biology Department that successfully fused a human cell with a tobacco plant cell, combining widely differing genetic systems for the first time. The paper describing the unique demonstration made the cover of *Science*. In all, Smith had published 125 scientific papers and was the editor of several scientific publications.

Smith received his master's and doctoral degrees in genetics from Harvard University in 1934 and 1936, respectively. From 1936-43, he worked as a plant geneticist for the U.S. Department of Agriculture. He served in the Navy during World War II, and, from 1946-56, was a professor of plant genetics at Cornell University.

"Harold Smith's pioneering work formed the basis for modern plant breeding and biotechnology," said Biology Department Chairman William Studier. "On a personal note, he was a real gentleman and we all enjoyed having him as a colleague."

A resident of Shoreham, Smith is survived by a son, Frederick, of Anaheim, California; three daughters, Lucy Keane of Mount Sinai, New York, Hilda Hodges of Santa Cruz, California, and Susan Graham of State College, Pennsylvania; seven grandchildren, three step-grandchildren and three step-great-grandchildren.

Donations in Smith's name may be sent to the Alzheimer's Association, Nassau-Suffolk Counties Chapter, 579 Monroe Street, Cedarhurst, NY 11516.

# In Concert

**The Fox Family Bluegrass will return to Berkner Hall on Friday, November 4, at 8 p.m.**

**Tickets cost $8 each for adults and $5 each for children under 12, students and senior citizens. Purchase them at the BERA Sales Office, at the door, or in advance from: Kay Dellimore, Bldg. 185, Ext. 2873; April Donegain, Bldg. 134A, Ext. 2459; Andrea Epple, Bldg. 535A, Ext. 4424; Skelly Frei, Bldg. 750, Ext. 2760; August Hoffmann, Bldg. 510C, Ext. 3884; Elliott Levitt, Bldg. 134, Ext. 2495; Louis Nieves, Bldg. 179B, Ext. 4031; Rosalie Piccione, Bldg. 355, Ext. 3160; Bridget Ramos, Bldg. 197C, Ext. 3452; Ed Sperry IV, Bldg. 902A, Ext. 2697; or Arlene Wolochuk, Bldg. 902C, Ext. 3428.**

•

**BERA's Indo-American Association will sponsor a concert by Tejendra Narayan Majumdar, a classical musician from India who plays a stringed instrument known as the sarod, in Berkner Hall on Saturday, November 5, at 7:30 p.m. Tickets are $15 for adults and free for children under 12. Purchase them at the door or in advance from Hasna Khan, Ext. 7028, or Mahbub Khandaker, Ext. 7249.**

•

**The next BERA concert of the 1994-95 season will feature a performance by promising music students from the State University of New York at Stony Brook. It will be held in Berkner Hall on Wednesday, November 9, at 8 p.m., and a $6 donation is suggested.**

# Rockhaven National Slab Haunted by Flintstones?

**No, this isn't a picture from the Stone Age — it was only last year at this time that the costumed caperers in the photo at right rocked BNL's Halloween in their Flintstones' costumes as part of an annual tradition. But don't start taking them for granite; the group has slated a new, secret disguise for this year, one that they say will be much boulder and scarier than the gneiss Bedrock residents. However, they won't cave in to the Bulletin's enquarries and divulge it. When shale the group take vacation time to make this Halloween's rounds of selected offices and the Cafeteria? Monday, Rocktober 31, of quartz! In the meantime, meet the Flintstones of 1993, all Department of Advanced Technology employees: (back, from left) Ann Fort as Fred; Kathleen Nasta as Wilma; Jeanne Madaia as Betty; Sonja Santos as Barney; and (front) Patty Ennis as Pebbles, with Dino.**

Roger Stoutenburgh

# Ghouls & Booys Together

**What is Halloween about, after all, but kids, costumes, and candy? The cute little goblins at left were captured on film last Halloween at the Upton Nursery School, where teacher Alane Fleming (back row) encourages her three- and four-year-old charges to dress in their trick-or-treating costumes each year. The nursery school, a parents' cooperative that meets Mondays, Tuesdays and Thursdays, still has eight openings for ghouls and booys. Call Jane Throwe, 929-8513, or Elizabeth Shane, 744-2438. for more information.**

# Bash Sold Out!

Tickets for the Halloween Big Band Bash tonight, October 28, have been sold out. The BNL Ballroom, Latin & Swing Dance Club will buy back any tickets you may not be able to use and resell them to people now on the waiting list. If you have tickets to sell, call Rudy Alforque, Ext. 4733.

# Hospitality News

M. Kay Dellimore, BNL's Recreation Supervisor in the Personnel Division, will be the guest speaker at the next Hospitality Committee get-together on Tuesday, November 1, at 9:30 a.m., in the lounge of the Recreation Building in the apartment area. She will talk about some interesting things to see and places to visit in New York City.

Spouses of Lab employees and guests are welcome. Bring the children along with a toy or two. Coffee, tea and cookies will be served.

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# AUI Auctioning Station Wagon

A used station wagon owned by Associated Universities, Inc. (AUI), is being offered for auction to current AUI and BNL employees or retirees, permanent contractor employees with guest numbers and on-site personnel of the U.S. Department of Energy.

The vehicle is a 1987 Chevrolet Caprice nine-passenger station wagon, vehicle identification number 1G1BN81Y4HX217835, with 77,991 miles. The car may be seen in the parking lot on the northeast corner of Brookhaven Avenue and Center Street, Monday to Friday, October 31 to November 4, 8:30 a.m. to 5 p.m.

Bidders may not start or drive the vehicle, but it is in running condition, and full maintenance records are in the Transportation Office, Bldg. 179B.

The minimum bid is $3,000 and bids must be submitted to the BNL Cashier, Bldg. 134, by the end of the day on Friday, November 4. The successful high bidder will be notified by Thursday, November 10.

Only sealed bids submitted on an official form or photocopy will be considered. For bidding forms, complete auction rules or more information, contact the Transportation Office, Bldg. 179B, Ext. 2535.

**Note to Employees:**

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

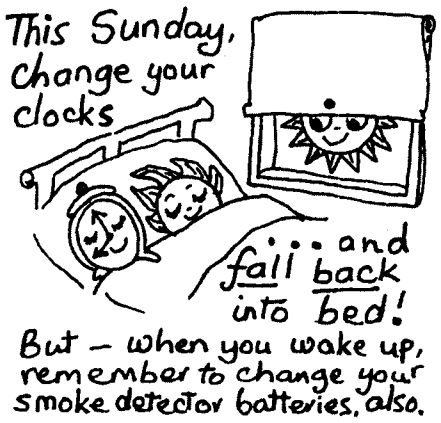
# Volleyball

**Standings as of October 25**

| Open League | | League 1 | |
|---|---|---|---|
| Men and Me | 8-1 | Rude Dogs | 3-0 |
| GTEAM | 4-2 | Underdogs | 2-1 |
| Farside | 3-3 | Network News | 2-1 |
| The Roofing Co. | 2-4 | Koopas | 1-2 |
| Bud Men | 1-8 | Safe Sets | 1-5 |
| **League 2** | | **League 3** | |
| Fossils | 6-0 | Silver Bullets | 3-0 |
| Jolly Vollies | 4-2 | Take Five | 3-0 |
| Mon. Night Live | 4-2 | Do Dat | 2-1 |
| Safe Sets II | 4-2 | High Volley'em | 2-1 |
| Spiked Punch | 3-3 | Harlem Knights | 1-2 |
| Net Wits | 1-5 | Bonnie's Bombers | 1-2 |
| Nuts & Bolts | 1-5 | Upton Ups | 0-3 |
| Night Court | 1-5 | For Play | 0-3 |

# Addled Addresses

- Upton Lake, NY 12514
- Brookhaven Natural Gas
- JFK Airport New York
  Receiving Section, Bldg. 89
  Upton, NY 11973
- Luke Haven Laborator




# Quit Smoking Once and For All

Combine the power of hypnosis with standard behavior-modification techniques — and you may quit smoking after just one session of the Green Seminar.

On Monday, November 7, from 4:30 to 6:30 p.m. in the Brookhaven Center, the Green Seminar will be offered to all employees and their dependents who wish to kick the smoking habit without gaining weight. To be presented by Stuart Green, the president of GSI, a New York company specializing in wellness programs, the one-session program will cost $10 per person for new attendees; it's free for those who have attended before.

Participants will receive an audiotape and written material for use at home, to reinforce what was presented at the seminar. To reserve a place, call Mary Wood, Ext. 5923.

# Arrivals & Departures

**Arrivals**

**Robert S. Lieberman** ..... SEP

**Departures**

**None**

# Cafeteria Menu

| | |
|---|---|
| **Monday, October 31** | |
| Soup: Beef barley | .90/1.20 |
| A la Carte: Kielbasa w/potato salad | 3.85 |
| Fitness: Vegetarian lasagna | 3.50 |
| Deli: Pastrami | 3.20 |
| Grill: Philly cheesesteak | 3.30 |
| **Tuesday, November 1** | |
| Soup: Chicken noodle | .90/1.20 |
| A la Carte: Sausage & pepper calzone | 3.50 |
| Fitness: Macaroni & cheese | 3.65 |
| Deli: Virginia ham | 3.20 |
| Grill: Denver omelet | 3.30 |
| **Wednesday, November 2** | |
| Soup: Sausage/tortellini minestrone | .90/1.20 |
| A la Carte: BBQ spareribs | 4.25 |
| Fitness: Spinach & feta quiche | 3.65 |
| Deli: Roast beef | 3.20 |
| Grill: Meatball hero | 3.30 |
| **Thursday, November 3** | |
| Soup: Senate bean | .90/1.20 |
| A la Carte: Bonnie's chicken | 3.85 |
| Fitness: Pork chops | 3.85 |
| Deli: Corned beef | 3.20 |
| Grill: Grilled ham & cheese | 3.30 |
| **Friday, November 4** | |
| Soup: New England clam chowder | .90/1.20 |
| Display cooking: Grilled chicken Caesar | 4.65 |
| Fitness: Pasta primavera | 3.65 |
| Deli: Roast turkey | 3.20 |
| Grill: Tuna melt | 3.30 |

# CCD Offers UNIX Training

Several UNIX-based classes will be offered by the Computing & Communications Division starting in December. To register for one or more classes, send an ILR for the appropriate amount to Pam Mansfield, Bldg. 515, one month prior to the beginning of each selected class. For more information, contact Ed McFadden, Ext. 4188, or e-mail, mcfadde1@bnl.gov.

The classes are:

| Course Title | Date | Time | Fee |
|---|---|---|---|
| Advanced C++ Programming | Dec. 5-9 | 9 a.m.- 4:30 p.m. | $500 |
| Introduction to UNIX | Dec. 12-16 | 9 a.m.- noon | $250 |
| C Shell Programming | Dec. 12-16 | 1 p.m.- 4:30 p.m. | $250 |
| Advanced C Programming | Jan. 9-13 | 9 a.m.- 4:30 p.m. | $500 |
| UNIX LAN Connectivity | Jan. 23-24 | 9 a.m.- noon | $250 |
| PERL Programming | Jan. 23-24 | 1 p.m.- 4:30 p.m. | $250 |
| Solaris Internals | Feb. 6-10 | 9 a.m.- 4:30 p.m. | $500 |

# Bowling

**Red & Green League**

R. Eggert 258/218/207/683 scratch series, R. Mulderig, Sr. 257/247/214/718 scratch, R. Wiseman 245/211, R. Mulderig, Jr. 235/230/655 scratch, E. Larsen 235/209/608 scratch, R. Larsen 223/214/628 scratch, J. Griffin 228, H. Arnesen 222, J. Cuccia, Jr. 213/212, N. Scala 212, E. Sperry III 208, J. LaBounty 207/202, B. Giuliano 203, K. Riker 203, F. Hohmann 201, J. Goode 201, C. Bohnenblusch 200, A. Warkentien 200.

**Purple/White League**

J. Sheehan 217, P. Wynkoop 208, D. Botts 199, S. DiMauito 199, G. Munoz 198, M. Meier 196/192/180, K. Botts 193, I. Sperry 188, A. Pinelli 187/185, L. Farmer 186, J. McCarthy 184, A. Wynkoop 182, M. DiMauito 173, F. Brown 173, M. Picinich 172; Doug Fisher converted the 5/6/10 split, J. Addessi converted the 5/10 split.

# Classified Advertisements

## Placement Notices

The Laboratory's placement policy is to select the best-qualified candidate for an available position. Consideration is given to candidates in the following order: (1) present employees within the department/division and/or appropriate bargaining unit, with preference for those within the immediate work group; (2) present employees within the Laboratory; and (3) outside applicants. In keeping with the Affirmative Action plan, selections are made without regard to age, race, color, religion, national origin, sex, handicap or veteran status.

Each week, the Personnel Division lists new placement notices. The purpose of these listings is, first, to give employees an opportunity to request consideration for themselves through Personnel, and second, for general recruiting under open recruitment. Because of the priority policy stated above, each listing does not necessarily represent an opportunity for all people.

Except when operational needs require otherwise, positions will be open for one week after publication.

For more information, contact the Employment Manager, Ext. 2882, or call the JOBLINE, Ext. 7744 (282-7744), for a complete listing of all openings.

**SCIENTIFIC RECRUITMENT** - Doctorate normally required. Candidates may apply directly to the department representative named.

POSTDOCTORAL RESEARCH ASSOCIATE - Trained in microbiology with a strong background in organic and analytical chemistry, to establish a laboratory for biodegradation experiments using various organic contaminants. The position will be tenable in the Safety & Environmental Protection Division and will include collaborations with researchers in the Department of Applied Science. Contact: Seshu Chalasani, Safety & Environmental Protection Division, or Arokiasamy Francis, Department of Applied Science.

**LABORATORY RECRUITMENT** - Opportunities for Laboratory employees.

DD 5550. SECRETARIAL POSITION - (term appointment) Requires AAS in secretarial science or equivalent experience and a thorough knowledge of Laboratory policies and procedures. IBM PC, WordPerfect 5.1 (WordPerfect 6.0A desired), and IPAP experience also required. Duties will include providing varied clerical and secretarial support, such as arranging travel, maintaining stock, mail and filing for Division Administrative Office. Computing & Communications Division.

**OPEN RECRUITMENT** - Opportunities for Laboratory employees and outside candidates.

LS 2897. ENGINEERING POSITION - (term appointment) Requires a BS in science, engineering or the equivalent, with a minimum of five years' emergency planning experience, within either a DOE complex or the commercial nuclear power industry. Requires excellent oral and written communication skills and the ability to obtain and maintain a security clearance. Responsibilities include maintaining the Laboratory and local emergency planning programs. Safety & Environmental Protection Division.

## Motor Vehicles & Supplies

93 CUTLASS SL-4 - Ltd. Ed., red, 19k mi., ac, ABS, cruise, bucket seats, 4-dr., p/s, p/b, excel. cond., $13,000. 751-7023.

92 FORD TEMPO - a/t, 34k mi., reef green, 4-dr., alarm, well maint., excel. cond., $7,000. Jim, 281-7603.

91 BUICK PARK AVE. ULTRA - white/blue, 36k mi, like new, $12,900. Ralph, Ext. 4171 or 878-1280.

90 ACURA LEGEND - dark blue, 53k mi., beige leather int., excel. cond., $12,000. Lori, Ext. 7036 or 462-2359.

90 T-BIRD SC - turbo, leather, moonroof, all opt., sports gearbox & clutch, $6,000. Ext. 7699 or 821-1435.

89 DODGE OMNI - blue int., ext., whitewalls, high mi., runs but needs work, asking $1,200. Ruth, Ext. 3305.

88 HYUNDAI - a/t, ac, 101k mi., very clean, excel. cond., $1,600. John, 864-1798.

88 FORD FESTIVA - am/fm stereo, 54k mi., v.g. cond., $1,700 neg. Peter, Ext. 4940/1029.

88 PONTIAC SUNBIRD - 4-dr., a/t, p/s, p/b, ac, clean, silver, ask. $5,000. Hankes, 941-4011.

88 YUGO - 29k mi., $800. Ext. 2058.

87 PLYMOUTH MINI VAN - $3,650. Ext. 4637.

86 MAZDA 323 - 4-dr. sedan, 4-cyl., a/t, ac, alarm, p/w, p/s, good eng., new tires, exhaust & batt., 86k mi., needs trans. work, good cond., $900. Jim, Ext. 5537.

86 MERCURY TOPAZ - a/t, 99k mi., good cond., $2,000 neg. Wim, Ext. 4379.

85 CHRYSLER LEBARON - 4-cyl., 36,928 mi., one owner, v.g. cond., $2,400. O. Booker, Ext. 3082 or 727-5912.

85 VW JETTA - 2-dr., 5-spd., ac, can tow motor home, good cond.; '83 Chevy window van, ¾-ton, p/s, p/b, ac, p/w, p/l, each $2,500 or best offer. Bill, 298-8657.

85 HONDA ACCORD LX - 4-dr. sedan, white, 135k mi., a/t, ac, p/s, p/b, p/w, p/l, am/fm cass., EQ stereo, some body damage, $800. George, Ext. 3061 or 751-0265 eves.

84 BUICK SKYHAWK - new motor & tranny, $1,500 or best offer; '83 Mazda B2000, runs well, $1,500. Doug, Ext. 4484.

84 HONDA CIVIC - blue, 4-dr., 5-spd., good performance, high mi., $1,000. 924-5569, Ext. 261.

84 MAZDA GLC - 5-spd., am/fm cass., v.g. cond., $900. Guryn, Ext. 3878 or 744-8673.

84 NISSAN SENTRA - blue, 4-dr., a/t, new exhaust & brakes, good cond., $500. Roger, 874-8646.

82 CHEVY MONTE CARLO - $900. Duke, Ext. 7859 or 289-3586.

82 JEEP SCRAMBLER - a/t, p/s, 2 tops, good cond., asking $4,800. Anthony, 475-4792.

81 CADILLAC COUPE DE VILLE - 89k mi., good cond., $1,100 or best offer. Bruno, Ext. 1373.

78 FORD FAIRMONT - 4-spd., 85k mi., 2-dr., needs some work, good local trans., ask. $250. Ed, Ext. 5558.

72 DODGE DART - 2-dr. hardtop, orig. owner, gar., well maint., v.g. cond., $600. 744-9429.

69 CHEVY C-60 DUMP TRUCK - '85 trailer; '79 John Deere bulldozer/loader, 350-C, all good cond., 325-0447 after 6 p.m.

66 VW BUG - as is, best offer. Carl, Ext. 3791.

TRACTOR - Bobcat bucket loader machine model 742 & trailer, two 4,000 lb. axles capacity MFG, custom-built. Ext. 2350.

TIRES - 4, General, P235/75R15, all-season radial, new, $200. Norbert, 929-4386.

BUMPERS - new, front & rear, '95 Chevy van, $100 ea. firm; trailer hitches, Class III Draw-Tite, Class 1 bolt-on, $20 ea.. Don, Ext. 7237 or 744-2921 after 5:30 p.m.

## Boats & Marine Supplies

30' BAYLINER BUCCANEER SAILBOAT - 1979, ib diesel, furling jib, cradle, v.g. cond., Ext. 7699 or 821-1435.

19' CRUISERS - fg, bowrider, 115-h.p. Johnson, nearly new trailer, p/winch, $2,200. Jim, Ext. 3372 or 821-0250.

19' REGAL BOWRIDER - 1988, 115-h.p. Merc., low hrs., DF, VHF, anchor, trailer w/power winch, excel., ask. $2,500 or best offer. Bob H., Ext. 4446 or 654-3989.

OUTBOARD MOTOR - 1977, 6-h.p. Chrysler, long shaft, good cond., asking $200. Chris, Ext. 2022 or 395-6112.

## Furnishings & Appliances

BED - mattress & boxspring, full size, good cond., $100. 325-8714 eves.

BED - trundle, sleeps 2, with mattresses, dark wood, asking $75. Ann, Ext. 7611.

BEDROOM SET - girl's, white, canopy bed, desk, vanity w/mirror, dresser w/hutch, night table, great cond., $325. Linda, 722-4821.

BEDROOM FURNITURE - triple dresser, mirrors, chest, 2 nightstands, king-size water bed w/hdbrd., $200. Rick, Ext. 2973.

BUREAU - $20; 2 white glass lamps, $20/set; 2 oak magazine end tables, $25/set; Singer cabinet sewing machine, $65. 694-2416.

COUCH & LOVE SEAT - black, good cond., asking $400. 758-5447.

DINING ROOM SET - solid oak, hutch, server, table, 2 leaves, 2 armchairs, 4 side chairs, asking $2,000. Ext. 2949 or 427-2435.

DISHWASHER - built-in, GE, 5 yrs. old, v.g. cond., almond, $130; range, self-cleaning oven, GE, elec., almond, like new, $150. 929-8409.

END TABLES - coffee table, oval table, dark walnut, like new, $100. Marty, Ext. 2214.

ENTERTAINMENT CENTER - 54" wide, oak & glass, good cond., asking $75. Corinne, Ext. 3662.

HEADBOARD - & footboard, solid pecan, for single bed, excel. cond., $10. 475-1254.

LOVE SEATS - 2, w/oak trim, 1 end table, moving, must sell, $150. 368-6115.

OVEN - Magic Chef, white, elec., self-cleaning, 3 yrs. old, $250; Panasonic stereo, $25. Tom, Ext. 7287 or 744-4535.

REFRIGERATOR - 5 cu. ft., excel. cond., $80. Bruno, Ext. 1373.

ROCKING CHAIR - dark pine, $75. 744-1706.

SOFA & CHAIR - indoor white wicker, Henry Link brand, excel., $600. Steve, Ext. 3822 or 929-6527.

SOFA - 2-piece sectional, w/bed, ecru color, 10 throw pillows, perfect cond., $300. Vivian, Ext. 7123 or 473-4217 after 5 p.m.

SOFA - 3-piece sectional, 2 end tables & coffee table w/glass top, asking $200. 874-4758 eves.

WARDROBE - solid wood, 44"Wx24"Dx72"H, shelf 10" from top, $100. Joe, 281-8943.

## Tools, House & Garden

ATTIC STAIRWAY - wood, like new, springs, pull-down, $15. Doris, Ext. 4669.

COAL STOVE - Surdiac, clean, very efficient, like new, black textured, glass front, $400. 744-1706.

DOOR - wood, 9-light, cross buck, 36"x80", $25; bug zapper, ¾ acre, $15; fence, chain link w/poles, $200; free standing fireplace, $50. 751-7023.

GRINDER - Buffalo model B-6, ½ h.p., two 6" wheels, $35; miter saw, power, Rockwell model 34-010, $75. Steve, Ext. 4555..

LADDER - extension, 28', alum., $40. Ext. 4341 or 475-4005.

WROUGHT IRON PATIO SET - 4 swivel chairs, table, Formica top, indoor, $200. Marty, Ext. 2214.

WELL PUMP - & tank, $50; stand-up freezer, $50; Kirby vacuum & shampooer, $100. JoAnn, 878-8164 after 3 p.m.

## Sports, Hobbies & Pets

BICYCLE - 20", girl's, good cond., $20. 567-9025.

STAIR CLIMBER - Proteus NFP 100, w/computerized control, like new, $70. John, 864-1798.

IGUANA - large, in 55 gal. tank, full setup, $125 neg. Kim, 874-8616.

The Brookhaven Bulletin is printed on paper containing at least 50 percent recycled materials, with 10 percent post-consumer waste.

KENNEL - for travel, for small dog or cat, OK for aircraft carry-on, used once, $10. Peter, Ext. 5983 or 878-4080.

PHOTO ENLARGER - Omega custom lab, A-6, 39" track, 18"x30" stand, $200. Dimitri, Ext. 4258.

PUPPIES - Maltese, AKC, m/f, little white powder puffs, shots, vet checked, parents on premises, $500. 924-6324.

ROWING MACHINE - excel. cond., $20. Ann, ext. 7611.

TREADMILL - motorized, pro type, new motor, new cond., orig. $400, asking $225. 924-6751.

PIANO - Baldwin Acrosonic, by orig. owner. 286-9158.

SKI BOOTS - Technica, men's, size 10, like new, $75. Mark, Ext. 4289.

SKIS, SKI BOOTS & POLES - for 8-12 yr. olds, $25/all; child's desk, w/storage, solid wood, $35. Ext. 7699.

SKIS - Olin, 180cm, w/Salomon 444 bindings, runaway straps, great beginner or just a second pair, only $20. Don, Ext. 7237 or 744-2921 after 5:30 p.m.

SNOW BOARD - boots size 7-8, airwalks, used 2 times, like new, $70/ea. Aidiclio, Ext. 2138.

SNOW MOBILE - 1994 Arctic Cat 580ZR, mint cond., moto fox shocks, studded track, clutch kit, extras, warranty, $5,300. Kelly, 864-9290.

## Audio, Video & Computer

COMPUTER - Commodore, lots of programs & work desk, $200. Steve, 722-4821.

MOVIE TAPES - orig., 100s to choose from, $1-$2. Ext. 7496.

STEREO - Technics, 5 CD, equalizer, tuner, double tape deck, record player, in cabinet, 2 speakers, 2 yrs. old, good cond., asking $750. 586-5447.

TV - 19", color, 3 mo. old, $150 neg. Wim, Ext. 4379.

TV - 2 b&w sets, 1950 & 1960 vintage, good for parts, make offer. Ed, Ext. 5558.

## Miscellaneous

BABY WALKER - $10; rocking chair, $5; Japanese fan, $10; playpen $10; vacuum, $10; porch love seat, $10. Kathy, 744-2203.

COLLECTION OF PERFUME BOTTLES - Avon; cocktail table, 2 end tables, trunks, plates, exercycle, wood benches, more. Olsen, 286-0376.

CRIB - w/mattress, good cond., $40. Ext. 4341 or 475-4005.

CRIB - Childcraft, Chesapeake oak, w/mattress, excel. cond., $150. 929-3235.

DIAMOND RING - 2-tier pyramid, $450; hair dryer w/bonnet, $10; Fisher Price kitchen accessories, $45. 751-7023.

HIGH CHAIR - Fisher Price, $30; 12-piece baby bedding set, $60, all excel. cond. 821-6880.

MINK STOLE - satin lining, good cond., asking $125. Ed, Ext. 5558.

OPALS - reasonable. 363-7032.

RING - women's, 14k gold, 2 carat total diamond weight, cocktail ring, comes w/$3,195 appraisal, size 10, $700. Ruthie, Ext. 3305.

ROPE - nylon, 1,200', ⅜", new, on spool, $150. Dennis, Ext. 5306.

STROLLER - double, Perego, spring frame, leatherette, front to back reversible seats, very clean, $90. Bill, Ext. 2762 or 665-3782.

TICKETS - Radio City, Theatre III, limo service, restaurants, gift certificates, 20% off. Tom, 736-6691.

TOYS - hand-crafted, puzzles, decorations, long-lasting. Pat, 924-3307.

## Free

BOAT - 23' Thunderbird, f.g. hull, excel. cond., cuddy cabin, no motor/trailer, you haul. 281-1832 eves.

## Yard & Garage Sales

E. SETAUKET/POQUOTT - 10/29, rain date 10/30, block sale, Harrison Ave.

## Car Pool

MATTITUCK - Liz, Ext. 3348.

## Real Estate

*Real Estate advertised for sale or rent is available without regard for the race, color, religion, sex, age, national origin, disability or veteran status of the applicant.*

## For Rent

BAYSHORE - sunny, spacious, 2 bdrm., lg. l/r, eik, full bath, lg. storage rm., priv. ent., ground floor of high ranch, close to all shopping & trains, mint cond., $800/mo. + ⅓ util. Lenny, Ext. 4421.

EAST MORICHES - 2-bdrm. waterfront condo, 2 baths, fully furn., view Moriches Bay, 25'x12' deck, pool, tennis, marina, horse pastures, $1,250/mo., 1 yr. lease, ideal 1-2 adults only. S. Baron, Ext. 3339.

E. SETAUKET - 3-bdrm. high ranch, north of Rt. 347, $1,000/mo. sec. & refs. Ext. 3791.

MASTIC PARK - 1-bdrm. cottage, newly renovated, no pets, $650/mo. + util. 281-7844 eves.

MIDDLE ISLAND - 2-bdrm. condo, upper unit, 1½ baths, w/d, cac, pool, sec., all kit. appl., partial furn., like new, no smoking, Nov. occupancy, $875/mo. 345-3662.

MIDDLE ISLAND - 2-bdrm. ranch, co-op, l/r, d/r, kit., cac, gas heat, w/w, laundry rm., all appl., pool, clubhouse, 10 min. to Lab, $800/mo. + util., 1 mo. sec., no pets, avail. Nov. Joe, Ext. 7496.

PATCHOGUE VILLAGE - new, lg. 1-bdrm. apt., 2nd floor, sep. ent. on sunny residential block, overlooking igp & tennis court, 15 min. to Lab. 289-8105.

ROCKY POINT - 4-bdrm. Cape, eik, lg. l/r, 2-car gar., beautiful property, freshly painted, $850/mo. Bob, 864-3603.

ROCKY POINT - 1-bdrm. apt., all util., own thermostat, priv. ent. & driveway, cable, ac, microwave, smartly furn., $480/mo., refs. preferred. Irma, 744-1497.

SHIRLEY - 3 bdrm., l/r, d/r, eik, laundry, new w/w, new OHWH, fenced-in yard, 10 min. to BNL, 1 mi. to Smith Point Bridge, $900/mo. + util. 744-5448.

SHIRLEY - new lg. studio, pvt. ent. & yard, no pets or smoking, $525/mo. cable & util. incl. 395-3914.

YAPHANK - 2-bdrm. townhouse, gar., fp, fin. bsmt., pool, tennis, 5 min. to Lab, $950/mo. + util. Ann, Ext. 7611 or 924-1604.

YAPHANK - restored 4-bdrm. Victorian house, 1½ baths, lg. country kit., lg. property, 4½ mi. from Lab, avail. now. 924-4872.

KEY WEST, FL - April 15-29, condo on water, sleeps 2-6, kit., pool, priv. beach, gym, marina, boat rental, hot tub, w/d, tiki bar, walk to town. Sheryl, Ext. 7716.

KISSIMMEE, FL - Disney World, 2-bdrm. condo, 2 baths, sleeps 6-8, wk. of 2/18-25 (school vacation wk.), golf, swim, tennis on site, $650/wk. John, Ext. 5100.

LAKE PLACID, NY - 3-bdrm. condo, 2 baths, in town, walk to village, skating oval, arena, restaurants, Ski Whiteface, views of Lake Placid & Whiteface. Tom, Ext. 4631 or 744-0681.

HILTON HEAD, SC - fully furn. 2-bdrm. condo, 2 baths, sleeps 6, tennis, beach, golf nearby, Oct-Dec. $350/wk. for BNL employees & family. Guy, Ext. 3147 or 689-5378.

ST. MARTIN - Carribbean Pelican Resort apt., sleeps 4, magnificent sea view, terrace, full kit., ac, tennis, pool, beach, week of Sat. 12/3, only $450. 821-1435.

## For Sale

AQUEBOGUE - 3-bdrm. ranch, eik, formal d/r w/hardwood floor, l/r w/fp, Jacuzzi bath, skylights, cathedral ceiling, 0.67 acre fenced, full bsmt., 8' ceilings, $139,000. Sharon, Ext. 5919 or 722-3010.

BRIGHTWATERS FARMS/BAYSHORE - 3-bdrm. Col., eik, l/r, den, fd/r, laundry, bsmt., 2 bay Andersens, new driveway/walks, 2 full baths, fully fenced, carpeted, 5 appl., $135,000. Bill, Ext. 2762 or 665-3782.

BLUE POINT - organic homestead, 1.4 acres, solar irrig. garden, much more, $210,000. 363-7032.

CENTER MORICHES - 3-bdrm. contemp. tri-level, 6 yrs. old, 2 baths, eik, all appl., 2-car gar., raised deck, priv. fenced-in yard, 0.4 acre, city water, walk to yacht club & bay, $185,000. Peter, Ext. 5983 or 878-4080.

CUTCHOGUE - Nassau Point., 3-bdrm. ranch, 2 full baths, full bsmt., 16 yrs. old, 2-car gar., eik, screened patio, terrace, brick & cedar, thermopane windows 1+ acre. $239,000. 734-7933.

LAKE PANAMOKA - brand-new, 3 bdrm., 2 full baths, full bsmt., OHWH, vaulted ceilings, must sell, 10 min. to Lab, $97,000. Tom, 878-5854.

MIDDLE ISLAND - 1-bdrm. condo, l/r, d/r, kit., cac, gas heat, paneling, $45,000. 924-3761.

NORTH SHIRLEY - 6-rm. house, 1½ baths, 50'x218', new siding, roofing, porch, electric stove/dryer, OHWH, w/w, lg. l/r w/fp or wood stove, Wm. Floyd Schools, taxes $1,050, ask. $59,900. Joe, Ext. 3464 or 281-7683.

PORT JEFF STATION - 3-4 bdrm., walk-in closet, new kit., 2 full baths, den, coal/wood fp, skylights, ac, fenced, sprinkler, 2 decks, 1-bdrm. legal income apt., $140,000. Bob, 473-9180.

RIDGE - 3 bdrm., den, eik, full bsmt., agp, ½ acre, 2 min. to Lab, hardwood floors, skylight, $125,000. Dave, Ext. 5741 or 924-6575.

RIDGE - 3-bdrm. townhouse, 1½ baths, lg. l/r, 5 min. to Lab, $69,900. 924-4734.

RIVERHEAD - 2-bdrm. wood-frame house on Peconic River, view, deck, eik, cac, humidifer, bsmt., timed igs, bulkheading, priv. dock, 15 min. to Lab, $99,000. 924-5569, Ext. 261.

ROCKY POINT - 3-bdrm. custom ranch, corner plot, landscaped, eik, 4 appl., OHWH, w/w, custom kit. cabinets, city water, $85,000. Donald, 473-6570 after 7 p.m.

SHIRLEY - 3-bdrm. ranch, l/r-d/r, new kit. & appl., gar., bsmt., alarm, fenced yard, dead-end st., 2 blocks to park, 10 min. to Lab, quiet neighborhood, assum. mortgage, $99,000. Jim, Ext. 4150 or 281-0489.

SHIRLEY/TANGIERS - 3-bdrm. wideline ranch w/full fin. bsmt., detached gar., thermal windows, vinyl siding, decks, fenced, low taxes, $94,500. Sue, Ext. 7235 or 395-3529 eves.

SOUND BEACH - 4-bdrm. Cape, 1 bath, l/r, d/r, full bsmt., 80'x100' fenced corner lot, newly finished wood floors and interior bay window, ceiling fans, appl., deck, ask. $99,990. Rick, 821-4188.

SOUTHOLD - lovely area, 3-bdrm. contemporary, 11 yrs. old, 2 baths, vaulted ceilings, cac, deck overlooking small pond, walk to bay beach & boating, $245,000. Ext. 4747 or 765-1075.

PRINCE EDWARD ISLAND, CANADA - 2.2 waterfront acres, $15,000, owner will hold mortage. 395-3914.

SINGER ISLAND, FL - 2-bdrm. condo on ocean, 2 baths, furn., pool, near West Palm Beach airport, $110,000. 289-5770 after 6 p.m.

WASHINGTON, NC - 1.13 wooded acres, waterfront community, pool, clubhouse, marina, 35 ft. boat slip on the Pamlico River, off the Intercoastal Waterway, $38,000. Ken, 281-5565.

## Wanted

BOOKCASE - wood, open-shelf cabinet, 4-5' high, but not more than 28" wide; ladder, folding 'A' type, 10' high. John, Ext. 7671.

BRIDGE PLAYERS - for on-site evening game, call for details. Morris Strongson, Ext. 4192 or 924-6274 eves.

FIDDLE PLAYERS - people who would like to get together to play fiddle-style folk music. Jeff, 821-6867.

FLUTE - for a student. Shirley, 341-1236 days or 698-0623 eves.

HOUSE TO RENT - Center Moriches area, responsible graduate student. Karl, Ext. 3826, Fax Ext. 3115 or call 878-9299 after 6 p.m.

JUNK CARS/TRUCKS - free removal, money paid for running cars. Steven, 924-8741 after 7 p.m.

MEN'S COAT - shirts, size 3X or larger, to be altered for 14-yr.-old in metal brace for broken neck. Barbara, Ext. 5896.

OUTBOARD MOTOR - 7-12 h.p., long shaft w/battery charger output, need for 23' sailboat. George, Ext. 3061 or 751-0265 eves.

PHYSICS GRAD STUDENTS - for colloquia & social events, pizza at 1st meeting, Tues., 11/1, 6:30 p.m., Bldg. 510. R. Appel, Ext. 4967, or T. Hemmick, 632-8120.

SEWING MACHINE - Pierrot Bichoneau, Ext. 3749 or 744-7996.

## In Appreciation

Thank you to all my friends and co-workers at DA1. BNL for their love and support during my illness.

— Jody Fanizza

My sincere appreciation to all who took the time to attend my going-away party. Half a lifetime of friends — you will not be forgotten. Thanks for everything.

— Charles Bohnenblusch

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