BROOKHAVEN BULLETIN
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BROOKHAVEN NATIONAL LABORATORY

Roger Stoutenburgh

Hong Ma

Hong Ma Wins SSC Fellowship

Hong Ma, an assistant physicist in BNL's Physics Department, is among 20 of the nation's outstanding young scientists to be honored with the first annual Superconducting Super Collider (SSC) National Fellowships.

Ma was notified of the award in an April 30 letter from SSC Laboratory Director Roy Schwitters, who wrote, "We are very pleased with the high caliber of the nominations that were received . . . The initial awards will indeed establish a high standard for future years of the program."

Ma is one of ten fellowship recipients who were named junior faculty members; the other ten are postdoctoral research associates. All will spend the next academic year working at their home institutions on scientific research related to the SSC.

With funding from the Texas National Research Laboratory Commission, the SSC fellows will receive full salary support to carry out this research, plus an allowance for travel and other research expenses.

In addition to continuing his work on SSC subsystem detector research and development, Ma said, "Since I have this fellowship, I think I will soon get involved with the EMPACT collaboration." EMPACT stands for Electron Muon Parton/Air Core Toroids — a unique concept for an SSC detector that is now being pursued by a consortium which includes several BNL collaborators and is headed by BNL Guest Physicist Michael Marx, State University of New York at Stony Brook.

Ma, who earned his Ph.D. at California Institute of Technology in 1988, came to BNL in January 1989. He credits Omega Group Leader Howard Gordon, Physics, with encouraging his application for the fellowship. "I think it will provide me with a learning opportunity and a chance to contribute to the SSC program going on at BNL," he said.

Coming Up

The 1990 NSLS Annual Users' Meeting will be held on Thursday and Friday, May 17-18, in Berkner Hall. It will be preceded on Wednesday, May 16 by four workshops on: calculational methods in XAFS analysis, the use of electronic area detectors for protein crystallography at synchrotron sources, the use of synchrotron radiation in the study of magnetism, and materials science x-ray research at high energies.

For workshop and meeting schedules, contact Linda Feierabend, Ext. 5763, Bldg. 725D.

Painless Bone-Lead Measurement: New BNL Method Called 'Breakthrough'

"An important breakthrough in the treatment and diagnosis of lead poisoning" is how Steve Marcus, a physician with the New Jersey Poison Information and Education System (NJPIES) describes the work of Keith Jones, Department of Applied Science (DAS); George Schidlovsky, also of DAS, and Richard Wedeen, Veterans Administration Medical Center (VAMC), East Orange, New Jersey.

Their six years' research with radioactive sources and the x-ray microprobe at BNL's National Synchrotron Light Source (NSLS) has yielded in vivo, tibial K x-ray fluorescence (XRF) — an accurate method of measuring the total concentration of lead in the bones of lead-poisoned patients. This technique is pain-free, noninvasive and considerably less expensive than conventional methods.

The technique has been used clinically by this group at the East Orange, New Jersey, VAMC, at NJPIES and, with Robert Bornschein and Paul Hammond, at the Department of Environmental Health, University of Cincinnati.

Acute lead poisoning often causes acute health effects. Although improved environmental regulations and health care over the last ten years have lessened the number of severe cases in the U.S., low levels of lead in the body are still a pervasive public-health problem.

"You can get it more easily than you'd expect," explained Jones. "For example, from an old water fountain, or from glasses, pottery or china decorated with lead glazes. Low levels of lead can result in permanent damage to the central nervous system and IQ, and can affect weight, growth and behavior, especially in very young children."

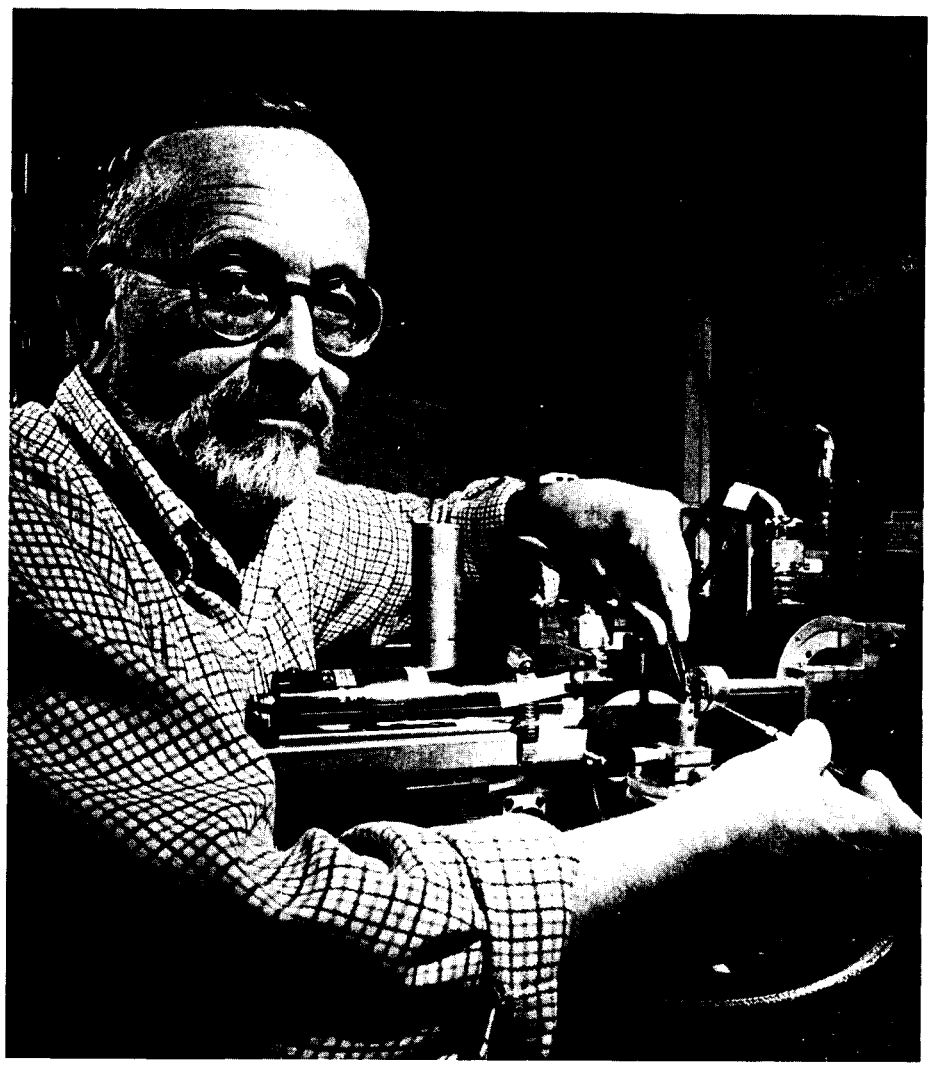
Also, most of the lead in the body is stored and concentrated over a lifetime in the skeleton. It is now believed that osteoporosis and menopause can cause dangerous amounts of lead to emerge from bones into the bloodstream. Long-term storage of lead in bone may also cause the later development of kidney disease and hypertension and their complications, such as heart disease and stroke. Recent research indicates that lead may become harmful at a lower threshold than has been generally accepted.

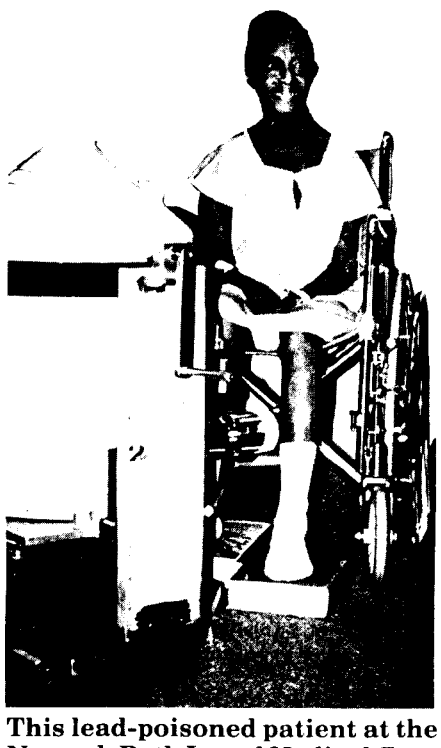
Lead Testing

Blood tests are a way to test for lead in the soft tissues of the body, but they reflect only recently absorbed lead. Total lead intake has to be measured by a chelation test, involving injections that remove lead from both bone and soft tissue — an uncomfortable and costly procedure.

But another technique could change that — the method of meas-

(continued on page 2)


Keith Jones —Photo by Stoutenburgh


This lead-poisoned patient at the Newark Beth Israel Medical Center in New Jersey is being tested with the noninvasive, in vivo tibial K XRF machine developed at BNL. Her bone lead concentration had to be measured to confirm her need for treatment and to monitor the treatment's success. Due to a medical complication, the conventional, chelation test for measuring bone-lead level was impractical in this case. Therefore, Steve Marcus of the New Jersey Poison Information and Education System asked the team of Keith Jones and George Schidlovsky of BNL, with Richard Wedeen, Veterans Administration Medical Center, East Orange, New Jersey, to test the patient with their machine, both before and after chelation therapy.

BNL Lecture: From Anthracite to Zeolite

If you are finding out what's in a comet's tail, then the question of how much lead is in a living person's bones may seem like a horse of a different color.

Yet these questions and more can be answered with different applications of a single technique. By developing this and other new investigative techniques, researchers can discover information that may widen horizons in a whole range of sciences.

This relationship between science and analytical methods will be the theme of the 260th Brookhaven Lecture, to be presented by Keith Jones, Senior Physicist in the Department of Applied Science, on Wednesday, May 16, at 4 p.m., in Berkner Hall.

In his talk on "From Anthracite to Zeolite — Elemental Analysis Using Photon and Ion Beams," Jones will briefly describe three investigative techniques used in experiments at BNL and elsewhere, and explore a few of their most interesting applications.

One technique that Jones will describe is the electron probe, which has been extensively used since the early 1950s. Coupled with today's computers, it has become a highly sophisticated method of obtaining quantitative elemental composition data, which also localizes each element — all at very high resolution. The limitations of the technique are that the specimen must be thin — less than a micrometer in thickness — to attain the best spatial resolutions, and it must be analyzed in a high vaccuum.

Jones will explain how, in the ion-beam technique, specimens are placed in the path of an ion beam, which interacts with the atoms in the sample. Characteristic radiation patterns are emitted, and researchers analyze them to identify the atoms of elements or isotopes, and then pinpoint the exact spatial location of atoms within the sample. Applications of this technique have included analysis of semiconductors and ocean particulates.

The same basic process is used in a third microprobe at the National Synchrotron Light Source (NSLS). Here, however, photons are used to ionize the atoms in the sample, which

(continued on page 2)

On the Radar

On May 3, representatives of the National Weather Service met with the U.S. Department of Energy's (DOE) Brookhaven Area Office to discuss the possibility of placing a Weather Service radar tower on the BNL site. The radar tower has been proposed for a federally owned parcel in West Sayville, and the Weather Service is also considering alternative sites.

Last week's meeting touched on several broad issues, such as the Weather Service's requirements for land and access to the site. DOE also requested technical, environmental and health data on the radar, in order to begin evaluating its potential impact on the Lab site and on BNL programs.

Both parties have agreed to further discussions on the matter.

Breakthrough (cont'd)

uring lead in living patients that Jones and the Instrumentation Division's Hobart Kraner, who worked on the early instrumentation of the project, started developing in 1980.

Said Jones, "Our technique makes use of the fact that approximately 90 percent of body lead is retained in the bone. We measure the lead content in the middle of the tibia — the shin bone, which is large and easily accessible — by detecting hard x-rays called K x-rays that are emitted by lead when it is ionized by photons. In the x-ray microprobe, the photons come from the NSLS, but in the portable machine we have now developed, they come from a radioactive source such as cadmium-109."

In the new technique, the K x-rays emitted by the bone lead are detected by a liquid nitrogen-cooled, germanium x-ray detector. The lead-to-calcium atomic ratio is deduced from the x-ray energy spectrum as accumulated in a multichannel analyzer. The absolute lead concentrations are calculated from the known calcium concentration in the bone.

"Because our technique relies on K x-rays, it has the advantage of sampling the bone to a depth of about two centimeters," said Schidlovsky. "Since lead is not distributed evenly throughout the bone, an accurate evaluation of average bone-lead content must be based on as large a bone volume as possible."

Technology Transfer Potential

Exhaustive tests show that the lead content indicated by the K XRF machine correlates well with results obtained from the chelation method, giving potential users confidence in the new technique.

The initial cost of building a K XRF instrument is about $100,000, but many more patients can be checked with it, each at much less cost than by the chelation test. A firm in New Jersey and the New Jersey Institute of Technology are now working on preparations to put the machine on the market for general use.

Said Jones, "With the advantages of the high intensity photon beams at the NSLS, we expect to be able to improve the accuracy of measurements even further. Now that so much is being discovered about the potential danger of low levels of lead in the body, it is still more important that cumulative past exposure, which is reflected by lead accumulation in the skeleton, be accurately measured." — Liz Seubert

Note to Employees:

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

Mother's Day 1990
Working Mother, Working Daughter

Patti Bender was the reason Arlene Clay had to quit her first job at BNL in 1958.

Twenty years later, Arlene Clay was the reason why Patti Bender applied for her first Lab job.

Now, Executive Secretary Arlene Clay, Plant Engineering Division (PE), is the reason why PE Quality Assurance & Training Engineer Patti Bender's typing gets done "fast and accurately. And, because she reads what she types and is good at grammar and vocabulary, she always makes sure it makes sense," says Bender. "She's always been very helpful and supportive — but that's my mom."

Since October 1988, when Bender switched desks with a PE colleague and moved from Bldg. 452 into 134, her mother has given her secretarial support.

"I'm the only one in the office she yells at," complains Bender, the oldest of Clay's five children.

"Yes, but you're my daughter — and the only one I work for who demands that everything is done right away," retorts Clay, who is secretary to PE's Administrator Edward Byrne. She also provides secretarial support to the Safety, Quality Assurance & Training Group headed by Robert Terwilliger, of which Bender has been a member since June 1988.

Women at Work

"In the beginning, I had a tough time asking my mother to do secretarial things for me," admits Bender. "I felt like I was invading her territory, taking over her space."

"But that's my job — service. I'm here to work for other people, so I had no problem doing Patti's work," responds Clay. "In fact, I'm pleased to do it — I've helped make her into the boss that she is, and I'm proud of her."

In Bender's present position, she develops and administers PE training programs, and writes PE's quality assurance procedures. Bender got her start at BNL, however, when her mother encouraged her to enter the lottery for temporary jobs that the Lab runs every summer for children of employees.

Then attending Suffolk Community College, Bender took her mother's advice — and won a summer job as a custodian. That fall, Bender kept the custodian's job during the day, but went back to school at night for her associate's degree, with the help of the Lab's tuition reimbursement program.

A few years earlier, Clay had applied for an electrician apprenticeship, but didn't get it. "When the apprenticeships opened up again, I told Patti to apply," states Clay.

Competing against seven other people for the one position, Bender was selected as the apprentice electrician, starting in July 1979. Four years and lots of on-the-job training and course work later, she emerged as an electrician A. Among her assignments, Bender worked at the National Synchrotron Light Source Department.

In 1984, Bender became the first pregnant BNL electrician. Expecting her first child and Clay's third grandchild, Bender was reassigned to the fire alarm & security group and worked until the Monday before the Tuesday in April 1985 on which she delivered her now five-year-old daughter Michele.

"In 1958, I would have liked to have worked through my pregnancy with Patti — but the Lab didn't let me," states Clay, who, after business school and a position with the FBI, was hired at BNL in January 1957 as a buyer's clerk trainee in what became the Lab's Contracts & Procurement Division. Back then, the Lab's policy did not allow women to work beyond their sixth month — they had to quit.

Roger Stoutenburgh

Patti Bender (left) and Arlene Clay

"I stayed seven months, until that June, because my boss had been ill and wasn't due back to work until then," she adds. Coincidentally, when Clay was obliged to quit her job, her mother, Marie Norris Gross, was selected from the Lab's secretarial pool to take Clay's place, and Gross worked at the Lab until November 1969.

Four more children later, Clay returned to the Lab as a PE secretary in May 1975.

From that October to October 1978, she moved up the ranks as an office services assistant. Clay was promoted to senior secretary the following year, then to secretary specialist in October 1982, and to her present position in October 1986.

Like Mother, Like Daughter?

"Whether she was working or not, my mother has always been there for us — encouraging us to do whatever we've wanted — but she's never lived through her children," comments Bender. "She has always had her own life and is close to my father — they're a very self-sufficient couple."

"My husband and I are lucky — all our children are content individuals who are independent and self-supporting, and they all lead very active, full lives," says Clay. "But Patti is much more like my mother than she is like me — she's very outgoing and assertive, and she takes charge, while I'm much more laid back, live-and-let-live."

"Though my mom and I are different, we're very much alike — we have the same goals, to be happy and make a contribution, even though we go about things differently. And we're friends. I just hope I can pass on the strengths that my mother has instilled in me to my daughter — and to this new kid," concludes Bender, whose second child and Clay's sixth grandchild is due in September.

— Marsha Belford

BNL Lecture (Cont'd)

then emits x-rays to give evidence of the elements present.

In 1982, Jones and his colleagues began to develop the probe for a new research program in the chemical sciences. In later years, they were joined in the project by a geochemistry group from the University of Chicago, headed by Joseph Smith, and including Mark Rivers and Steve Sutton. By 1988, the researchers had refined the NSLS probe into a unique analytical instrument — the collimated x-ray microprobe (CXRM) — that won an R&D 100 award as one of that year's most significant inventions, useful in geological, metallurgical and biomedical studies.

Each of the techniques has special advantages that complement the others under different conditions. Jones will show that the resulting research flexibility has provided opportunities for a wealth of applications: studies of catalysts; of corrosion and polymers; of coal and micrometeorites; and of the distribution of metals in bones.

Keith Jones earned his M.S. in 1951 and a Ph.D. in 1955, both in physics, from the University of Wisconsin, Madison. Four years as assistant professor at the University of North Carolina were followed by three years as research associate at Columbia University, then five years as assistant and, later, associate professor at Ohio State University.

In 1963, Jones joined the BNL staff as an associate physicist in the Physics Department. Apart from two years as a visiting scientist — 1968-69 at Oxford University, and 1973-74 at the Centre de Recherches Nucleaires, Strasbourg, France — he has been at the Lab ever since. Jones has led the effort in the Atomic and Applied Physics Group, first in the Physics Department and then in DAS. He is a Fellow of the American Physical Society.

Those interested in joining the lecturer for dinner at a restaurant off site should call James Reilly, Ext. 4502, or James Hurst, Ext. 7678.

Census at BNL

Enumerators for the U.S. Census Bureau will be at BNL for the next month, to gather statistical information on all housing units and on all individuals who were living on site on April 1, 1990. *This includes foreigners and U.S. visitors.*

The confidentiality of your answers is protected by a law, Title 13, which also requires your cooperation. The information gathered, which will be published as statistical abstracts, will have considerable importance to the community for planning social research and in determining election boundaries.

Arrivals & Departures

Arrivals

Charles Dimino.....Reactor
Elizabeth A. Hicks.....NSLS
Kenneth A. Kentoffio.....Plant Eng.
Joseph E. Perry.....Photo. & Gr. Arts
Bruce Thyberg.....Plant Eng.

Departures

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

Donald C. Murray.....Physics
Kenneth E. Robins Jr......AGS
David L. Weller.....DNE

Reducing FEL Wavelengths

Besides producing coherent radiation, being highly efficient and operating at high power, a free electron laser (FEL) is an intense source of light that, theoretically, can be tuned to any wavelength from the microwave to x-rays. In practice, however, researchers have had difficulty in making FELs emit coherent light, or lase, at wavelengths shorter than 2000 angstroms (Å).

The "Prospects for a 1 Å Free Electron Laser" were considered by nearly 35 researchers from BNL and other labs (see photo above) at a conference in Sag Harbor, on April 23-27.

Organized by Robert Palmer, Director's Office, and Juan Gallardo, Physics Department, the conference reviewed the theory and development of FEL technology: accelerators designed to produce beams of relativistic electrons, the energy of which is then converted into electromagnetic radiation; wigglers, which are magnet assemblies that produce undulatory magnetic fields causing electrons to radiate; high-brightness electron guns; and switched-power devices.

The conference proposed a three-step approach to achieve 1 Å: first, 1,000 Å in about three years, using present techniques; then 30 Å in about five years, using switched-power guns; and, finally, 1 Å in about ten years.

2nd Chance, 2nd Bus To U.S. Tennis Open

Since the bus trip to the U.S. Open at the National Tennis Center on September 4 is sold out, the Tennis Committee is thinking about sponsoring a second bus— this one for Thursday, August 30, day four of the tournament. If a sufficiently large number of paid reservations are made within the next two weeks, the committee will purchase the tickets.

The trip costs $31 per person, which includes the ticket for the day session and round-trip bus transportation. Paid reservations should be made at the BERA Sales Office. The bus will leave from the Tennis Court parking lot at 8:30 a.m. and make one or two stops at LIE Park & Rides. Departure from the National Tennis Center will be at 7 p.m.

There will be lots of good tennis on August 30, with plenty of action on the outer courts. Sign up soon and bring a friend!

Basketball

Semifinals, Round 2

Bulls 63		Scram 51	
P. Johnson	33	E. Gregory	16
S. Gilbert	17	J. Duggan	8
B. O'Brien	9	P. Lang	8
C. Victoria	4	S. Nappi	8
		T. Powers	7
		R. Diaz	4

Three-point shots: S. Gilbert (2), P. Johnson (3)

Warriors 82		Celtics 56	
T. Mayo	24	D. Hoggard	33
W. Cummings	17	J. Wells	7
G. Mack	13	A. Jones	4
C. Edwards	11	B. Turner	4
B. Gunther	7	R. Wells	4
S. Cramer	4	P. Bruhwiler	2
S. Springston	4	N. Schaknowski	2
A. Ratti	2		

Three-point shots: D. Hoggard (2), T. Mayo

Finals: Bulls vs. Warriors

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Stony Brook Events

The fifth annual International Theatre Festival at the State University of New York at Stony Brook includes six shows at the Staller Center, with all performances at 8 p.m. For ticket information, call 632-7230.

- ***Ghosts*** — The Abbey Theatre of Ireland offers a contemporary adaptation of Ibsen's classic drama; June 12-16.
- **Le Cirque Imaginaire** — Victoria Chaplin, daughter of Charlie Chaplin, and her husband, Jean-Baptiste Thierree, present "the greatest smallest show on earth" in its only New York appearance this year; June 19-23.
- ***Sheila's Day*** — Through two black women, one American and one South African, this new musical by the team that brought *Sarafina* to Broadway reveals how the struggle for freedom touches the individual's struggle to survive; June 26-30.
- **The Golden Dragon Acrobats & Magicians** — Balancing feats, magic comedy! July 5-7, with an added 2 p.m. matinee on Saturday, July 7.
- ***Romeo and Juliet*** — Roland Gift, lead singer of the music group Fine Young Cannibals, takes the title role in this modern staging of Shakespeare's tragedy of star-crossed lovers; July 10-14.

On the Menu

At the Cafeteria

Monday, May 14	
Soup: Chicken rice	.75/.95
Entree: Beef & pepper hero w/1 veg.	3.10
Entree: Fettucini Alfredo w/1 veg.	3.10
Fitness: Boneless breast of chicken w/herbs over rice	3.10
Carvery: Pastrami sandwich	2.85
Grill: Double bacon cheeseburger w/fries	2.75
Tuesday, May 15	
Soup: Lentil	.75/.95
Entree: Fried liver & onions w/1 veg.	3.10
Entree: Chicken Parmesan w/1 veg.	3.10
Fitness: Cheese & vegetable casserole	2.85
Carvery: Hot roast beef sandwich	2.85
Grill: Swiss & mushroom burger w/fries	2.50
Wednesday, May 16	
Soup: Chicken gumbo	.75/.95
Entree: Barbeque spareribs w/1 veg.	3.10
Entree: Meatball hero w/1 veg.	3.10
Fitness: Vegetarian green peppers w/1 veg.	3.10
Carvery: Hot corned beef sandwich	2.85
Grill: Tuna melt w/French fries	2.15
Thursday, May 17	
Soup: Tomato rice	.75/.95
Entree: Honey-dipped chicken w/1 veg.	3.10
Entree: Franks & beans w/1 veg.	2.85
Fitness: Seafood linguini w/1 veg.	3.10
Carvery: Baked Virginia ham	2.85
Grill: Reuben w/coleslaw	2.95
Friday, May 18	
Soup: New England clam chowder	.75/.95
Entree: Catch of the day w/1 veg.	3.10
Entree: Beef Stroganoff over buttered noodles	3.10
Fitness: Chef's special w/1 veg.	3.10
Carvery: Hot roast turkey w/cranberry sauce	2.85
Grill: Seafood nuggets w/French fries	2.95

Plant Sales Today

Marigolds for Mother's Day will be sold outside Berkner Hall today from noon to 3 p.m. Proceeds from the sale will benefit the Upton Nursery School. The on-site, nonprofit, cooperative school is open to three- and four-year-old children whose parent or relative is a BNL employee.

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Heart-shaped, lace-trimmed pillows and flowering plants such as geraniums are on sale today, from 11 a.m. to 3 p.m. in the parking lot on Brookhaven Avenue opposite Berkner Hall, where the Farmers' Market is held. Sponsored by the Caring Friends of Westhampton's Association for the Help of Retarded Children, the sale's proceed will be used help defray workshop deficits.

Bowling

Pink League

Renie Rosati had a 209, Pat Jencius 201, Maryann Reynolds 185, Donna Cunningham 182, Debbie Keating 180/174.

Red/Green League

C. Bohnenblusch had a 225, R. Jansson 224, E. Sperry IV 220, M. Guacci 215, G. Meinken 215, R. Jones 211, K. Batchelor 205, J. Muller 205/600 scratch series, L. Schairer 204.

White League

The Good Times are the first-place winners for the season with the Alley Cats taking second.

Purple League

The Diamonds are the first-place winners for the season with the Purr Haps taking second. Joe Ferrante had a 224, Jim Petro had 206 and converted the 4/6 split, Ben Belligan 205.

Flowers & Antiques: Art Society Bus Trip

On Saturday, June 16, join the BERA Art Society-sponsored bus trip to Delaware to see the glorious, 350-acre Longwood Gardens and the renowned antique furniture and gardens nearby at the Winterthur Museum.

The bus will leave BNL at 6:30 a.m. and return by about 10 p.m. The journey takes four hours — but it's worth it!

Bus tickets will cost $18.50 each; Longwood Gardens fees, $6 each; Winterthur Museum and gardens, $6.50 each. For more information and tickets, call Liz Seubert, Ext. 2346.

Golf Tournament

As the golf course requires the money one month in advance, the BGA is now accepting greens fees for the June 14 tournament at the Bethpage-Red Course. Anyone interested in playing in the tournament should assemble a foursome, if possible.

To play at Bethpage, send a check, not cash, by Friday, May 11, payable to the BERA Golf Association, to John Millener, Bldg. 510A, who is the tournament starter. The fee is $15 per person, or $60 per foursome. Hand deliveries will be accepted until 11 a.m. on May 14.

Microcomputer Club

The new Amiga 3000 Workstation will be featured at the next meeting of the Microcomputer Club, on Thursday, May 17, at noon, in the Computing & Communications Division seminar room, Bldg. 515.

The presentation and demonstration will be given by Ron Falbo of World Computers Inc., St. James. Called the "poor man's superCray," the Amiga 3000 Workstation has a 32-bit architecture powered by a Motorola 68030 processor, and eight customized chips to handle graphics and sound. For more details, call Irving Montanez, Ext. 2540.

It's Blatantly Unofficial!

Three new Blatantly Unofficial BNL Records have been reported recently:

Most people in the same group with the same wedding anniversary. Three BNL firefighters got married on the same day — May 14 — but in different years. Happy anniversary to Firefighter Rich Richard and his wife Donna, who will be married 30 years on Monday; Firefighter Russ Dunn and his wife Karen, who will celebrate 23 years together; and Firefighter Jim Jerry and his wife Pam, of the Reactor Division, who are about to enjoy their second anniversary.

— Richard Richard, Safety & Environmental Protection Division

Shortest time between births of babies to employees in the same department or division. Doreen Krage and Mary Ann Maggio, both of the Management Information Systems Division (MIS), both delivered their babies on November 14, 1989, a mere ten hours apart. To set this record, Krage's daughter Marina arrived ten days early, and Maggio's son Joseph George came ten days late.

— Karen Natoli, MIS

Greatest coincidence in BNL numerology. Bill Cahill's life number, 8554, contains the same numbers as his BNL automobile sticker, 5584.

— Bill Cahill, National Synchrotron Light Source Department.

If you can top that, or if you have another record to report, submit your entry on the form below, or a reasonable facsimile, and send it to the Brookhaven Bulletin, Bldg. 134. While all entries must have some relation to the Lab, the categories and superlatives are limited only by your imagination and experience — and whether the claim can be corroborated by someone else. A copy of the Blatantly Unofficial Record Book is available for inspection in Public Affairs, Bldg. 134.

Entry for "Blatantly Unofficial BNL Records"

(Please print) Name .....

Department ..... Ext. .....

Corroborator's name .....

Department ..... Ext. .....

Proposed record .....

.....

.....

Date proposed record was set .....

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.

LABORATORY RECRUITMENT - Opportunities for Laboratory employees only.

4226. TOOL and INSTRUMENT MAKER, GROUP LEADER (DAS Staff Shop) Central Shops Division.

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside applicants.

4227. CLERICAL POSITION - (part-time, evenings) Requires previous office experience, accurate typing skills and good communication skills. Previous library experience and familiarity with the Library of Congress or Dewey Decimal classification systems highly desirable. Duties will include photocopying and shelving of library materials. Technical Information Division.

4228. COMPUTER OPERATIONS POSITION - (temporary) Requires AAS degree in data processing, or successful completion of computer operations training program or equivalent experience. Will assist in the operation of a large electronic, digital computer. Shift work required. Computing & Communications Division.

4229. PROGRAMMING POSITION — Requires BS in computer science or a relevant field, 2-3 years' pertinent experience, and proficiency in FORTRAN and C. Will assist in the daily management and operation of the Protein Data Bank (PDB) computing system, which includes a graphics workstation. Will write and document software for use in PDB operations. Knowledge of VAX/VMS and UNIX is highly desirable. Chemistry Department.

4230. SYSTEMS ANALYST POSITION - Requires bachelor's degree, and an MBA is highly desirable. Also requires hands-on experience in the development of major business systems applications in an on-line processing environment and excellent communication skills. Experience in programming and knowledge of the application of fourth-generation languages preferred. Management Information Systems Division.

4231. ADMINISTRATIVE/SCHEDULING POSITION - Requires a BA/BS in business or accounting or its equivalent, several years' related experience, excellent communication skills and proficiency in LOTUS 1-2-3. Knowledge of cost/schedule control systems and/or PC-based scheduling programs highly desirable. Will be responsible for administration of scheduling and budget related to construction of a major scientific research machine. Duties will include reviewing and processing orders for the procurement and/or fabrication of equipment, and extensive coordination between Laboratory and outside staff. National Synchrotron Light Source Department.

Motor Vehicles & Supplies

89 HONDA ACCORD DX - white, a/t, low mi., assume lease; '88 Honda Accord LX, navy, 5-spd., low mi., fully loaded. 588-0302 or 862-7648.

88 HYUNDAI EXCEL GL - h/b, 3-dr., white, 4-spd., am/fm cass., excel. cond., $4,000. Debbie, Ext. 2876.

87 MAZDA 4x4 - new clutch, tires, alum. rims, sunroof, bed liner, alarm, extras, excel. cond., $7,700 neg. 281-7935 eves.

87 PROWLER TRAILER - 28', never driven on road, excel. cond., no reasonable offer refused. Diane, 567-6853.

86 SUBARU GL-10 - 4wd, turbo, 5-spd., s/w, loaded, 1½ yrs. unlimited mi. warranty, 80k mi., mint cond., $6,750. Henry, Ext. 4547 or 727-7227.

86 BMW 325 ES - black w/tan, 16.5k mi., a/t, alarm, extended warranty, dealer serviced, loaded, $16,000. 331-1288 after 6 p.m.

86 TOYOTA CELICA GT - all power, low mi., red/gray int., excel. cond., Ext. 4103 or 345-3923 eves.

86 TOYOTA PICKUP 4x4 - 59k mi., 5-spd., alarm, am/fm stereo, tinted, 31" tires, excel. cond., $5,995. Danny, Ext. 4988 or 286-8541.

86 NISSAN MAXIMA SE - V-6, 5-spd., power, ac, cruise, am/fm stereo cass., sunroof, alarm, 50k mi., $7,700 neg. Gary, Ext. 4532 or 369-8150.

86 HYUNDAI EXCEL - 5-dr., tan, 4-spd., high mi., excel. cond., $1,400. Mike, Ext. 7941.

85 SENTRA WAGON XE - m/t, ac, p/s, p/b, good tires, excel. cond., $2,000 firm. Ext. 4184 or 929-3347 after 6 p.m.

85 PROWLER TRAVEL TRAILER - ac, awning, jacks, sleeps 6, new tires, excel. cond., $6,800. Ken, Ext. 5363 or 286-1060.

84 CUTLASS SUPREME BROUGHAM - 6-cyl., full power, am/fm, ac, 68k mi., excel. cond. Irv, Ext. 2827 or 423-8384 eves.

84 RENAULT ENCORE - 2-dr., blue, 5-spd., am/fm cass., ac, new tires, good cond., $1,000 neg. 286-0913 after 6 p.m.

84 VW RABBIT GTL - 2-dr., new tires & trans., am/fm cass., black, excel. cond., $3,300. Andrew, 632-1966 afternoons.

84 HONDA PRELUDE - red, 5-spd., sunroof, cruise, am/fm cass., excel. cond., dealer maintained, must sell. Jim, 758-0393 after 6 p.m.

83 CHEVY S-10 PICKUP - 4-spd., long-bed, 67k mi., v.g. cond. 325-0447.

83 NISSAN SENTRA - 5-spd., ac, 84k mi., good running cond., asking $1,300. Bonnie, Ext. 2875.

82 CAMARO - Indy pace car, 49k mi., excel. cond., $4,500. Ed, Ext. 2674 or 924-7423.

82 PLYMOUTH RELIANT WAGON - a/t, p/s, p/b, ac, cruise, clean in & out, $1,200. 924-6129.

81 MERCURY LYNX - 4-cyl., a/t, am radio, needs carburetor, $300. Barry, Ext. 5624.

81 FORD GRANADA - runs well, small damage to left pass. door, $450. Kathy, Ext. 5830 or 3236.

81 DATSUN 310GX - h/b, 5-spd., am/fm, runs well, good commuter or kids car, $800 or best offer. Jeff, 727-5194.

81 FORD ESCORT - 100k mi., engine rebuilt 80k mi., good cond., $900. 363-6206.

81 KAWASAKI 440 LTD - new brakes, battery, chain, sprockets, tires, sissy bar, 12k mi., v.g. cond., must sell, $700. 474-5715.

80 DATSUN - 4-spd., am/fm cass., runs well, asking $650. Ext. 3537 or 399-4399.

80 DATSUN 510 - ac, a/t, $350. Ext. 5202 or 7284.

80 CHEVY CHEVETTE - 4-cyl., 4-spd., high mi., runs well. Walter, Ext. 4958 or 821-9451.

79 CHEVROLET SURBURBAN 4x4 - complete new brakes, a/t, overhauled, p/s, p/b, $3,000. 589-3372 after 4 p.m.

79 HORIZON TC3 - new battery & exhaust, body good, runs well, needs clutch, $350. Ext. 7707 or 821-0125 eves.

79 CHEVY MALIBU - a/t, ac, p/s, p/b, 100k mi., runs well, $650. Ext. 2616 or 751-5868.

78 COUGAR XR7 - 2-dr., gray, sunroof, good transport., $400 neg. Mark, 924-1561 after 3 p.m.

78 BUICK LESABRE - 4-dr., good transport., brown, $500 neg. Andrew, 632-1966 after 2 p.m.

78 FORD PINTO - s/w, 4-spd., am/fm cass., body excel. runs well, $300. Ext. 4504.

78 DODGE HONEY RV - 23', 400 c.u.i., 46k mi., fully equip., new radials, $11,500. Tony, Ext. 4095.

77 VIKING CAMPER - pop-up, 21', queen-size beds, elec., refrig., stove, etc., twin propane tanks, $800. Dan, Ext. 4987 or 698-7322.

77 PONTIAC FIREBIRD - T/A, 400 c.i.d., TH-350 worked motor & trans., body good, all add-ons for restoration, $3,700. Tim, 281-7873.

Boats & Marine Supplies

30' TRIMARAN - very fast cruiser, great windward ability, NACA/cross keel, auto pilot, refridge, roller furling Genoa, more, $8,500. 928-0770.

28' DORY CAPE SAILBOAT - 1975, includes cradle, Volvo diesel, fully equipped, great shape, $23,500. Roger, Ext. 2382.

24' C&C MIRAGE - 6 sails, rigged aft, new 8-h.p. Evinrude, painted, custom extras, immac. cond., ready for water, $8,500. Damian, 744-5079.

23' CHRIS CRAFT — new engine & canvas, mooring, cradle, great family & fishing boat, $4,200. 928-7734.

22' GLASTRON AVENTURA 225 - 1981, 185-h.p. Mercruiser I/O, FWC, low hrs., VHF, DF, swim platform, fully equipped, $8,500. Ed, Ext. 7943.

19' BAYLINER BOWRIDER - 1988, 125-h.p. Force, trim, am/fm cass., low hrs., full canvas, galv. Escort trailer, $7,500. Ext. 7125 or 929-8641.

19' PEN-YEN - 1969, w/1976 115-h.p. Johnson, Coast Guard pkg., rebuilt trailer w/elec. winch, many extras, excel. cond., $3,000. Vito, 243-2743.

18' GLASSPORT BOWRIDER - 1983, w/90-h.p. Evinrude, trailer, mooring cover, approx. 110 hrs., ask. $2,800. Chris, Ext. 2022 or 395-6112.

17' TOURING KAYAK - folding, for 2, accessories, $700 or trade for Hobie Cat. Jim, Ext. 4584.

14' BLUEJAY SAILBOAT - needs work, best offer or trade for Sunfish/Sailfish. Frank D., Ext. 2022 or 399-4480.

SUNFISH - 1974 hull, sail, mast, booms, rudder & daggerboard, 1986, used 1 season, daggerboard dolly, $850. 286-1097.

WELLCRAFT 250 NOVA — 1979, very clean, runs well, $9,350. Jack, Ext. 7527 or 281-4008.

Furnishings & Appliances

BEDROOM SET - $150; patio set, $125; entertainment center, $65. Ext. 7727 or 929-4631.

WATER BED - super twin w/6 built-in drawers, dark wood, good cond. Jerry, Ext. 7427 or 475-5591 after 6 p.m.

LANE HOPE CHEST - 20 yrs. old, needs refinishing, $75. Terri, Ext. 2484 or 689-9328 eves.

BEDROOM SET - full size, mattress & box spring w/headboard, 2 triple dressers w/mirrors & 2 night tables, asking $200. T. Farmer, Ext. 3288.

FUTON - twin size, 100% cotton-wrapped foam core, like new, w/cotton cover, orig. $150, sell for $60. 744-3744.

RACK - clothes, $10; black vinyl carry-on luggage, brand-new, 1 piece, $10. Susan, Ext. 7716.

VACUUM - Electrolux limited edition, $300; Sunbeam food preparation center, blender, stand, mixer, new, $100. 654-4661 eves & wknds.

FIREPLACE - gas operated, wall mount unit, black, $75. Chris, Ext. 2326.

BEDROOM LAMP - antique, crystal, $35; crystal pump liqueur bottle, $20; brass bunny, mouse, whale, $10/ea.; wall cherub, $10. Kathy, 744-2203.

AIR CONDITIONER - $50. Gene, Ext. 5614.

SHOWER DOORS - 1 silver, 1 gold, 30", Coral Braud, $55/ea.; antique princess dresser, oak, oval mirror, $475. Henry, Ext. 4547 or 727-7227.

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

DRESSER - mahogany, 8-drawer, traditional, $125. Allen, 286-2265 after 7 p.m.

REFRIGERATOR/FREEZER - Whirlpool, 18 cu. ft., almond, ice maker. Donna, Ext. 4103 or 689-9234.

BED FRAMES - 1 twin, 1 queen; fp screen; plastic floor runner; bamboo-style shade. Ext. 3309.

WATER CONDITIONER - Culligen Mark 89, 4 yrs. old, w/350 lbs. salt, good cond., asking $550. Ext. 7955 or 929-3847 eves.

REFRIGERATOR - Emerson, 4.2 F3, compact, $95. Xuan, Ext. 3677.

Tools, House & Garden

GENERATOR - $325; lathe, $300; power take off, $100; snatch block. $100. 289-0883.

ANNUALS - $11/flat; hanging fuschia & geranium baskets, $11; geraniums, $2.25; shrubs also available. Ken, 744-0722.

PLANER - Delta Rockwell, 4", w/stand & motor, $75. Ext. 7727 or 929-4631.

GLASS WINDOWS - all sizes, cheap. Ken, Ext. 4220.

BARBEQUE - gas, w/tank of propane, $25. Frank D., Ext. 2022 or 399-4480.

TREES - Japanese red maple, $10-$50. 265-6542.

CEMENT MIXER - 1/3 bag, electric, good cond., $100. Ext. 5490.

POOL - 12'x24'x4', ¾-h.p. pump, s/s sand filter, solar cover, you haul, $100. 286-1097.

DOORS - 29"x80", thermal, profiles, steel, white, 9-light cross hatch, w/o locks, $40/ea., 2 for $75. 475-6056 after 6 p.m.

WINDOWS - 2, thermal vinyl, w/fiberglass screens; 3 double hung; 3 fixed; 1 27"x46"; 3 24"x25"; 1 16"x20", $15/ea. 475-6056 after 6 p.m.

Sports, Hobbies & Pets

CAMERA - Nikon F 35mm SLR, w/Nikkor 50mm lens. Ext. 7727 or 929-4631.

CAMPING EQUIPMENT - backpack, external frame, $30; sleeping pad, eggshell foam w/ground cover, $12. Jack, Ext. 4447 or 744-3919 eves.

BIKE - Cannondale SR500, Shimano 105 components, Zefel pump, Avocet computer helmet, extras, excel., $375. Bill, Ext. 2377 or 698-1971.

GOLF CLUBS - Wilson 1200LT, metal woods, 1,3,5, hardly used, $75/all. Joe, Ext. 4661.

RADIO CONTROL - Airtronics, 4-channel, w/3 servos, charger, batteries, $75. Scott, Ext. 7578 or 924-1567.

BICYCLES - $15-$50; crib, $300; desks, $30-$50; living room set, $600. Ext. 3702 or 751-1042.

EXERCISE UNIT - Ajay, 4 positions, never used, excel. cond., $50. 929-3347 after 6 p.m.

COCKATIEL - young, healthy, w/cage, books & food, $75. 874-8978.

Audio, Video & Computers

POWER AMPS - Tecknics, #SE-A5MK2, 150W/CH, never used, list price $1,200, sell for $800 or best offer. Al, Ext. 3992 or 331-1003 eves.

TURNTABLE - Technics SL-1200 MK2, direct drive system, $375; Sony CDP-970 CD player, 8-times over sampling single, $300. Kevin, 325-0563.

SATELLITE DISH - receiver actuator, remote, motor needs work, reasonable. Ken, Ext. 5110.

MONITORS - Sanyo, color, 13" CGA w/CGA card, $200; Monochrome Prinston Max-12, w/graphics card, $100. Chris, Ext. 2326.

MODEMS - UDS 300 BD, two for $30; Pioneer SR-202W reverberation amp, used for recording or playback, $50. Chris, Ext. 2326.

COMPUTER - Tandy 1000TX, 20 meg hard disk, 640k ram, color mon., dot matrix print., software, IBM-PC/AT compatible, $1,200. Doug, Ext. 5857.

STEREO - $20; 2 small speakers, $10; 8-track tapes, $1/ea.; Lloyds stereo, $50; new VHS or BETA boxes, $2/ea. Kathy, 744-2203.

RECEIVER - Pioneer VSX-9500S, 125 w/p/c, Dolby Pro-logic surround sound, programmable remote, $500. Kevin, 325-0563.

GUITAR - electric, B.C. Rich Warlock, NJ series, w/case, $300. 698-8514.

Miscellaneous

NECKLACE - 14K gold, 16", double heart w/wings, 3 diamonds, was ankle bracelet, $75. Ext. 2733 or 878-8491.

CLOTHES - man's, new sports jacket, size 40, $20; wool sweaters, medium, $10/each; brown jeans, size 36, $10. Susan, Ext. 7716.

WEDDING GOWN - headpiece, veil, size 10-12, satin, heavily beaded, beautiful, must see, orig. $2,000, asking $400. 588-0302.

Free

BEAGLE - AKC registered, 1 year old. Wayne, 878-8459.

KITTENS - available in 3 weeks, live at BNL. Terri, Ext. 2484 or 689-9328 eves.

KITTENS - born March 21, need loving home. 563-2655, leave message for Loretta.

Yard & Garage Sales

RIVERHEAD - Sat., May 26, 10-4 p.m., rain date 5/27, antiques, tools, kids' stuff, 7 Sebastian Dr., north of Sound near Roanoke.

Car Pools

BABYLON - new car pool needs one or two drivers. Ray, Ext. 3680.

MORICHES - need ride, 7-4:30 p.m. Ext. 3084, 878-0744.

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 VILLAGE - 1-bdrm. apt., kit.-l/r combo, full bath, w/w carpet, nonsmoker, no pets, $675/mo. inc. all + 1 mo. sec. Jim, 758-0393 after 6 p.m.

BROOKHAVEN HAMLET - 3-bdrm. house, quiet lane, 2 baths, l/r, d/r w/fp, $925/mo. + util. & sec., avail. 6/1. J. Barry, Ext. 7607 or beeper 0830.

BROOKHAVEN HAMLET - 3-bdrm. house, furnished, nice neighborhood, d/r, large and smaller l/r, eik, laundry room. 475-1000, 286-1253 or 286-9581 after 6 p.m. and weekends.

CALVERTON - 2-bdrm. townhouse, 2½ baths, w/w, appl., patio, deck, $750. 878-0874 after 5 p.m.

FARMINGVILLE - 1-bdrm. cottage, cathedral ceiling, OHWH, carpeting, modern kitchen, bath, detached gar., $675/mo., avail. March 1. Chuck, Ext. 5327 or 698-9489 eves.

HOLBROOK - 1-bdrm. apt., l/r-kitchen combo, priv. ent., separate bathroom, $675/mo. incl. all. A. Romano, Ext. 4024.

LAKE RONKONKOMA - 1-bdrm. apt., eik, l/r, bath, priv. ent., own thermostat, cable, w/w, ½ mi. LIE, 1 mi. LIRR, 20 min. BNL, $650/all, 1 mo. sec. 588-2477 after 5:30 p.m.

MASTIC BEACH - 3-bdrm. house to share w/2 other professionals, $400/mo. incl. heat, electric and cable, 15 min. to Lab. Jonathan, 395-5221.

MEDFORD - 1-bdrm. apt., priv. bath, priv. ent., microwave, small refrig., no children, no pets, nonsmoker, $100/wk. + sec. 475-7250.

PORT JEFFERSON - 1-bdrm. apt., large kit., l/r, gar., hardwood floors, deck off kit., walk to village, avail. immed. Steve, Ext. 5567 or Vinnie, 473-7474.

RIDGE - furnished room, kitchen privileges, share bath, nonsmoker, $80/wk., 1 month's sec., avail. July 15. 929-4910 after 6 p.m.

RIDGE - new 1-bdrm. apt., full bath, l/r, w/w, cable, priv. ent., 5 min. to Lab, mature working person, $550/mo. incl. all, + 1 mo. sec. Mike, Ext. 7625 or 924-0341.

SHIRLEY - 1-bdrm. apt., l/r, eik, full bath, 15 min. to Lab., mature working person, $575/mo. incl. all, + 1 mo. sec. 281-1840 after 5 p.m.

SOUND BEACH - 2-bdrm. house, MP School District, nice location, $875/mo. + 1 mo. sec., avail. June. Erik, Ext. 4603 or 929-6945.

For Sale

CALVERTON - 2-bdrm. townhouse, all appl., two decks, 1½ baths, l/r, d/r, kitchen, fp, no closing costs, assume mortgage $86,000, caught between 2 homes. 369-4129.

CENTERPORT - 220' waterfront on Northport Harbor, 4-5 bdrms., 4 baths, 0.6 acre, dock, $625,000. Bob, Ext. 4044 or 261-3890.

CENTEREACH - 4-bdrm. hi-ranch, l/r, d/r, eik, 2 full baths, fam. rm. w/fp, deck, pool, fenced yard, $143,900. 698-8514.

EAST MORICHES - large, renovated farmhouse, century old, many rooms and extras, near water, boating, large plot, $235,500. 878-2452.

EAST SETAUKET - 4-bdrm. ranch, fin. bsmt. w/cedar closet, large l/r w/fp, den, d/r, 1 bath, lawn sprinklers, deck, $159,900. Tom, Ext. 5265.

MANORVILLE - 3-bdrm. Colonial, d/r w/cath. ceiling, skylights, solar panels, barn, fp, w/w, sprinklers, gar., igp, 1¼ acres, cul-de-sac, South Manor School; $171,900. 878-4265.

MATTITUCK - 3-bdrm. house, 1½ baths, fin. bsmt. w/fp, bar, ¾ acre, low taxes, $139,000. 298-8537.

MIDDLE ISLAND - Coventry Manor, 3-bdrm. townhouse, 2 baths, kit., l/r, d/r, laundry rm., cac, 5 appl., patio, pool, tennis, carpet, ask. $102,000. Rosalie, Ext. 3160 or 289-5704 after 5 p.m.

MIDDLE ISLAND - Lake Pointe, 2 bdrm., cac, all appl., w/d, l/r-d/r area, gas heat, wood deck off master bdrm., pool, tennis, clubhouse, main. fee 85% tax ded., ask. $77,500, neg. Bob, 924-7316.

PATCHOGUE - two-family high ranch, near everything, income property, 15 min. to Lab., big lot; $153,000. 758-9835.

PORT JEFFERSON STATION - 4-bdrm. Colonial, 1½ baths, l/r, d/r, Euro kitchen, bsmt., garage, den, oak floors, deck, fenced yard, igp, ask. $153,000. 474-4470.

RIDGE - 2-bdrm. duplex, 1½ baths, eik, cac, w/w, all appl., 5 min. to Lab, $79,900. Erik, Ext. 2437 or 924-2898.

RIDGE - 3-bdrm. townhouse, 1½ baths, cac, w/w, all appl., upstairs newly carpeted, encl. redwood patio, storage room, low monthly main., 5 min. to Lab. Mary, 924-4328.

RIDGE - 3-bdrm. hi-ranch, l/r w/cathedral ceiling, eik, full bath; down, l/r, bdrm., kitchen, full bath, oversized 2-car gar., gas heat, all appl., min. to Lab., $135,000. 744-0345.

YAPHANK - 3-bdrm. condo, 2½ baths, fin. bsmt., wood floors, ac, 5 min. to Lab., $120,000. 751-2216.

COLLINGTON HARBOR, NC - waterfront lot, deep-water canal, 50'x150' bulkhead, 24-hr. sec., Olympic-size pool, tennis, marina ramp, more. Ralph, Ext. 4446 or 744-4625 after 5:30 p.m.

HOMMASSA, FL - 2½ acres off Rte. 19, west coast, $15,000. 281-5565.

Wanted

HOUSE TO SIT - free, experienced, reliable, any period after May 15, enjoy peace of mind while on vacation. J. Allentuck, Ext. 2412.

TI-99-4A COMPUTER - for parts. Bob, Ext. 2104.

MONITOR - for Commodore computer. Carol, Ext. 3315.

CHILDREN'S & MATERNITY CLOTHING - gently used. Susan, 929-3759.

PUMP SACKS - 1 set & scaffolding. Ken, 331-1841.

WOMEN - for BNL mixed softball league, no experience necessary. Bob, Ext. 3782 or Steve, Ext. 2496.

CANOE - used. Dan, Ext. 4597.

QUEEN-SIZE BED - Kathy, 744-2203.

CD REPAIR - someone to fix my CD player, will pay reasonable amount. Andrew, 632-1966 afternoons.

CANOE - inexpensive, used, suitable for an adult and 2 children. Rich, Ext. 7013.

HOUSING - for 2 research students, May 20-Labor Day, will house sit or pay $450/mo. rent., must be within 12 miles of Lab. Sharon, Ext. 4923.

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