

Helping Hand For Small Firms On Long Island

Last week, the Clinton administration announced 55 awards made under the Technology Reinvestment Program (TRP), which was established by the federal government as a means of weaning the national economy from its dependence on defense spending.

One of the awards was made to the Long Island Research Institute (LIRI), which, in partnership with BNL, has proposed a program to expedite the commercialization of Long Island-developed technologies by small defense-dependent regional manufacturers.

The LIRI-BNL effort will be supported by the TRP for a two-year period, with a \$1.1-million appropriation. Matching contributions, including funds from New York State, will come from LIRI, BNL, the State University of New York (SUNY) at Stony Brook and certain defense companies on Long Island.

A nonprofit organization, LIRI was originally created by BNL, SUNY at Stony Brook, and Cold Spring Harbor Laboratory to commercialize advanced technologies. Under the TRP, LIRI expects to draw on technologies developed at BNL, SUNY at Stony Brook and the region's large defense manufacturers.

According to Ralph Dratch, one of LIRI's managers, total jobs in the Long Island region number just over one million, of which about 150,000 are in manufacturing. Historically, about 40 per cent of the manufacturing economy has come from the defense sector, thus

(continued on page 2)



BNL Signs Three New CRADAs - Ten More Coming

Brookhaven has recently signed Cooperative Research and Development Agreements (CRADAs) with three diverse companies, bringing the number of these technology-transfer agreements between the Lab and industry to 17 since their inception in December 1991.

The three newest CRADAs reflect the breadth of Brookhaven's multidisciplinary research:

- **Grumman Corporation — Detecting Aircraft Corrosion**

Norman Holden, a physicist in BNL's Reactor Division, is working at the Brookhaven Medical Research Reactor (BMRR) with Frank Swanson, Michael Horn and Edward Kamykowski from Grumman Corporation in Bethpage, to evaluate a technique called neutron radiography for detecting and characterizing hidden corrosion in aircraft.

Neutron sources, such as nuclear reactors and accelerators, can be used for identifying and locating corrosion. Grumman is performing these measurements at the three-megawatt BMRR to help predict the performance of a proposed accelerator-based corrosion-detection system. Unlike a reactor, a small accelerator could easily be transported to an airplane for measuring corrosion.

This CRADA will enable Grumman to test the effectiveness of neutron radiography for corrosion detection before building a portable, accelerator-based system. The joint research will also help the company design its new system.

- **Perfect Sense, Inc. — Tracing Air Leaks from Hospital Isolation Wards**

Russell Dietz, head of DAS's Tracer Technology Center, in collaboration with Wayne Gutschow of Perfect Sense, Inc., based in Islandia, will demonstrate the feasibility of using a perfluorocarbon tracer (PFT) technol-

ogy to detect air leaks from hospital isolation rooms. As the number of AIDS-related tuberculosis (TB) cases increases in the U.S., detecting leakages of air that may contain highly infectious, drug-resistant TB bacteria is becoming a matter of increasing urgency. Currently, no such detection system is commercially available.

PFT is an environmentally safe carbon compound saturated with fluorine. BNL has developed several analyzers that can detect PFT vapors in the air at 0.1 parts-per-quadrillion

levels. Both long-term (24-hour) and short-term (15-minute) air-flow tests will be conducted at the State University of New York Health Sciences Center at Stony Brook to demonstrate the effectiveness of the PFT-tracer technology.

The Long Island Research Institute, a nonprofit corporation formed over a year ago to promote technology transfer, assisted Perfect Sense, Inc. with market assessments and business strategies related to PFT tracer

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Fire Truck Builds a Rainbow Between BNL and Bulgaria



Roger Stoutenburgh

Putting BNL's Engine One through its paces for Krastie Tzolov (on truck, center), the Fire Chief of the Kozloduy nuclear power plant site in Bulgaria, are: Firefighter William Strelecki (on truck, back), Fire Chief James Roesler (foreground, left) and Fire Captain Russell Dunn (right). Also pictured on the truck is Michael Verderosa of the Reactor Division, who translated for Tzolov.

Because of its innovative design, a duplicate of BNL's Engine One is one of two fire trucks being sent this January to Bulgaria, to the Kozloduy nuclear power plant site where six Soviet-designed, pressurized-water reactors known as VVERs are situated.

And, when the trucks arrive, BNL's Fire Captain Russell Dunn, who headed the committee within the Fire/Rescue Group of the Safety & Environmental Protection Division which designed Engine One and oversaw its delivery, will be going to Bulgaria also, to train the 130-member force that protects the Kozloduy site from fire.

BNL's Fire/Rescue Group got involved in helping Bulgaria through the International Nuclear Safety Project Office (INSPO), a part of the International Projects Division in BNL's Department of Advance Technology. In October 1992, INSPO was selected by the U.S. Department of Energy to manage a program to assist Eastern European countries in improving the safety of Soviet-designed reactors. DOE and its laboratories are routinely called upon for expertise in nuclear safety by the U.S. Agency for International Development, a branch of the U.S. Department of State.

As part of that program, Bulgaria requested help in updating its firefighting capabilities at Kozloduy, including assistance in procuring a new pumper and a quick-attack or

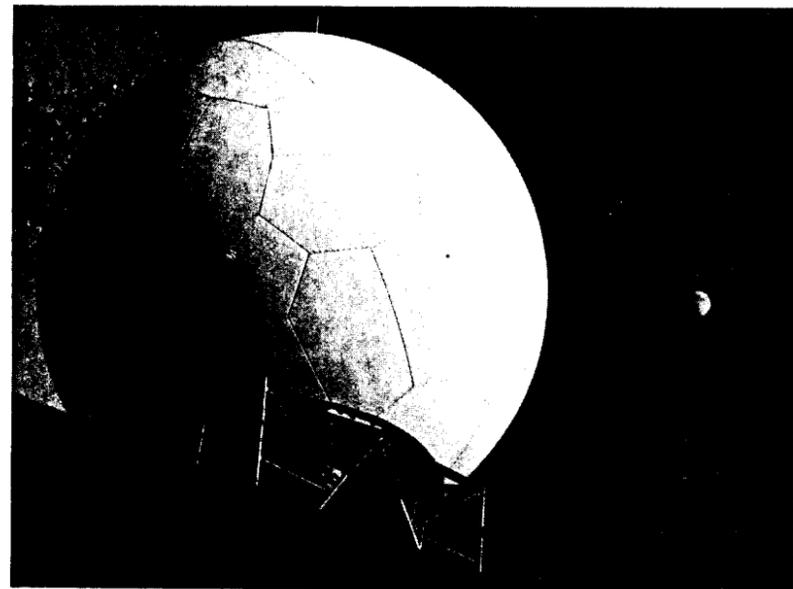
crash truck customized to fight fires at a nuclear-power plant. Given the Fire/Rescue Group's preparedness to fight hazardous materials fires and its recent experience in specifying and procuring a specially designed pumper, Robert Fitzpatrick of INSPO didn't even have to dial an outside call to tap into such expertise.

As a result, the Bulgarians will be receiving the deluxe BNL model of the 16-ton Cyclone pumper manufactured by E-One of Ocala, Florida. With its customized features that enable the fighting of hazardous materials fires while maximizing the firefighters' safety, this model has become one of the company's standards.

The only difference is that the Bulgarian truck will be red, not yellow, because, says Fitzpatrick, "In Bulgaria, we were strictly told, fire trucks are red, *not* yellow."

— Marsha Belford

Weather Service Forecast: Open House December 13



Golf, soccer, volleyball? Nope, you can't play any of those games with this ball, photographed by Roger Stoutenburgh with the moon in the distance. It's a Doppler radar unit mounted on a tower next to the new National Weather Service Forecast Office that opened on the BNL site in October. On Monday, December 13, between noon and 2 p.m., the National Weather Service invites BNLers to visit the new office and see a demonstration of weather forecasting with the Doppler radar. To get to the office, sight on the big white ball above the trees and drive down Brookhaven Avenue past the ball fields.

Coming Up

Chemist John Larese, Chemistry Department, will deliver the next Brookhaven Lecture. Entitled "Neutron Studies of Layering and Melting," his talk will begin at 4 p.m. on Wednesday, December 15, in Berkner Hall.

CRADAs (cont'd)

technology. The institute will also help to support the CRADA.

If the demonstration project proves to be successful, a prototype commercial tracer system will be developed for the health-care industry.

• **U.S. Biochemical Corporation — Improving DNA Sequencing**

F. William Studier, Chairman of BNL's Biology Department, will be working with researcher Carl Fuller from the U.S. Biochemical Corporation based in Cleveland, Ohio, to improve the reliability and sensitivity of a method of DNA sequencing recently developed by Studier and BNL biologists Jan Kieleczawa and John Dunn.

DNA is the molecule that carries genetic information written in a four-letter alphabet of subunits called base pairs, which are linked together in long chains. DNA sequencing reveals the order of these base pairs. Knowing the sequence of base pairs in human

DNA will speed the identification and treatment of genetic diseases.

The BNL sequencing breakthrough involved a process called primer walking. The scientists discovered that short pieces of DNA, called hexamers, can be used in priming, so instead of synthesizing a new primer to read each section of DNA, a library of 4,096 hexamers can supply all the primers needed to sequence the entire human genome, which contains three billion base pairs. High-capacity sequencing machines based on this method are expected to sequence DNA at more than ten times the rate and at less than one tenth the cost of current methods.

The collaboration will focus on making improvements in sequencing reagents and protocols to enhance the effectiveness of the BNL sequencing process. This, in turn, may lead to increased demand for U.S. Biochemical Corporation products for DNA sequencing. — Diane Greenberg

These Donors Are Winners



Roger Stoutenburg

As of today, the 1994 BNL United Way campaign has raised nearly \$80,000.

Today is your last chance to get your pledge card in to donate and to be entered in a drawing to join these lucky winners of dinners for two at area restaurants: (from left) Dennis Joyce, Staff Services Division (SSD); retiree Julius Hastings, Chemistry Department; Al Roberts, Physics Department; Charles Murray, RHIC Project; Diane Greenberg, Public Affairs Office; Lee Collier, Central Shops Division; and Barbara Schmidt, Personnel Division. Missing is Jack Fajer, Department of Applied Science, who won a fishing trip donated by the Oil, Chemical and Atomic Workers (OCAW) Union, Local 8-431. One donor, to be selected in a drawing for which the deadline is this afternoon, will receive a trip for two to New York City.

On behalf of the United Way, BNL's campaign manager Ron Manning, SSD, thanked OCAW Local 8-431, the Brookhaven Local 37 of the Long Island Guards Union, and Associated Universities, Inc., for their contributions to the prize fund.

Blood Drive: Still Time to Donate

It's not too late to be scheduled to donate blood for the BNL Blood Drive, to be held on Thursday and Friday, December 9 and 10.

Although the official deadline was Wednesday, Blood Drive Coordinator Susan Foster says the number of donors scheduled so far is not enough to meet the drive's goal. There are still appointment times available, so call Foster to schedule yours. Family and friends of BNL employees are also welcome to donate here, using the extra pledge card sent to all employees.

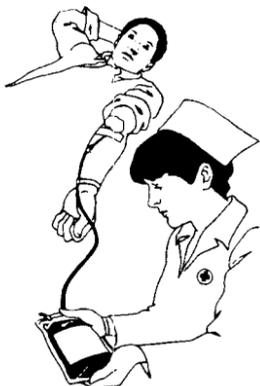
Meanwhile, those who have already sent in their cards may get a surprise when they arrive to give blood: one of five \$50 gift certificates to area restaurants to be awarded in a drawing.

This BNL drive aims to collect 500 units of blood, to help area hospitals cope with the holiday season's demands and the ongoing needs of patients undergoing surgery or treatment for many diseases.

The need is astounding: The 50 hospitals in Nassau, Suffolk and Queens require more than 800 pints every day just to meet routine need. So, with only four percent of eligible donors actually giving, everyone who pledges and gives is important to maintaining an adequate blood supply.

"Make saving a life your priority on December 9 and 10," Foster said. "Please donate blood. The process takes about one hour but it may guarantee years of life to the person who receives it."

Even if you've never given before, or if you've already given this year, your blood is needed. If you did not receive a pledge card, or if you would like to give schedule an appointment, call Foster at Ext. 2888.



Multiyear Spinoff CRADAs Continue Research

In addition to the three new Cooperative Research and Development Agreements (CRADAs) between BNL and industry (see accompanying story), ten spin-off CRADAs proposed by Brookhaven researchers are being funded by the U.S. Department of Energy (DOE) for a total of \$1.815 million in fiscal year 1994.

Unlike other CRADAs, spin-off CRADAs are not aligned to a particular DOE-funded research program, so they are funded through DOE's Energy Research Technology Transfer Office. Generally, spin-off CRADAs are multiyear projects, with significant DOE funding each year. The industrial partners must at least match that funding.

Six of the spin-off CRADAs are new proposals. These include: two from the Department of Applied Science (DAS), two from the Physics Department, and one each from both the Computing & Communications and Instrumentation Divisions. (More information on these spin-off CRADAs will be forthcoming when they are signed.)

The remaining four are agreements to continue promising research under an existing CRADA or to pursue a related research area. These include:

- **Russell Dietz's** (DAS) work with Perfect Sense, Inc., on technology to trace air leaks in hospital isolation wards (see below).
- **Prantika Som's** (Medical Department) research on radiopharmaceutical development with RhoMed Incorporated.
- **Jeffrey Coderre's** (Medical) investigation of gadolinium and/or boron-labeled pharmaceuticals with Boron Biologicals, Inc., for various medical applications.
- **Csaba Szeles' (Physics)** research with II-VI, Inc., on the development of materials for use in radiation detectors, a continuation of a CRADA headed by Kelvin Lynn (Physics).

Margaret Bogosian, Deputy Manager of BNL's Office of Technology Transfer, said, "We will be negotiating the terms of these ten spin-off CRADAs with each of the industrial partners. We anticipate a starting date for each of them in early 1994 and all are projected to be three-year programs." — D.G.

Collating Coffee and Conferences

Meet Christine Ronick, the Staff Services Division's new Conference Support Supervisor. Ronick, who has had fourteen years' experience in the hospitality industry, including ten years of managing meetings, conferences and other events at Danfords Inn in Port Jefferson, is taking on a similar responsibility at BNL now that Patrick Glynn has retired.

"Everyone has been very helpful in assisting me to learn my way around," said Ronick. "With non-stop beeping to let us know we'll be planning another meeting soon, it's hectic, but I enjoy it."

To contact Ronick, call her on Ext. 3545 or beeper 0117.



Roger Stoutenburg

LIRI (cont'd)

making the region's economy especially vulnerable to defense downsizing. Since 1985, Long Island has lost over 30,000 defense jobs.

Beyond the big defense contractors, the region's defense work has been widely distributed among more than 500 companies with between five and 500 employees. Dratch says that these small companies will be targeted for the project and that LIRI is beginning to search for companies that would be interested in participating.

Pick a Teacher

The DOE Teacher Research Associate (TRAC) Program allows outstanding secondary school teachers to take part in BNL research for eight weeks during the summer, at no cost to the sponsoring researchers' departments. The 1994 TRAC program will begin on Monday, June 27.

Those interested in sponsoring a TRAC teacher this summer may review applications from teachers across the nation at the Science Education Center, Bldg. 438, through Tuesday, December 7. Applications from Long Island teachers may be reviewed in January.



Dream of a White Christmas —but remember reality. Needy people need your gift of food. PICKUP ALL NEXT WEEK.

Film badges will be changed tomorrow. Please place your badge in its assigned rack space before leaving work today.

TGIF Social Tonight

Thank Goodness It's Friday (TGIF) — so celebrate tonight with the BNL Ballroom, Latin & Swing Dance Club.

From 5:30 to 11 p.m. in the North Ballroom of the Brookhaven Center, all are invited to samba, peabody, tango, waltz, etc. to taped music. Bring your own CDs and dance to your favorite music. Refreshments are available at the Center Club.

The suggested donation of \$1 per person will be used by the club to buy more dance music. For more information, contact Brenda Riddle, Ext. 4524; or John Millener, Ext. 3853.

Hospitality News

Megume Akiba, Yumie Hirota, Chieko Shinkawa and Machiko Sugano will demonstrate origami, the Japanese art of paper folding, at the next Hospitality Committee get-together on Tuesday, December 7, at 9:30 a.m., in the lounge of the Recreation Building in the apartment area.

They will offer instruction on how to make origami decorations for the holidays, and supplies will be furnished to all participants.

Spouses of Lab employees and guests are welcome. Bring the children, but please also bring a toy or two. Coffee, tea and cookies will be provided.

AIX Local Users

The next meeting of the AIX Local Users Group will be held on Thursday, December 9, at 1:30 p.m. in room 2-160, Bldg. 510. Following the regular meeting, IBM representative Kevin McLaren will discuss recent announcements from that corporation. For further information, contact Ronnie Evans, Ext. 2851.

Translator Registry

People willing to act as interpreters and/or translators, who can assist with both personal and technical matters, are being sought for a on-site translator registry.

So far, nine people have volunteered their services in the following languages: Armenian, Danish, German, Greek, Japanese, Latin, Persian, Spanish and Turkish. Interpreters and translators of other languages are still needed, particularly for Chinese, French, Italian, Korean, Polish, Russian and Ukrainian.

Employees, dependents and retirees are welcome to join this registry. If you are native or fluent in any foreign language and willing to have your name added to the registry, contact Steve Kemp, Bldg. 725A, Ext. 7336.

Rifle & Pistol Club

Meetings of the Rifle & Pistol Club are held on the second Wednesday of each month, with the next meeting scheduled for December 8, at noon in room 202, Bldg. 911. For more information about the club and its activities, call Otto Jacobi, Ext. 3471.



Art Festival Next Week

Next week, from Monday through Thursday, the BNL Art Society will hold the 13th Biennial Fine Art Show, this year entitled the "BNL Art Festival."

Among the works by BNLers and their families to be exhibited in Rooms B and C at Berkner Hall will be these by Nicholas Weih, RHIC Project. Weih, who started painting only a year ago, is taking oil painting lessons in the wet-on-wet technique and hopes eventually to become a certified instructor.

All are invited to the show, which will be open daily December 6-9, 11:30 a.m. to 1:30 p.m. On Monday, refreshments will be served at an evening reception, from 5 to 7:30.

After the show, exhibitors should pick up their artworks in Berkner Hall on December 9, from 2 to 4 p.m.

Calling All Carolers

Plan to sing with the BNL Choral Group on Wednesday, December 22, at the special Christmas luncheon in the Cafeteria, and, afterward, elsewhere on site.

The first rehearsal will be Monday, December 6, at Berkner Hall, at noon sharp! Subsequent rehearsals, also in Berkner, will be Fridays and Mondays: December 10, 13, 17 and 20. Rehearsals must end by 12:45 p.m., so please be on time. Singers are needed for all parts — soprano, alto, tenor and bass. For more information, call John Weeks, Ext. 2617, or Janet Sillas, Ext. 2345.

Long-Term Care Deadline Extended

Enrollment in the AUI Long-Term Care Plan has been extended until Wednesday, December 15, for coverage effective January 1, 1994. The plan covers a wide range of personal care, health care and social services for people with disabling conditions or chronic disease. For more information, call, between 8 a.m. and 5 p.m., (800) 537-8521, the toll-free phone number of the Long-Term Care Hotline of the Aetna Life Insurance Company, the plan's underwriter.

Three Days to Shop At the Science Store



Looking for the perfect gift to celebrate Christmas? Hanukkah? The Winter Solstice? You're sure to find it at the Winter Holiday Sales at the Science Store.

Today is the first of three consecutive Fridays — December 3, 10 and 17 — that the store will be open to employees from 10 a.m. to 3 p.m. So, to stock up on intriguing, inexpensive, science-oriented gifts, head to the Science Store in the west side of Bldg. 701, and park in the north parking lot.

For a colorful preview of items on sale, catch the *GLANCE* video playing in the Cafeteria, today and Monday, 8:30 a.m. to 4 p.m.

AutoCAD Training

The CAD/CAM Group of the Computing & Communications Division will offer basic training in design and drafting using the AutoCAD design system. Class size is limited, so reservations are required. For information, call Chris Neuberger, Ext. 4160.

Software Demo

Sun Microsystems will demonstrate the Sun ZX Graphics card and the AVS Graphics software, a developer's framework for visual applications, on Friday, December 10, from 10 a.m. to noon, in the seminar room of CCD, Bldg. 515. For more information, call Karl Abrams, Ext. 7977.

Basketball

Teams must submit completed 1994 rosters by Friday, December 10, to Jim Desmond, Bldg. 725D. Individuals who wish to play, but who are not yet on a team, should contact Desmond, Ext. 4837, also by December 10. Anyone who signs up after that date must wait until the fourth week of the season before being assigned to a team.

Arrivals & Departures

Arrivals	
Gabor David	Physics
Soren M. Gantt	App. Science
Paul R. Lageraen	Adv. Tech.
Departures	
This list includes all employees who have terminated from the Lab, including retirees:	
Veronica H. Brooks	Medical
Oscar Gonzalez	Medical
Joseph I. Miceli	RHIC
William G. Sieger	AGS
Serafin R. Vargas	Saf. & Env. Prot.
Edward J. Walsh	Saf. & Env. Prot.

Accelerator Physics Code Seminar

The Center for Accelerator Physics and the Computing & Communications Division are cosponsoring a one-week seminar on the use and applications of the three-dimensional electromagnetic code called MAFIA (MAXwell's equation using the Finite Integration Algorithm).

The seminar will be held February 7-11 and is limited to 20 participants. To defray the costs of the seminar, a registration fee of \$300 per participant will be charged, and ILRs will be accepted, first-come, first-served. Call Maria Gatz, Ext. 5196, for more information.

Note to Employees:

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

Country-Western Dance Instruction

Country-western dance instruction will be the feature of the annual December social held by the Upton chapter of Professional Secretaries International. All are welcome.

On Tuesday, December 7, in the Recreation Building of the apartment area, the social will start at 5:30 p.m. with hot and cold hors d'oeuvres. A country-western dance lesson from 6:30 to 8 p.m. will be led by Country Kate, and all are invited to socialize and practice what they have learned for another hour afterwards.

The all-inclusive cost is \$8 per person. For reservations, call Susan Carlsen, Ext. 7647, by Monday, December 6. Also, donations, including food stuffs, women's personal articles and children's toys, will be collected during the social for a local women and children's shelter.

1994 Holidays

Holiday	Day	Holiday Observed:
		Day Date
New Year's Day	Friday	December 31 (1993)
Floating Holiday (Martin Luther King Day)	Monday	January 17
Presidents' Day	Monday	February 21
Memorial Day	Monday	May 30
Independence Day	Monday	July 4
Floating Holiday	Tuesday	July 5
Labor Day	Monday	September 5
Veterans Day	Friday	November 11
Thanksgiving Day	Thursday	November 24
Day After Thanksgiving	Friday	November 25
Christmas Eve	Friday	December 23 (1/2 day)
Christmas Day	Monday	December 26

BROOKHAVEN BULLETIN

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Bowling

White League

Bob Geib bowled a 222, Kevin Carney 201/186/232 619 series, Pat Manzella 182, Gerrie Riker 186, Lorraine Roeklein 179.

Purple League

Judy Coleman bowled a 236, Ray Raynis 225/182, Ken Batchelor 214, Manny Dador 212, Pete Stelmashuk 190, Denise Monteleone 178, Kay Conkling 177, Maryann Reynolds 174. Sam Logan made the 6/8 split, Ray Raynis the 4/10 split.

Red/Green League

C. Scarlett bowled a 246, K. Asselta 232/223/649 scratch series, R. Larsen 224/220/615 scratch, R. Mulderig 223, E. Larsen 220/200, H. Arnesen 218, S. DiMaiuta 203, R. Jansson 201, A. Warkentien 201, M. Guacci 200.

Volleyball

Standings as of November 24

Open League	League I	League 2	League 3
GTEAM 18-3	Upfagrabs 14-4	Silver Bullets 15-3	Silver Bullets 12-3
Me and the Boys 14-7	Rude Dogs 11-7	Nuts & Bolts 13-5	Jolly Veggies 11-4
The Roofing Co. 13-11	Network News 10-8	Mon. Night Live 11-7	Take Five 8-7
Far Side 6-15	Underdogs 5-13	Net Wits 10-8	High Volley'em 8-7
Penetrating Veggies 3-18	Fornossing 5-13	Fossils 9-9	Slow Hands 6-9
		Night Court 8-10	Upton Ups 0-15
		Spiked Punch 4-14	
		NTP 2-16	

Cafeteria Menu

Monday, December 6

Soup: Homemade split pea	.80/1.10
A la Carte: Broccoli PizzAmore	2.75
Fitness: Pasta w/steamed vegs.	3.25
Deli: Pastrami sandwich	2.95
Grill: Reuben platter	2.95
Salad: Tomato & mozzarella cheese	

Tuesday, December 7

Soup: Beef & mushroom barley	.80/1.10
A la Carte: Italian sausage hero	3.25
Fitness: White bean & eggplant casserole	3.20
Deli: Hot roast beef sandwich au jus	2.95
Grill: Chicken teriyaki w/rice	3.35
Salad: Chef's tuna bowl	

Wednesday, December 8

Soup: Cream of broccoli	.80/1.10
A la Carte: Yankee pot roast w/veg.	3.35
Fitness: Baked lemon chicken	3.45
Deli: Baked Virginia ham sandwich	2.95
Grill: Monte Cristo platter	2.95
Salad: Fresh fruit	

Thursday, December 9

Soup: New Orleans chicken gumbo	.80/1.10
A la Carte: Veal Parmesan w/veg.	3.35
Fitness: Chicken tacos	2.25
Deli: Corned beef sandwich	2.95
Grill: Philly cheese steak platter	2.95
Salad: Turkey Waldorf platter	

Friday, December 10

Soup: Manhattan clam chowder	.80/1.10
A la Carte: Catch of the day w/veg.	3.50
Fitness: Display cooking of entree	
Deli: Hot roast turkey sandwich w/gravy	2.95
Grill: Tuna melt platter	2.95
Salad: Chef's salad	

Deli, Burger and other specials daily.

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.

PHYSICIST - With several years' experience in the design and operation of a proton linear accelerator and RFQ, and familiarity with linac design codes, to work on the Linac upgrade for high-intensity operation. Contact: James Alessi or Bill Weng, Alternating Gradient Synchrotron Department.

SCIENTIST - Preferably trained in chemistry or physics, with experience in UV spectroscopy and the construction of sophisticated spectroscopic instrumentation. The research program involves developing advanced instrumentation for the accurate

and rapid measurement of atmospheric water-vapor concentrations at high altitudes. Contact: Leonard Newman, Department of Applied Science.

SCIENTIST - Trained in analytical chemistry, with experience in HPLC and radionuclide counting. Will join a team involved in radiological studies in the Marshall Islands, as well as radiological programs in the United States. Contact: John Baum, Department of Advanced Technology.

SCIENTIST - Trained in psychology or discipline pertinent to human performance, with experience in applied and field research. Program involves the use of self-assessment and self-evaluation techniques for organizational factors issues. Contact: Sonja Haber, Department of Advanced Technology.

SCIENTIST - Trained in biological or biophysical sciences, with experience in x-ray crystallography using the Laue White beam method. Knowledge of VMS and UNIX preferred. Program involves dynamic studies of the mechanism of action of various heme-containing enzymes. Contact: Zbigniew Korszun, Biology Department.

POSTDOCTORAL RESEARCH ASSOCIATE - Trained in chemical engineering or microbiology, with a strong background in organic and inorganic analytical chemistry, to investigate remediation of soils and materials contaminated with toxic metals and radionuclides, using microbiological and physicochemical methods. Contact: A.J. Francis, Department of Applied Science.

SCIENTIST/ENGINEER - Trained in chemical engineering, with several years' experience in technical project management dealing with arms-control and weapons-proliferation issues. U.S. citizenship and the ability to obtain and maintain a DOE security clearance are required. Experience with international organizations is highly desirable. Contact: Ann Reisman, Department of Advanced Technology.

LABORATORY RECRUITMENT - Opportunities for Laboratory employees.

DD 0759. SECRETARIAL POSITION - (term appointment) Requires an AAS in secretarial science or equivalent, and excellent communication and organization skills, as well as a thorough knowledge of office procedures. Familiarity with Laboratory practices and policies and with Laboratory organizational groups also required. Proficiency in WordPerfect 5.1 and DOS required; experience in iPAP and Novell desired. Under supervision, will provide clerical and secretarial support as needed. Director's Office.

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside candidates.

NS 6439. ACCOUNTING POSITION - Requires a bachelor's degree in accounting or a related field (advanced degree a plus), a minimum of three to five years' accounting experience, knowledge of Generally Accepted Accounting Principles, and experience with PC accounting systems and spreadsheet programs. Will be responsible for preparation of financial statements, account analyses, and the review of vouchers, computer reports and control records. Fiscal Division.

NS 6442. ASSISTANT FISCAL OFFICER - Requires an advanced degree in finance, accounting or business administration, or equivalent, and extensive pertinent experience within a large organization or public accounting firm; CPA designation with NYS Continuing Professional Education (CPE) requirements and knowledge of BNL's accounting structure highly desirable. Knowledge of Generally Accepted Accounting Principles, Financial Accounting Standards Board Pronouncements and Cost Accounting Standards necessary. Will have ultimate responsibility for all Laboratory accounting and regulatory reporting functions, and will assist the Fiscal Officer in the formulation and execution of policies. Fiscal Division.

DD 8188. TECHNICAL POSITION - Requires an AAS with an emphasis in engineering or physical sciences or equivalent experience; AAS in health physics is highly desirable. Responsibilities include routine radiation and contamination surveys. Participation in respirator, industrial hygiene and general safety-training programs is also required. Safety & Environmental Protection Division.

DD 6154. TECHNICAL POSITION - (term appointment) Requires an AAS in mechanical technology or equivalent and experience with high-vacuum systems and high-vacuum leak checking. The ability to work from blueprints, and experience in the fabrication and assembly of cryogenic equipment required. Familiarity with machine-shop practices, pressure testing and system piping as well as experience with both silver and soft solder also required. Work will involve the construction, testing, installation and operation of cryogenic equipment and gas systems. Shift work required. Alternating Gradient Synchrotron Department.

LS 8189. TECHNICAL POSITION - Requires an AAS/BS in science, math or the equivalent, and experience in health physics, preferably in external dosimetry and use of TLDs. Must have computer software skills, such as WordPerfect, R-base, and Harvard Graphics. Electromechanical skills for trouble evaluation and equipment installation, and good writing skills are desirable. Responsibilities include providing TLD service to operational and environmental programs, conducting QA tests of external personnel monitoring dosimetry and providing general support to the Personnel Monitoring Group. Safety & Environmental Protection Division.

Motor Vehicles & Supplies

92 NISSAN 240SX - 5-spd., 9k mi., burgundy, ac, am/fm cass., extras, one owner, excel. cond., \$15,900. Sue, Ext. 4931 or 447-5557 after 7 p.m.

89 MAZDA 4x4 PICKUP - ext. cab, 5-spd., 45k mi., red, \$7,500 neg. 924-7262 after 5 p.m.

89 PONTIAC 6000LE - 4-dr., p/s, p/b, ac, a/t, tilt, power, am/fm, custom wheels, new tires, must sell, \$3,900. Oleg, Ext. 7787.

88 CAVALIER Z24 - 6-cyl., a/t, p/s, p/b, p/w, p/l, am/fm stereo cass., ac, black, 50k mi., asking \$5,850. Mary, 696-1235.

88 FORD BRONCO XLT - 302, p/s, p/b, a/t, blue, CB, brush bar, fog lights, v.g., \$10,500. Pete, Ext. 4235.

87 SUBARU - h/b, 4-spd., ac, 72.5k mi., am/fm, new front tires, very reliable, clean, needs clutch, \$1,600. 924-4929.

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87 RELIANT WAGON - p/b, p/s, am/fm radio, ac, 87k mi., new tires, mint, moving. Yonekawa, 366-2309.

86 BUICK CENTURY - 110k mi., a/t, ac, good cond., \$1,500 or best offer. Ext. 5534 or 345-2686 after 6 p.m.

86 DODGE ARIES - 5-spd., white, m/t, excel. cond., \$1,700 or best offer. Ute, Ext. 3890.

86 HYUNDAI - 4-dr., v.g. cond., asking \$1,750 neg. Gary, Ext. 5903.

85 FORD ESCORT - 5-spd., high mi., good cond., \$650. Ext. 4284.

85 HONDA KNIGHTHAWK - new rear tire, garaged, mint cond., must see. Neal, 286-2435.

85 OLDS CUTLASS - new tires, muffler, radiator, runs well, \$2,800. 878-2944 after 4 p.m.

85 TOYOTA COROLLA - 4-dr., a/t, ac, fwd, radio cass., reliable, \$2,200. Alastair, Ext. 5334.

84 NISSAN SENTRA WAGON - 104k mi., blue, 5-spd., am/fm, new tires, \$1,500. Nick, Ext. 2490.

84 VW CABRIOLET - convertible, ac, a/t, Blaupaunk, 58k hwy. mi., excel. cond., \$11,500. 821-0686.

84 YAMAHA MOTORCYCLE 650 - \$600; tires, Trail Boss, 31x10.50x16.5, 4 radials, less than 500 mi, \$350. Bob Brown, Ext. 3569.

84 TRANS AM - red, 5-spd., T-top, ac, p/w, p/l, gar., 75k mi., good cond., \$4,200 or best offer. Alice, Ext. 2274/4035.

82 ISUZU PICKUP - 4-spd., cap, white, am/fm cass., 65k mi., good cond., runs well, \$975. 874-4812 after 5:30 p.m.

81 BUICK SKYLARK - good paint, rebuilt V-6, p/w, ac, rebuilt tranny, runs well. 582-6241.

81 CADILLAC - gray, new tires, \$500. Doug, Ext. 7698.

81 CADILLAC SEDAN DE VILLE - many new parts, runs well, good cond., \$1,250 neg. 475-8242.

81 DATSUN 200SX - \$600 neg.; '80 Buick Regal, many new parts, \$800 neg. or best offer. Ext. 4212 or 928-7732.

80 BLAZER K5 - '84 eng., p/s, p/b, CB, p/booster, stereo radio cass., new gas tank, ball joints, more, chrome wheels, runs well, asking \$2,000. 924-8558.

78 OLDS OMEGA - 2-dr. sedan, a/t, ac, am/fm stereo cass., good cond., asking \$450. Walter, Ext. 4986 or 757-6392.

76 DODGE VAN - red, \$1,500; '71 Lincoln Mark III, red, \$600; '67 Mustang, \$2,000; '56 Olds Rocket 88, coupe, \$1,000. Doug, Ext. 7698, or Teri, 924-3385.

51 DODGE PICKUP - runs, some body work done, new glass in doors, \$800. Guy, 758-6892.

CARGO CARRIER BOX - roof mount, w/racks, \$35. Tirre, Ext. 3288.

DONUT TIRE - never used, GM Pontiac, 14" wheel, T125 170/D15, \$20. S. Saxton, 744-3842.

ENGINE - Jeep, 258, 90k mi., will demo. Glen, 821-7082.

FRONT SEAT - bench, burgundy, fits early '80s Monte Carlo, \$60; '72 Ford Bronco engine, trans., & transfer case, \$100. Rich, 929-8514.

PARTS - '84 Nissan Stanza. Wei, Ext. 3421.

PLOW - elec. hydraulic power, frame for full-size pickup, \$550. Guy, 758-6892.

RIMS - 4 Chevy Classic 78II steel-belted tires, P195-75B14, never used, \$200 or best offer. 878-1617.

ROOF RACK - luggage, for VW Beetle, \$20; 2 Dunlop steel-belted radials, Winter Max 175/70SR13, on Nissan 4 1/2 Jx13 rims, \$50. Wayne, Ext. 4010.

TIRES - 2, 950x16.5LT, snows, like new, mounted on 8-lug wheels, \$150/2. Joe, Ext. 5409.

Boats & Marine Supplies

19' REGAL BOWRIDER - 1988, 115-h.p. Merc. trailer, p/winch, compass, DF, VHF radio, new back-to-back seat, asking \$13,800. Bob, 654-3989.

18' HOBIE CAT - sailboat with trailer, \$800. Peter, Ext. 7579.

TRAILER - motors, 55-h.p. Evinrude, 1966, 1984, 1976, \$1,000. Rosado, Ext. 4667.

Tools, House & Garden

AIR COMPRESSOR - Craftsman, 3-h.p., 12-gal., 1 yr. remains on service contract, \$160. 698-0596 eves.

AIR COMPRESSOR - Sears, 1/2-h.p., with handle, wheels, hose, etc., \$50. Tom, Ext. 4507 or 878-1060.

DOORS - Andersen, French, wood, gliding, patio, FWG8068R, screens, brass, hardware, new, \$575. Gerry, 447-6528.

HEATER - LP, gas & tank, 100k Btu. John, 584-6002.

LAWN MOWER - commercial, Kess 48, 12.5-h.p., Kawasaki engine. Bob, Ext. 3569.

LIGHTING FIXTURE - Quoizel, hanging glass, ceiling, w/hurricane inset, Colonial, \$50. Jim, Ext. 4414.

MILLING MACHINE - Van Norman, \$1,500; lathe, South Bend, \$1,000. Doug, Ext. 7698.

POINSETTIAS - red, excel. quality, various sizes, low prices. Ext. 3562 or 821-1271.

POINSETTIA - florist quality, various sizes, low prices. 727-6818 after 4 p.m.

Miscellaneous

MAPLE SYRUP - from Vermont. Peter, Ext. 7687 or 744-1112.

MOBILE - mint cond., \$12. Ext. 5534 or 345-2686 after 6 p.m.

RING - diamond, over 1 carat, excel. quality, \$3,250. Klein, Ext. 2214.

RING - diamond engagement, 1 carat, pear shape, semi twist setting, \$1,000; wedding gown, white, Eve of Milady, size 8, \$395. Cathy, Ext. 2541.

ROCKING HORSE - \$20; ottoman, \$6; dog bed, \$10; baby walker, \$10; elect. typewriter, \$50; 1/2 cord seasoned firewood, \$50. Kathy, Ext. 744-2203.

SMOKED TURKEYS - 12 lbs., \$23; smoked ducks, 5 lbs., \$13. 821-6780 after 6 p.m.

STEP CLIMBER - \$35; cedar chest, \$30; infant's walker, \$5; wicker bathroom shelf, \$5. Mike, Ext. 7434.

STROLLER - Fisher Price, \$40; Fisher Price infant's car seat, \$20. 924-2839.

STROLLER - double, gray & maroon, canopy, excel. cond., \$75. Beth, 874-2789.

TICKETS - 2, basketball, Minnesota/St. James, Madison Square Garden, noon, Sunday, 1/30, \$23.50/ea. Sheryl, Ext. 7716.

Free

PUPPIES - black, mixed, Labrador, to good home, 6 weeks old. 878-8967.

Lost & Found

LOST - women's gold bracelet, sentimental value, reward. Ellie, Ext. 2716 or 7235.

FOUND - Chevy Caprice hubcap, in front of Bldg. 134. Diane, Ext. 2347.

Wanted

BABY-SITTER - German-speaking. Stas, Ext. 7849 or 821-0459.

BILLY JOEL TICKETS - Pat, Ext. 7192.

CELLO - for beginner. Ron, Ext. 2214.

COMICS - new and old, will pay good price, should be in good shape. Gary, Ext. 5903.

DESK - and/or computer workstation; also Super Nintendo system and/or games. Pat, Ext. 7192.

ICE SKATES - women's size 7 and girl's size 1, good cond. Vera, Ext. 7702.

JUNK - cars, trucks, machinery, alum. boats, will remove. Rich, Ext. 4986 or 589-9103.

PEOPLE TO JOIN - BNL Toastmasters, for fun, laughs & potential, become a better speaker, open new avenues. Sharon, Ext. 7140, or Mitch, Ext. 4212.

PHILATELIST - to evaluate large collection and act as broker. Ext. 5054 or 286-5897.

SOFTWARE - for early elementary school child, IBM-compatible. Pat, Ext. 7192.

TRAILER - utility, approx. \$100. 924-6751.

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.

ANIMAL-SITTER - animal-loving 10-yr.-old will treat your pets like my own. Kate, 929-5945.

AUTOMATIC LAWN SPRINKLERS - free estimates, professional layouts, repairs, alterations and additions, prompt service, \$25 winterization. 928-7042.

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

BUSINESS CARDS - custom design of your logo, full service avail., many standard logos, fonts & colors to choose from, starting at \$25/500. 475-6981.

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

CATERING - no affair too small, all your holiday catering needs, free delivery, call for menu. Dave, 696-1927.

CATERING - gourmet-style party food, affordable prices, hors d'oeuvres, salads, entrees, desserts, full service, priced per tray, call for menu. 475-6981.

CESSPOOL SERVICE - installations. Jim, 321-6720.

COUNSELING - experienced, licensed CSW, individual, marital or family problems, confidentiality guaranteed, insurance reimbursable. Linda, 929-5860.

DJ/MC - party & dance music from 40s-90s, all occasions, music & entertainment personalized for your affair, BNL refs. Lou, 698-8210.

HANDYMAN - fall cleanups, leaves, gutters, lawn care, debris removal, very reliable. John, 821-8343.

HOLIDAY COOKIES - delicious, various varieties, order early. Joan, 698-6259.

HOUSE CLEANING - reasonable, very efficient, refs. Marty, 399-3496.

JEWELER - special orders, repairs, honest, affordable, no job too large or small. Kelly, 821-5239.

KITCHENS - 3 styles for under \$3,000, includes cabinets, top, installation. Carl, 698-9274.

LETTERING/STRIPING/AIRBRUSHING - trucks, vans, cars, bikes, helmets, boats, signs, murals, windows, paper signs, clothing. Gary, 549-9113.

LOCKSMITH - sales & service, 10% Lab discount, keys cut during lunch. Pete, 399-2813 after 5 p.m.

PC TRAINING - learn word processing, database management, spreadsheets, graphics, accounting or desktop publishing. Gina, 929-3649.

PAINTING - interior/exterior, Sheetrock, taping, spackle, wallpaper, staining, powerwashing, insured, refs