

Bnl Lecture: Frontiers of X-Ray Scattering

The 1947 discovery of synchrotron radiation and the 1948 invention of the transistor would seem to have little bearing on one another. In truth, however, these two remarkable developments have everything to do with opening up new frontiers in x-ray scattering research — frontiers that seem to increase in scope and promise with each passing year.

Working at these frontiers at BNL's National Synchrotron Light Source (NSLS) is NSLS Physicist Jerome Hastings, who will share his insights about "Frontiers of X-Ray Scattering" in the 258th Brookhaven Lecture. His talk will be held on Wednesday, January 17, at 4 p.m., in Berkner Hall. The speaker will be introduced by his father — BNL Senior Chemist Julius Hastings.



Roger Stoutenburg

Jerome Hastings

X-ray scattering, or x-ray diffraction, occurs when electromagnetic waves interact with matter, especially crystals. Due to interference effects, the scattering is accompanied by variations in intensity. When this occurs in the presence of sensitive detectors, scientists can learn a great deal about the structure of matter.

Hastings will begin his lecture by recalling that x-rays were discovered by Wilhelm Röntgen 95 years ago. Though scientists quickly recognized

the possibilities for x-ray scattering that this opened up, many of those possibilities remained just that for over 60 years.

In 1947, it was discovered that, when electrons move in a curved path, they give off an electromagnetic radiation known as synchrotron radiation. X-rays are part of the electromagnetic spectrum.

With the 1948 invention of the transistor came the development of perfect silicon crystals. These, in turn, made possible the development of sophisticated monochromators — devices used to single out particular wavelengths from the electromagnetic spectrum.

By building electron synchrotrons, such as the two at the NSLS, and passing the synchrotron radiation generated in them through monochromators, scientists today can select x-rays for diffraction experiments.

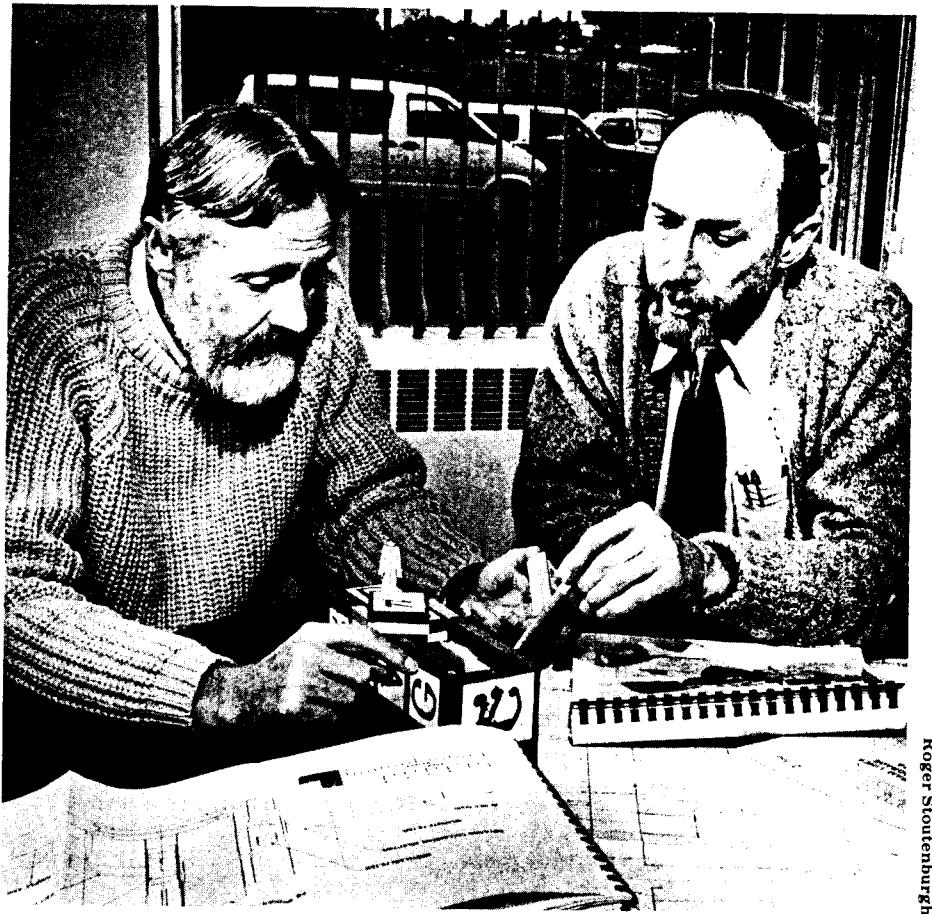
The combination of specialized monochromators and synchrotron light sources has rejuvenated x-ray research. Hastings will go on to describe several frontier areas of experimentation with which he is involved at the NSLS.

One takes advantage of the Light Source's ability to polarize the waves, to look at optical activity that occurs at x-ray wavelengths. An application of these techniques is the study of magnetism, an area of current interest in x-ray research.

Hastings will also explain how Brookhaven is at the forefront of those using the unique time structure of synchrotron radiation to do Mössbauer spectroscopy without radioactive sources, in an experiment in which x-rays are scattered by atomic nuclei rather than by electrons. Since the discovery of very narrow nuclear resonances, the only sources for Mössbauer spectroscopy had been radioactive.

Another area is the use of "soft" x-rays for scattering experiments. Until recently, soft x-rays have been used primarily to study photoemis-

(Continued on page 2)



Roger Stoutenburg

Senior Physicist John Axe (left) and Project Engineer Donald Gardner discuss the shielding design for a new neutron instrument proposed for BNL's High Flux Beam Reactor.

John Axe Honored For Outstanding Research

BNL Senior Physicist John Axe has been named the winner of the 1989 Annual Award for Sustained Outstanding Research in Solid State Physics.

This award is one of nine given out in the 1989 Materials Sciences Research Competition. The annual competition recognizes scientists from the national laboratories who have conducted outstanding research in metallurgy and ceramics, solid state physics, and materials chemistry that is supported by the Division of Materials Sciences (DMS) of the U.S. Department of Energy's Office of Basic Energy Sciences.

The research for which Axe won the award — "Neutron Scattering Studies of Structural Phase Transformations" — was all done at BNL's High Flux Beam Reactor (HFBR). Over the last two decades, Axe and his collaborators have performed neutron scattering experiments at the HFBR to increase the understanding of the mechanisms underlying structural phase transformations, the change of substances from one homogenous condition to another.

"I am honored to receive this award for three reasons," says Axe, who heads the scientific program for the HFBR. "First, I am being recognized by my peers at DOE laboratories, who have judged the competition. Second, I have good taste in choosing collaborators, and the dozen or so key people with whom I have worked are indirectly being honored by this award. And third and most important, the unique power of neutrons for studying structural phase transitions is being acknowledged as well."

Specifically, Axe has been cited for six significant accomplishments:

- Using neutron scattering, Axe has helped to demonstrate the widespread importance of vibrational instabilities as the mechanism for structural phase transformations.
- He was among the first to point out how the same, degenerate phonon instability in two materials with the same high-temperature structure can

lead to different low-temperature structures.

- Axe and his collaborators were the first to use neutrons to investigate charge density waves (CDW) in metals. CDWs arise when conduction electrons, which usually are evenly spread around in metal, show a tendency to form into clumps with a characteristic spacing.

- Axe and coworkers were the first to observe structural phase changes called commensurate-incommensurate transformations. Two different, incommensurate patterns can coexist within a crystal. However, as the temperature is lowered, it was discovered that the two patterns sometimes lock into a single, commensurate structure. Though this lock-in phenomena was not predicted, Axe first developed a theoretical explanation of this behavior.

- He and his collaborators were among the first to find incommensurate transformations in insulating

(Continued on page 3)

HSST Staffers Visit BNL

As an example of a Department of Energy (DOE)-funded national laboratory, BNL was visited last December 12 and 13 by (left) Frank Murray and Kitty Rising, staffers of the U.S. House of Representatives' Committee on Science, Space and Technology (HSST).

Murray, Staff Director for the HSST Energy Research and Development Subcommittee, and Rising, HSST Technical Consultant, toured the Lab's facilities for an overview of many of Brookhaven's energy-related research and development projects, as well as some basic energy sciences, high energy and nuclear physics, and waste management issues.

While Richard Fernow, Physics Department, looks on, James Veligdan, also of Physics, explains the carbon dioxide laser system (foreground) being installed at the Lab's Center for Accelerator Physics (CAP).

Eventually, this system will power a new grating accelerator being designed and built at Brookhaven's Accelerator Test Facility. The CAP accelerator is expected to produce the highest acceleration per unit length of any such device yet built.



Roger Stoutenburg

Coming Up

Harvey Brooks, emeritus professor of applied physics and of technology and public policy at Harvard University, will spend a week at BNL beginning January 16, as the Lab's sixth Haworth Distinguished Scientist. His host during that period will be the Department of Applied Science.

On Monday, January 22, he will deliver a Labwide lecture on "Science and Technology Policy and the American Competitiveness Debate," in Berkner Hall at 4 p.m. A reception will follow his talk.

For more information about Brooks's schedule while at BNL, call Pat Taylor, Ext. 2452.



Roger Stoutenburgh

Employee Relations Committee: They're Here to Help

For non-bargaining, non-scientific employees with work-related problems unresolved by their supervisors, BNL's Employee Relations Committee (ERC) offers help in finding solutions.

ERC members are appointed by and responsible to the Laboratory Director. When contacted by an employee, they try to hear all sides of an issue and resolve it in complete confidence.

The ERC's new, continuing and outgoing members are shown here: (from left) Richard Eggert, William Kollmer Jr., Michele Haller, Annette Gremme, June Herbert, Susan Foster (Employee Relations Counselor, ex officio), Michael Schaeffer, Richard Seebeck, Randolph Church, Marguerite Marsch, Carolyn Albert and Nicole Bernholz.

Incoming ERC chairperson Bernholz is taking over from Albert, 1989's chairperson. Albert and other outgoing members Haller and Gremme are being replaced by Eggert, Kolmer and Herbert.

To contact the ERC, call its special number, Ext. 4005, or contact one of the members: Bernholz, Ext. 2027, S&EP; Church, Ext. 2550, NSLS; Eggert, Ext. 4834, DCP; Herbert, Ext. 4692, AGS; Kollmer, Ext. 4479, ADD; Marsch, Ext. 3275, DAS; Seebeck, Ext. 4313, Chemistry; and Schaeffer, Ext. 7941, PE.

BNL Lecture (Cont'd)

sion processes, but there are significant advantages to doing x-ray scattering with these longer wavelengths x-rays. Time permitting, Hastings will discuss these advantages and describe the experimental results that highlight them.

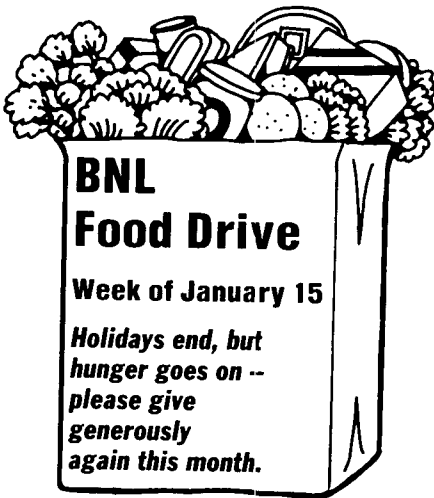
Jerry Hastings received his B.S. in engineering physics from Cornell University in 1970, then continued at Cornell, earning his Ph.D. in applied physics in 1975. He first came to BNL in 1970, when he began working on his thesis. He returned as a guest periodically through 1974.

From 1974-75, Hastings was with Oak Ridge National Laboratory; he then spent 1976 as a research associate with the Stanford Synchrotron Radiation Project.

This experience piqued Hastings's interest in the NSLS, which was in BNL's plans, but was not yet under construction. So he returned to the Lab in 1977, as an assistant physicist in the Physics Department, becoming an associate physicist in 1979. He

joined the Light Source staff in 1982, the same year he was named a physicist.

After the lecture, those attending are invited to join the speaker for discussion and hors d'oeuvres. In addition, anyone interested in joining the lecturer for dinner at a restaurant off site should call Peter Siddons, Ext. 2738.



At the On-Site Service Station: Waste Oil Disposal, Full Service

Even if you change your car's motor oil yourself, you can dispose of your waste oils at the Friendly Gulf Service Station on Technology Street.

If you bring your waste oil over during the workday, from 8 a.m. to 6 p.m., a station attendant will pour it into the storage tank. If the waste oil is in leakproof, closed containers, you may leave it in a specially marked outside location at the station after hours and on weekends.

Waste oils should not be left anywhere else on site and should not be deposited in any other waste containers on site.

In addition to accepting waste oil and selling gasoline at competitive prices, Friendly Gulf is a full service auto repair shop. The Laboratory renewed its contract with Friendly Gulf in September. Here are some items of advantage from that contract that may interest BNL'ers:

- **Hourly labor rate** — Friendly Gulf's is \$17.99.
- **Full guarantee** — Unless otherwise specified on the repair order, all labor and parts are fully guaranteed for a period of six months or 6,000 miles, whichever comes first. Friendly Gulf also offers a full refund if the problem is not corrected after a second attempt. In the event of a breakdown resulting from defective parts installed or labor performed at the station, Friendly Gulf provides free towing to the station from anywhere in Queens, Nassau or Suffolk counties.
- **Detailed invoices** — On all customer invoices, including those for "packaged-price" work, Friendly Gulf shows separately the number of hours and cost of labor, as well as individual descriptions and prices for parts and materials.
- **Credit cards** — VISA, Mastercard and Discover are all accepted with no additional charge.
- **Express service** — For the convenience of employees who can leave their vehicles at the station for only part of the day, Friendly Gulf reserves a dedicated service bay for express service.
- **New equipment** — Friendly Gulf's services have expanded with two new pieces of state-of-the-art equipment: a computerized diagnostic unit and a fully automatic air-conditioning evacuation and recharge unit.
- **Possible clinics** — If there is sufficient employee interest, Friendly Gulf will offer clinics on basic car maintenance and emergency breakdown procedures. Anyone interested should call station manager Charles Baldwin, Ext. 4034.



1989 — One for the Record Books

If, during 1989, you found yourself saying, "Boy, it's rained a lot this year," or "This must be the coldest December on record!" — you're right on both counts.

At the Lab, 1989 was a true record-setter. BNL meteorologist Bob Brown of the Department of Applied Sciences' Atmospheric Sciences Division compiled these records from data collected at the Lab since 1949:

- **Most rain for a year** — With 68.66 inches, 1989 easily broke the previous record of 63.84 set in 1983.
- **Most rain for May** — 10.47 inches fell in 1989's fifth month, drowning out 1984's record 8.08 inches.
- **Most snow for November** — That 7.5 inches was unusual for Thanksgiving! Previously, 1967 and 1968 tied for the record of 3.8 inches.
- **Lowest mean temperature for December** — At 23.9°F, it surely was the

coldest December on record. The previous low of 24.3°F came in 1958.

- **Lowest mean maximum temperature for December** — Even the highs were low, as 1989's record-setting 32.8°F shows. It was a full degree warmer in the next coldest December, 33.8°F in 1955.
- **Highest number of heating degree days for December** — the record of 1,273 is surely reflected in your fuel bill; the previous record of 1,263 was set in 1958.
- **Maximum temperatures set** — 1989 saw the hottest February 1 on record — 62.0°F. Other hottest days were July 26, 93.0°F; August 4, 91.0°F and August 23, 88.5°F. Records were tied on March 18, 63.0°F; March 29, 72.0°F; September 10, 91.0°F; and November 16, 65.5°F.
- **Minimum temperatures set** — The coldest February 25 on record was the 5.0°F that came last year. Other coldest days were November 23 and 24, at 9°F and 8°F, respectively. Records were tied on April 23, 25.0°F, and April 27, 46.0°F.

Services Anniversaries Remembered With Smiles



Roger Stoutenburgh

Accelerator Development Department (ADD) staff who celebrated ten, 20 or 30 years of Lab service in 1989 were guests at a reception in the Collider Center recently hosted by ADD Chairman Eric Forsyth (front, center).

The celebrants were: (back row, from left) Lawrence Welcome, Kenneth Morton, John Tradeski Jr., John Biggs, Arthur Greene; (middle row, from left) Alcide Viotto, James Briggs, Michael Nekulak, William Carapezza, George Sintchak, Donald P. Brown, Henry Strelecki, Robert J. Gibbs, Edward Weigand; (front row, from left) Roger Davis, Raymond Ceruti, Glenn Jochen, Diana Votruba, Vera Mott, Forsyth, Stephanie LaMontagne, Walter Doyle, Ronald Picinich, Albert Prodell and Sebastian DiMaiuta.

Absent from the picture: Carl Goodzeit, Louis Russo and Thomas Smith.



Peter Horton

Physics Department Chairman Peter Bond (front row, left) held a reception on December 13 for Physics personnel who celebrated major BNL service anniversaries during 1989.

The service-award recipients included: (front row, left to right) Victor Emery, 25 years; Mark Sakitt, 25; Dennis Weygand, 10; Carolyn Albert, 25; Barbara Nichols, 20; Salvatore Marino, 10; Kelvin Li, 25; (middle row, from left) Andrew Sandorfi, 10; Ottmar Kistner, 30; Ronald Gill, 10; Patricia Meehan, 25; Sandra Asselta, 10; Irving Feigenbaum, 40; Venetios Polychronakos, 10; Richard Lorenz, 30; August Hoffmann, 10; Edward Platner, 25; Peter Sikinger, 10; James Rutherford, 30; Michael Tannenbaum, 10; Craig Woody, 10; Thaddeus Kycia, 30; Peter Thieberger, 25; Leroy James, 20; Stephen Eiseman, 20; and Eugene Hassell, 20.

Leaving the Lab — After 35 Years or More

The Bulletin salutes those employees who are retiring with 35 or more years of Laboratory service.

If you ask Walter Tremel why he is retiring, he says, "Old age." And if you think out loud that he looks rather young to be old-aged, he assures you that he looks "even younger with a hat!" With his hat off, however, Tremel will be 64 in March, and he has decided that after 38 years, it is time to quit work and start doing other things.

Tremel, a senior technical associate in the Department of Nuclear Energy (DNE), first came to the Lab on June 4, 1951. He and his wife Helen were both from Brooklyn, but they had decided to move to the country before starting a family.



Roger Stoutenburgh

Walter Tremel

"So we moved out here," says Tremel. "With no Long Island Expressway and no highways, there was a lot more country then. I got a job at the Lab and never wanted to go anywhere else. It's a wonderful place to work — nothing's ever routine."

Tremel joined the then Department

of Nuclear Engineering as a technician. While he waited to be cleared for classified work, he was placed in a non-classified area — up on the meteorology tower. "That was OK, though," he says, "I'd been in the Air Force and had a good head for heights."

Most of Tremel's work in the early days involved materials science testing at very high temperatures. Towards the mid-70s, he began working with superconducting materials at very low temperatures. "The basics were the same all through," he says. "My job is fashioning and fitting pieces and parts to make the experiments go."

His present job in DNE's Neutral Beam Division concerns radiation effects, and, like much of his work for the past ten to 15 years, has gradually become almost entirely dependent on computers. Says Tremel, "When you start working with electrons and protons, you have to have something that's a bit faster than you are!"

Tremel and his wife are going to remain in their Holtsville house — but they will not be "at home" for too long at a time. "Just visiting our children once in a while will keep us on the move," says Tremel. He explains that they have eight children, who range in age from 24 to 37 and are scattered all over the U.S. There are also two grandchildren and two on the way — so far.

Traveling will be different from the old days, when the children were home. "We used to go camping in a van, with a pop-up tent," remembers Tremel. "Ten in one tent is interesting, I can tell you!"

Although Tremel could have retired earlier, he decided to stay on until now because he enjoyed what he was doing. "You don't do the same thing every day," he says. "It's different. It's fun. I've been very fortunate and have worked for a lot of good people. It's been a happy time."

— Liz Seubert

John Axe

(cont'd)

materials and to show that such transformations can arise from vibrational instabilities.

• In working with high-temperature superconductors (HTSC), Axe and his company disproved an important assumption: The soft-phonon instability associated with a structural transformation in the first HTSC discovered was not strongly coupled to the conductivity, as was first thought. However, they went on to show that other, equally subtle phase transformations do have a profound effect on the superconductivity.

"We hope that these observations will provide an important clue to the ultimate understanding of the mechanism of HTSC," explains Axe.

As HFBR scientific program head since 1988, Axe has been concerned with developing and seeking funding for new instruments for the HFBR. Designed to be updated, state-of-the-art versions of the HFBR's original,

nearly 25-year-old instrumentation, the pending devices would permit the HFBR's neutrons to be used into the 21st century to investigate the crystallographic and magnetic properties of materials.

"The HFBR's scientific users — myself included — are first looking forward to its resumption of operations and then to new instrumentation, which has been proposed for funding in 1991," concludes Axe.

— Marsha Belford

An Extravagant Evening Of Great Gospel Groups



The Exciting Stephens Singers — five sisters from Jersey City who have been singing together for 23 years — will come to Berkner Hall on Saturday, February 3, when they perform in the 9th Annual Gospel Extravaganza.

Also on the program will be Anthony G. Evans and the A.G.E. Ensemble, from New York City; the Magnificent Visions Gospel Singers from Wyandanch; soloist Maryanne McElroy of Riverhead; and the featured group from Brooklyn — Timothy Wright and his Concert Choir.

Sponsored by the Afro-American Culture Club in celebration of Black History Month, the traditionally sold-out concert will begin at 7 p.m. Purchase advance tickets for \$10 for adults and \$5 for children 11 and under from: April Donegain, Ext. 2459; Fran Ligon, Ext. 3709; Bruce Penn, Ext. 7213; or Mary Durham, Ext. 7143. At the door, tickets will be \$12 for adults and \$7 for children.

TID Demo Series

The third in a series of demonstrations about the Technical Information Division's (TID) data-base research services will feature DataTimes. It will be held on Wednesday, January 17, at 11 a.m., in the Computing & Communications Division conference room, Bldg. 515. All are welcome to attend.

DataTimes provides access to regional, national and international news sources including newspaper, newswire, magazine and financial data bases. The demonstration will feature "Congressional Quarterly Weekly Report."

"CQ Weekly Report" offers detailed coverage of Congress — status of bills, committee reports (with budget information), legislative proposals, priorities, decisions, people and presidential relations. CQ also covers the judiciary, national politics and interest group lobbying.

In addition, "CQ Weekly Report" tracks every major piece of legislation through Congress and provides a clear explanation of each bill along with historical background, the President's position, and the pros and cons of the issue involved.

Music for the Whole Family

Children's entertainer Viki Diamond will perform at BNL on Sunday, January 21, in a concert sponsored by the Upton Nursery School.

Diamond, who first delighted audiences at the Lab over ten years ago, provides entertainment for the entire family. Her songs and stories, accompanied by guitar, autoharp or hammer dulcimer, will begin at 1 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 suggested.

Those attending the performance can meet the teaching staff of the Upton Nursery School, a cooperative nursery school open to children of BNL employees and visitors. At the concert, applications will be distributed for enrollment in the school's classes for three- and four-year-old children.

For more information, call Kathy Hershcovitch, enrollment chairperson, 331-3785.

Addled Addresses

- Associated Unoversities, Inc.
- Brookhaven Nutt-Lab
- Brookhaven Nut Lab
- 2400 Uptown Road
Upton, NY
- Upton, NY 12401
- Brookhaven Nat'l Bank
- Brookhaven Nathaniel Lab
- Brookhaven Nat
or Current Resident
- Boork Havern Mat. Lab.
- Bokhaven National Laboratories
- Assoliated Universities, AINC.

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On The Menu

Lunch at the Cafeteria

Monday, January 15 —
Martin Luther King Jr.'s Birthday
 Snack bar service — 9 a.m. to 2 p.m.

Tuesday, January 16
 Soup: Chicken gumbo .75/.95
 Entree: Veal Parmesan w/veg. 3.10
 Entree: Chicken teriyaki over rice w/veg. 3.10
 Fitness fare: Marinated fish w/veg. 3.10
 Carvery: Roast beef 2.85
 Grill: Monte Cristo 2.85
 SPICE: Fresh vegetable bar

Wednesday, January 17
 Soup: Cream of tomato .75/.95
 Entree: Breaded pork chop w/veg. 3.10
 Entree: Shrimp w/red sauce & linguini 3.45
 Fitness fare: Beef bourguignon over rice 3.10
 Carvery: Corned beef 2.85
 Grill: BNL'er 2.85
 SPICE: Yogurt toppings galore!

Thursday, January 18
 Soup: Chicken rice .75/.95
 Entree: Moussaka w/veg. 3.10
 Entree: Cod fish filets w/veg. 3.10
 Fitness fare: Green peppers vegetarian w/veg. 2.95
 Carvery: Ham 2.85
 Grill: Reuben's brother 2.85
 SPICE: Picnic in January

Friday, December 8
 Soup: Seafood bisque .75/.95
 Entree: Lasagna w/veg. 3.10
 Entree: Chicken cacciatore over linguini 3.10
 Fitness fare: Fish Creole over Spanish rice 3.10
 Carvery: Turkey 2.85
 Grill: Tuna melt 2.85
 SPICE: Chili all ways

Dinner at the Brookhaven Center

Mon.: Meatball Parmesan hero w/french fries 3.45
Tue.: Shrimp boat with French fries & coleslaw 4.35
Wed.: Open-face sliced steak sandwich w/baked potato 3.85
Thu.: "Picnic in January Special" — barbecued chicken w/coleslaw, corn on the cob, dinner roll 3.10
Fri.: Broiled flounder fillet w/rice pilaf 3.75

Arrivals & Departures

Arrivals

John J. Guido Plant Eng.
Departures

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

John J. Najdzion Jr. Physics

Bowling

Pink League

Renie Rosati had a 229/166, Debbie Keating 210/166, Fern Simes 173, Pat Meehan 167.

Red/Green League

L. Schairer had a 215, L. Jacobson 214, R. Eggert 213, A. Sauerwald 211, N. Parrinello 210, B. Kain 209, R. Mulderig 206/200, C. Bohnenblusch 206, A. Warkentien 206, K. Riker 205, J. Ferrante 204, H. Arnesen 203.

White League

John McCarthy had a 212, Ken Riker 211, John Niemczyk 205, Joe Mayeski 202, Pete Stelmachuk 201, Caryl MacDougall 200, Joyce Pinelli 185, Lynne Warkentien 183: The Alley Cats were the winners of the first half.

Purple League

Gail Schuman bowled a 208, Skelly Frei 204, Kurt Jellet 204, Ed Sperry IV 203, Nancy Erickson 189, Cheryl Miezianka 188, Clem August converted the 4/6 split. First-half winners were the Diamonds.

Scotch Doubles Tournament

The Scotch Doubles Tournament will be held on Sunday, February 25, at 1:30 p.m., at the Port Jeff Bowl. The cost of \$20 per couple includes bowling, food and prizes. Each team consists of two people, one male and one female. The tournament is open to BNL employees and immediate family members. Applications are available at the BERA Sales Office. If you need a partner or have any questions, contact Donna Cunningham, Ext. 4599, or Maryann Reynolds, Ext. 5234.



Do you have a talent for dancing or singing? Do you know someone who's a class comic or a marvelous magician? You and your friends — whether talented BNL employees or talent from outside the Lab — all have a chance to be discovered at the BNL Talent Show to be held in Berkner Hall on Saturday, February 17, at 7:30 p.m.

The show will feature a variety of talent in the interpretative and creative arts. Those wishing to take the Berkner stage by storm should call Fran Ligon, Ext. 3709. The deadline for entries is Friday, January 26.

TEX Users Group

The organizational meeting of the TEX Users Group will be held on Wednesday, January 17, at 2 p.m., in the seminar room of the Computing & Communications Division, Bldg. 515. For more information, call Fern Simes, Ext. 3969, who coordinates TEX usage on site within the Mathematical Sciences Division of the Department of Applied Science.

PSI Meeting

The next meeting of Professional Secretaries International (PSI) will be on Wednesday, January 17, at 6 p.m., in the Brookhaven Center's south dining room.

Mountain Club

New Mountain Club officers Rich Casella and Larry Hoff will lead an organizational meeting at the Brookhaven Center on Wednesday, January 17, at 5:15 p.m. All interested employees should attend or contact Casella, Ext. 7975, or Hoff, Ext. 2194.

The club's first activity for 1990 will be the annual "Walk on Water" trek across the Great South Bay, tentatively scheduled for Saturday, January 20. Anyone interested should attend the meeting.

Volleyball

Wednesday, January 17, will be position night on Court I for League III, as follows:

- 5:30 - Bad Gnu & Turkeys
- 6:15 - Spikes & Turkeys
- 7:00 - Lethal Women & MISfits
- 7:45 - Renegades & Good Timers
- 8:30 - High Volley'em & Nutcrackers

Note to Diners

The Cafeteria will operate only snack bar service from 9 a.m. to 2 p.m. on Monday, January 15, as the Lab will be closed on Martin Luther King Jr.'s birthday.

Note to Employees:

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

Classified Advertisements

Placement Notices

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

Each week, the Personnel Office lists new personnel placement requisitions. The purpose of these listings is, first, to provide open placement information on all non-scientific staff positions; second, to give employees an opportunity to request consideration for themselves through Personnel; and, finally, for general recruiting purposes. Because of the priority preference policy stated above, each listing does not necessarily represent an opportunity for all candidates. As a guide to readers, the listings are grouped according to the anticipated area of recruitment.

Except when operational needs require otherwise, positions will remain open for one week following publication date.

For further information regarding a placement listing, 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.

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside applicants.

4143. SAFETY ENGINEER POSITION - Requires BS in industrial hygiene, industrial safety engineering or electrical engineering and several years' experience having oversight responsibilities for a safety program. Will develop, administer and monitor various aspects of the NLS safety program. National Synchrotron Light Source Department.

Motor Vehicles & Supplies

88 HONDA ACCORD LXI - 4-dr., champagne, 34k mi., p/sunroof, loaded, nearly perfect, \$11,600. Don or Sue, 473-6570 after 7 p.m.

86 DODGE CHARGER - h/b, a/t, p/s, p/b, ac, asking \$3,300. Ext. 3160 or 289-5704 after 5 p.m.

86 CHEVY SPRINT - 5-spd., 2-dr., front-end damage, best offer. Joe, pager 0925 or 728-1859 eves.

86 TOYOTA SR-5 PICKUP - 4wd, 5-spd., ac, liner, \$7,500; '85 Honda Prelude, loaded, ac, 57k mi., \$9,500. Carol, Ext. 2895 or 475-8640.

85 NISSAN 200SX XE - h/b, 29k mi., ac, p/s, p/w, 5-spd., loaded, warranty, \$6,700. Bob, 744-4879.

84 EAGLE - 4wd wagon, a/t, p/s, ac, am/fm cass., 45k mi., clean, asking \$4,600. Ext. 2604 or 473-2473.

84 OLDS OMEGA - 2-dr., p/b, p/s, am/fm, ac, 67k mi., good cond., must see. \$3,000. Jim, Ext. 4606 or 654-5049 after 6 p.m.

83 DATSUN 280 ZX - turbo, loaded, excel. running cond., needs minor body work, \$1,500, take over payment, neg. 427-9132.

83 FORD LTD CROWN VICTORIA - midnight blue, new charging system, transmission & fuel injectors, mint cond., \$4,900. Gene, Ext. 5293.

83 NISSAN STANZA - 4-dr, h/b, 5-spd., m/t, ac, stereo cass. radio, 90k mi., new c/v joint & exhaust system, excel. cond. in & out. Marc, Ext. 2585.

81 HONDA CIVIC - s/w, 4-dr., 5-spd., excel. mech. cond., very low mileage, much room, \$1,200 or best offer. Ext. 2914 or 286-3742 eves. or wknds.

81 YAMAHA 650 MAXIM - 35k mi., king/queen seat, \$700 firm. Richie, 732-9118.

80 VOLVO GL - \$3,100. Mike, 665-4495.

79 CHEVETTE - 2-dr., excel. parts, runs badly, tranny, sunroof, has two of everything, \$150 or best offer. Pat, Ext. 2265.

79 OLDS CUTLASS WAGON - a/t, ac, basic transportation, best offer. Ext. 2604 or 473-2473.

78 MUSTANG - 2-dr., red, new mechanicals & interior, 91k mi., mint cond., \$2,200. Ginny, Ext. 4057.

73 VW BEETLE - yellow, m/t, runs, needs front-end work, asking \$500. Ext. 3811 or 744-4789.

70 BUICK SKYLARK - ac, p/s, p/b, body good, new tires, need muffler, 76k mi., asking \$800. John, Ext. 3821.

TIRES - mounted, 3 ea., 600-12 on '79 Honda Civic Rims, 2 snows & 1 reg., \$60; 1 ea., Jet radial, 13" on '80 Chevette rim, \$15. Don, Ext. 3511.

TIRES - 3, 195/75R14, one new, 2 w/plenty of tread, all on 5-hole wheels, \$100. Tony, Ext. 3658.

CENTER HUBCAPS - 2, for Corvette, late '60s-early '70s, \$25; trailer hitch for Wagoneer, \$20. Jim, Ext. 4452.

TIRES - mounted, P195, v.g. cond., make offer. George, Ext. 4144.

Furnishings & Appliances

RECLINER CHAIRS - 2, one beige, one dark brown corduroy, excel., \$100/each. Dorry, Ext. 2078.

TRUNDLE BED - w/6" mattress, v.g. cond., asking \$80. Pete, Ext. 7955 or 929-3847.

BEDROOM SET - Ethan Allen, white, 7 pieces, single bed, excel. cond., \$750. 286-1213 eves & wknds.

LOVE SEAT - plaid Herculean w/loose cushions, fair cond., \$25. 751-1884.

BEDROOM SET - maple, dresser, mirror, chest of drawers, twin headboards, nightstand, frame, \$350. Matt, Ext. 4216.

TABLE LAMPS - ceramic seascape w/seagull on pylons. 924-8558 after 5 p.m.

DESK CHAIR - \$10; woman's washable winter jacket, \$10; AT&T answering machine, \$20; stereo speakers, \$10/each. Kathy, 744-2203.

ROOM DIVIDER - oak & wood, 5 panel screen, can be wallpapered, painted, etc., excel. cond., orig. \$78, asking \$35. Kim, Ext. 4461 or 3694.

WATER BED - king size, waveless, 6-drawer pedestal, mirrored headboard, heater, \$400. Bob, 744-4879.

WALL OVEN - cooktop, Roper, coppertone, needs new ignitor, repair cost \$135, otherwise excel. cond., \$200/both. Margaret, 588-7989.

REFRIGERATOR - Admiral, 18 cu. ft., frost-free, good cond., \$75. Ext. 5177 or 689-5152.

WASHER - G.E., portable, good for apt., good cond. 924-8558 after 5 p.m.

MICROWAVE - Sears, 2 stages, large, auto probe, auto defrost, browning dish, excel. cond., \$115. 289-3808.

FREEZER - Amana, 16 cu. ft., upright, white, \$75. Bert, Ext. 5156 or 581-4436.

Tools, House & Garden

CHAIN HOIST - 1/2-ton & 3-h.p. electric air compressor w/tank & air tools. Ken, 331-1841.

METAL CUTTING LATHE - 14" swing, needs work, \$200. Dick, Ext. 3498 or 589-9103.

WOOD STOVE - Franklin, good cond., \$25. Tom, Ext. 4507 or 878-1060.

TOOLS - inch-drive truck tools, socket, braker bar, extension & ratchet, brand-new, \$175. Kim, Ext. 4461 or 3694.

Sports, Hobbies & Pets

DOG CAGE - large, used only 2 months, orig. \$110, will sell for \$45. 472-0690.

TENNIS RACKET STRINGING MACHINE - Rayco, portable, \$100. 589-0625.

FISH TANK - 20-gallon, \$20. 281-0889.

FISH TANK - 55-gallon w/stand & all accessories, like new. Mike, 878-0516 after 4:30 p.m.

SLED - Flexible Flyer, \$15; woman's 10-pound bowling ball & bag, \$45. Kathy, 744-2203.

SKIS - Elan 170-326 Solomon bindings, \$70; Hart 160 Tyrolia 230, \$60; women's, men's boots, sizes 7 & 8, 10 & 11, \$15 & \$35. Ralph, Ext. 4446.

LOVEBIRDS - pair, exotic colors, large cage, \$125. 744-3069.

FLUTE - Artley, \$200 or best offer. O. Booker, Ext. 3082.

CAMERA - 35mm, Yashica FX-70, new quartz, w/flash, \$200 firm. Richie, 732-9118.

Audio, Video & Computers

SPEAKERS - Boston Acoustics, 2, 2-way bookshelf speakers, like new, \$120. Ext. 4153 or 732-5829.

FILM PROJECTOR - antique, 8mm, Revere, w/reel, \$50; Bogen photo enlarger, good for 35mm negs; one lens, \$75. 924-8558 after 5 p.m.

ELECTRONIC TYPEWRITER - Brother, 16-character, LCD display, 70 keys, many functions, w/dc adapter, like new, \$80. Joe, Ext. 5477.

Miscellaneous

CHEESECAKES - & pies, for any occasion, reasonable prices. Bruce, 288-5294.

BABY'S FEEDING DISH - electric, like new, \$8. 589-0625.

DOLL - Goebel, 12" tall, boy in German costume, made in W. Germany, \$65. Ext. 2733 or 878-8491.

BABY CLOTHES - & accessories; maternity dresses, new & used. Annie, Ext. 331-7350.

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

HOLBROOK - new, 1-bdrm. apt., walk-in closet, l/r, full bath, eik, d/r, w/w, vertical blinds, cable, patio, priv. ent., near stores, \$700/mo. util. incl. Margaret, 588-7989 or 981-8582.

ROCKY POINT - small house suitable for one person, bdrm., kitchen, l/r, bath, 20 min. to Lab, near town, \$450/mo. + sec. Ext. 4697 or 744-9423 after 6 p.m.

SHIRLEY - 1-bdrm. apt., l/r, eik, full bath, w/w, priv. ent., working person or couple, \$575/mo. util. incl. 281-1840.

SHOREHAM - 1-bdrm. apt., full kitchen, bath, l/r, no pets, \$550/mo. incl. util., sec. 744-8659 or 744-0648.

SOUND BEACH - studio apt., full bath, kitchen, priv. ent., 20 min. to Lab, \$525/mo. incl. util., immed. occup. 821-8859.

STONY BROOK - share Colonial house w/professional, \$350 + util. Jim, Ext. 2183.

For Sale

JAMESPORT - Hallockville Estates, 3/4 acre, walk to Sound, terms avail., price neg. Kathy, Ext. 5312.

MASTIC - 3-bdrm. ranch, 1/4 acre, 1 1/2 baths, den, fin. bsmt., deck, appl., house fan, 3 ceiling fans, shed, fence, near school, shopping, 15 min. to Lab, ask. \$115,000. 265-2366 after 6 p.m. wknds.

MIDDLE ISLAND - Lake Pointe, 2 bdrms., l/r-d/r area, w/d, cac, gas heat, wood deck off master bdrm., pool, tennis, clubhouse, ask. \$78,500. Bob, 924-7316.

MIDDLE ISLAND - 3-bdrm. condo, 2 full baths, fenced, patio, tennis, pool, 6 mi. to Lab, \$107,000. Ext. 3922 or 878-2604 eves.

PATCHOGUE VILLAGE - waterview, 4-bdrm. Colonial, 2 baths, eik, fd/r, fam. rm., f/p, balcony, deck, carpet, appl., gar., 1/2 acre, walk to pool, trains, schools. Jan/Emily, 286-3623 or 475-0090.

ROCKY POINT - 3-bdrm. high ranch, l/r w/brick fp, cath. ceiling, d/r, large kit., 2 baths, bsmt., cac, deck, 2-car gar. w/elec. doors, beach rights, 0.34 acre, \$159,900. Kochman, 744-1057.

SAYVILLE - 3-bdrm. ranch, l/r w/tp, d/r, fam. rm., country kitchen, cac, pool w/deck, all vinyl siding, 80'x180' yard, fenced, \$165,000. Jim, Ext. 4696.

SELDEN - Village in the Woods, 1-bdrm. co-op, upper unit, eik, d/r, l/r, pvt. balcony, ask. \$75,000. 696-5386.

WADING RIVER - ranch, 3/4 bdrms., fd/r, 2 1/2 baths, eik, fam. rm., sun rm., deck, part fin. bsmt., dark rm., detached 2-car gar., \$229,000. 929-4631.

WEST SAYVILLE - 3-4 bdrm. ranch, 2 full baths, gar., cac, full bsmt., eik, d/r, l/r, w/w, fam./rec. rm., pvt. patio, Sayville SD, walk to Bay, \$149,500. 589-2681.

WEST SAYVILLE - 4-bdrm. high ranch, eik, l/r, d/r, 1/4 acre, 2-car gar., ac, gas heat, \$149,000. 499-8816.

YAPHANK - 3-bdrm. condo, 2 1/2 baths, fin. bsmt., wood floors, ac, 5 min to Lab., \$120,000. 751-2216.

TAMPA, FL - Paradise Village M.H.P., 1982 Liberty mobile home, 14'x56', 2 bdrms., 1 bath, family park, all appl., cac & heat, awning, shed, excel. cond., must sell. Glenn, Ext. 4638 or 477-8699.

Wanted

PERSONS - who are interested in NYC trips for culture, sightseeing, shopping. Harold, Ext. 4488 or 3203.

BABY-SITTER - for 8 mo. old, weekdays from 9:30-3:30, on-site or near the Lab preferred. Sue, Ext. 3388 or 744-8065.

PIANO TEACHER - reasonable rate, 2nd year adult student. Ext. 7897 or 282-3028.

In Appreciation

We would like to thank all of our friends at BNL for their support, caring and sympathy on the loss of our daughter, Dana. Particular thanks go out to the wonderful people in the Accelerator Development Department and the Computing & Communications Division. — Elaine & Ed Taylor