

Child Development and Science Education Centers Get Under Way With Ground-Breaking Ceremony

At the double ground-breaking ceremony on Monday, December 3, for the Child Development Center (CDC) and for the Science Education Center (SEC), BNL Director Nicholas Samios read from a congratulatory letter received that morning from the U.S. Secretary of Energy, Admiral James Watkins, which noted:

For the first time in the Department of Energy's history, a national laboratory has undertaken to build both a fine new science education facility and a child development center.

America's children deserve the best preparation for school and the best science education that we as a nation can offer them. I know that at Brookhaven they will be in excellent hands.

You are to be commended for your vision and for taking these important projects from inspiration to reality. Mrs. Watkins and I look forward to joining you for the ribbon-cutting ceremony when the centers open.

The CDC is being built on Yale Road, and the SEC will be constructed on Brookhaven Avenue. While the ribbon-cutting ceremony should take place next fall, representing the Secretary at this week's ground breaking were Richard Stephens, Acting Associate Director of the Office of University & Science Education Programs of the U.S. Department of Energy's (DOE) Office of Energy Research, and Pearl Wax-

man, Admiral Watkins's Early Childhood Coordinator.

In keynote remarks, Waxman pointed out that DOE funding for Brookhaven's CDC is another example of how Secretary Watkins is making good on the pledge made during his swearing-in ceremony in 1989 to support the establishment of child-care quarters within DOE facilities.

"As the first DOE lab to secure funding for the first child-care facility, Brookhaven is the model and the standard for the rest of the DOE laboratory system," stated Waxman.

Stephens reminded the audience that Watkins's inaugural promises included not only child care, but also science education.

"The national labs have a role not just research, but also in science education. As part of their science education mission, the national labs are helping to upgrade the skills and confidence of the nation's science teachers," said Stephens. "BNL's Science Education Center will enable the Lab to be more efficient and focused in its science education efforts."

"Since most of our staff is involved in education in one way or another, building a Science Education Center seemed to me to be a natural extension symbolizing our commitment to science education in this country. So

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At the formal ground breaking for the Science Education Facility are: (from left) Donald Metz, Head of BNL's Office of Educational Programs; Henry Grahn, BNL Associate Director for Administration; Robert D'Angio, Manager of Personnel Division; Jefferson Neff, Acting Manager of the U.S. Department of Energy (DOE) Brookhaven Area Office; Pearl Waxman, Early Childhood Coordinator in the Office of the U.S. Secretary of Energy; BNL Director Nicholas Samios; Robert Hughes, President of Associated Universities, Inc.; Richard Stephens, Acting Associate Director of the Office of University & Science Education Programs, DOE Office of Energy Research; and Mark Sakitt, BNL Assistant Director for Planning & Policy.

Photos by Roger Stoutenburgh

Because the Child Development Center (CDC) is already under construction, ceremonially breaking ground for the CDC is child's play for: (from left) Robert D'Angio, Manager of BNL's Personnel Division, which will oversee CDC operation; Pearl Waxman, Early Childhood Coordinator in the Office of the U.S. Secretary of Energy; BNL Director Nicholas Samios; Marsha Belford, Public Affairs, who chaired the Child Care Initiative Committee; and Robert Hughes, President of Associated Universities, Inc.



The actual ground breaking for the Child Development Center was undertaken on Yale Road with heavy equipment on November 7.

BNL's 'Heat Smart' Flyer Being Distributed Nationwide



Surrounded by some of the 5.8 million "Heat Smart" flyers and 30,000 brochures they produced for the U.S. Department of Energy's "Heat Smart" public service campaign are: (from left) project manager Roger McDonald from the Department of Applied Science's Combustion Equipment Technology Program (CETP); John Strasser, CETP; Wei Gang, CETP visiting researcher-collaborator from the People's Republic of China; Ruth Coughlan, CETP; Alan Schmidtchen, Photography & Graphic Arts Division; and Richard Krajewski, CETP.

As air temperature gets colder and the crisis in the Middle East heats up, the 12 million homeowners in the nation who heat their homes with oil have been bearing a new financial burden — the dramatically higher price of fuel oil. They are also coping with an uncertain future concerning the direction oil prices will take.

In response to this crisis, the U.S. Department of Energy (DOE), BNL and the Petroleum Marketers Association of America are currently distributing 5.8 million flyers titled "Do Your Part — Heat Smart!" to homeowners across the nation who heat with oil.

The aim of this public-service campaign, along with the "Drive Smart" campaign initiated by DOE in October, is to conserve fuel and save money.

Oil-heat marketers are supporting the "Heat Smart" conservation campaign nationwide by sending the flyers to their customers. The bulk of the flyers will be distributed within the top four oil-heat-using states: New York, Pennsylvania, New Jersey and Massachusetts. But homeowners in

every state in the nation will be receiving them — including Hawaii, where 1,000 copies were sent for homeowners who use oil to heat domestic hot water.

Roger McDonald, project manager and head of the Combustion Equipment Technology Program (CETP) in BNL's Department of Applied Science, wrote the flyer with the help of the CETP staff. Since its beginning in 1977, this BNL program has aimed to increase heating system efficiencies and to advance technology for the general public who depend on oil heat and the oil-fired heating industry which serves them.

"The flyer provides information that helps homeowners make intelligent decisions and realistic projections of savings," McDonald said. "For instance, you can save 3 percent of fuel annually by setting back your thermostat just one degree over a 24-hour period. Installing a new high-efficiency oil-fired furnace or boiler can save you up to 40 percent."

Among many other suggestions for saving fuel oil, McDonald said, one

(continued on page 2)

Ground Breaking (cont'd)

the idea to build this facility came from the top down," recalled Samios. "Day-care facilities are now a given for any large institution, but it wasn't so obvious to me a few years ago — until a grass-roots push started by Brookhaven Women in Science made the need obvious."

Robert Hughes, President of Associated Universities, Inc., commented, "Looking around the Lab, you see a lot of renovated barracks and very few new buildings. New buildings are especially difficult to come by — an indication that the Child Development Center and the Science Education Center are important to build."

'Heat Smart' (cont'd)

of the most important is proper maintenance. He recommended that a yearly tune-up and cleaning of the oil-heating system be done by a competent oil-heat service technician. This regular maintenance can save from 2 to 10 percent of fuel oil annually.

McDonald advised that homeowners who are considering converting their oil-heating system to gas heat should not feel pressured to do so immediately, since the price of heating oil will fluctuate and should decrease after the Mideast situation is resolved.

For help in completing the project efficiently, McDonald gratefully acknowledged the Photography & Graphic Arts Division, in particular, Ken Boehm and Alan Schmidtchen, as well as the Government Printing Office.

For homeowners who are interested in more information about efficient heating with oil, the CETP staff have prepared a ten-page booklet titled "Improving the Efficiency of Your Oil Heating System." The DOE-sponsored booklets and flyers are available from Public Affairs, Bldg. 134, Ext. 2345. — Diane Greenberg

BNL Lecture: Containing Severe Accidents In Nuclear Power Plants

On March 28, 1979, an event took place near Middletown, Pennsylvania, that has had great impact on the U.S. nuclear power industry: A severe accident occurred in the Unit 2 reactor at the Three Mile Island (TMI-2) nuclear power plant.

The accident began when a relief valve became stuck in the open position, causing water loss from the reactor vessel. When operators misdiagnosed the situation, the sequence of events that followed resulted in the meltdown of approximately 50 percent of the reactor core and the

production of about 460 kilograms of highly combustible hydrogen. When released to the reactor's containment system, the hydrogen burned.

Fortunately, the system was able to contain this amount of hydrogen. Though a very small amount of radioactive gases did escape from the plant, far more would have been released had the containment system failed.

What would have happened had the amount of hydrogen been larger? To what extent can other containments of different designs deal with the quantity of hydrogen that was released at TMI-2? These questions were immediately posed as a result of the TMI-2 accident and are still being addressed by scientists taking a hard look at reactor designs.

One of those is Trevor Pratt, Head of the Safety & Risk Evaluation Division of the Department of Nuclear Energy (DNE). He will talk about "Containing Severe Accidents in Nuclear Power Plants" when he delivers the 265th Brookhaven Lecture on Wednesday, December 12, at 4 p.m., in Berkner Hall. His talk will be introduced by DNE Chairman Walter Kato.

After discussing the TMI-2 accident, Pratt will describe the various designs of light-water reactors (LWR) employed in U.S. nuclear power plants. These include pressurized water reactors, the design used for TMI-2, and boiling water reactors, the design used for the Shoreham nuclear power plant.

Pratt will review the safety of current U.S. nuclear power plants, examining how designs were impacted by the TMI-2 accident and how they have been further affected by

considering the possibility of accidents even more severe than TMI-2.

The U.S. Nuclear Regulatory Commission recently completed a very extensive study to determine the response of LWRs to severe accidents. BNL participated in this study, which has been published as NUREG-1150. Pratt will discuss the study and talk about what is being done to address the challenges posed by severe accidents in both present reactors and in future designs.

Trevor Pratt received a B.Sc. and a Ph.D. in mechanical engineering from Strathclyde University, Glasgow, Scotland, in 1969 and 1972, respectively.

After graduation, Pratt joined the United Kingdom Atomic Energy Authority and worked at the Dounreay Fast Reactor doing technical appraisals in areas of core thermal hydraulics and reactor containment. Pratt moved to New York in 1974 as a mechanical-nuclear engineer with Gibbs & Hill, Inc.

He joined Brookhaven's DNE in 1976, as an associate nuclear engineer involved in evaluations of core meltdown phenomenology, containment response and fission-product release during severe reactor accidents. Pratt became leader of the Accident Analysis Group in 1981 and Head of the Safety & Risk Evaluation Division in 1986. The division is responsible for analyzing the likelihood and consequences of severe accidents in LWRs.

After the lecture, those attending are invited to join the speaker for discussion and hors d'oeuvres. To join the lecturer for a dinner at a restaurant off site call Bob Youngblood, Ext. 2363.



Trevor Pratt

— Photos on this page by Stoutenburgh

Service Awards

The following employees celebrated their BNL service anniversaries during the month of November 1990:

Thirty-Five Years

Haskell Frei.....Reactor
Donald L. Horne.....App. Science

Thirty Years

William A. DeVito.....Accel. Dev.
Harald Hahn.....Accel. Dev.
William P. Lehman.....Medical

Twenty-Five Years

Robert D. Cunningham....Cent. Shops
Franklin C. Densing.....Instrum.
Raven B. McKenzie-Wilson.....DNE
Ruth K. Merker.....Mgmt. Info. Sys.
Peter E. Pyne.....Physics
Raymond M. Zaharatos.....AGS

Twenty Years

Robert J. Beuhler.....Chemistry
John G. Schmidt.....Instrum.

Ten Years

Mohamad A. Azarm.....DNE
Shu Cheung.....Physics
Anita F. Cohen.....Director's Office
Linda M. DiPierro.....Occ. Med. Clinic
Victor Gonzalez.....Cent. Shops
Warren E. Jappe.....AGS
Doreen A. Piccione.....Fiscal
Morris L. Shapiro.....Accel. Dev.
Lewis C. Solem.....DNE
Peter B. Zuhoski Jr.....DNE

Credit Union Expands Hours

The hours at the on-site branch of the Teachers Federal Credit Union (TFCU) have been expanded as follows:

Day	Open Hours
Mon.-Wed.	9:00 a.m. to 4:30 p.m.
Thursday	9:00 a.m. to 5:00 p.m.
Friday	8:30 a.m. to 4:30 p.m.

For information about TFCU, contact Lisa Goodenough, BNL Branch Manager, Bldg. 179, Ext. 2790.

Help Score One for the United Way

At the end of the first period of the three-week United Way Fund Drive, the BNL team has made its first down. But with about \$45,000 on the scoreboard, we still have several yards to go before scoring our goal of over \$100,000.

As the score adds up, Walter Going, Plant Engineering Division, who made the new sign for this year's drive, carries the football further up the field to indicate how far the United Way can count on support from BNL employees. Your contributions go to fund 145 agencies that give help to over a million Long Islanders each year in many different ways.

As a thank-you for prompt pledges, the BNL United Way Fund Drive Committee is sponsoring weekly prize drawings for donors each Friday until the campaign ends on December 14.

Winners on Friday, November 30 were: James Dunn, National Synchrotron Light Source, who won a gift certificate to Smithhaven Mall; Richard Fuka, Photography & Graphic Arts, who received a turkey; and Richard Thorp, Safeguards & Security, the winner of dinner for two at the Pine Grove Inn.

More great prizes are still to come — a spring weekend in Atlantic City; three nights and a dinner for two at an 18th-century inn in historic Williamsburg, Virginia, gift



certificates to Smithhaven Mall; dinners for two at Long Island restaurants; and some more scrumptious turkeys!

Better the odds on your winning by returning your pledge card today to Betty Pergan, Bldg. 179A.

1991 Holidays

Holiday	Day	Date
New Year's Day	Tuesday	January 1
Floating Holiday (Martin Luther King Jr.'s Birthday)	Monday	January 21
Presidents' Day	Monday	February 18
Memorial Day	Monday	May 27
Independence Day	Thursday	July 4
Floating Holiday	Friday	July 5
Labor Day	Monday	September 2
Veterans Day	Monday	November 11
Thanksgiving Day	Thursday	November 28
Day after Thanksgiving	Friday	November 29
Christmas Eve	Tuesday	December 24 (½ day)
Christmas Day	Wednesday	December 25

Software Demo

RACAL-REDAC, an EDA tool supplier, will demonstrate their integrated CAE solutions on Thursday, December 13. Included in the demo will be ASIC design and test; VISULA for schematic capture; CADAT for logic (worst-case dynamic timing and fault multi-level) simulation, logic synthesis and optimization, automatic test-pattern generation; and CATS III hardware modeler. The software will be running on the Sun SPARC 1 platform.

The demonstration will be held at 10 a.m. in the seminar room of Bldg. 515, Computing & Communications Division, with coffee at 9:45. All are invited. For more information, call Pam Mansfield, Ext. 7286.

Winter Holiday Sales At the Science Store

December 7, 14 & 21
10 a.m. to 3 p.m.
West side of Bldg. 701
Park in the north parking lot
and bring your order form.

For a preview of items on sale, watch the *GLANCE* currently playing in the Cafeteria, 11:30 a.m. to 1:30 p.m., through Monday, December 10.



Frosty says:

Be cool this holiday season! Give generously to the next BNL Food Drive December 10-18. Help make everyone's holiday season fuller and happier.

Last month, BNLers donated a hefty 3,040 pounds of food to Brookhaven Town's needy. This month let's try to pass the 3,000 pound mark again. In addition to food donations, personal checks and receipts from King Kullen or Finast supermarkets are also helpful. Send them to Carole Kerr, Bldg. 460, Ext. 7100.

Microcomputer Club

The Microcomputer Club has ordered a copy of J.K. Lasser's *Your Income Tax 1991*, to be added to the club's software library and mounted on the club's computer. When it arrives, it will be available to all paid-up members for their use on the club's computer, but the software cannot be copied.

Runners' Corner

The fall racing season finished in a blaze of glory for three BNL master roadrunners: Ed Gallagher, Paul Geiger and Jerry Hastings teamed on November 17 to win the men's masters' division of the Syosset Sprint.

In addition, Geiger and Hastings picked up individual awards for finishing second and third, respectively, in their age groups.

This winning masters' combination was found after two previous races: A BNL eightsome of over-40 runners finished fourth in the corporate division of September's 50-mile Cross Island relay, and a threesome placed second in the over-40 division of October's 12-k Airport run.

BROOKHAVEN BULLETIN

Published weekly by the Public Affairs Office for the employees of BROOKHAVEN NATIONAL LABORATORY

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Music for the Whole Family



All BNL families and their children are invited to attend a joyful music event in celebration of the happy holidays of this season and the 25th anniversary of BNL's on-site nursery school.

Children's entertainer Viki Diamond will return to BNL on Sunday, December 16, in a concert sponsored by the Upton Nursery School. Her songs and stories, accompanied by guitar, autoharp or hammer dulcimer, will be presented from 4 to 5 p.m. in the Recreation Building.

The concert is open to the public, and children must be accompanied by an adult. A donation of \$5 per family is requested.

Those attending the performance can meet the teaching staff of the Upton Nursery School, a cooperative nursery school for three- and four-year-old children of BNL employees and visitors.

For more information, call Renée Block, 286-8724, Judith Van Asselt, 924-6129, or Cathy Lombardo, 924-2205.

Volleyball

Standings as of November 28

Open League		League I	
Phoenix	16-2	Cannonballs	15-3
GTEAM	15-6	Upfagrabs	13-5
Me & the Boys		Rude Dogs	9-9
Magnum	13-8	Network News	9-9
Dig-It	8-13	Dinkers	8-10
Penetrating		Upsetters	0-18
Vollies	6-15		
Jet Setters	0-21		
League II		League III	
Nuts & Bolts	16-2	NO KA OE	11-7
Fossils	16-2	Undertakers	9-6
Net Wits	13-5	High Volley'em	8-7
Pteropods	8-10	Nutcrackers	7-8
Upton Ups	7-11	Renegades	7-8
Chunga's		Good Timers	6-9
Revenge	7-11	Sourcerers	6-9
Slammers	4-14		
Aces	1-17		

Bowling

Red/Green League

R. Larsen had a 226/201, R. Eggert 222, R. Sick 222, N. Parrinello 213, G. Meinken 208, M. Guacci 205, N. Franco 202, K. Riker 202.

White League

Debbie Keating had a 211, Annamarie Spira 182, Mary Addressi converted the 4/10 split.

Purple League

Ed Sperry IV had a 246, Joe Ferrante 238/207/625 scratch, Rich Scheidert 221/207, Gene Hassell 208 and also converted the 6/7/9 split, Fern Simes 194, Sharon Smith 184, Pat Manzella 181.

Laboratory Testing Available At CRC

The laboratory of the Clinical Research Center (CRC) in the Medical Department, with the concurrence of the Occupational Medicine Clinic, offers laboratory testing services to full-time and eligible part-time employees.

Employees may obtain this service by bringing a written request from a personal physician, along with their BNL identification card, to the main desk at the CRC in Bldg. 490. To avoid conflict with other clinical and laboratory activities at the CRC, requests will be processed and results made available to employees, Monday through Friday, 1 p.m. to 4 p.m.

Tests are performed on an elective, non-urgent basis. If there are no unusual delays, most test results are available within seven to ten days, while some may come in within two days. If tests results are required urgently, employees should have the tests performed at another facility.

Note to Employees:

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

Archery Tournament Right on Target



The BERA Archery Club held its first annual fall tournament on Saturday, October 27. Pictured with their bows and arrows are tournament participants (back, from left) Joe Bauernfeind, John Lydick, Lou Cannizzo, Lou Pergola, Tom Cannizzo; and (front, from left) Bill Schoenig, Bob Litzke, Ed Stein, John Willi and Shu Cheung; not present was Brenda Bryant. Tournament results gave the high-score win to Bauernfeind. In the team events, Stein and Cheung placed first; second came Willi, Cannizzo and Lydick; while third place went to Bauernfeind, Litzke and Bryant. Anyone interested in joining the club or obtaining more information, call Bill Schoenig, Ext. 2377.

Cooking Exchange

The Cooking Exchange will hold a Holiday Lunch demonstration on Wednesday, December 12, at 12:15 p.m., in the Recreation Building.

All are welcome to come and enjoy the festive ambiance and to get acquainted. A donation of \$2 per adult is requested to cover expenses of the ingredients for a tasting. Baby-sitting is \$1 per child.

For more information, call Barbara Kowalski, 744-5867; Eiko Tanaka, Ext. 3017; or Miryam Rothenstein, Ext. 3092.

Wouldn't you want the blood to be there for you and yours?

Please give blood!



The Lab's two-day winter holiday blood drive will be held on Wednesday and Thursday, December 19 and 20. Two pledge cards have been sent to each employee so that friends or relatives may join the campaign. Please sign up today.

For more information, call Susan Foster, Blood Drive Chair, Ext. 2888, or contact the Blood Program Captain in your department or division.

Arrivals & Departures

Arrivals

Margaret Alexoff..... Central Shops
 Mahmoud S. Haleem..... S&EP
 John K. Willis..... S&EP

Departures

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

Robert Bacharach..... MIS
 Rose Ann Dobbeck..... Staff Serv.
 John B. King..... Con. & Proc.
 Richard R. Riesen..... Accel. Dev.
 Lewis C. Solem..... DNE

Cafeteria Menu

Luncheons

Monday, December 10

Soup: Cream of chicken .75/.95
 Entree: Southern-fried chicken w/1 veg. 3.10
 Entree: Cajun red snapper w/1 veg. 3.10
 Fitness: Oriental stir-fry beef w/1 veg. 3.10
 Carvery: Hot pastrami sandwich 2.85
 Grill: Cheese-steak sub 2.95
 SPICE: Winter cereal celebration

Tuesday, December 11

Soup: Beef Calcutta .75/.95
 Entree: Baked fish w/1 veg. 3.10
 Entree: Chicken chow mein w/1 veg. 3.10
 Fitness: Baked vegetable lasagna w/1 veg. 3.10
 Carvery: Hot roast beef sandwich 2.85
 Grill: Grilled Monte Cristo 2.85
 SPICE: Winter cereal celebration

Wednesday, December 12

Soup: Hearty navy bean .75/.95
 Entree: Baked eggplant Parmesan w/1 veg. 3.10
 Entree: Spicy sausage jambalaya w/1 veg. 3.10
 Fitness: Golden-fried fish w/1 veg. 3.10
 Carvery: Hot Black Forest Ham 2.85
 Grill: Double cheeseburger 2.95
 SPICE: Happy Hanukkah

Thursday, December 13

Soup: Cream of broccoli .75/.95
 Entree: Chili con carne w/1 veg. 3.10
 Entree: Szechuan chicken w/1 veg. 3.10
 Fitness: Baked fish Floridian w/1 veg. 3.10
 Carvery: Hot corned beef sandwich 2.85
 Grill: Super chili burger 1.85
 SPICE: Winter cereal celebration

Friday, December 14

Soup: Boston fish chowder .75/.95
 Entree: Spaghetti w/red clam sauce & 1 veg. 3.10
 Entree: Crab Newburg over rice 3.10
 Fitness: Chef's choice w/1 veg. 3.10
 Carvery: Hot turkey sandwich 2.85
 Grill: Italian sausage hero 2.95
 SPICE: Winter cereal celebration

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. 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.

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

LABORATORY RECRUITMENT - Opportunities for Laboratory employees only.

4342. COMPUTING POSITION - Requires MSCS and a minimum of three years' experience, preferably in scientific computing. Significant experience with UNIX and VMS operating systems, FORTRAN, C, code management, graphics systems, windows and NFS required. Background in physics and/or physics computing useful, and experience with high energy physics software packages, i.e. Geant, PAW, etc., very useful. Physics Department.

4343. BUDGET POSITION - Requires bachelor's degree in business administration or equivalent work experience, and excellent written and oral communication skills. Knowledge of Laboratory policies and procedures is essential. Familiarity with MIS inquiry systems, in particular the accounting and budget system is highly desirable. Will assist senior-level administration personnel in supporting diversified needs of the Department. Must be able to work under minimum supervision. Alternating Gradient Synchrotron Department.

4344. REGISTERED NURSE (part-time) - Must be a licensed registered nurse with prior clinical experience. Will assist in patient care and related nursing activities in the Occupational Medicine Clinic. Occupational Medicine Clinic.

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside applicants.

4345. TECHNICAL POSITION - Requires AAS in electronic technology or computer science or equivalent experience. Responsibilities will include determining radioactive concentrations in environmental and facility samples by the use of computer-controlled gross alpha, gross beta, alpha spectroscopy, gamma spectroscopy and tritium counting techniques. Additional responsibilities include documentation of work performed, distribution of analytical results, initial system calibration, daily QA performance checks and basic maintenance. Safety & Environmental Protection Division.

4346. ENGINEERING POSITION - Requires BS in electrical, mechanical or safety engineering and five to ten years' experience as a safety professional. Will direct the implementation of ADD/RHIC operational safety policies and procedures. Will review new systems and facilities and modifications for safety related standards. RHIC Project. Accelerator Development Department.

4347. TECHNICAL POSITION - Requires AAS in technical field or equivalent experience. Will prepare samples for neutron irradiation, charge and discharge samples from reactors, assist with setup of experiments and operate beam shutters at the HFBR and Medical Research Reactor. Ability to obtain and maintain DOE clearance required. Reactor Division.

Motor Vehicles & Supplies

89 FORD F250 PICKUP - loaded, red w/gray int., heavy-duty, mint cond., ask. \$12,500. Judi, Ext. 3293.

89 HONDA EXCEL - for rent, like new, 4-dr., \$300 per mo. Ernesto, Ext. 3869.

87 HONDA ACCORD DX - 5-spd., 43k mi., am/fm cass., ac, cruise, new struts, tires, v.g. cond., asking \$7,200. 924-3775.

86 CAMARO SPORTS COUPE - red, V-6, a/t, 48k mi., alarm system, adult driver, mint cond., \$4,995. 281-9095 leave message.

86 MAZDA B-2000 SE-5 PICKUP - gray/white, chrome wheels, excel. cond., \$3,100. Larry, Ext. 4821.

85 GMC SIERRA CLASSIC PICKUP - 1/2-ton, all power, cap, 75k mi., excel. cond. in/out, \$5,600. Steve, Ext. 7936.

85 HONDA CIVIC WAGON - white w/red int., 4-dr., 80k mi., a/t, am/fm cass., good cond., \$3,500. Ed. 331-1740.

85 VW GTI - 5 spd., ac, am/fm cass., red w/gray int., excel. cond., \$2,500. 751-6342.

84 CHEVY CELEBRITY - 4-dr., vinyl top, V-6, a/t, ac, p/w, stereo, remote windows, 82k mi., v.g. cond., \$2,500. Bob, Ext. 4551 or 475-3612.

84 CHEVY CELEBRITY - s/w, 6-cyl., 62k mi., dark blue, ac, p/s, p/b, am/fm, a/t, orig. owner, \$2,100. Jean, 499-8758 eves.

84 FORD ESCORT - 53k mi., body good, exhaust system 1 yr. old., Frank, Ext. 2314 or 567-5131.

84 FORD ESCORT - 60k mi., runs, \$1,000 neg. Shawn, Ext. 4723.

84 MERCURY TOPAZ - 5-spd., 2-dr., ac, p/b, p/s, super radio sound, reliable, 82k mi., must see, \$2,700. Haim, Ext. 3077/3293.

84 HORIZON - a/t, new exhaust, 73k mi., good cond., \$1,500. Tony, Ext. 5409.

82 TOYOTA TERCEL - 4-dr., 100k mi., good cond., \$800. 286-0975.

81 ACCORD - 4-dr., 5-spd., p/s, am/fm cass., new exhaust, good station car, better parts car, best offer over \$800. Steve, Ext. 4723.

80 CHEVY MALIBU - 4-dr., p/s, p/b, a/t, small V-8, 267, blue/blue, gauges, orig. owner, garaged, like new, \$2,000. Al, 331-1003 eves.

80 GMC JIMMY 4x4 - loaded, new tires, tilt, ac, great cond., \$4,300. Danny, Ext. 4988 or 286-8541.

80 VW RABBIT - diesel, ac, 50+ mpg, excel. cond., \$900. Michael, 929-3471 eves.

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

78 MERCURY ZEPHYR - 84k mi., good shape, \$700. Ext. 5295.

78 PONTIAC LEMANS - runs, \$300 neg.; '77 Chevy 4x4 pickup, 3/4-ton, runs well, good tires, best offer. Ext. 4597 or 924-8213 after 5 p.m.

77 BETHANY POP-UP TRAILER - sleeps 6, opens from sides, gas stove, sink, icebox, \$900. Bill, 732-8793.

77 KZ400 KAWASAKI MOTORCYCLE - moving, must sell, v.g. cond., best offer. 281-9095, leave message.

77 LINCOLN MARK IV - \$500. Bob, Ext. 5010.

76 MONTE CARLO - 350 4BB, 140k mi., body rough, mag rims, new radials, all power, first \$300 takes, must sell. John, Ext. 4069.

76 OLDSMOBILE OMEGA - runs well, good shape, good on gas, does not use oil, \$875. Ray, Ext. 4428 or 467-8297 eves.

74 CHEVY CHEVETTE - low mi., small V-8, brand-new tires, exhaust, good stereo, \$500. 298-5438.

73 MERCEDES BENZ - 6-cyl., \$3,000. Ext. 3558.

73 VOLVO P1800ES SPORT WAGON - a/t, ac, 4-cyl., 68k mi., fair cond.; '68 Volvo 122S wagon, 4-cyl., 4-spd., new tires, classic. Bruce, 475-6070.

72 CHEVY WINDOW VAN - 3/4-ton, towing hitch, good tradesperson vehicle, make offer. 298-8657.

CAR-TOP CARRIER - new, fully assembled, completely enclosed & waterproof, 18 cu. ft., \$60. Don or Sue, 473-6570 after 7 p.m.

LIFTERS - new T.R.W. V-6 Ford lifters; V-6 radiator & shroud; small block C6; stall speed converter & flywheel. Wayne, Ext. 3084.

TIRES - 6 radials, like new, Ford Fiesta (2), VW Bug (4) on rims; 4 electric & manual typewriters, reasonable. 751-2655.

Tools, House & Garden

HOME SPA - model 4100, 3-spd., brand-new, orig. \$97, asking \$60. George, Ext. 2296.

LAWN MOWER - \$30; clothes washer, \$30. Jim, Ext. 7990.

BAND SAW - 14" jet, 1-h.p. motor, perfect cond. 589-3608.

ELECTRIC HEATER - Sears, portable, 5,120 Btu, 3 heat settings, orig. sealed carton, \$30. 689-1539.

FIREWOOD - split, delivered, \$130/cord. Allen, Ext. 4666 or 736-3937.

FIREWOOD - one cord, split, delivered, seasoned, \$150; hand-carved whale, \$23; 11" zebra, \$20. Kathy, 744-2203.

LAMPPOST - black, alum., for outside. Ray, Ext. 4561.

LOG SPLITTER - Sears, 5-h.p. Briggs & Stratton engine, runs well, \$500. Al, 981-3519 eves.

POINSETTIAS - red, florist quality. Ray, 727-6818 after 4 p.m.

SNOW BLOWER - by Snow Giant, 8 h.p., 28" cut, good cond. William, 732-3002.

WOOD-BURNING STOVE - insert w/copper adapter plate, \$65 or best offer. Ron, Ext. 4553.

WOOD-BURNING STOVE - high-efficiency, attached to regular fireplace, orig. \$600+, sell for \$275. Ext. 3152 or 874-4845 after 6 p.m.

WOOD-BURNING STOVE - fireplace insert, black, 1/2" steel, heats well, \$200 or make offer. Eddie, Ext. 5385 or 399-5701 after 5:30 p.m.

Sports, Hobbies & Pets

ACCORDIAN - Hohner 120-bass White, \$295; White typewriter, portable, manual, \$20; newspaper log roller, \$5. 732-2720.

BABY HAMSTERS - tricolor, hand-held, healthy, adorable, ready now, will hold till Xmas, \$3/ea. 698-4882 after 6 p.m.

BMX BIKES - reconditioned Huffly Paint, \$25; chrome, like new, \$35. Jason, 744-1194 after 5 p.m.

BODY TONER - DP, 3300 rower, good cond., \$60. Joe, Ext. 2023.

EXERCISE BICYCLE - Vita Master, excel. cond., \$35; Bodyguard rower machine, home model 605, new, \$35. 878-2421.

ORGAN - Thomas, elec., w/Fancy Voice, rhythm & Color Glo, excel. cond., \$250. 924-5192 eves.

PARAKEET - w/almost new cage, toys, \$20. 689-9771.

PIANO - Pennington spinet, w/stool, excel. cond., walnut color, \$500. Hank, 588-3894.

ROWING MACHINE - Precor, like new, \$125. Ext. 2041.

SKIS - K2 Glo-Fo, 180cm, \$40; ski boots, Lange, woman's size 8, \$25; Nordica woman's boots size 7 1/2, \$25. L. Kukacka, Ext. 3065.

SKIS - Head Radial, 170cm, w/Marker bindings, \$95. 473-2473.

SKIS - K2, 165cm, poles, 280 Tyrolia bindings, 9-9 1/2 Caber boots, \$135. Mike, Ext. 7941.

SKI MACHINE - Nordic Track Pro, \$500; Ultra Shaper exercise bar, adjustable resistance, \$75. Brian, Ext. 7519 or 234-9487.

TYPE CASES - also known as shadow boxes, full-size, authentic, for display of collectibles, \$18/ea. Bill, 924-5505.

Audio, Video & Computer

CD PLAYER - LXI series, excel. cond., \$150. Henry, Ext. 4986.

COMPUTER - complete system for word processing, games, spreadsheets, etc., fast XT monochrome monitor, \$450. Ron, Ext. 4553.

COMPUTER - Atari ST-1040, 1 meg memory, floppy disk, color monitor, software, documentation, books, magazines, \$400. Dave, Ext. 4148.

COMPUTER - Commodore 64, Panasonic RGB-composit monitor, disk drive, drawing table, light pen, manuals, software, \$275/all. Joe, Ext. 2023.

COMPUTER - PC/XT compatible, 640k memory, 360k DD, 20MB HD, EGA color monitor, optical mouse, \$650. Lap, Ext. 2336 or 673-0688.

KEYBOARD - Casio MT-205, 49 midsize keys, 8-note polyphonic, stereo, memory, rhythms, sounds, more, \$60. Ext. 7644 or 929-4295.

NINTENDO GAME SYSTEM - new, many game cartridges, \$69. Andrew, 632-1966.

POWER AMPS - Technics #SE-A5MK2, 150 watts per channel, new, never used, orig. \$1,200, now \$650 or best offer. Al, Ext. 3992 or 331-1003 eves.

STEREO RECEIVER - Technics SA-500 am/fm, \$100. Serban, Ext. 3721.

TELEVISION - console, 24", walnut color, excel. cond., \$75; kerosene burner, \$50. Hank, 588-3894.

VCR - Sharp, \$180; 19" color TV, \$160; both remote & cable ready; 2 vaporizers, \$5/ea. Haim, Ext. 3077 or 3293.

VIDEO CAMERA - Minolta, w/all accessories, \$575. Ext. 4428 or 467-8297.

Miscellaneous

DENTIST'S CHAIR - antique, fully adjustable, hydraulic lift, \$25. John, Ext. 4761.

ARTIFICIAL XMAS TREE - 7 1/2', blue spruce, used once, \$75. Lillian, Ext. 2772.

CARRIAGE - Sears, seats 2 children, gray, excel. cond., like new, orig. \$70. Manny, Ext. 5409.

CRYSTAL FOX COAT - full length, tuxedo front, 4 yr. old, size 10, good cond., \$1,000. Darcy, Ext. 3362.

JEWELRY - 14k gold, orders taken for Xmas delivery. Doreen, Ext. 2456.

SNOWSUIT - girl's size 3T, 2-piece, like new, pastel colors, \$25. Irving, Ext. 2827.

LAZY SUSAN - stenciled, \$45; electric heater, \$20; 2 wall candle holders, pine, \$10/ea.; wall phone box, pine, \$20. Kathy, 744-2203.

TARPAULIN - w/grommets, 30'x18', new, \$35; rug shampooer/floor polisher, Sears, \$15. Pat, Ext. 3807 or 744-8512.

Free

CHRISTMAS TREE - for nonprofit charity or organization, you cut down, approx. 20' tall. Doreen, Ext. 2456.

RECORD PLAYER - Technics, needs work; queen-size foam mattress. Serban, Ext. 3721.

Car Pools

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

Lost & Found

LOST - swim goggles w/prescription lenses, men's locker room, week of Nov. 12, reward is 10% of replacement cost. Paul Michael, Ext. 2264.

LOST - large Mobe pearl w/gold pierced earring, somewhere on site Dec. 3. Stephanie, Ext. 7141.

FOUND - green marbled bifocals, Marchon frame. Ext. 2345.

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

CORAM - 4-bdrm. ranch, 2 baths, short-term, \$600/mo. Ext. 3791 or 928-7154 eves.

HOLBROOK - large 1-bdrm. apt., w/w, full bath, priv. ent., near LIE & LIRR, \$625/mo. pays all. John, 758-2392.

HOLTSVILLE - 3-bdrm. apt., eik, priv. ent., w/w, full bath, walk-in closets, 15 min. to Lab, off-street park., \$675/mo. incl. util. Fran, 289-2159.

MASTIC BEACH - 3-bdrm. ranch, newly remodeled, 1/1r, eik, appl., excel. location, \$850/mo. rent or sell for \$85,900 neg. 281-8044.

MASTIC BEACH - brand-new 1-bdrm. apt., full bath, full kit., priv. ent., yard, driveway, for single, \$550/mo. pays all. Anthony, 281-2513.

MASTIC BEACH - small 2-bdrm. cottage, screened porch, fenced yard, nice neighborhood, \$675/mo. + util. 360-3803.

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

MEDFORD - 1-bdrm. apt., kit., 1/1r, full bath, deck, priv. ent., nonsmoker, no pets, working couple, \$675/mo. includes all + sec. 475-7250.

MT. SINAI - 1-bdrm. apt., water view, pvt. deck, avail. Jan. 1, \$800/mo. incl. util. 473-5264 or 632-7023.

N. PATCHOGUE - 2-bdrm. apt., 1/1r, eik, full bath, priv. ent., cable, sep. therm., single/working couple pref., \$700/mo. all. 289-0848 after 5 p.m.

NORTH SHIRLEY - 1-bdrm. apt., furn., 1/1r, eik, w/w, 5 min. from Lab & stores, priv. ent., 1 person, nonsmoker, no pets, \$490/mo. incl. util. 281-8044.

PATCHOGUE VILLAGE - two 1-bdrm. apts., newly renovated, ground floor, priv. ent., walk to town. 289-7902.

RIDGE - 3-bdrm. ranch, eik, 1/1r w/fp, 2 1/2 acres, large yard, quiet area, full bsmt., minutes from Lab, \$1,000/mo. + util. Jim, Ext. 4606 or 654-5049.

PORT JEFF STATION - new 2-bdrm. condo, 2 1/2 baths, 1/1r, d/r, loft, gar., w/w, jacuzzi, microwave, w/d, cac, fp, skylight, tennis, pool, 20 min. from Lab., \$1,250/mo. 474-5421.

ROCKY POINT - 1-bdrm. house w/gar. on quiet priv. hill, full kit., small yard, lots of storage, 2 blocks from beach, 15 min. to Lab. Steve, Ext. 5567 or Henry, 744-9724.

ROCKY POINT - 2 bdrm., 1/1r, d/r, kitchen, full bath, bsmt., large property, immed. occupancy, \$750/mo. 821-2921 after 6 p.m.

SOUND BEACH - furn. apt., lg. 1/1r & dining area, full kit., bath, sep. sleep. alcove, w/w, priv. ent., no pets, nonsmoker, \$475/mo. incl. cable. Bob, 821-1769.

SOUND BEACH - 2-bdrm. house, eik, bath, carpet, wood floors, yard, bsmt., laundry, avail. immed., \$700/mo. Don or Sue, 473-6570 after 7 p.m.

YAPHANK - 4-bdrm. restored Victorian, patio, 5 mi. from Lab., large treed property, avail. Dec. 1. 924-7106 days, or 924-3066 eves.

SPRING HILL, FL - 2-bdrm. house on lake, - baths, gar., near golf, tennis, for winter season, \$550/mo. + util., avail. Jan. Ext. 4530 or 261-2719.

For Sale

BROOKHAVEN HAMLET - 4-bdrm. Cape Cod, 2 baths, d/r, 1/1r, eik, 2-car gar., 20' deck, patio, more, close to bay, 3/4 acre, red. to \$219,000. Ext. 7108 or 286-0271 eves, or Carl, 214-708-2058.

CORAM - Strathmore East, 4-bdrm. ranch, 2 baths, cath. 1/1r, 2-car gar., gas heat, fenced corner lot, \$120,000. Ext. 3791 or 928-7154 after 7 p.m.

MATTITUCK - 2-bdrm. ranch, 1/1r, d/r, full bsmt., porch, deck, gar., walk to beach, near marina, 24 mi. from Lab., \$162,000. Dave, Ext. 5460.

MIDDLE ISLAND - Lake Pointe, 2 bdrm., 1/1r-d/r area, all appl., w/d, wood deck off master bdrm., cac, gas heat hot water, pool, clubhouse & tennis, bsmt., ask. \$69,000, neg. Bob, 924-7316.

RIDGE - Leisure Knoll Adult Comm., 2-bdrm. house, cac, newly carpeted & decorated, walking distance to rec. hall, pool, & tennis courts. 5 mi. to Lab., \$135,000. 744-3366.

Wanted

MOTHERS - of preschool children to form a mother-toddler group. Terry George, Ext. 3009.

COMPUTER - Commodore 64 system. Ady, Ext. 4531 or 331-3785.

EXERCISE BIKE - for use in Exhibit Center/Science Museum, will generate electricity for TV. Janet, Ext. 4049.

LOOM - floor weaving loom 46" or larger, prefer Jack style but will consider other. Gail, 924-9656.

ROLLER BLADES - women's size 9 or men's size 7. Edy, Ext. 7813 or 473-9379.

ROLLER BLADES - women's size 8 or men's size 6. 924-4850.

SLED - Flexible Flyer, any size or condition. Paul, Ext. 7237.

VCR - used, recent model w/cable compatible tuner section, broken tape section is OK. Jonathan, Ext. 5335 or 395-5221.

Services

Services are listed in the first Bulletin of every month as a courtesy to BNL employees. They are neither screened nor recommended by the Bulletin. Services forms are available in the Bulletin lobby, Bldg. 134.

ALARMS - computerized residential installed, fire, burglar, central-station monitoring, also painting & paper hanging, free est. James, 395-6055.

BABY-SITTER - experienced mom & daughter looking to baby-sit, my home, f/t, p/t, near Lab, \$2.50/hr. Kathey, 345-3778.

BALLOON DECORATING - archways, hearts, centerpieces, holiday parties, all occasions, weddings, free at-home est. Linda, 821-3009.

BRICKWORK - masonry, patios, walks, swimming pools, retaining walls, landscaping ties, Belgian block, 25 yrs. exp., Lab discount. Tony, 698-9274.

CARPENTRY - 18 yrs. experience, all phases, seeking small jobs including custom furniture. Kevin, 758-2653.

CARPET/UPHOLSTERY CLEANING - spot, pet stains, odor removal, auto interior, fabric protector, free est., Lab discount. Jerry, 924-6019, days.

CERAMIC TILE - installation, bathrooms, kitchen, foyers, etc., repairs, all types of tile. Patrick, 475-8504 after 5 p.m.

CHILD CARE - Middle Island mom will care for your child, 5 min. to Lab, AHA Totsaver certified. Cathy, 924-2205.

CHILD CARE - mother of two will care for your infant/toddler or school-age child, Moriches Elementary, \$2/hr. Pam, 281-1540.

ELECTRICIAN - switches, outlets, lighting, service upgrades, appliance hookups, electrical problems solved, licensed. Steve, 586-1440.

FALL CLEANUP - leaves picked up, shrubs removed, general lawn cleanup. Ernie, 698-9274.

FINANCIAL - maximization of employee retirement benefits, informative seminars in Jan. '91, 12-1 p.m. Rich, 744-4816.

FLOOR COVERING & REPAIRS - custom work, stripes, borders, printing in carpet. Mark, 981-9075.

HOUSECLEANING - treat yourself to a clean home/apt. for the holidays, reasonable rate, flexible hours. Iris, 821-6252, leave message.

LANDSCAPE CONSTRUCTION - cleanups, trim shrubs, tree work, RR tie walls, decking, masonry, brick patios, tile work. Dennis, 395-6055.

LOCKSMITH - sales & service,