BROOKHAVEN BULLETIN
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BROOKHAVEN NATIONAL LABORATORY

BNL Lecture: Lighting the Way to the Next Generation

For the next generation of electron-positron colliders, the energy is expected to go from the present billion-electron-volt range to the trillion-electron-volt range. Since it is not practical for accelerators and colliders to be built any bigger, a new approach to reaching higher energies is required.

That's why BNL scientists are again among those proposing new principles that may accelerate electrons faster over shorter distances than now possible — including several methods that require lasers. These methods will also be useful in the construction of tabletop synchrotrons and free-electron lasers.

While the proof of principle for the grating, inverse Cerenkov and inverse free-electron laser accelerators await the commissioning of BNL's Accelerator Test Facility (ATF), preliminary work for a switched-power linear accelerator has been done within BNL's Instrumentation Division.

"Lasers in Accelerators: Lighting the Way to the Next Generation" will be discussed by Physicist Triveni Srinivasan-Rao, Instrumentation, in the next Brookhaven Lecture. Her talk will take place on Wednesday, May 27, at 4 p.m., in Berkner Hall, and the speaker will be introduced by Veljko Radeka, Head of the Instrumentation Division.

Since their appearance in 1960, lasers have been used in a variety of technologies, including bar-code scanners at the grocery store and laser printers at work. By using lasers in accelerators, scientists are combining a novel use of the laser with a new method of accelerating particles to produce the next generation of particle accelerators.

Triveni Srinivasan-Rao checks the alignment of a laser in her Instrumentation Division laboratory.

Photos on this page by Roger Stoutenburgh.

In a laser, as Srinivasan-Rao will explain, what is called the active

(continued on page 2)

Your Memories Can Help With Historical Site Review

Like some ancient Greek city, the BNL site has been built up, torn down, built over, changed, built up again and modified many times.

First, the site's virgin forest was excavated to create U.S. Army Camp Upton in 1917. Then the land reverted to woods, until becoming an army camp again in 1940. Finally, in 1947, it became a national laboratory.

Since then, as BNL, the site has been frequently redesigned, with new buildings, new roads and new utilities constantly changing the landscape.

Much of this change is well documented. But some of it was done long before the documentation requirements inspired by the current concern for potential environmental hazards. As a result, there is always the possibility that a new project could come to a grinding halt by an unhappy discovery that must be dealt with before proceeding.

This is precisely what happened last February. When excavation started for an extension to Bldg. 479, the Heavy Machine Shop, one of the first things to be revealed under some pavement was a past PCB spill.

PCBs are polychlorinated biphenyls, industrial compounds that are environmental pollutants. Though the unearthed spill had not penetrated very deeply into the ground, because of the potential danger, the construction job was immediately shut down and cleanup was begun.

"It's been a couple of months now, and we think we have focused in on it," said Alan Raphael, who heads the Lab's Office of Environmental Restoration (OER), "but the additional cost to the project will be well over $100,000, not to mention the delay."

From the Office of Environmental Restoration, (from left) Skip Medeiros, Bob Howe and Alan Raphael are shown here at the site of a well-documented sewage treatment system used by Camp Upton. As part of the Historical Site Review, however, they welcome any information about construction, spillage or anything else that might be hidden and unknown to BNLers today.

Beyond its impact on this construction project, had the PCB spill gone further or undetected, it could have had a serious negative effect on the Lab's groundwater.

Obviously, it would be desirable for OER to know about any other such spills or other hidden hazards — such as the two old army cesspools unearthed during construction on Bldg. 120 last March, or the former dump site that showed up during a review of old aerial photographs in 1986.

That is why OER is starting the Historical Site Review.

BNL established the Office of Environmental Restoration in February 1991 to oversee the Lab's activities as one of the hazardous-waste sites on the National Priorities List of the U.S. Environmental Protection Agency. This is a roster of hazardous-waste sites that are considered high priority for cleanup under the federal Superfund Program.

BNL's inclusion on the Superfund list is primarily due to past disposal practices, which complied with earlier standards, but resulted in groundwater contamination on the BNL site.

The Historical Site Review is aimed at uncovering any unknown threats before they can do permanent damage.

In doing this detective work, OER staff will search for clues in everything from old Army records to logs of early BNL operations. They'll be poring through old site maps, phone books, organization charts and other documents, looking for any leads.

This could be a very time-consuming process — and perhaps you could help shorten it.

Were you around during the Lab's early days or when it was Camp Upton? Do you remember any construction, spillage or anything else that might be hidden and unknown to BNLers today? Are you a jogger or walker who has noticed anything unusual in your travels around the site?

"Please, tell us about it," implored Raphael. "Even if you're not sure what it was, we'll check it out. It may be a very important source, which otherwise might take forever to find and clean up. You could save us a lot of steps."

If you have information or documents that you believe might be useful for this review, call Alan Raphael, Ext. 5854. If you'd like to help but would rather remain anonymous, that's fine.

Said Raphael, "We're only interested in finding sources of trouble before they cause real trouble. We're not interested in who was responsible. And I'm not interested in your name, unless you want to share it. With your help, anonymous or not, we'll get the site cleaned up appropriately and much more quickly!"

— Anita Cohen

Chinese Guests Learn About BNL

A Chinese delegation headed by the Vice President of the National Natural Science Foundation of China (NNSFC) visited BNL on May 8. From Beijing, the delegation included Hu Zhaosen (seated, second from right), NNFSC Vice President; Gu Mingda (seated, left), NNFSC Director; and Liu Xishu (seated, right), NNSFC Division Chief. From the People's Republic of China Consulate General in New York came Consuls (standing, from left) Hou Rucheng, Gu Shenxing and Wu Yingjian.

Following a welcome by Lab Director Nicholas Samios (seated, second from left), Public Affairs Manager Anne Baittinger (standing), escorted the visitors on a tour that included the Relativistic Heavy Ion Collider project, part of the superconducting magnet research and development facility, the High Flux Beam Reactor, and the National Synchrotron Light Source.

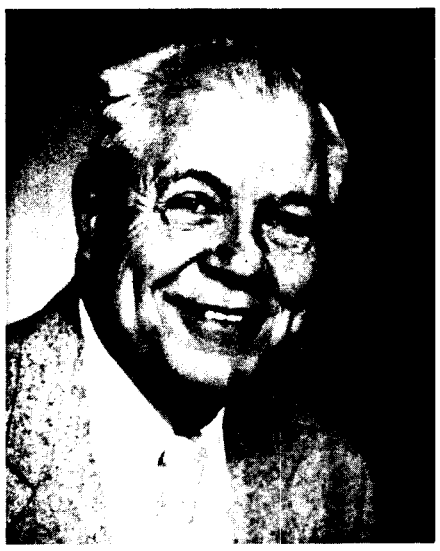
Leaving the Lab — After 35 Years or More

When J. Garry Cottingham arrived at BNL on June 10, 1949, as a junior physicist, the Cosmotron — the Lab's first accelerator and the world's first to accelerate protons to an energy of a billion electron volts — "was just a concrete ring in a sand pit."

Now the Assistant to the Head for Engineering at the Relativistic Heavy Ion Collider (RHIC) Project, Cottingham is retiring on May 26 with 42 years of Lab service. He leaves just as RHIC — BNL's latest accelerator and the world's highest energy heavy-ion collider — is becoming a concrete reality.

An Oklahoma native, Cottingham came to BNL with a B.S. in engineering physics from the University of Illinois, where he had worked with Lyle Smith. Now a BNL retiree, Smith came to the Lab to work on the design and the construction of the 3-billion-electron-volt (3-GeV) Cosmotron, and he invited Cottingham to join him.

"Neither my wife, Ruth, nor I had ever been here before, so we thought that we were just a couple of country folks going into a concrete jungle," muses Cottingham, who joined the then Proton Synchrotron Division to work on the electronics for the Cosmotron's Van de Graaff injector.



Roger Stoutenburgh

J. Garry Cottingham

Cottingham was promoted to an associate physicist by June 1952, when the Cosmotron was commissioned. Then he moved on to the project to build the 33-GeV Alternating Gradient Synchrotron (AGS), which "was the new frontier of the time and everyone wanted to work on it," he remembers.

While helping to develop the AGS's first injector, a 50-million-electron-volt linear accelerator, Cottingham was promoted to an electrical engineer in July 1956. After a nine-month absence "seeking my fortune but not finding it in industry," he returned to the AGS in June 1959 and became responsible for developing the system that supplied power to the AGS experimental area.

After the AGS came on line in July 1960, Cottingham went back to the Cosmotron as chief electrical engineer. To upgrade the quality of the Cosmotron's beam, Cottingham worked on electrical system modifications that ultimately allowed for slow extracted beams, whereby the protons were slowly spilled out of the machine, allowing counter experiments to proceed more efficient.

When the Cosmotron was shut down in December 1966, Cottingham returned to the AGS, as chief electrical engineer for what was known as the AGS Conversion Project. Then the largest single facilities construction project undertaken by the Lab, it raised the protons-per-pulse intensity of the AGS by five and greatly expanded the machine's experimental utility. He was awarded tenure in July 1967.

Cottingham switched his focus from accelerators to solar energy, 1972-78, when he managed BNL's solar energy program, including the development of an energy concentrator. Called a heliostat, Cottingham's working prototype tracked the sun and redirected its thermal energy onto a target, which, in this case, was a boiler. He was promoted to a senior electrical engineer in January 1976.

Cottingham returned to accelerators in 1978 when he joined the ISABELLE project. Since then, he has worked on electrical systems for superconducting magnets, both for the national Superconducting Super Collider and BNL's RHIC.

"I've had a lot of fun," admits Cottingham, "and the success that I am most proud of is the AGS conversion because, without the AGS's present performance, RHIC wouldn't be possible. I am also proud of contributing to the conceptual design of RHIC. But, since I'll be 70 by the time it is built, I decided to retire now that its funding is in hand."

Cottingham will retire to his greenhouse and garden in his backyard in Center Moriches, where "I grow most anything from tomatoes to unusual flowers." He and his wife, who is also retired, will now have the time to visit more often with their two sons.

And, Cottingham will keep busy with his local church, for which he is helping build a Sunday school addition by serving, among other functions, as a mason's apprentice — working with concrete.

"I've come full circle, haven't I?" he concludes. — Marsha Belford

Local Users Group

Arnold Peskin, Head of the Computing & Communications Division (CCD), will present an update on CCD services, at the next meeting of the Upton Local Users Group (LUG), on Wednesday, May 27, at 10:30 a.m. in Berkner Hall. All computer users are encouraged to attend.

For more information, call Zohreh Parsa, LUG Chairperson, Ext. 2085.

BNL Lecture (cont'd)

medium is first excited to a higher energy state by an external energy source. When the atoms or molecules within the laser's active medium return to their ground state, they emit photons stimulated by spontaneous radiation.

She will describe the characteristics of laser light, such as tunability, coherence and collimation, that make lasers ideal sources of light for experiments — and accelerators. She will then review the different classes of lasers, including high-power, short-pulse lasers, and their future in particle accelerators.

After briefly mentioning other approaches, Srinivasan-Rao will discuss the principle behind the switched-power accelerator, which was first proposed by BNL Senior Physicist William Willis, also of Columbia University.

As part of the switched-power discussion, Srinivasan-Rao will review the results that she and her colleagues Joachim Fischer and Thomas Tsang have obtained in their Instrumentation lab. Their work addresses some of the critical questions needed to be answered to make switched power a feasible accelerator method. Their results from irradiating metal targets with very short laser pulses have been used in the ATF and are relevant to other future high-brightness electron injectors.

Triveni Srinivasan-Rao received her Ph.D. in physics from the University of Illinois in 1983. During 1983-84, she worked as a scientist in the research and development division of Quantronix Corporation on Long Island. In March 1985, she joined Instrumentation as an assistant physicist. She was promoted to an associate physicist in October 1987 and to her present title in October 1990.

After the lecture, those attending are invited to join the speaker for discussion and refreshments. To join the lecturer for dinner at a restaurant off site, call Graham Smith, Ext. 4253.

Doing Well — Thanks to a Healthy Blood Supply

Eight weeks ago today, Joseph Zito was injured in a violent collision with a fire truck just outside the Lab's main gate. Zito is a caregiver at BNL's Child Development Center, and his dramatic rescue by BNL's Fire/Rescue Group was detailed in the Bulletin of April 3, 1992.

Joseph Zito

Since then, in addition to the emergency surgery that took place as soon as he arrived at University Hospital in Stony Brook, Zito has undergone two more operations. He is now at home — regaining his health and strength, and looking forward to a full recovery.

On March 27, however, Zito recovery was far from assured. "When I got to the hospital," he said, "there was so much bleeding that the doctors told my parents they didn't think they could stop it."

But, of course, the doctors tried, by replacing Zito's blood just as fast as he was losing it. And so, Zito's condition was stabilized.

"Lucky for me they had that blood on hand," said Zito, who received over ten units of O-positive blood during his hospitalization, all from what the hospital had on hand.

The hospital's blood supply is replenished through Long Island Blood Services — whose own blood supply is supplied by Long Islanders from all walks of life. Many of those donors give blood at drives held at their places of work.

BNLers will have that same opportunity on Wednesday, Thursday and Friday, June 3, 4 and 5, when the Lab's annual summer blood drive will be held from 10 a.m. to 3 p.m. in the Brookhaven Center.

If you need some incentive to roll up your sleeve — think of Joe Zito. He doesn't mind at all. "This accident has gotten a lot of my friends and family to wear seat belts," said Zito, "so if I can also get some people to give blood, I'll be really happy."

In addition to the gift of blood from those unknown donors, Zito thanks the BNL community for the gift of love that also helped him through his ordeal. In particular, he said, "I'd like to thank the Lab's rescue workers, as well as my bosses, my coworkers and the parents of the kids, who all became my friends in this situation. They were there for me."

If you want to be there for someone like Zito by giving blood, please return the pledge card you received in the Lab mail, as soon as possible. Then take the other card you received and encourage a friend or relative to sign up too.

For more information, contact Susan Foster, Blood Drive Chair, Ext. 2888, or the Blood Program Captain for your department or division (see list in last week's Bulletin).

— Anita Cohen

Firehouse Flies Family Flag

Roger Stoutenburgh

On Memorial Day, the flag fluttering over BNL's Firehouse, Bldg. 599, will be flying in memory of Edward McFadden Sr., a deceased BNL retiree, a veteran of the Navy, and the father of Edward McFadden Jr. of the Computing & Communications Division.

McFadden Sr. retired as a captain of the Fire/Rescue Group in February 1972, but died two years later at the age of 64. Since he had seen action in Nicaragua in the 1930s on the U.S.S. Indianapolis and had been discharged honorably after four years of service as a first-class petty officer, McFadden Sr.'s family received a flag upon his death from the Navy.

At the request of his mother Edna, Edward McFadden Jr. placed the flag in a hiding place behind the medicine cabinet in his mother's Bayport house. When she moved to an apartment in Sayville, however, the flag and other hidden memorabilia were forgotten for over a year — until the new owners discovered them while remodeling the bathroom.

"When I asked her what are we going to do with the flag, she told me, 'If your father were still alive, he'd say that we should give it to the fire department so they can fly it over the new firehouse.' " And that's what the McFadden family did.

So, earlier this month, Ed McFadden Jr. and his mother Edna, (holding and to right of flag), and his sister Carole Johann and brother Paul (to left of flag) joined members of BNL's Fire/Rescue Group for the first hoisting of their father's flag. Those witnessing this event from the Fire/Rescue Group included: (from left) Captains Michael Carroll and Robert Safranek, Firefighters Ronald Harding, Joseph Gallittelli, William Strelecki and John Foley, Fire Protection Engineer Joseph Levesque, Firefighters Robert Mosley and William Leigh-Manuell, and Fire Chief James Roesler.

Artists on the Island

This superb desk and chair exemplify the magnificent work of Long Island wood sculptor and furniture designer David Ebner. Pieces by Ebner will be exhibited together with mood-setting paintings by Zibeke Arnmark, Jody Love and Dumitru Molescia in "Artists on the Island," an art show sponsored by the BERA Art Society. It will be held in Berkner Hall, Room B, from June 2 to 5.

A resident of Bellport, Ebner's work is in the permanent collection of prestigious institutions across the country, including the Smithsonian Institution in Washington, D.C., Boston's Museum of Fine Arts, and the Cooper-Hewitt Museum in New York.

Of the three painters, Arnmark, a native of Denmark who now lives in Shoreham, paints abstract landscapes, mainly in watercolors. Love, who lives in Bellport, specializes in iceboating scenes, as well as Victorian interiors and flowers in watercolors, acrylics and pastels. Molescia recently came to the U.S. from Romania and lives in Queens. Originally an icon painter, he has been inspired by Long Island's natural beauty to paint landscapes.

The artists will be present at the opening reception on Tuesday, June 2, from 5 to 7:30 p.m. June 3-5, hours will be 11:30 a.m. to 1:30 p.m., with additional hours from 5 to 7:30 p.m. on Thursday, June 4. Refreshments will be offered; all are invited.

Camera Club

The BNL Camera Club will present a seminar on photographic filters and how to use them effectively, on Thursday, May 28, at 5:30 p.m., in the training room in Bldg. 134C.

Members and nonmembers are encouraged to attend. For more information, contact Lew Jacobson, Ext. 5193; Anne Baittinger, Ext. 5055; or Rippe Bowman, Ext. 4672.

Arrivals & Departures

Arrivals

Meredith A. Haines.....App. Science
Helen C. Murray.....App. Science
Edmund J. Pavlak.....Saf. & Env. Prot.
Allan J. Scott.....Dir. Off.
James W. Waters.....App. Science
Eric J. Voss.....Chemistry

Departures

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

Arthur O. Anderson Jr......Plant Eng.
John J. Brennan.....Plant Eng.
Alfred J. Deneuve.....Comp. & Comm.
Richard A. Dietz.....Plant Eng.
Anna E. Grego.....Plant Eng.
Arthur D. S. Harris....Comp. & Comm.
Warren F. Hulse.....Plant Eng.
William F. Kearns.....Plant Eng.
Jeffrey P. Levine.....Comp. & Comm.
Timothy R. O'Connell...Comp. & Comm.
Luis K. Potter Jr......Comp. & Comm.
Michele L. Riccardo....Comp. & Comm.
Jose Sanchez.....Plant Eng.
Thomas K. Shea.....Accel. Dev.
George A. Taylor.....Comp. & Comm.
Nelson E. Tyler.....Plant Eng.
Richard L. Weiner.....Accel. Dev.

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Note to Employees:

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

LabVIEW Users

The users of LabVIEW — the Laboratory Virtual Instrument Engineering Workbench for Macintosh personal computers — will meet on Wednesday, May 27, at noon, in Room 300 of the Chemistry Department, Bldg. 555.

Guest speaker Bill Harrold, District Sales Manager of National Instruments, will discuss Signal Conditioning eXtensions for Instrumentation (SCXI). Scott Meyers of Craft Robot Incorporated will talk about Science Toolbox, a LabVIEW front-end and data-acquisition system, which features a Geiger-counter probe.

Register by calling Harrold, (800) 433-3488. For more information, contact Ed Castner, Ext. 4362.

Amateur Radio Club

The Amateur Radio Club will meet in Berkner Hall, Room D, on Thursday, May 28, at noon to discuss the upcoming Field Day Activity on the weekend of June 27-28, the current status of the radio station in the Recreation Building, and the voice and digital repeater systems.

All employees, guests and licensed amateur radio operators are invited. For information, call John McNeil, Ext. 4572, or Gary Utz, Ext. 5903.

Software Demo

WordPerfect Corporation will sponsor a demonstration by its regional manager Mike Hall on Tuesday, June 2, in the CCD Seminar Room, Bldg. 515. The agenda includes:

9:30 to 11 a.m.	WordPerfect Tips & Tricks
1 to 2 p.m.	Introduction to WordPerfect for Windows
2:30 to 4 p.m.	WordPerfect Works, WordPerfect Office, and DrawPerfect

Hall will also be available all day to answer any questions. To register, call Donna-Ree McCambridge, Ext. 4103, by May 29.

Cafeteria Menu

Luncheons

Monday, May 25 — Memorial Day
Open 9 a.m. to 2 p.m.

Tuesday, May 26

Soup: Cream of broccoli	.80/1/10
Entree: Chicken cordon bleu w/1 veg.	3.45
Entree: Chef's choice	3.20
Fitness: Curried lamb stew over noodles	3.35
Carvery: Hot roast beef sandwich	2.95
Grill: ¼-lb. burger w/sauteed mushrooms on onion roll	2.95

Wednesday, May 27

Soup: Minestrone	.80/1.10
Entree: Sauteed liver & onions	3.35
Entree: Chef's choice	3.20
Fitness: Seafood linguine	3.45
Carvery: Hot ham sandwich	2.95
Grill: Hot ham & melted cheddar on bun	2.95

Special: Foot-long chili cheese dog

Thursday, May 28

Soup: Cream of cauliflower	.80/1.10
Entree: Fettucini Alfredo	3.35
Entree: Ham & broccoli rolls	3.20
Fitness: Chef's choice	3.20
Carvery: Hot corned beef sandwich	2.95
Grill: Chicken fajita pita	2.95

Special: Big juice & muffin

Friday, May 29

Soup: New England clam chowder	.80/1.10
Entree: Vegetable plate	2.35
Entree: Baked fish w/veg.	3.45
Fitness: Chef's choice	3.20
Carvery: Hot turkey sandwich	2.95
Grill: Buffalo wings	2.50

Breakfast special: 2 eggs on roll w/cheese
12-oz coffee & Newsday 1.50

FLASH . . . *Terminator 2*
Wednesday, 5/27 . . . 8 p.m. . . . Center Club

Note to Diners

The Brookhaven Center will be closed on Sunday, May 24, and on Memorial Day, Monday, May 25. It will reopen the evening of Tuesday, May 26.

The Cafeteria will remain open over the holiday weekend, May 23-25, 9 a.m. to 2 p.m. As usual, food service will be continuously available from the vending machines in Bldg. 912.

Bowling

Red/Green League

The Portsiders beat the Sandbaggers in the play-off round to become league champions. M.Guacci had a 233/213/614 scratch series, H. Arnesen 221, R. Larsen 217/211/210/638 scratch, A. Warkentien 200.

Volleyball Champions

— Photos by Roger Stoutenburgh

LEAGUE I — Upfagrabs grabbed the championship: (front, from left) Sandy Lane, Jean Spears, Barry Karlin, Keijo Hamalainen; (back from left) Jay Adams, Walt Reams and Bill Kropp. Not pictured: Stacy Barrom and Cary Burt.

LEAGUE II — Monday Night Live became the everyday champs: (front, from left) Xing Zhang, Jean Jordan-Sweet, Kathy Griffen; (back, from left) Art Sedlacek, John Kirkland, Bill McGrath and Kathy Kolsky.

LEAGUE III — Over the Top lived up to their name by becoming the winners: (front, from left) Wei Chen, René Holaday, Karen Furenlid; (back, from left) Peter Gehring, Bill O'Brien, Lars Furenlid, Peter Takacs and Gwyn Williams. Not pictured: Carol Hirschmugl and Pooran Singh.

OPEN LEAGUE — Me and the Boys teamed up to take the title: (clockwise from left) Steve Hulbert, Ralph Wiedmann, Jack Lazarz, Ralph Brown, Keijo Hamalainen and Chi-Chang Kao. Not pictured: Gail Penny.

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.

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside candidates.

LF 0406. HOSPITAL SERVICES POSITION - Requires experience in patient care as well as experience in maintaining and dispensing medical supplies. Working knowledge of infection-control procedures and training in CPR highly desirable. Will assist nursing staff with patient care for ambulatory patients at the Clinical Research Center and Radiation Therapy Facility. Responsibilities include being part of a CPR team as needed, as well as maintaining hospital standards of infection control in all patient areas. Medical Department.

Motor Vehicles & Supplies

91 TOYOTA PICKUP - 4wd, ext. cab, 5-spd., $13,500; '90 Volvo 240 s/w, loaded, take over lease, $297 mo./3 yrs. George, Ext. 5456 or 588-9459

89½ PONTIAC TRANS AM - red, loaded, T-top, low mi., excel. cond., like new, asking $11,500. Linda, Ext. 7187 or 874-2675.

89 CHEVY S-10 BLAZER 4x4 - sport pkg. alarm, full power, loaded, black/gray, mint cond., must sell, asking $12,500. Pam, 821-4174.

89 JEEP CHEROKEE 4x4 - 4-dr., ac, p/s, p/b, a/t, 4.0L eng., roof rack, excel. cond., $10,500. Luke, 928-9136.

88 HARLEY SPORTSTER 1200 - 4k mi., burgundy black, mint cond., $5,000. 325-1439.

88 CHEVY C-30 TRUCK - 4-spd., 350, dual wheels, flatbed, hitch, rack, $8,000 neg. Fred, 878-4254.

87 SUBARU WAGON GL - 4wd, fully loaded, 85k mi., $3,450. 472-2493.

87 MERCURY SABLE - 4-dr. sedan, a/t, stereo cass., ac, cruise, p/l, p/w, 60k mi., orig. owner, excel. cond., $5,500. Paul, 751-2149.

86 OLDS CIERA - V-6, p/s, p/b, ac, p/seats, p/windows, cruise, well maint., asking $3,500. Bill, Ext. 2022 or 727-4228.

85 FORD F-150 4x4 - V-8, a/t, new tires, trans., muffler, 80k mi., $4,500. Bob, 929-3098.

85 HOLIDAY XL CAMPER TRAILER - 31', dbl. bed, gaucho, awning, rear bdrm., mid-bath, refrig./freezer, extras, Florence, Ext. 4631.

82 CHEVY MONTE CARLO - V-6, ac, am/fm, asking $800. Bob, Ext. 4672 or 929-4753.

82 CADILLAC SEVILLE - 4-dr., fully loaded, 100k mi., new brakes, ac comp., & water pump, mint, $3,000/make offer. Harry, Ext. 5976 or 473-4462.

80 BMW 320I - 5-spd., sunroof, am/fm, ac, mag wheels, high mi., reliable, $1,400. John, Ext. 7671 or 765-1299.

78 SUBARU - 4wd wagon, runs well, looks OK, $300. Jim, Ext. 2765.

77 FORD 460 - motor & trans., still in car, $200 neg. 924-8213.

70 BLASO TRAILER - 19', $1,000. John, Ext. 3675 or 924-3528.

68 CAMARO - glass nose, no motor or tranny, good for track or parts, $500. Al, Ext. 7725.

63 HARLEY SPORTSTER - new tires & brakes, solid motor, v.g. cond., $2,150. Chris, Ext. 4185 or 698-9116.

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

SNOWPLOW - 2.5-meter Meyers hydraulic, must sell, $200. Dave, Ext. 3199.

TIRES - 2 Goodyear, G78-14 on rims, like new, $25 ea. Richard, 821-0354.

WHEELS - GM, 14", 5-lug, like new, $15. Paul, 727-4859.

Boats & Marine Supplies

19' FOUR WINNS - 1987, cuddy, 190-h.p. FWC Mercruiser i/o, full canvas, $7,000. Michael, Ext. 2081 or 878-9384.

16' BOWRIDER - f/g, 65-h.p. Evin., galv. trailer, p/winch, $1,200. Jim, Ext. 3372 or 821-0250.

25' REGAL AMBASSADOR 245 - 1982, 228-h.p. i/o, sleeps 5, head w/shower, appl., VHF, DF/FF, full canvas, extras, $10,000. Collins, Ext. 7777.

23' ROBALO CUDDY - 200-h.p. Merc., trailer, great fam./fish. boat. Chuck, 878-6640 after 6 p.m.

19' BAYLINER BOWRIDER - 1987, 125-h.p. Force, full canvas, p/lift, radio, low hrs., excel. cond., must sell. Vinny, Ext. 2642.

18½' WELLCRAFT - modif. center console, 100-h.p. Evinrude ob. w/teleflex steering, three 6-gal. tanks, access., trailer. Paul, 751-2149.

18' STARCRAFT - full canvas, running lights, bilge pump, asking $125. 563-6680.

18' KLEPPER DOUBLE KAYAK - f/g, w/rudder & mast step, $500. Ext. 7657.

13' DURANAUTIC BOAT - alum., 15-h.p. Johnson, like-new cond., $790. 878-1617 after 5:30 p.m.

OUTBOARD MOTOR - 7.5-h.p. Mercury, essentially brand-new, w/3-gal. external tank, ideal for inflatable boat, 15" shaft, Ext. 2799.

TIGA 285 WINDSURFER - short board, 120 liters, 19 lbs., $300. Joe, Ext. 4139.

Furnishings & Appliances

AIR CONDITIONER - G.E. Carry Cool, portable, 4,000 Btu, like new, $75. Kevin, Ext. 3082.

AIR CONDITIONERS - window (2), 8,000 Btu, $175 ea., both $300, 1-2 yrs. old. Irving, Ext. 2827.

BEDROOM SET - Nathan Hale, dark pine, queen-size poster bed, armoire, triple dresser w/mirror, 2 nightstands, more, $1,495. Cathy, 744-8630.

BEDROOM SET - captain's bed, 2 dressers & mirror, excel. cond., $150. Edwards, Ext. 4308.

CABINET - Col., maple w/record player & radio, storage, 72"x35"x23", $150. Saxon, 929-4701.

DINING ROOM - Ethan Allen, 42" round table, 12" leaf, 4 chairs, $200; king-size mattress/box spring, Sealy Posturepedic, $100. 473-6546.

DINING ROOM & BEDROOM SET - all wood, glass end & coffee tables; boat w/motor & sails; assorted bric-a-brac lamps. Ivan, Ext. 7874.

BEDROOM SET - queen-size bed, end tables, dresser w/mirror, armoire, like new, $890, neg. Ext. 4661.

TABLE LAMPS - two, $25. Joe, Ext. 2898 or pager 0925.

WASHING MACHINE - Sanyo, port., apt. size, automatic, 3-cycle, good cond., 1 yr. old, $75. Ernie, Ext. 7632, or Heidi, 281-7873.

Tools, House & Garden

BAY WINDOW - 8', w/storms, make offer. John, Ext. 3675 or 924-3528.

BUSHES - yews, you dig, $5/ea. Rosalie, 588-5379 after 5 p.m.

LAWN MOWER - riding, Snapper, 26", grass catcher, needs work, no reverse, otherwise good, $175 neg. Walt, Ext. 7154.

LAWN MOWER - ride-on, 26" cut, 5 h.p., pull start, w/Craftsman Swiper, $300 neg. Joe, Ext. 4986.

LAWN MOWER - Sears, 21", rear bag, $65. Dan, Ext. 4987 or 698-7322.

POOL - ag, everything works, must move, no reasonable offer refused. Doan, Ext. 7535.

STOVE - Earth stove, wood burning, w/pipe, $200. George, Ext. 5456 or 588-9459.

WOOD STOVE - wood/coal, Glacier Bay, good cond., $50. Roger, Ext. 7518 or 878-8847.

WINDOW - Andersen, energy-efficient, screen frame, 25½"x40¾", new, never used, white. Ext. 4611 or 286-2788.

Sports, Hobbies & Pets

SKIS - 180s, intermediate w/bindings, $75. 878-1617 after 5:40 p.m.

WEIGHTLIFT BENCH - good cond., adjustable back support, $20. Victor, Ext. 2395.

WEIGHT SET - Weider, 310 lb. Olympic and 2 barbells, $120. Marie, Ext. 2950 or 399-3401.

BIKE - Cilo Sport-SE, SIS gear, used twice, 30 miles, $250; Cilo helmet, $50. Larry, Ext. 4295.

BIKE - woman's, 10-spd., excel. cond., $50. Richie, Ext. 2216 or 734-7342 after 6 p.m.

COCKATIEL - male, 1 yr. old, $50. Glenn, 928-3545.

FISHING ROD - Sears, w/ reel, $15; small golf bag, $6. 727-8631.

LABRADOR RETRIEVERS - black, puppies, AKC registered, sire and dam on premises, great w/children. 929-4993.

PIANO - upright, good cond., must sell, $400. Pam, 475-2551.

PING-PONG TABLE - excel. cond., w/accessories, $60. Brian, Ext. 2799.

RABBIT - mini Rex, w/large cage, food, chips & access., $35. Kelly, 744-3069.

STATIONARY BIKE - Airgometer, computerized pulse & mileage monitor. Ken, 744-1869 or E-mail KYEE@BNLCL1.

Audio, Video & Computer

GUITAR AMPLIFIER - Ampec Portaflex w/ speakers, $200. Harry, Ext. 5976.

COMPUTER - Commodore 64, 1541 disc drive, Sanyo 5500 color monitor, $200. Louie, 924-8672.

COMPUTER - Apple, dual processor, II+/CPM-80, dual drives, monitor, Epson NLQ FX-80 printer, software, $200. Don, 744-2921.

JUKEBOX - w/records, works, good cond. George, Ext. 5456 or 588-9459.

STEREO SYSTEM - twin-deck cassette, turntable, radio, 2 speakers, $40. 744-7172.

TV - color, RCA XL100, 19", stereo sound, remote, cable ready, 99 channels, 1½ yr. old, $192. Ken, Ext. 744-1869 or E-mail KYEE@BNLCL1.

Miscellaneous

ACTIVITY GYM - Little Tykes Jr., $45. Pam, 281-1540.

DIAMOND RING - approx. 30 pts., 6 prongs, 14k gold, asking $100. Linda, Ext. 7187.

DOLLHOUSE - large, w/furniture, $60; work table, 6½'x19", $10; twin headboard, maple, $50; Harvard bed frame, twin, $15. Karen, 286-2114.

INFANT'S SWING - $18; infant's seat, $8; walker, $12; 16" boy's bike, $28. Joanne, 286-3601.

MOTORCYCLE JACKETS - black leather, 1 man's size 46, 1 women's size 34, $50/ea., will sell separately. Joe, 821-7066.

VENDING MACHINE ROUTE - 6 Coke machines, 8 candy machines, in locations, 5 hr/5 wk., nets 15-20k/yr, ask. $15k. Harry, Ext. 7749.

WEDDING GOWN - silk organza, new, size 10, cost $600, sell for $200. 878-1617 after 6 p.m.

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

Free

CHESTNUT MARE - 17-yr.-old, 16.1 H., gentle, good trail horse. Ellen, 924-6779 after 6 p.m.

KITTENS - solid black and black & white, born 4/4. 298-3886.

PUPPY - loving 5 mo. old, female, black, 12-15 lbs., needs good home, all shots. Linda, 874-2675.

Yard & Garage Sales

BELLPORT - 5/23, 9 a.m.-4 p.m., partial contents of house, furn., Tiffany shades, dishes, books, records, more, Browns Lane.

MATTITUCK - 5/23, various stuff, 8595 Peconic Bay Blvd. Alan, Ext. 4584 or 298-3886.

MORICHES - four-family, 5/23-24, 10 a.m.-4 p.m., 2 Marion Dr.

OAKDALE - 5/23-25, 10 a.m.-5 p.m., contents of house, furn., TV, appl., exercise equip., everything must go, 330 Locust Ave.

Car Pools

BLUE POINT-PATCHOGUE - want to join/form car pool. Ellie, Ext. 7328.

MANHATTAN/NJ - King, Ext. 7901/2942.

SOUTHAMPTON - mornings only. Chris/Jenn, Ext. 4216 or 283-0071.

Real Estate

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

For Rent

BELLPORT - 1-bdrm. apt., priv. ent., kit., bath, $650/mo. incl. util. 286-8554.

BROOKHAVEN HAMLET - 1-bdrm. apt., priv. cottage, walk to water, $650/mo. incl. util., avail. July. Jeb, Ext. 7607, pager 0830 or 286-0204.

CENTEREACH - 2-bdrm. bsmt. apt., l/r, kit., full bath, priv. ent., cable, mature nonsmoker(s), new, clean, smoke alarm, 2 exits, $600/mo. incl. util., 1 mo. sec. Pam, Ext. 4082 or 732-6280 eves.

CENTER MORICHES - 2nd floor apt., 2/3 bdrm., waterfront, big deck w/water view, sept. ent., $850/mo. incl. util., avail. June 22. John, 878-4319.

EAST MORICHES - 2-bdrm. apt., ground floor of Victorian house, bath, kitchen, d/r, l/r, large yard, 3 blocks to bay, shops, school, $680/mo. plus util. Mona, Ext. 5056 or 878-9384 eves.

E. PATCHOGUE - 1 bdrm., kit., l/r, bath, sep. ent., mature nonsmoker, no children, 1 mo. sec., furn. or unfurn., $475/mo. incl. util. Marylin, 286-3508 after 6 p.m.

HOLBROOK - 1-bdrm. unfurn. house, avail. May, 20 min. to Lab, near stores, med. services, transportation, no smoke/pets, $680/mo. + util. & light maint. Fred. Kuehl, Ext. 7974 or 588-2268.

MASTIC PARK - 1-bdrm. apt., city water, own thermostat, 10 min. to Lab, cable connection, $600/mo. + sec. & refs. 281-7844 eves.

MEDFORD - 1-bdrm. Blue Ridge upper condo, l/r, d/r, kit., all appl., cac, new paint & carpeting, full club facilities, $700/mo. + util. & 1 mo. sec. Russ, Ext. 3059 or 758-3952 after 6 p.m.

MIDDLE ISLAND - 1½-bdrm. luxury condo, 1½ baths, all appl., cable TV, pool, clubhouse, 10 min. to Lab, $725/mo. + util. 751-8403.

MIDDLE ISLAND - 2-bdrm. condo, 1½ baths, part. furn., all appl., pool, clubhouse, $875/mo. + util. 751-8351.

MILLER PLACE - 1 bdrm., kit.-l/r, bath, priv. ent. 473-1658 after 6 p.m.

OLD MASTIC - small 2-bdrm. house, 1½ baths, w/2-rm. sep. workshop w/full bath, all appl., 2 fp, screened porch, wooded setting, near water, 20 min. to Lab, $880/mo. + util. Hans, Ext. 3737.

PORT JEFFERSON STATION - 1-bdrm. apt., ground floor, sept. ent., single person preferred, $500/mo. incl. util. 757-1973.

RIDGE - furn. studio apt., fenced-in yard, priv. ent., 3 mi. to Lab, $480/mo. Ext. 2673 or 744-8632.

RIDGE - 2-bdrm. condo, 1½ baths, l/r, d/r, kit., fully carpeted, w/d, $750/mo. Kathy, Ext. 2267 or 395-6520 after 6 p.m.

RONKONKOMA - 1-bdrm. condo, Nob Hill, 5 appl., w/w, a/c, excel. cond., $730/mo. + elec., tennis, pool. 979-7851.

SHOREHAM VILLAGE - 3-bdrm. ranch, l/r, d/r, full bsmt., 3 full baths, 2-car gar., wooded, 1 acre, owner on sabbatical for 1 yr., avail. 6/92-12/92, $1300/mo. + util. S.U. Chung, Ext. 3885/3857.

STONY BROOK - 1-bdrm. apt., priv. ent., l/r, full kit., quiet, ideal for student, $550/mo. incl. util., cable, 1 mo. sec. Rudy, 689-1539.

YAPHANK - priv. 2-bdrm. house, full bath, fenced yard, patio, cellar, shed, w/d hookup, $725/mo. + util. & 1 mo. sec. Dave, Ext. 3499.

POCONO LAKE, PA - chalet in priv. community, sleeps 8, fully furn. & equipped, swim, tennis, golf, more, $275/week. Bob, Ext. 4551 or 475-3612.

HILTON HEAD, SC - 2-bdrm. condo, sleeps 6, fully furn., 2 baths, beach, golf nearby, April-Sept., $450/wk. Guy, Ext. 3147 or 689-5378.

For Sale

CENTER MORICHES - 3-bdrm. house, 1½ baths, l/r, d/r, eik, w/d, full bsmt., att. gar., city water, central vac, 0.25 acre, $130,000. Joyce, Ext. 3801.

CENTER MORICHES - Main St., 3,500 sq. ft., comm. bldg., 3 rentals all occupied, good cash flow. 878-1178.

CUTCHOGUE - Nassau Farms, 3-bdrm. ranch, secluded, cac, lg. deck, close to beach, marina, moorings, 12'x16' shed. Roer, Ext. 2382.

E. PATCHOGUE - 3-bdrm. ranch, bath w/skylight, d/r, l/r w/fp, custom kit. w/appl., Fla. rm., bsmt., workshop, garden, ½ acre corner, community beach, low taxes, $155,000. Pate, 286-8835.

E. SETAUKET - historic dist., 3VSD, 4-bdrm. Worthington Col., 2½ baths, 2-car gar., bsmt., new siding & roof, park-like yard, $239,000. 689-8548.

LAKE GROVE - 3-bdrm. hi-ranch, l/r, d/r, new eik, den, 1½ baths, 2-car gar., new carpets, remodeled bath, Andersen windows, vinyl siding, covered patio, igs, $159,500. 588-6417.

E. SETAUKET - 3VSD, 4-bdrm. hi-ranch, 1½ baths, gar., fenced yard, patio, deck, w/w, new roof, dw, refrig., 0.33 acre, $129,900. 286-8814.

MASTIC - 4-bdrm. cape, 1½ baths, fin. bsmt., oversized gar. w/opener, lots of closets, 80' x 100', fenced, low taxes, $100,000. Ext. 5142 or 281-8168, leave message.

MASTIC BEACH - 4-yr.-old contemp. ranch, immac. cond., no work req., 3 bdrm., 1 bath, 16' cathedral ceiling, 16'x20' deck, walk to water, $105,000. Dave, Ext. 3199.

MIDDLE ISLAND - 2-3-bdrm. ranch, mint cond., 1½ baths, l/r, d/r, bsmt., gar., laundry rm., 5 appl., deck, shed, low taxes, 10 min. to Lab., $114,900. 924-2839.

MIDDLE ISLAND - Fairview at Artist Lake, 2-bdrm. condo, 1½ baths, cac, G.E. appl., French doors, clubhouse, poool, mint cond., 5 min. to Lab, must see, $86,000. Mark, 924-1561.

MILLER PLACE - 2-bdrm. ranch, waterview, mint cond., l/r, d/r, bsmt., det. gar., sun porch, ⅓ acre landscaped, $134,900. Sue or Robert, 928-6368.

N. SHIRLEY - 3-bdrm. ranch, ⅓+ acres, fenced yard, new boiler, HW heater, windows, renovated contemp. kit., bsmt., igs, by Southaven Park, extras, mint, $115,900. Jim, Ext. 2957 or 281-4541.

N. SHOREHAM - 3-bdrm. L-shaped ranch, d/r, sunken l/r, eik, oak floors, fin. bsmt., work rm., 2-car gar., parklike ½ acre, igs, deeded beach rights, $179,900. Mike, Ext. 5972 or 744-4579.

RIDGE - 3-bdrm. ranch, 4-yr.-old, 2 baths, cac, 5 min. to Lab, ¾ wooded acre, $139,000. 821-1455.

RIVERHEAD - 2 bdrm., custom kit., lg. sunporch, oak floors, gar., full bsmt., deck, low taxes, steps to lake, property borders DEC-controlled land, move-in cond., $112,000. 369-0432.

ROCKY POINT - 4-5 bdrm. or den, fin. bsmt., total 3,800 sq. ft., ⅔ acre, landscaped, igs, $192,000. 744-2715.

SHIRLEY - 75'x120' lot, close to school & shopping. Frank, 399-3446.

SHOREHAM - 3-bdrm. ranch, ½ acre, bsmt., gar., huge deck, hardwood floors, new bath, new kit., low taxes, SWRSD, $137,000. Zbigniew, Ext. 4086 or 744-6929.

SHOREHAM - 3-bdrm. ranch, l/r w/fp, f/dr, eik, laundry rm., large den, fin. bsmt., 1½-car gar., deck, prof. landscaped, ½ + acre, cul-de-sac, SWR schools, low tax, ask. $155,000. Ken, 744-0722.

SOUND BEACH - 3-bdrm. ranch, 2 baths, l/r, eik, d/r, gar., cedar deck, pool, fenced yard, rental income, Miller Place schools, $125,000. 821-1271.

S. BAYPORT - 3-bdrm. ranch on pond, approx. ⅓ acre, 2½ baths, carpet, sunporch, deck, French doors, $225,000. Beth, Ext. 5630 or 472-0706.

S. SETAUKET - 4-bdrm., 2½ baths, needs work, 2-car gar., lg. lot, 3VSD. 331-4768.

WADING RIVER - priv. beach road, 3-bdrm. ranch, 1½ baths, fd/r, eik, all appl., bsmt., shed, deck, treed, cac, County water, ½ acre, $128,000. 929-4701.

WADING RIVER - on beachfront, 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, $275,000. Kathy,. 929-8443.

WESTHAMPTON/SPEONK - 1987 Liberty mobile home, 14x60, 2 bdrm., eik, w/d, dw, bay window in l/r, $33,000. Dave, Ext. 5460.

YAPHANK - Colonial Woods condo, 5 min. to Lab, 2 bdrm., 1½ baths, fin. bsmt., wet bar, rec. facil., red. to $99,000. Monica, 924-3846.

STUART, FL - 2-bdrm. condo, 2 baths, waterfront, screened porch, w/d, end unit, clubhouse, pool, sauna, $78,000. Beth, Ext. 5630 or 472-0706.

OCALA, FL - corner property, zoned for town-house, water & elec., close to Orlando, $18,000 neg. 929-3298.

MAINE - farmhouse w/120 acres, woodland & fields, 45 min. from Bar Harbor, nature lovers' retirement home, $139,000. 281-6720 after 5 p.m.

N. CAROLINA - 1.13 wooded acres & waterfront community, priv. boat slip on Pamlico River, $38,000. Ken, 281-5565.

SHAWNEE, PA - timeshare week #40, kit., d/r, sleeps 6, fp, golf, indoor pool, horseback riding, rafting, canoeing, $8,000 neg. Tom, Ext. 5350.

Wanted

CAR - cheap, must run well, 4-dr., ac, Chrysler, Plymouth, Dodge, no rust or dents, under $1,000. 821-2854.

EXPERIENCED TEACHER - for Upton Nursery School, part-time, starting Fall 1992. Cindy Salwen, 874-3652.

GUITAR - free, for education program at BNL Science Museum. Ext. 5461 or 4495.

HOUSEMATE - share house, Mastic, priv. furn. rm., w/w, cable & phone, avail. immed., $300/mo. incl. all., sec. Susan, 399-3087 after 6 p.m.

IBM PC COMPATIBLE - good cond., preferred w/mouse. Ming, Ext. 5687.

LAWN MOWERS/LAWN TRACTORS - old, complete. Dan, Ext. 4987 or 698-7322.

NORDIC TRAC - cross-country ski exercise machine. Brian, Ext. 2369.

RELIEF SITTER - on site, must be flexible, responsible, preferably English speaking, and experienced. Karen, Ext. 3181.

ROOM TO RENT - furn. bdrm., for weeknights only. P.K. Ext. 5648.

ROOMMATE - female professional to share 2-bdrm. condo, 1½ baths, part. furn., 5 min. to Lab, $450/mo. + ½ util. 751-8351.

SAXOPHONE - alto, for student. Gary, Ext. 3751 or 589-5490.

TOM WANG - call Mickey about your deposit. 473-4460.

In Appreciation

Thank you to my Dad's co-workers for their kindness during his recuperation & special thanks to everyone at BNL for their wishes for my brother.

— Michele Dickerson

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