BROOKHAVEN BULLETIN
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BROOKHAVEN NATIONAL LABORATORY

BNL Wins R&D 100 Award for Home-Heating Device

BNL is again a winner in the prestigious R&D 100 competition. This year, the winning entry is a home-heating device that will benefit the 11 million oil-heated homes throughout the United States.

The R&D 100 Awards are given annually by *Research and Development Magazine* to the top 100 technological achievements of the year. Typically, these are innovations that transform basic science into useful products.

Awards were presented at a banquet held last night at the Museum of Science & Industry in Chicago.

BNL's winning device, called the Flame Quality Indicator, was developed by Thomas Butcher and Roger McDonald, Department of Applied Science, and Philip Cerniglia, Accelerator Development Department.

According to Butcher, the Flame Quality Indicator monitors the performance of the small oil burners that power residential oil-heating systems. The device is simple to use, inexpensive, energy saving and environmentally beneficial.

New, high efficiency oil-heating appliances have been marketed for over fifteen years. These systems have already saved energy and significantly reduced the emissions of particulates, carbon dioxide and sulfur dioxide. The Flame Quality Indicator will assure that these systems maintain their high level of performance by providing an early indication of when the appliances are not working at their peak efficiency.

The device monitors flame brightness, a useful method of detecting small changes in the air/fuel ratio, which is an important factor in flame quality. When the flame brightness falls outside of a preset range, that indicates that the appliance needs to be serviced. This warning would occur weeks or even months before the oil burner's primary control would normally shut down the system because of a failure to detect a flame.

This year, BNL's R&D 100 Award was for the Flame Quality Indicator developed by (from left) Roger McDonald, Philip Cerniglia and Thomas Butcher, who holds the winning device.

Photos on this page by Roger Stoutenburgh

Excess combustion air (a fuel-lean mixture) is associated with a decrease in overall appliance efficiency. Too little combustion air (a fuel-rich mixture) results in the formation of smoke, soot and fouling of the appliance's heat exchanger. Other problems can also be detected, including a fouled fuel nozzle and blockages in the combustion air inlets or in the chimney.

With a simple-to-read display of colored lights, the Flame Quality Indicator flags the homeowner's attention so that problems can be corrected before the system fails to provide heat and/or parts of the system are fouled with soot, requiring extensive maintenance.

An average home uses about 850 gallons of oil each year. If only 2 percent of that fuel is saved, the payback for installing a Flame Quality Indicator is less than two years.

BNL's research on the Flame Quality Indicator was funded by the U.S. Department of Energy's Building Systems and Materials Division of the Office of Building Technologies, under the Office of Conservation and Renewable Energy.

The Lab's participation in the R&D 100 competition has been organized since 1984 by the Office of Technology Transfer. That office also handled the patenting of the Flame Quality Indicator, which was assigned U.S. Patent No. 5,126,721 this past June. — Mona S. Rowe

Coming Up

On Thursday, October 1, Brookhaven Women in Science will present the first Gertrude S. Goldhaber Prize in Physics to Xiaodong Zhang, of the State University of New York at Stony Brook and BNL. Immediately following, Zhang will present a seminar on "Scanning Soft X-Ray Microscopy." The presentations will take place at 3:30 p.m. in the large seminar room of the Physics Department, Bldg. 510. All are invited, and a reception will follow.

CCD Training Room on Line

The new training room in the new wing of the Computing and Communications Division's (CCD) Building 515 is equipped with six workstations that can run the popular AIX UNIX computer operating system.

Those workstations, along with other equipment set up for the occasion, were used for the first time last week, from September 14-18, when 16 participants from seven departments and divisions received in-depth instruction in administering UNIX workstations and networks.

They learned to install the UNIX

(continued on page 2)

Among the participants in the UNIX training program were: (foreground) Susan Sevian, CCD; John Bohenek, National Synchrotron Light Source Department; (back, from left) Randi Vogt, Reactor Division; Veronica Evans, CCD; Alison Tilp, CCD; Elizabeth Symonds, CCD; Edward McFadden Jr, CCD; Yasuko Sanborn, Department of Nuclear Energy; Michael O'Connor, CCD; Morris Strongson, CCD; and Dale Hancock and Yunan Kuang, both from the College of William and Mary and guest scientists in the Physics Department.

AGS Dibbuk II Debuts

According to Jewish folklore, a dibbuk is a demon that enters the body of a living person to take control of his or her life. At BNL's Alternating Gradient Synchrotron (AGS), the Dibbuk has been the computer system that came on line in 1974 to allow experimenters to control their beam lines.

Residing within four Digital Equipment Corporation PDP-11 computers (background, right), the AGS Dibbuk was recently retired — after being replaced by Dibbuk II. Residing within the modern hardware and software of the AGS computer control system, Dibbuk II continues in the spirit of its predecessor, by allowing experimenters to power their beam lines' magnets, control the aperture of the beam that they receive, and move primary proton targets.

"While the software was still up-to-date, it was definitely time to retire the ancient hardware," comments AGS Chairman Derek Lowenstein, who gave the Dibbuk its name more than 18 years ago.

Along with Brian Culwick, AGS, and Frank Stubblefield, Instrumentation Division, Lowenstein wrote the original computer programs for the Dibbuk. While the software needed little maintenance over the years, the hardware was the concern of Patrick Gilleeny and Joseph Mead, Instrumentation Division.

At the Dibbuk's retirement party, (from right) Lowenstein, retired Senior Technical Associate Richard Stoehr, and AGS Senior Technical Specialist Frank Dusek marvel at the size of the original Dibbuk's 2-megabite cartridge disks — which hold the same amount of information as today's 3½-inch diskettes. Stoehr and his fellow retirees Dean Easler, a former development engineer, and Vincent Kovarik, a former research engineer, engineered the original system. — Marsha Belford

Sun Shines on BNL's 45th Anniversary Picnic

The sun came out and so did the BNLers last Saturday, September 19 — for a fun-filled picnic to celebrate the Lab's first 45 years as one of our nation's great scientific resources.

Photos on this page by Roger Stoutenburgh

CCD Training (cont'd)

system as required around the Lab, make it accessible to users and provide security, backup protection and information management.

The course, which was organized and set up by CCD's Edward McFadden Jr., was given by Kelly/Lloyd and Associates, Inc. Since the new training room is designed to be used by all Lab divisions or departments, other courses of this type can be arranged if there is sufficient demand. Anyone interested should contact the CCD Office, Ext. 4109, or Ronald Wittlock, CCD Training Coordinator, Ext. 4112.

Mary White, who heads the BNL Training Office in the Personnel Division, explained that, with the addition of the new CCD facility, the Lab now has computer training capabilities in both UNIX and DOS applications. In addition to the UNIX training room with its GUI (Graphical User Interfaces) and CAD-CAM applications, the PC training room in Bldg. 475 has eight networked student terminals, its own file server, modems and a link to the Lab's Ethernet.

The PC training room is used by the Management Information Systems (MIS) Division to offer courses in such software as WordPerfect, Lotus and dBase and by CCD for CAD-CAM training. To participate in MIS-sponsored courses, call Michele Cummings, Ext. 2077. To reserve the PC training room for DOS or on-line database systems training, call the BNL Training Office, Ext. 7631.

In Memoriam

Computer Applications Specialist **Claudia Tyler** of the Medical Department died on July 28, at the age of 57, following a courageous battle with breast cancer.

Tyler came to BNL on May 27, 1963, as a keypunch operator in the then Applied Mathematics Department. She transferred to the Physics Department in January 1964 before leaving the Lab in December 1966.

Tyler returned on October 5, 1970, as a medical research services assistant in the Medical Department. She was made a technician II in January 1971, and, after a series of promotions, became a principal technician in October 1979. By December 1979, she was named a computer operator specialist and assumed her final title in October 1983.

In that position, Tyler was responsible for entering computer data obtained by the Occupational Medicine Clinic, as well as the rest of the Medical Department.

"Claudia was a very hardworking lady who was very capable, responsible and reliable — we could really count on her. Her death is a very sorry loss to us," says her supervisor, Computer Analyst Heidi Lee, head of Medical's Computer Support Group.

A former resident of Coram, Claudia Tyler is survived by her husband Nelson Tyler, who retired this May from the Plant Engineering Division; son Nelson Jr. of the Computing & Communications Division; son Neil, Plant Engineering; and daughters Nadine and Claudette. Contributions in her memory may be made to Love Christian Assembly in Centereach.

Walking Club

BNL water-aerobics instructor Scott Knighton, who is an aquatics exercise instructor at the Brookhaven Town Pool operated by the YMCA in Mastic, will be the guest speaker at the first BNL Walking Club meeting of the fall season. On Friday, October 2, from noon to 1 p.m., in Room B, Berkner Hall, Knighton will discuss the aerobic benefits of walking.

Both members and nonmembers are invited to attend. For more information, contact Health Promotion Specialist Mary Wood, Ext. 5923.

Software Demo

Beverly Pederson, IBM T.J. Watson Research Center, will introduce Condor software in a presentation sponsored by the Computing & Communications Division on Thursday, October 1, at 10:30 a.m., Chemistry seminar room, Bldg. 555. Condor provides a dynamic queuing system of "available" central processing units in a heterogeneous UNIX workstation environment. For information, call Ed McFadden, Ext. 4188.

Addled Addresses

- Brookhaven National Labor
- Volcano National Lab

IBEW Meeting

Local 2230, IBEW, will hold its regular monthly meeting on Monday, September 28, at 6 p.m., in the Knights of Columbus Hall, Railroad Avenue, Patchogue. On the agenda will be regular business, committee reports and the president's report.

Notice for U.S. Permanent Residents

Permanent residents of the United States are advised that they may need to update their Resident Alien Card, commonly called a green card, which documents their status. Cards that bear no photograph, fingerprint or signature of the resident alien must be reissued before August 1, 1993. Failure to obtain a new card will cause difficulty if reentering the U.S. after foreign travel.

New cards will be valid for 10 years, and there is a $70 processing fee. For information and application forms, call U.S. Immigration & Naturalization Service, (800) 755-0777.

Arrivals & Departures

Arrivals

Adam J. Bera III.....Biology
John J. McNulty.....Biology
Talat S. Rahman.....Physics
Vivian Stojanoff.....Biology

Departures

This list includes all employees who have terminated from the Lab, including retirees:

David M. Atwood.....Physics
Joannis Papavassiliou.....Physics

Close Up on BERA: Tai Chi Club

For those people who lead stressful lifestyles and need to clear their minds and make their bodies healthier, BNL's Tai Chi Club has the remedy: Join them every Monday, Wednesday and Thursday at noon on the grounds behind the Brookhaven Center to practice this ancient Chinese exercise.

According to Gerard Tanguay, secretary of the club, Tai Chi is an exercise of slow, smooth continuous movement made up of different postures. "It emphasizes meditation both in movement and stillness."

Typically, Tai Chi can be one of two forms of exercise — the short form, usually consisting of 24 postures, and the long form with 88 postures or more. At the Lab, the long form Yang-style Tai Chi is practiced by the club's membership of about 40.

The Tai Chi Club was founded at BNL in April 1991 under Xue Dejun, a scientist from Harbin Polytechnic University in China and master of the art of Tai Chi Chuan — the full name of the exercise, meaning "ultimate fist." When Dejun's appointment at the Lab was up this year, Chuan-Zheng Yang, another scientist from the University of Bejing and a Tai Chi master, took over as the instructor.

A project engineer in the Reactor Division, Tanguay was instrumental in getting the club formally instituted as a Brookhaven Employees Recreation Association (BERA) club, with its own constitution and bylaws.

"I had been interested in learning the art of Tai Chi for many years, ever since my travels to the ports of the Orient while in the U.S. Merchant Marine," says Tanguay, "but I had never encountered anyone who knew the art. Then, along came Masters Xue and Yang to BNL, and Tai Chi became a serious but satisfying learning experience.

"Through meditation practiced in Tai Chi, one trains to be calm and concentrated — like a Taoist priest," adds Tanguay. "The chief benefit of the art is that it helps one to relax and increases concentration."

At a recent Tai Chi Club practice: (from left) Minghan Ye, Gerard Tanguay, Instructor Chuan-Zheng Yang, Sean McCorkle and Young Bae. — Photo by Roger Stoutenburgh

Tai Chi is based on the Yin and Yang theory from Chinese Taoist scripture, which holds that the universe's existing natural energy continually divides into two extremities, the Yin being the weaker extremity and the Yang the stronger one. Thus, explains Tanguay, when Tai Chi needs to be soft, it follows the Yin and when it is necessary to be hard, it follows the Yang.

"Through this exercise, it is possible to achieve a state of peace that allows one to judge things and events in a neutral way, without emotional disturbance," says Tanguay.

Another benefit of practicing Tai Chi is that it exercises the cardiopulmonary system. Practitioners say that a half-hour Tai Chi workout is equivalent to playing a three-hour game of golf.

"Tai Chi can be practiced anywhere and at any time," says Tanguay. "You will always feel relaxed and invigorated after the exercise."

Tanguay adds, "One shouldn't get discouraged when beginning Tai Chi. It takes about six to nine months to learn all the 88 postures, practicing three times a week, and three years to learn it well. It is said that to master the art takes about 20 years."

The Tai Chi club will begin its next season on Thursday, October 1. The instructional fee to participate in practices is $30 for three months. Anyone at BNL interested in joining, however, may participate in a free lesson before deciding whether to sign up.

For more information, call Gerard Tanguay, Ext. 2198, or Tai Chi Club vice president David Phillips, Ext. 4671. — Lorraine Madigan

Note to Employees:

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

Play Group Resumes

The Parent and Toddler Group, for children up to five years old and their parents, will resume its Wednesday meetings on September 30, continuing until December 9. The group will gather to play and share toys and experiences from 9:30 to 11:30 a.m. at the Recreation Bldg. in the apartment area. For more information, call Maria DaSilva, Ext. 1028.

Let's Dance

The Ballroom, Latin & Swing Dance Club will not have a lesson on Wednesday, September 30, but come practice in the North Room of the Brookhaven Center anyway. The club will not meet at all on Wednesday, October 7.

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Stop Smoking

A lunchtime stop-smoking program will be offered on site by the American Cancer Society to all BNLers who want to break the habit.

Fresh Start helps participants understand their smoking as a habit, a chemical addition and a psychological crutch. As part of its stress-management approach, the program will offer strategies so ex-smokers can avoid the twin pitfalls of overeating and gaining weight.

The five 1-hour sessions of the Fresh Start program will be held from noon to 1 p.m. in the small conference room of Bldg. 490, on Mondays and Wednesdays, October 12-26.

The fee is $10, payable to the American Cancer Society. Register with Health Promotion Specialist Mary Wood, Bldg. 490, Ext. 5923.

Camera Club

A meeting of the Camera Club will be held on Wednesday, September 30, at 5:15 p.m., in the Bldg. 134 training room. The agenda includes nominations for club officers and plans for photo contests and instructional classes. Members and interested nonmembers are encouraged to attend. For more information, contact Lew Jacobson, Ext. 5193, or Ripp Bowman, Ext. 4672.

Shoe Shop Shutdown

The on-site safety shoe shop on the northeast side of Bldg. 88 will be closed on Monday, September 28. During this time, call Ext. 2300 with questions about safety shoes.

Softball Dinner

Today is the last day to buy tickets to the annual Softball Awards Dinner on Friday, October 2, 6-11 p.m., at the Brookhaven Center. Buy tickets, at $16 per person, from league representatives: League 1, John Benante, Ext. 4498; 2, Chris Neuberger, Ext. 4160; 3, John Heinrichs, Ext. 3675; 4, Denise Monteleone, Ext. 3406; and 5, Ricky Backofen, Ext. 2973.

New Pool Season

The new pool season will run from Thursday, October 1, through Sunday, December 13.

Tickets may be purchased at the pool during open hours:

Monday through Friday

11 a.m.-1:30 p.m.	employees only
1:30 p.m.-2 p.m.	reserved for speed swimming and training
5 p.m.-9 p.m.	employees, families and guests*

Saturday and Sunday

1 p.m.-5 p.m.	employees, families and guests*

As the pool will be closed for maintenance from December 14 through January 4, fees will be as follows:

Daily Admissions

Employee or family member	$2.00
Guest	$3.00

Season Tickets (fees not prorated)

Individual membership	$30.00
Family membership	$40.00

**Guest ruling for all recreation facilities: One guest per employee permitted. Advance arrangements for additional guests, a maximum of five at any one time, must be made at the Recreation Office, Personnel Division, Bldg. 185. Guests must be accompanied by the employee.*

BERA Sponsors Boston Weekend

If you enjoy sitting back and letting someone else do the driving, sign up for BERA's first overnight trip to Boston, the weekend of November 7-8.

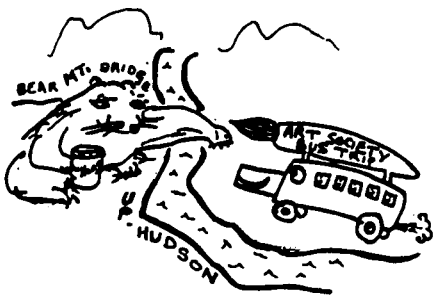
The luxury video-equipped bus will leave the Brookhaven Center at about 7 a.m. Saturday morning, to arrive at Boston's historic Treemont Hotel around noon. The hotel is centrally located two blocks from the subway in the city's downtown, and near the heart of the theater district, Fanuiel Hall, Freedom Trail, Fisherman's Wharf, restaurants and shopping.

In addition to round-trip transportation, the $149 weekend includes hotel accommodations. The price is based on double occupancy, with singles a bit higher. Participants will also enjoy a buffet breakfast on Sunday morning, a ticket for Old Town Trolley sightseeing, a visit to the Kennedy Library, and prepaid taxes and gratuities. The bus is expected back at BNL around 8 p.m. Sunday night.

First-come, first-served reservations are now being taken weekdays, 9 a.m. to 1:30 p.m., at the BERA Sales Office, where brochures on Boston-area attractions are available for perusal. A deposit of $50 per person will hold reservations, with the balance due by October 20.

For more information, call Carolann Zebrowski, Ext. 3347, or M. Kay Dellimore, Ext. 2873.

Art Society Bus Trip



On Saturday, October 24, ride with the BERA Art Society to catch the last fall leaves up the Hudson River and see the 18th-century Phillipsburg Manorhouse, garden and period trade center with watermill at Tarrytown.

Lunch at antique Cold Spring village right on the river; then view Franklin D. Roosevelt's home at Hyde Park, which has a special exhibit of Winston Churchill's paintings in the museum library. The bus will leave the Lab at 7 a.m. and return by about 8 p.m. Bus tickets are $19; museum fees are $9 for both. Call Liz Seubert, Ext. 2346 or 286-8563.

Cafeteria Menu

Luncheons

Monday, September 28	
Soup: Maryland-style crab	.80/1.10
Entree: Lasagna	3.20
Fitness: Quiche Lorraine	3.20
Carvery: Hot pastrami sandwich	2.95
Grill: Cheese quartet	2.95
Tuesday, September 29	
Soup: Country vegetable	.80/1.10
Entree: Sausage & pepper hero	3.20
Fitness: Salisbury steak	3.35
Carvery: Hot roast beef sandwich	2.95
Grill: ¼ lb. burger w/mushrooms on onion roll	2.95
Special: ½ off any Minute Maid juice	
Wednesday, September 30	
Soup: Minestrone	.80/1.10
Entree: Beef fajitas	3.20
Fitness: Seafood linguine	3.45
Carvery: Hot baked ham sandwich	2.95
Grill: Steak sandwich	3.85
Thursday, October 1	
Soup: Cream of cauliflower	.80/1.10
Entree: Grilled chicken breast w/herbs	3.45
Fitness: Pasta marinara w/sausage	3.35
Carvery: Corned beef sandwich	2.95
Grill: Reuben	2.95
Friday, October 2	
Soup: New England clam chowder	.80/1.10
Entree: Fried shrimp	3.45
Fitness: Catch-of-the-day	3.35
Carvery: Turkey sandwich	2.95
Grill: Chicken breast on kaiser roll	3.35

Movie Night at the Center Club:
Wed., 9/30, *Bird on a Wire*

Bowling

White League

Tom Romano bowled a 210/200/581 series, while Maryann Reynolds had a 213, Ray Raynis 212, Ken Riker 197, Ed Sperry 192, Peter Wynkoop 188, Mary Grace Meier 182, Gerry Riker 178 and Lorraine Petro 171.

Purple League

Ben Belligan rolled a 210/193/579 series and Jim Biamonte had a 190/190/189/569 series. Joe Ferrante bowled a 213, Marilyn Picinich 211, Jim Goode 211, Ed Sperry IV 191, Vito Manzella 190, Ed Beadle 189, Ruth Sheehan 179, Tracy Ryan 173.

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.

LABORATORY RECRUITMENT - Opportunities for Laboratory employees.

DD 0165. MASON - Performs a wide variety of cement and concrete work. Lays brick and blocks, and does grouting and finishing as required. Plant Engineering Division.

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside candidates.

DD 8081. BIOLOGY ASSOCIATE - (term appointment) Requires BS in biology and previous media-preparation, instrumentation and bioreactor-maintenance experience. Responsibilities will include the maintenance of microbial cultures. Experience with thermophilic bacteria desirable. Department of Applied Science.

LF 8155. ENGINEERING POSITION - Requires a BS in engineering or equivalent capabilities and some pertinent professional safety experience. Experience in investigation and analysis of safety incidents necessary. Must have good analytical, oral and written communication skills, and experience with computer database management, spreadsheet systems and statistical analysis. Safety & Environmental Protection Division.

LF 10178. BIOLOGY ASSOCIATE POSITION - Requires a BS in electrical engineering or related field. Requires experience in digital design and implementation of discrete logic and/or PALS, as well as the ability to design and construct prototype circuits. Knowledge of programming in FORTRAN,C and Assembler is essential. Responsibilities include working in the development and maintenance of electronic systems at the NSLS X12B Time-Resolved Station, and participating in the design and development of high-speed, high-resolution, x-ray imaging detector programs. Biology Department.

Motor Vehicles & Supplies

90 MUSTANG - midnight blue, all extras incl., high mi., $8,000. 929-4014.

89 MERCEDES BENZ 190E - 2.6, excel. cond., $21,000. Ellen, 665-4495.

89 JEEP WRANGLER - 41k mi., 6-cyl., a/t, p/s, p/b, tilt, Benzi box, 2 tops, red, $9,200 neg. Nick, 924-6790 eves.

89 CHEVY CAVALIER - clean, reliable, economical trans., A-1 running cond., $4,600 neg. P. Fish, Ext. 5320.

89 HONDA ACCORD LXI - 5-spd., 2-dr., excel. cond., $8,900. Ext. 7009 or 689-7963.

88 HONDA ACCORD - 4-dr., metallic beige, 4 new tires, ac, am/fm cass., excel. cond., orig. adult owner, ask. $6,300. Nancy, Ext. 3857 or 751-3298.

88 NISSAN SENTRA XE - h/b, ac, p/s, p/b, am/fm, a/t, tinted glass, 59k mi., good cond., $5,300. Dave, Ext. 5789.

88 PLYMOUTH VOYAGER LE - 3 liter, V-6, all extras, clean, best offer over NADA book trade-in value. Connie, Ext. 2594 or 727-1483.

87 PONTIAC GRAND AM - blue, 4-dr., ac, cruise, 13k orig. mi., gar., showroom cond., $6,000. 473-7667.

87 CADILLAC SEDAN DEVILLE - p/everything, leather int., mint cond., $6,750. John, Ext. 4660 or 727-1140.

86 PLYMOUTH VOYAGER - 2.6 liters, a/t, am/fm, ac, 80k mi., v.g. cond. Ext. 4830 or 341-1025 eves.

85 ESCORT WAGON - 5-spd., orig. owner, 97k mi., good cond., well maint., asking $1,250. Mark, Ext. 4347 or 924-2932.

85 BUICK SKYHAWK - 2-dr., black, p/s, p/b, am/fm stereo, ac, new battery, good cond., asking $2,350. Mike, Ext. 3981.

85 PONTIAC GRAND AM - red, ac, 5-spd., sunroof, am/fm stereo cass., 100k mi., v.g. cond., $2,500. Nathan, Ext. 3071/1062.

85 PLYMOUTH RELIANT - 63k mi., new tires, & brakes, am/fm, ac, no rust, v.g. cond. Laurence, 751-9422.

83 HONDA ACCORD - 4-dr., 5-spd., ac, p/s, p/b, cruise, am/fm stereo cass., 87k mi., $850. Yang, Ext. 3663 or 474-3845.

84 DODGE OMNI - needs clutch, good for parts, Goodyear tires, new battery, etc. $150. Ext. 3983/1039.

84 FORD PICKUP - 4wd, ¾-ton, heavy-duty, mint cond., $5,500. Ext. 4251 or 475-4199.

84 MAZDA B2000 PICKUP - w/cap, 83k mi., new tires, battery, am/fm cass., $1,850 firm. Joann, Ext. 5671 or 472-6742.

84 OLDS CUSTOM CRUISER - 80k mi., all power, loaded, clean, excel., $2,000. Hoon, Ext. 5427.

80 MERCEDES - no ext. rust or dings, no int. rips, cracks or stains, runs well, must sell, asking $7,000. Neil, Ext. 3084 or 732-3902.

80 CHEVETTE - 2-dr., h/b, a/t, ac, fm/stereo/cass. tape, radar det., new brakes, M/S tires & timing belt, $600. George, Ext. 3061 or 751-0265.

79 CHEVY PICKUP - runs well, fair cond., good work truck, $900. Roy, 732-8192 after 6 p.m.

78 MUSTANG II - V-6 eng., many new parts, good runnig cond., no rust, 85k mi., $1,000 invested, $1,200 firm. P. Fish, Ext. 5320.

78 VIKING POP-UP CAMPER - sleeps 4-6, needs some work but very usable as is, asking $500. Bill, Ext. 7961 or 929-3082.

76 PLYMOUTH VOLARE - 4-dr., 4-spd., m/t, running cond., best offer. 728-4495.

75 BLAZER - good engine, new trans., body work needs to be finished, new battery, $1,500. Russ, 325-0563.

74 CHRYSLER WAGON - Town & Country, ac, a/t, $300. Tony, 698-9274.

70 COUGAR XR7 - 67k orig. mi., all paperwork, p/s, p/b, tilt, p/w, 351, brown leather int., $750. Tony, 281-2513.

64 CHEVY BEL AIR - 4-dr., 6-cyl., 70k mi., needs paint, new exhaust, good cond., $595. 878-1056.

56 CHEVY - 2-dr. sedan, needs work, $1,100; '55 Chevy, fg nose, good cond., $300. Bob, Ext. 5211.

CAR RADIOS - am/fm stereo, fit GM late model cars, 2 available, $45. Walt, Ext. 7154.

TIRE - Uniroyal Laredo L.T.L. load range-E, LT 235/85R16, mounted on 8-bolt rim, plus spare rim, $75/all. Ext. 4026.

CAP - for small pickup truck, clamps on, black, $50. Jeff, 821-6867.

CAP - for small pickup such as Mitsu Mighty-Max, like new, $350. 399-6585.

CAP - A.R.E., alum. w/ladder rack, side opening door w/tool bins, rear-opening glass door, black, Mazda, etc., excel. cond. Mike, Ext. 3981.

Boats & Marine Supplies

23' 4 Winns - 1986, 230-h.p. Merc. i/o, used two seasons, many extras, trailer optional, $10,500. Charlie, Ext. 2407.

23' WALK-AROUND FISHERMAN - 200-h.p. i/o, elec., full Bimini, deep cuddy, new Magic-tilt, tandem-axle trailer w/power winch. Larry, Ext. 4295.

22' MARSHALL CATBOAT - freshwater-cooled Yanmar diesel, VHF radio, depth sounder, Danforth compass, head. Gordon, 477-2269.

21' DIXIE BLUE FIN - 1987, walk-around cuddy, hardtop, 180-h.p. Merc. i/o, elect., '89 tandem Karavan trailer, excel. cond., $9,500. Ext. 4010.

12' BOAT & TRAILER - Sears, alum., new trailer, $695. Joe, 821-4586.

CATAMARANS - 18.5' 1988 NACRA 5.7, $2,950; 18' 1988 NACRA 5.5, for 1-2 people, Mylar sail, $2,300; both like new, w/lessons. Steve, 581-2102.

Furnishings & Appliances

CHAIRS - rattan, swivel, 2, w/cushions, $150; Formica dressers, 6-drawer & 3-drawer, $150. H. Martin, Ext. 7761.

CHAIR - wicker, $25; oak wall unit, $400. 265-4572.

CHAIRS - 4, ladder-back, $40; Boston rocker, professionally stripped, $35; 2 floor lamps, brass w/glass table. John White, Ext. 2021 or 758-4770.

COUCH - Ethan Allen, 7', excel. cond. 325-0447.

DESK - student, 17"x42", 4 drawers, hard wood, good cond., $50. Yousef, Ext. 4932 or 928-8993.

FREEZER - GE, upright, 12 cu. ft., $85; Wayne 1½ h.p. well pump, $100; 50-gallon water tank, $15; slates, 50¢ - $1. P. Delmonte, 475-0831.

KITCHEN TABLE - Stoneville, 4 chairs, like new, asking $1,350; glass & chrome shelves, $25; oak microwave cart, $75. Tom, Ext. 7287 or 744-4535.

LIVING ROOM - bone white, sofa bed, loveseat, glass/brass tables, $890. Doug, Ext. 4661 or 434-7812.

REFRIGERATOR - Admiral, 10 cu. ft., 56¾"H x 24"W x 30⅛"D, v.g. cond., $80. 281-7844 eves.

REFRIGERATOR - Amana, frost-free, copper tone, 19 cu. ft., clean, good cond., $100. 265-6542.

ROOM DIVIDER UNIT - wooden, 2'x4'x7', w/drawers, cabinet, shelves on both sides, $50. Tom, Ext. 4507 or 878-1060.

SOFA & RECLINER - brown tweed, excel. cond., $150. 732-6569.

SOFA BED - Castro, queen, matching loveseat, blue & beige stripe, $150/both; plaid upholstered easy chair, $55. Phil, 585-8381.

STOVE - Hotpoint, elec., almond, good cond., $50. Karen, 325-0563.

TABLES - octagon, cocktail & end, smoked glass tops, dark wood, excel. cond., $250. 732-6569.

TABLE - for eat-in kitchen, w/4 swivel chairs, $45. Ext. 5534.

WATER BED - Fiber Form II, king size, motionless, complete base, frame, liner, heater, cover, 2 yrs. old, ask. $300. Artie, Ext. 5029 or 395-4839.

Tools, House & Garden

COAL STOVE - Surdiac, self-feeding, $200 or best offer. Bob, Ext. 5211.

FIREPLACE - Vermont Casting insert, like new, orig. $1,500, now $475 neg. Mike, Ext. 3981.

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

DRILL PRESS - ½" drill chuck, like new, plus drill vise, $60; 12" band saw $50; 5" grinder, $25. Elbio, Ext. 7354.

GENERATOR - 4,000W, 220/110V outlets, hardly used, $350; hot water heater, w/circulator, $50. John, Ext. 3302.

LADDER - 32', alum., exten., $40. John, Ext. 7623.

LATHE - Clausing, 6" swing, 21" between centers, accessories, $450. Elbio, Ext. 7354.

LAWN MOWER - elec., 3 h.p., $25; lawn spreader, like new, $15; Garden Supply soil composter, still in box, orig. $99, asking $50. 473-7667.

WOOD STOVE - Kresno, airtight, w/glass door, excel. cond., almond color, $75. Russ, 325-0563.

TABLE SAW - & jointer, good cond., best offer. 727-7741.

TREE - Japanese red maple, mature, 15', you dig. Kitty, 589-5912.

WHITE PINES - white spruces, up to 4½' high, nursery grown, $2/foot. John, 744-5867.

Sports, Hobbies & Pets

BICYCLES - 1 woman's, 1 man's, used twice, $75/ea. 368-6115 after 6 p.m.

DOG - German Shepherd, 3 yrs. old, AKC, good temperament, loves people. 727-7741.

EXERCISE STEPPER - stair stepper, v.g. cond., $100. 265-4572.

FLUTE - Artley, needs tune-up, $75. Janet, Ext. 2345 or 929-3910.

GUITAR - Fender, acoustic, $100. Jeff, 821-6867.

KEYBOARD - Yamaha PSR18, 61 keys, 100 voices, $100. Peter, Ext. 5634.

ORGAN - Lowry, needs work by electronic technician, manuals, excel., best offer. 669-5181.

PARROT - Africa Gray, talks, whistles, must sell, going South, $450. 281-3515.

ROWER - Sears, $75. Ext. 7761.

Audio, Video & Computer

CD PLAYER - Technics SL-P406C, 6-disc, hardly used, great cond., $115. Rick, Ext. 3932.

CD PLAYER - Sony CDP-C705, 2-20 kHz, 5-disc carousel, 8x oversampling, 18 bit D/A fade, peak, search, $245. Hans, Ext. 4584 or 981-3365.

COMPUTER - XT compatible, w/Panasonic mono monitor, $350. Ext. 5534.

COMPUTER - Notebook, 386SX, 1 meg ram, 40 meg HD, VGA LCD, 3-hour battery & charger, 15 mo. old, $1,500. George, Ext. 5866.

SPEAKERS - 2, Realistic, 100W, hardly used, orig. $200, sell for $75/both. Dengfa, Ext. 5634.

SPEAKERS - Kicker Competition installed, 15", in box, orig. $460, asking $300. Jason, 325-0563.

STEREO - Sony 75W receiver, turntable, CD, cassette, stereo beta VCR, full remote control, $600. 472-4133.

VIDEO CASSETTES - 4, Sony metal-MP, 60 min., 8mm, 3 opened but not used, 1 unopened, price neg. Hovi, Ext. 4919 or 744-6990.

Miscellaneous

BASKETS - handmade, hardwood, maple baskets, many styles/sizes; woman's blue fox fur jacket, size 12, excel. cond., $450 neg. 472-4133.

BROWNIE UNIFORM - size 7/8, blouse, jumper, beanie, sweater, like new, $15. Steve, 4475.

COCKTAIL SUIT - Dynasty, 3 piece, w/beading, pale pink, size 12, $150. Ruth Ann, Ext. 7774.

FUR COATS - vintage, stoles, collars, mink, silver fox, very old, cheap. Toni, Ext. 5257, M, T, Th..

RING - woman's, 14k gold, 2 carat total diamond weight, cluster, lots of gold, size 10, w/$3,190 appraisal, asking $1,800 neg. Ruth, Ext. 3305.

SWEATERS - sweater suits, 100% cotton & cotton blend, excel. quality, excel. price, great for gifts. Debbie, Ext. 2907.

TICKETS - 2, Met Opera, *Les Contes D'Hoffmann*, 9/28, balcony box, $20/ea. Bob, Ext. 4637 or 692-8659.

TICKETS - 2, American Airlines, LA to Islip, 1-way, before 12/14, $120/ea. Ext. 3983 or 341-1039.

WATCH - woman's, new, $25; Indian dress, $10; 2 kitchen chairs, $10; electric typewriter, excel. cond., $70. Kathy, 744-2203.

WEST POINT BUS TRIP - Sat., 11/21, Army vs. Boston college, ticket, bus, food & refreshments incl., $50/ea. Ron, Ext. 4144, or Bob, Ext. 3299.

WILL DRIVE YOUR CAR - to Florida, reliable, references. Joseph, 369-0432.

Free

KITTEN - female, 5 mo. old, part Siamese, very affectionate, gorgeous. Debbie, Ext. 2907.

CAT - calico, 6 yrs. old, spayed, declawed, very affectionate, needs a good home. 265-4572.

CAT - black tortoise, 4 yrs. old, spayed, completely declawed, litter box incl., needs good home, affectionate. Vic, Ext. 7016 or 543-7674.

CATS - orange tigers, 2 yrs. old, neutered males, excellent pets, gentle, love people. Ext. 3436.

DOG - female, shepherd/lab, 6 yrs. old, spayed, all shots/medical records, loveable, gentle, good w/kids. Slawko, Ext. 4453 or 369-2338.

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

BAYPORT - house to share, clean, comfortable, deck, walk to beach, prof. or bus. exec., nonsmoker, quiet morning person preferred, $125/wk. + ½ util. Jeanne, Ext. 7722 or 472-6825.

BELLPORT - 2 bdrm., study, l/r w/fp, dining area, unheated porch, OHWH, $750/mo., no utilities. 286-8552 after 7 p.m.

BROOKHAVEN HAMLET - restored 2-bdrm. English cottage, 2 baths, d/r w/fp, greenhouse, country setting, $1,200/mo. + sec. & util. Susan, Ext. 2888 or 286-0422 eves.

MEDFORD - new 1-bdrm. apt., l/r, kit., full bath, cable, priv. ent., single nonsmoker, no pets, $600/mo. incl. all, 1 mo. sec. 475-0373.

MEDFORD - 1 bdrm., l/r, kit., full tile bath, sep. thermostat, priv. ent., cable & util. incl. 12 min. to Lab, avail. 9/20. Betty, 758-2653.

MILLER PLACE - new furn. studio apt., full bath, kit. priv. ent., deck, wooded, near beach, nonsmoker, mature single person, refs., sec., $475/mo. + ⅓ elec. 473-6950.

N. SHIRLEY - 2-rm. apt., priv. ent., w/d, cable, $500/mo. incl. util., 1 mo. sec.; **also** room, w/d, kit. priv., $80/wk. + 1 wk. sec; both 5 min. to Lab, no pets. Bob, Ext. 2021.

PATCHOGUE - new studio apt., sep. dwelling, w/w, cable, single nonsmoker, no pets, $470/mo. incl. all. 475-9099.

RIDGE - like new, mint studio apt., priv. ent., avail immed., 5 min. to BNL. 744-4615.

ROCKY POINT - 1-bdrm. house, l/r, kit., bath, deck, lg. fenced yard, near shopping, 20 min. from Lab, nonsmoker, $475/mo. + sec. Joan, 744-9423.

SHIRLEY - 2½1-rm. apt., 10 min. from Lab, priv. driveway & ent., quiet block, single, employed person, nonsmoker pref., $450/mo. 281-6263.

SOUTHOLD - 1 acre waterfront, 3-bdrm. ranch, 2½ baths, unfurn., 1 fam. only, no pets, 11/1 occup., $1,175/mo. + 2 mo. sec. Dan or Mara, 821-0469 day or eve.

SOUTHOLD - 2-3 bdrm., l/r, kit., 1 bath, 1 fam. only, no pets, $800/mo. + 2 mos. sec., refs. 727-7741.

STONY BROOK - fully furn. 3-bdrm. house, 2 baths, gar., eik, d/r, l/r, yard, 5 min. to SUNY, 20 min. to Lab, Joe or Linda, 689-5379.

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

MT. HOLLY, VT - furn. 2½-bdrm. A-frame, kit. bath, wood stove, deck, 10 min., to Okemo Mt., lakes, boating, foliage, biking, horseback riding, $225/wknds., $325/wk. Tom, Ext. 2823.

For Sale

BELLPORT VILLAGE - secluded, charming 2-bdrm. w/sleeping loft, near golf & tennis, decks, outdoor jacuzzi, 2 full baths, ⅔ are, s. of S. Country, $248,000. Sue, Ext. 2888 or 286-0422.

BROOKHAVEN HAMLET - 4-bdrm. Colonial, 2½ baths, l/r, d/r, fam. rm. w/fp, eik, laundry rm., 2-car gar., full bsmt., lg. screen porch, private setting on cul-de-sac. Ext. 2381 or 286-3372.

EAST MARION - beautiful 1 acre bldg. lot, adjacent to green belt, walk to sound. 325-0447.

HOLTSVILLE - 2-bdrm. ranch, l/r, d/r, big kit., fp, pool, fenced backyard, low taxes, 15 min. to BNL, great neighborhood, $97,900. Kelly, 289-1732 after 6 p.m.

MIDDLE ISLAND - Lake Point at Artist Lake, upper 1-bdrm. coop, deck, cac, w/d, clubhouse, assume mortgage, $59,000 neg. Bill, 924-1346.

MIDDLE ISLAND - Fairview Artist Lake condo, 1-2 bdrm., 1½ baths, cac, pool, tennis, all appl., w/w, immac. upper unit, $88,000. Darlene, Ext. 2876 or 345-5365.

PATCHOGUE - 2-bdrm. Village oldie, bsmt., new porch, updated electric, gar., painted inside, mid 80s. Lenore, 928-8060 after 6 p.m.

PORT JEFF VILLAGE - Harbor Hills, 4-bdrm. split ranch, d/r, eik, fam. rm. w/fp, oak floors, brick patio, 24'x44' bsmt., beach & country club priv., $170,000. Ext. 4474 or 929-5699.

RIDGE - 5-bdrm. Cape, 2 baths, 1 acre, new heating, a/c, 5 appl., deck, porch, d/r, extras, must see, 5 min. to Lab, $160,000. 345-5093.

ROCKY POINT - 4-bdrm. custom Colonial, ⅓ acre, 2½ baths, den w/fp, l/r, d/r, eik, 2-car gar., full bsmt., new driveway, fully landscaped, ask. $162,000. Gregg, 874-8631 after 5 p.m.

SHOREHAM - 3-bdrm. cedar ranch, l/r, d/r, eik, lg. den, full fin. bsmt., 1½-car gar., lg. deck, pool, ½+ acre prof. landscaped, SWR SD, low taxes. 744-0722.

SOUND BEACH - brand-new, 4-bdrm., 2 full baths, full bsmt., eik, l/r, Andersen windows, cathedral ceilings, w/d, still time to pick colors, ask. $128,000. Ed, 744-2153.

SOUTHOLD - 2-bdrm. expandable farm cape, l/r, kit., 1 bath, excel. location, $119,500, avail. 11/92. 727-7741.

STONY BROOK - Strathmore Gate adult community, walk to stores, 1 bdrm., jalousie porch, new appl., gar., clubhouse, priv. area, mint cond., $89,000. 689-8141.

WADING RIVER - on beach, 10 rm. year-round house, 5 bdrm., 2 baths, d/r, l/r w/fp, upper/lower decks, full bsmt. w/apt. w/sep. ent., incl. adj. lot, SWRSD, $259,000. Kathy, 929-8443.

BRONX - 2-family, Throggs Neck waterfront, main floor, 2 bdrm., lg. d/r, front/rear porches, walk-in 1 bdrm., 3-car gar., full bsmt. Joe Yelk, Ext. 4786 or 281-7683.

NORTH CAROLINA - 1.13 wooded acres, waterfront community, pool, clubhouse, 35-boat slip on Pamlico River, $38,000. Ken, 281-5565.

Yard & Garage Sales

CENTER MORICHES - Sat. & Sun., 9/26-27, 10 a.m.-4 p.m., bikes, books, beds, bargains, 11 Surrey Dr. 395-3529.

E. PATCHOGUE - 9/26-27, 9 a.m.-4 p.m., household, crafts, tools, misc., rain date 10/3-4, 114 N. Dunton Ave. Helga, Ext. 2381.

Lost & Found

GLASSES - found in Bldg. 902 Computer Room. C. Murphy, Ext. 5459.

Wanted

TRUMPET - w/case, good cond., reasonable. Bob, Ext. 3457 or 737-1786.

In Appreciation

Thanks to all my friends for your support in the recent loss of my brother, Edward.

— Nancy Sherlock & Family

Classified Ad deadline is 4:30 p.m. Friday for publication Friday of the next week.