BROOKHAVEN BULLETIN
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BROOKHAVEN NATIONAL LABORATORY

Neutron Studies Brew New Alloys

Roger Stoutenburgh

Good coffee — the secret ingredient of many successful workshops — can now be brewed hotter and more quickly when the coffee machine is made of a new alloy.

And major contributions to the alloy's development were the result of research at the High Flux Beam Reactor (HFBR).

Conducted under the sponsorship of the U.S.-Japan Cooperative Program on Neutron Scattering, this research was discussed March 14-16, at a BNL workshop on "Neutron Studies of Martensitic Phenomena."

The U.S-Japan program was established ten years ago between the Institute of Solid State Physics of the University of Tokyo and the U.S. Department of Energy (DOE), when the Japanese agreed to construct a new, state-of-the-art, neutron triple-axis spectrometer at the HFBR for joint use by the two countries. Since the instrument's completion in 1985, over 120 publications have resulted and approximately 75 Japanese guest scientists have visited BNL to carry out joint research projects.

Martensitic transformations are the structural rearrangements of atoms in materials under varying conditions. The HFBR neutron experiments on martensitic transformations helped in the understanding of how certain alloys can return to their original shapes after being deformed or stretched due to changes such as temperature or stress.

These attributes of shape memory and super-elasticity are already being used commercially in a wide range of applications, such as coffee makers, air-conditioner flaps, eyeglass frames and orthodontic wire.

The many new possiblities emerging from martensitic investigations drew metallurgists as well as physicists to the workshop. Among the 40 attendees were: (back, from left) Yasuhiko Fujii, University of Tsukuba; Simon Moss, University of Houston; workshop co-organizer Stephen Shapiro, BNL; Gen Shirane, BNL; (front, from left) workshop co-organizer Yasusada Yamada, University of Tokyo; Donald Stevens, DOE; Yukio Noda, Chiba University; James Krumhansl, Cornell University; and John Axe, BNL.

Haworth Distinguished Lecture
Free Electron Lasers

Andrew Sessler

For over a decade, advanced methods of accelerating particle beams have been a main research interest of Andrew Sessler. He was Director of Lawrence Berkeley Laboratory (LBL) from 1973 to 1980 and now continues his research on plasma physics and accelerator physics as an LBL senior scientist.

Sessler will share this interest with the BNL community this month, as he spends two weeks in residence as a Haworth Distinguished Scientist, the first from the National Synchrotron Light Source Department.

On Wednesday, April 10, Sessler will give a Labwide lecture on "Free-Electron Lasers: Present Status and Future Prospects," at 4 p.m. in Berkner Hall. A reception will follow the talk.

Later, on Friday, April 19, Sessler will give a more technical seminar on "Using a Plasma as a Palette: Various Techniques for Frequency Shifting an Electromagnetic Wave," at 1:30 p.m. in the NSLS Seminar room, Bldg. 725.

(continued on page 2)

Coming Up

Scientist Robert Sweet, Biology Department, will present the next Brookhaven Lecture on Wednesday, April 17, at 4 p.m., in Berkner Hall. His topic will be "Making Protein Structure Crystal Clear."

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Arthur Rosenfeld, Professor of Physics at the University of California, Berkeley, and Director of the Center for Building Science at Lawrence Berkeley Laboratory, will present an AUI Distinguished Lecture in two parts on Thursday, April 18, and Friday, April 19. On both days, Rosenfeld's talk on "White House and State House Versus Greenhouse: 'No Regrets' Responses to the Threat," will begin at 4:30 p.m. in Berkner Hall.

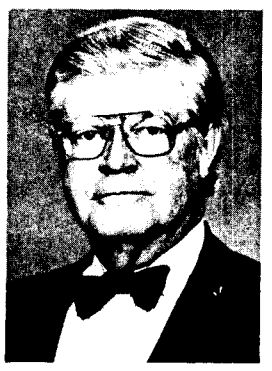
Note to Employees:

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

Ceremony Next Week to Mark Start of RHIC Construction

Construction of BNL's Relativistic Heavy Ion Collider (RHIC) will officially get under way with the "Beginning of Construction Ceremony" scheduled for next Friday, April 12 — and you're invited!

Employees, retirees and Lab visitors are all welcome to attend the event which will begin at 11 a.m. atop the RHIC ring, overlooking the Collider Center, Bldg. 1005.



D. Allan Bromley

The keynote speaker will be the President's Science Advisor, D. Allan Bromley. Formerly of Yale University, Bromley headed the RHIC Policy Committee until he assumed his current post. The ceremony, which is expected to last about one hour, will culminate with the symbolic delivery of the first RHIC magnet.

Others expected to speak on this occasion are: Senator Alfonse D'Amato; Wilmot Hess, Associate Director of the Office of High Energy & Nuclear Physics in the U.S. Department of Energy's Office of Energy Research; Robert Hughes, President of Associated Universities, Inc.; Congressman George Hochbrueckner; and Suffolk County Executive Patrick Halpin.

Alfonse D'Amato

That afternoon, beginning at 1:30 p.m., everyone is welcome to tour the RHIC facilities, including the Major Detector Hall at the 8 o'clock area of the ring and part of the accelerator tunnel.

For both the morning ceremony and the afternoon tours, bus transportation will be provided for those who choose not to walk. Employees, retirees and visitors are asked to avoid driving to keep traffic in the area of the ceremony to a minimum.

Starting at 10:30 a.m., four school buses will begin picking up passengers in a loop that will include Berkner Hall, Accelerator Development Bldg. 902, AGS Bldg. 911, Physics Bldg. 510, and NSLS Bldg. 725. Return transportation will be provided at the ceremony's end. Pickup for the afternoon tours will begin at 1:30 p.m. and continue until 3:30 p.m.

Precise Surface Measurements Set New Standards

The bad news is that long-planned scientific programs have been considerably slowed down or stopped due to blurred data given by the $1.8-billion Hubble Space Telescope's defective mirror.

The good news is that technology developed at BNL by Peter Takacs, Instrumentation Division, in collaboration with Eugene Church, of the Army Armament RD&E Center in New Jersey, makes it very much easier to obtain flawless checks of such mirrors and other surfaces — and has been used to set new standards for specifications for the surface texture of optical surfaces.

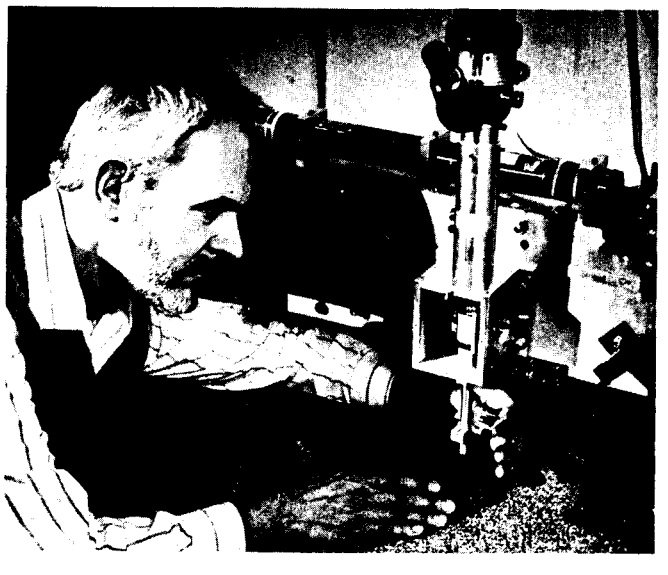
Takacs and Church embodied the new technology in two instruments — the Long Trace Profiler and the WYKO NCP-1000. Also working on the Long Trace Profiler was Shinan Qian, formerly of Instrumentation and now back at the University of Science and Technology in China.

Profiling the Profiler

The Long Trace Profiler checks curved or straight surfaces up to one meter in length, with accuracy measured in billionths of a meter. It can show up a surface-level change as minute as a pencil lead would appear at the far end of a football field. It measures mirrors and materials such as fused silica that may seem smooth but really have "fractal" surfaces, that is, a random height profile that looks the same under low or high magnification.

A Long Island firm has developed a commercial model of the Long Trace Profiler, which was patented by Takacs and Qian. Two commercial instruments are already being used

(continued on page 2)



Peter Takacs installs a cylinder lens into the beam from the Long Trace Profiler, which is ideally suited to measuring the surface of large cylindrical mirrors such as those used at the National Synchrotron Light Source.

Photo by Roger Stoutenburgh

Haworth Lecture (cont'd)

In a free electron laser, a beam of relativistic electrons passes through a static periodic magnetic field, amplifying a coherent, or single-phase optical wave and thereby producing a powerful beam of coherent light.

In his lecture, Sessler will discuss the concept, potential and impact on science of free electron lasers in the infrared to the ultraviolet region of the electromagnetic spectrum and beyond. The key advantage of free electron lasers is that they are tunable, allowing researchers to choose the wavelength needed for an experiment.

Sessler received his A.B. in mathematics at Harvard University in 1949. He earned his M.A. in 1951 and Ph.D. in 1953 from Columbia University, both in theoretical physics. In the 1950s and 1960s, he was a leading figure in the development of radiofrequency theory and the theory of beam instabilities. He has also made significant contributions to the development of power sources for colliders and of new accelerating methods for colliding beams, such as the two-beam accelerator concept.

Currently chairman of the American Physical Society's (APS) Panel on Public Affairs, Sessler is also devoted to work on human rights. He chaired the APS Committee on International Freedom of Scientists in 1982 and is now vice chairman of the Federation of American Scientists.

A 1970 recipient of U.S. Department of Energy's E.O. Lawrence Award, Sessler is a Fellow of the APS and of the American Association for the Advancement of Science. He is also on the Board of Directors of Associated Universities, Inc.

Service Awards

The following employees celebrated BNL service anniversaries during the month of March:

Thirty-Five Years

Harold W. Marshall.....Biology
Louis K. Potter Jr.....Comp. & Comm.
Allen J. Weiss.....Nuc. Energy

Thirty Years

Francis W. Drell.....Instrum.
Helen L. Masem.....Plant Eng.

Twenty-Five Years

James A. Goode.....Sfgrds. & Sec.
Eugene A. Kern.....Cent. Shops

Twenty Years

John M. Nicolellis.....AGS
Joyce L. Tichler.....App. Science

Ten Years

Sharol Busby.....Sfgrds. & Sec.
Diane E. Cabelli.....Chemistry
Helmer Emos.....Medical
Linda J. Hanlon.....Nuc. Energy
James M. Johnson.....Sfgrds. & Sec.
Ralph E. Vega.....Sfgrds. & Sec.

Arrivals & Departures

Arrivals

Nathaniel Foster.....Saf. & Env. Prot.
Jim Karagiorgis.....Dir. Off.
Melvin J. LeBlanc....Saf. & Env. Prot.
James H.B. Nemeth Saf. & Env. Prot.
Susan M. Perino.....Plant Eng.
Lori K. Racaniello.....App. Science

Departures

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

Robin Appel.....AGS
Patrick Dwyer.....AGS
Norman R. Franklin.....Accel. Dev.
Joseph A. Gallo.....Medical
Chung-Siung Kao.....App. Science
Daniel S. Metlay.....Nuc. Energy
Gene E. Rohde.....Plant Eng.
Suresh K. Sahni.....App. Science
Margaret H. Thompson.....Medical

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

Meet the Brookhaven Council

The Brookhaven Council was established in 1962 to advise the Director on matters concerning the scientific staff, such as appointments to the staff, recommendations on tenure, involuntary terminations or other matters on which the Director may request advice. The Council is also an avenue for bringing the concerns of members of the scientific staff to the attention of the Director.

Members of this 15-member advisory group are elected from the tenured scientific staff for three-year terms. Shown here at the first meeting of the 1991-92 Brookhaven Council, held March 11, are: (back, from left) Hiroshi Takahashi, Department of Nuclear Energy (DNE); John Millener, Physics Department; Charles Meinhold, DNE; Bill Weng, Alternating Gradient Synchrotron Department; Masaki Suenaga, Department of Applied Science (DAS); D. Peter Siddons, National Synchrotron Light Source Department, Council Secretary; (front, from left) Horst Foelshe, Accelerator Development Department; Walter Mangel, Biology Department; Bill Siegelman, Biology; Council Chairman Paul Michael, DAS; and Dick Holroyd, Chemistry Department.

Not shown are Kelvin Lynn, Physics; Michael White, Chemistry; and Arjun Chanana, Medical, who has been appointed to fill the unexpired term of Darrel Joel, the newly appointed Chairman of the Medical Department.

Measurements (cont'd)

to take data at Lawrence Berkeley Laboratory.

The Profiler works on the principle of pencil-beam interferometry: A narrow beam of light from a laser source is split into two parallel beams, which are directed down onto the surface being tested, reflected back into a lens, and focused on a linear-array detector. When the beams recombine, the interference image is analyzed by a computer program, resulting in a map of the imperfections on the surface.

Said Takacs, "The Profiler is unique in that it can measure large optics without contact. It is self-calibrating and can correct for angular errors in the air slide as the optical head moves along its track. This allows it to measure the *absolute* radius of curvature of a surface — not the surface relative to a reference surface."

The importance of this new design feature was made clear by the cause of the Hubble problem — a faulty null corrector lens in the testing system.

Takacs explained that the absolute measurement given by the Profiler system needs no "middleman" such as a null corrector lens, "which is a very complicated optical system to design and build," he said. "That was one reason we designed our test system to work without it.

"It's ironic that the Profiler was completed before the Hubble was launched," Takacs continued. "However, the mirror had been packed in special storage for several years and it was believed to be adequately tested. So, although the technology was available, the Long Trace Profiler was not used."

The Long and the Short of It

The Long Trace Profiler complements an older surface-profiling instrument, originally developed at the University of Arizona and acquired by BNL in 1984.

This machine, the WYKO NCP-1000, measures the smoothness of very *short* lengths of surface — from ten microns, or less than the width of a human hair, up to a maximum length of five millimeters, or almost a quarter inch.

Takacs and Church adapted this machine to measure the surface quality of grazing incidence x-ray mirrors. For their success, they received a Special Award for Excellence in Technology Transfer in 1989.

"Now the WYKO NCP-1000 can be part of a team," said Takacs. "Because the Long Trace Profiler measures surfaces from one millimeter to over one meter long, it picks up where the first machine stops."

New International Standard

These two instruments are not the only outstanding results of Takacs and Church's research into the theory and techniques of measuring surface roughness. This research was originally undertaken to improve the quality of mirrors used in the National Synchrotron Light Source — but its effects have spread further.

In 1990, the International Standardization Organization (ISO) met to adopt worldwide standards for preparing drawings for optical elements. One section of the new standard, ISO 10110, involves specifications for the surface texture of optical surfaces. The method chosen was the power spectrum technique developed by Takacs and Church to analyze data from the WYKO NCP-1000.

Said Takacs, "We're hoping that the next step will be to get the technique into the U.S. standards."

Takacs is also looking forward to the research avenues that will be opened by these instruments and techniques. Realistic models of materials with fractal surfaces, such as silicon and electroless nickel, can now be based on actual measurements. This will help improve ultra-precision optical surfaces and the polishing mechanisms that produce them. — Liz Seubert

Cooking Exchange

The Cooking Exchange will hold a varied-menu demonstration at the Recreation Building in the apartment area on Wednesday, April 10, at 12:15 p.m. All are welcome, especially BNL newcomers. New ideas and participation are encouraged.

A donation of $2 per adult covers expenses for the ingredients and light lunch. There is a $1 charge per child for baby-sitting.

For information, call Louise Bunnicci, 744-5867; Barbara Kowalski, 744-3569; Miryam Rothenstein, Ext. 3092; or Eiko Tanaka, Ext. 3017.

Pick a Student

Applications for the 1991 fall Science and Engineering Research Semester (SERS) program run by the Office of Educational Programs (OEP) are available for review through April 16, 9 a.m. to 4:30 p.m., in the Solarium, Bldg. 490, Medical Department. Use the Clinical Research Center entrance and follow the signs.

SERS applicants are junior and senior students with a GPA of 3.0 or above, from any U.S. college or university, who wish to spend a semester away from school doing scientific research. The fall semester runs from August 26 until December 13. For more information, call OEP, Ext. 4503.

Disney Openings Still Available

There are still openings for the BERA-sponsored, six-day, five-night trip to Disney World in Florida, scheduled for October 10-15, 1991.

The trip is open to a maximum of 40 people, and reservations are now being taken on a first-come, first-served basis. To reserve your space, contact Recreation Supervisor M. Kay Dellimore, Ext. 2873, Bldg. 185. A deposit of $100 per person is required.

For more information, call Dellimore or Louisa Barone, Ext. 3347.

Don't forget! Set your clocks forward on Sunday, April 7.

Winner's Circle

In the course of his job as a senior technical specialist in the Physics Department, **Robert Liegel** routinely fills out stock requisition forms, folds them, puts them in intraLab envelopes and addresses them to "Supply & Materiel — Building 211." More than once, it occurred to him that he would save a lot of steps and the Lab might save some money if the forms were preprinted with the address on the back.

Rather than dismiss that thought, Liegel did something about it — he submitted his idea to the Employee Suggestion Program (ESP).

Liegel's idea was accepted and will be implemented as supplies of the old form are depleted. Since the preprinted address will eliminate the need to use envelopes when the form is mailed, the Supply & Materiel Division estimated that his suggestion will save the Laboratory $500 annually.

Additionally, it may be applicable to other one-page forms. So, for acting on his idea, Liegel has been awarded $50 and could win more if his idea is used further.

So don't just think about it — act on it! Send your suggestions to ESP today!

Look! A Limerick!

There once was a lab called Brookhaven
Built out in the sticks, quoth the Raven,
But over the years,
It outshone all its peers
Now its fame into stone is engraven.

— James Higgins
Department of Nuclear Energy

New Members On BERA Board

Andrea Epple

Rosalie Piccione

Congratulations to Andrea Epple, Safety & Environmental Protection Division, and Rosalie Piccione, Division of Contracts & Procurement — the newest members of the Executive Board of the Brookhaven Employees Recreation Association (BERA).

Elected by BERA members during elections held the week of March 25, Epple and Piccione replace outgoing president Skelly Frei, Reactor Division, and secretary Sharon Smith, Physics Department.

Epple and Piccione join the other six Executive Board members: Rick Backofen, Photography & Graphic Arts Division; Michelle Cummings, Management Information Systems Division; Lawrence Musso, Safeguards & Security Division (S&SD); Betty Pergan, Department of Applied Science; Jean Ramirez, Department of Nuclear Energy; and Maryann Reynolds, S&SD.

Women's Softball

Women interested in forming an all women's softball league, please call Andrea Epple, Ext. 4424, or Denise Miesell, Ext. 5873. All games for this league will be played on Monday nights.

Swim Club

At the City College of New York master's swim meet on Sunday, March 3, three BNL Swim Team members finished nine times among the top three in their age groups out of 12 starts. In addition, Ron Wittlock set a personal best in the 100-yard backstroke, beating a record that he set in 1986 by 0.09 seconds.

50-yard Freestyle		
Paul Michael	33.53	4th men 60-64
100-yard Freestyle		
Roger Klaffky	1:05.24	3rd men 45-49
200-yard Freestyle		
Ron Wittlock	2:37.72	5th men 55-59
50-yard Butterfly		
Paul Michael	40.38	2nd men 60-64
50-yard Backstroke		
Ron Wittlock	33.27	1st men 55-59
100-yard Backstroke		
Ron Wittlock	1:13.25*	1st men 55-59
Roger Klaffky	1:18.90	2nd men 45-49
200-yard Backstroke		
Ron Wittlock	2:44.12	1st men 55-59
50-yard Breaststroke		
Paul Michael	46.04	4th men 60-64
100-yard Breaststroke		
Roger Klaffky	1:23.53	1st men 45-49
200-yard Breaststroke		
Roger Klaffky	3:04.85	1st men 45-49
100-yard Individual Medley		
Paul Michael	1:40.67	3rd men 60-64

*indicates personal best

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Trophies for BNL Bowlers

Each year, BERA Bowling League members with the best averages form a team to represent BNL in the Long Island Industrial Tournament. This year's team came in second out of 16 teams in the scratch (no handicap) portion of the contest, which took place over four consecutive Saturdays in March. The BNLers also took third place among teams playing with a handicap.

Congratulations to the winning team shown here: (front, from left) Charles Bohnenblusch, who holds one of the individual trophies for their second place showing; Richard Larsen, who displays the High Game Award trophy he won for bowling a tournament-high 268; Ed Sperry IV, who holds the team's award for second place, which has been placed in the BERA trophy case in the background; (back, from left) Andy Warkentien, Richard Eggert, Mike Guacci, Ken Riker and Ron Mulderig. — Photos on these pages by Roger Stoutenburgh

Golf Meeting

A meeting of the BERA Golf Association will be held tonight, Friday, April 5, at 5:15 p.m., in the lounge of the Recreation Building. Prospective members are welcome.

Mountain Club

The Mountain Club will meet on Wednesday, April 10, at noon at the gazebo. The meeting is open to all interested parties, and all members are encouraged to attend. Call Rich Casella, Ext. 7975, for further information.

Cafeteria Menu

Monday, April 8	
Soup: Tomato rice	.75/.95
Entree: Fried fish fillet sandwich	3.10
Entree: Vegetable lasagna	3.10
Fitness: Chef's choice	3.10
Carvery: Pastrami sandwich	2.85
Grill Turkey club	2.85
Tuesday, April 9	
Soup: Chicken noodle	.75/.95
Entree: Fried chicken	3.10
Entree: Pizza	3.10
Fitness: Baked fish	3.10
Carvery: Hot roast beef sandwich	2.85
Grill: Pizza burger	2.85
SPICE: Salute to fruit	
Wednesday, April 10	
Soup: Vegetable medley	.75/.95
Entree: Linguine w/white clam sauce	3.10
Entree: Chicken Parmesan	3.10
Fitness: Vegetable plate	3.10
Carvery: Hot Black Forest ham sandwich	2.85
Grill: 3-D burger	2.85
Thursday, April 11	
Soup: Cream of broccoli	.75/.95
Entree: Sweet & sour pork	3.10
Entree: Baked potato toppings galore (ea.)	.95
Fitness: Pasta primavera	3.10
Carvery: Hot corned beef sandwich	2.85
Grill: Phili cheese-steak sandwich	2.85
SPICE: Baked potato bonanza	
Friday, April 12	
Soup: New England clam chowder	.75/.95
Entree: Baked herb chicken	3.10
Entree: Beef stew	3.10
Fitness: Baked fish jardiniere	3.10
Carvery: Turkey sandwich	2.85
Grill: Tuna melt	2.85
Breakfast w/coffee, 7:30 - 10:30 a.m.	2.65

Mon.: 2 eggs, bacon & pancakes
Tue.: Western omelet, French fries, toast
Wed.: Spanish omelet, home fries, toast
Thu.: 2 eggs, bacon, cheese on croissant, fries
Fri.: French toast, 2 eggs, bacon, home fries

Volleyball Dinner

The Volleyball awards dinner will be held on Friday, May 10, at the Patchogue Knights of Columbus Hall. Dinner will include a complete hot and cold buffet with dessert and coffee. Music will be provided by Ed Taylor.

Tickets are $15; drinks are inexpensive. Tickets must be sold by May 3, and they are available from Kathi Barkigia, Ext. 7661, and Terry Sullivan, Ext. 2840.

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.

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.

MRK 5205. MATERIAL HANDLER (3 Openings) - Supply and Materiel Division.

MRK/108SC. TOOL AND INSTRUMENT MAKER POSITIONS - Central Shops Division.

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside applicants.

DD 8728. OFFICE SERVICES POSITION - Requires an AAS or equivalent experience and excellent secretarial and communication skills. Word processing required; Word Perfect experience preferred. Will act as reservationist in the Housing Office. Duties will include reservations and billing, scheduling housekeeping, maintenance and repairs, and collecting and reconciling receipts. (Reposting of Job #8728) Staff Services Division.

DD 0117. METAL WORKER MAINTENANCE B - (temporary) Under general supervision, constructs and installs a variety of metal equipment such as sinks, gutters, ventilating hood, stands, etc. Operates machine tools and tinsmithing machines. Performs necessary brazing, welding and silver soldering incidental to the job. Plant Engineering Division.

DD 0119. PLUMBER B - (temporary) Under general supervision, constructs or installs, repairs and maintains water and gas distribution systems, related facilities and auxiliary equipment and equipment utilizing water, gas and heat distribution services. Plant Engineering Division.

MRK/AUI. AUDITING POSITION - Requires BS in accounting or business administration and several years' relevant experience in public accounting or corporate audit. Will assist in the completion of financial, subcontract, and management systems audit. Excellent analytical, written and oral communication skills are required. Associated Universities, Incorporated.

NS 0630. ENGINEERING POSITIONS (2) - Requires BSME/NE or equivalent and experience with USNRC and industry nuclear safety criteria, codes, standards and guides for application to DOE reactor and nonreactor facilities. Experience at DOE facilities is desirable. Requires excellent communication skills. Must be able to obtain and maintain a security clearance. Reactor Division.

NS 0628. ENGINEERING POSITION - Requires BSME or equivalent and familiarity with USNRC and industry safety criteria, codes and standards for application to modifications to DOE reactor facilities. Experience in the preparation of complete modification packages at DOE reactor facilities is desirable. Requires excellent mechanical and seismic engineering background, excellent communication skills. Must be able to obtain and maintain a security clearance. Reactor Division.

Motor Vehicles & Supplies

89 PONTIAC FIREBIRD - black w/black int., V-8, ac, p/w, p/b, Bensi box cass., tilt, excel. cond., sacrifice. Jason, 718-932-6159.

89 HONDA ACCORD DX - white, a/t, lots of extras, very low mi., assume lease. 689-1500, Ext. 307 or 862-7648 after 6 p.m.

89 DODGE B250 CONVERSION VAN - 10k mi., 7/70+, power option, warranty, all options, alarm, mint cond., $1,900. 924-9427.

Bowling

White League
Ed Beadle had a 207, Betty Jellett 200.

Purple League
Sharon Smith had a 224/183, Rich Larsen 204, Chris Fautas 203, Ben Belligan 200, Skelly Frei 200, Denise Monteleone 196, Nancy Mayeski converted the 4/10 split.

Red/Green League
M. Guacci had a 243, A. Warkentien 217, F. Griswold 205, G. Spira 205, R. Eggert 204, F. Hohmann 204, C. Scarlett 204, R. Larsen 201.

Basketball

Games of March 28

Trailblazers 58		Scram 38	
C. Edwards	20	J. Duggan	13
T. Mayo	12	T. Powers	11
R. Domenech	8	S. Nappi	8
S. Springston	8	M. Davis	4
R. Garapolo	6	P. Burgh	2
A. Ratti	4		

Three-point shots: R.Domenech (2), R.Garapolo, T. Powers (3)

Bulls 35		Celtics 29	
F. Ligon	15	L. James	12
B. O'Brien	9	A. Jones	6
M. Williams	6	B. Turner	6
P. Brohwiler	4	R. Schullman	3
S. Gilbert	1	P. Browne	2

Three-point shots: R. Schullman, M. Williams (2)

Deep Six 72		Runaways 70	
T. Buck	25	J. Desmond	20
B. Brown	14	G. Shepherd	14
J. Willi	12	P. Ratzke	11
D. Eleazer	11	L. Walcott	9
R. Hart	8	J. Belz	8
S. Worm	2	R. Wells	6
		G. Smith	2

Three-point shots: J.Desmond, D. Eleazer (3), L.Walcott (2)

Standings as of March 28

Trailblazers	10-1	Runaways	4-7
Celtics	7-4	Scram	3-8
Bulls	6-5	Deep Six	2-9

Volleyball

Standings as of March 28

Open League*		League I	
Phoenix	55-17	Cannonballs	44-13
GTEAM	54-18	Upfagrabs	37-20
Magnum	48-24	Dinkers	29-28
Me & The Boys	45-27	Rude Dogs	28-29
Dig It	31-41	Network News	25-32
Penetrating Vollies	14-58	Upsetters	8-49
Jet-Setters	6-66		

League II		League III*	
Fossils	48-9	Nutcrackers	36-18
Net Wits	44-13	High Volley'em	35-19
Nuts & Bolts	43-14	NoKaOe	26-28
Pteropods	34-23	Sourcerers	24-30
Upton Ups	20-37	Undertakers	24-30
Slammers	18-39	Good Timers	23-31
Chunga's Revenge	16-41	Renegades	21-33
Aces	5-52		

*Final standings for playoffs

Classified Ads (cont'd)

88 LINCOLN TOWN CAR - Signature series, rag top, white w/navy top, loaded, low mi., mint cond., $13,500. Rosalie, Ext. 3160 or 289-5704.

88 FORD F-150 LARIAT - 4wd, bedliner, tonneau cover, fully equipped, excel. cond., $10,700. 475-3507.

87 ISUZU TROOPER 4x4 - ac, luggage rack, running board, great looking, excel. cond., Jim, 399-4897 after 6 p.m.

86 BUICK CENTURY - 4-dr., 6-cyl., a/t, ac, 75k mi., loaded, mint cond. Kong, Ext. 3867.

86 DODGE VAN - 8-cyl., a/t, 35 gal. gas tank, clean in & out, $4,500. 369-0432.

85 DODGE CHARGER - a/t, ac, p/s, p/b, excel. cond., $2,800. Don, 928-7734.

85 FORD LTD - s/w, 6-cyl., ac, 68k mi., a/t, am/fm, cruise, excel. cond., $3,200. Barbara, Ext. 2456.

85 SUBARU XT - light blue, am/fm, 5-spd., sunroof, clean, 93k mi, $3,800. 757-1973.

85 RENAULT ENCORE - 2-dr., m/t, p/s, p/b, 65k mi.,; '85 Ford Escort, 2-dr., m/t, p/b, 82k mi., both excel. cond., clean in & out. Dragan, 471-4824.

84 CHEVY CELEBRITY - s/w, a/t, ac, V-6, v.g. cond., $1,800. John, Ext. 3302 or 924-0651.

84 FORD BRONCO - 4wd, a/t, ac, p/s, p/b, custom, alum. rims w/all-season radials, nice shape. John, 286-4773.

83 PONTIAC GRAND PRIX - 59.5k mi., fully loaded, orig. owner, $3,500. 475-3473.

83 PLYMOUTH HORIZON - m/t, am/fm, high mileage, new tires, 30 mpg, $625. Jon, Ext. 4682 or 689-8740.

83 OLDS DELTA ROYALE - metallic brown, a/t, cruise, ac, fully loaded, orig. owner, 82k mi., $2,200. Chan, Ext. 4059 or 499-8758.

82 PONTIAC J2000 - 4-dr., a/t, ac, 4-cyl., $850. John, Ext. 3302 or 924-0651.

81 BUICK REGAL LTD - V-6, p/b, p/s, p/w, p/l, 69k mi., mint cond., $3,000 firm. 821-6499.

81 FORD FAIRMONT - 4-cyl., 2-dr., a/t, ac, excel. body, good int., runs well, good mileage, $800. Teri, 924-4227 or 924-8484.

81 ACCORD - s/w, 5-spd., runs, all offers considered, $500 neg. Alison, 369-4922.

80 FORD E-250 VAN - p/s, p/b, a/t, new brakes & tires, good work van, windows, $800 neg. Jim C., Ext. 4150.

80 OLDS OMEGA - 4-spd., p/s, p/b, ac, am/fm cass., excel. body cond., must see. Joe, Ext. 3887.

79 PONTIAC CATALINA - 4-dr., p/s, p/b, a/t, 70k mi., ask. $600. Rich, Ext. 7013 or 698-5294 after 6 p.m.

78 CADILLAC SEDAN - power everything, good shape, needs some work, $300. John, Ext. 4498.

78 FORD FAIRMONT - orig. owner, 72k mi., well maintained, good cond., $800. 286-9390.

78 MOTOR HOME - 28', sleeps 8, many extras, good cond., must sell, $5,000 neg. 395-5087.

77 TOYOTA CELICA GT - h/b, 5-spd., new carb., muffler, radiator, brakes, 144k mi., runs well, asking $850. Gary, Ext. 7037.

77 CHEVY PICKUP - 4wd, 400 c.u., utility box, many new parts, $2,000. Peter, 475-8406.

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

76 CHEVY CAMARO - V-8, a/t, ac, some rust, needs radiator repair, good driver, $400. Kevin, Ext. 4843 or 281-8031 eves.

76 JEEP WAGONEER - Quadra Trac, good for parts, 4wd unit works. Joey, Ext. 2950 or 758-2938.

76 OLDS SUPREME CUTLASS WAGON - 87k mi., orig. owner, good cond., best offer. 689-9214, leave message.

74 HARLEY DAVIDSON SPORTSTER - good cond., $2,500. Ext. 7518 or 878-8847.

73 DODGE CORONET - 318 cu. in., 8-cyl., p/s, p/b, 79k mi., orig. owner, 4-dr., 2 new tires, good cond., $900. Ext. 7795 or 589-8331.

LAYTON TRAVEL TRAILER - 23', sleeps 6, 2-dr., very roomy, awning, extras, excel. cond., $5,100. John, Ext. 3302 or 924-0651.

POSI REAR - fits Chrysler product, 8¾, 323 gears, best offer. 298-4801.

MOPED - Yamaha, yellow, $350.. Ext. 4399.

Boats & Marine Supplies

27' HUNTER - diesel, shoal draft, sleeps 5, galley, encl. head, main drifter 150, furling jib, VHF, dodger, reasonable. Wes, Ext. 4053.

25' MORGAN SAILBOAT - new sails & outboard, keel, c/b, good for Bay, $4,500. 821-0686 eves.

25' MAKO - Maco twin ob. 175-h.p. motors, very low hrs., excel. cond., $15,500. 289-7902.

22' TYLERCRAFT SLOOP - swing keel, Bimini, 6-h.p. Evinrude, sleeps 4, 2 sets sails & furling jib. Sue, Ext. 7235.

21' INVADER CUDDY - 1984, 120-h.p. Volvo i.o, FWC, asking $6,200. Ext. 2788.

19' CELEBRITY - 1987, cuddy cabin, w/trailer, excel. cond., must see, $9,950. Bob, 689-7963.

19' BOWRIDER CRUISER - 1972, w/1976 115-h.p. Johnson, canvas, trailer, w/elec. winch, $2,500. Frank, Ext. 2314 or 567-5131.

18' MARSHALL CATBOAT - new, 9-h.p. Evinrude, 2 set sails, fully equipped, many extras, excel. cond., Ext. 5317 or 589-5980.

14' HOBIE CATAMARAN - roller reefing jib, trailer, v.g. cond., $1,600 or best offer. Ext. 7657 or 298-9560.

8' DINGHY - 1991, fiberglass. Dawn, 758-3830.

PROPELLER - 23 dia., 21 pitch, left-hand, 1½" shaft, 2 rudders, $250. Bill, Ext. 4986 or 563-1940.

Furnishings & Appliances

CHAIRS - Thomasville, ladderback, 6, red, rush seats, $50/ea.; checkerboard loveseats, $75/ea. Ext. 4399.

DRESSER - double bed w/headboard. Ext. 2487 or 928-6930 after 4:30 p.m.

COUCH - 6½', grey velour-like material, very soft & comfortable, no arms, good for den or playroom. Janice, 929-4522.

DINETTE - chrome & glass table w/4 upholstered chairs, $75. Bill, Ext. 4986 or 563-1940.

ANTIQUE MIRROR - $125; patio umbrella, $20; TV stand, $5; wicker chair, $55; patio blocks, 15 set; firewood, $60. Kathy, 744-2203.

WALL OVEN - GE, 26"; 14 cu. ft. refrigerator; range top; Kitchen Aid dishwasher, all good cond., must sell, $50/ea. Tom, ext. 4866.

STEREO CABINET - glass doors, $95; Broyhill loveseat, brown velour, $200; 2 end tables, glass tops, matching cocktail table, $50/ea. Ext. 3872.

TWIN BEDS - & night table, no mattresses, solid maple, painted cream color, $125. Karen, Ext. 4262.

WATER BED - platform, dark pine, w/mirror & lights on headboard, 6 drawers, $300. Ext. 7686 or 874-2789.

CABINETS - solid oak, 12"d x 30"h, various widths; steel cash drawer, 4"x12"x19", $70. Bookless, 286-8698.

CHINA CABINET - & wingback chair, $150/both. Walter, Ext. 4958 or 821-9451.

Tools, House & Garden

WELDER - Lincoln, 200A, 4-cyl. Continental engine, asking $1,500. 744-3204 after 6 p.m.

LAWN MOWERS - Rickel, 22", 3½ h.p., $60; 2 Snappers, 21", 3½ h.p., $175/$125; Jacobsen, 21", $150; more. Dan, Ext. 4987 nights or 698-7322.

LADDER - alum., 24' extension, like new. 325-0447 after 6 p.m.

ANNUALS - $11/flat; impatiens, begonias, marigolds, more, 4½", $2.25; hanging baskets, $11; fuschia, ivy, geraniums. Ken, 744-0722.

LAWN MOWER - Lawn Boy, 21", $25. Ext. 2423.

WHITE PINES - spruces, nursery grown, up to 4', $2/per foot. John, 744-5867.

GENERATOR - Niagara, 4kW, used about 4 hours, $325. Bill, Ext. 2047 or 472-4684 after 6 p.m.

FURNACE - add-on coal & wood burning hot-air furnace, hooks up to your present oil burner, good cond. Tom, 581-0291.

Sports, Hobbies & Sports

CAGE - new, wooden, for rabbit or other small animals. Sue, Ext. 7235.

WIND SURFER - Vinta, 340cm, 150 liter, transition board, mast, boom, three 4.5, 5.5, 6.5 raf sails, $600. Ext. 7657 or 298-9560.

CHILD'S BIKE SEAT - Big Bird, $10. DiNicola, Ext. 5100.

HOME SPA - Whirlpool, for bathtub, portable, like new, $30. Pat, Ext. 3807.

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

SKIS - K2, 165cm, w/poles, 280 Tyrolia bindings, 9-9½ Caber boots, $125. Mike, Ext. 7941.

VENDING MACHINE - new, mech. type, 4½'h x 2½'w, candy or other items, $200. Dan, Ext. 4987 nights or 698-7322.

TREADMILL - Sears 2100, full elect., auto incline, ¾ h.p., 3 mo. old, $300 firm. Tom, 736-6691.

SEWING MACHINE - Singer Deluxe Touch & Sew, wood cabinet w/4 drawers, all access., embroidery, button holes, $350. Ext. 4399.

BICYCLE - Raleigh Technium 6013-Tb, w/aluminum frame, new, $160. Hugh, Ext. 4516.

Audio, Video & Computer

COLOR TV - RCA, 20", $100. Bawa, Ext. 3499 or 331-8128.

COMPUTER - IBM-640, 2 floppy drives, $375; printer, $125. Ext. 4399.

STEREO - 8-track, record player, 36"w x 17"d x 63"h cabinet, $30; alum. comb. door, 35"x82", $35; end tables, $35/pair; more. 878-6637.

STEREO SYSTEM - Fisher, am/fm, phono, amp, $150. Walter, Ext. 4958 or 821-9451.

SCANNER - programmable, 400 channels, multimode, 25-120 MHz, 12 Vdc & 110 Vac, $200. JGS, Ext. 4379.

PROM - bridesmaids gowns, all used once, new cond., sizes 8 to 16, $40-$100. Hiedi, 281-7873 or Ernie, Ext. 7632.

TICKETS - 2, Mets, April 9, 1:40 p.m., first row, loge, sec. 22, prepaid park., $30. Dick, Ext. 2911.

CRIB - juvenile bed, $200; water bed, king size, $150. Al, Ext. 2075 or 281-6617 after 5 p.m.

TICKETS - 2, Metropolitan Opera, *Masked Ball*, Sept. 28, matinee, balcony, 3rd row, $65/both. Dave Christman, 941-9022.

BRIDE'S SLIP - & money bag, used once, asking $50. Eileen, 473-7906.

Free

OIL TANK - 275 gal., good cond., you pick up. Paul, Ext. 3848.

STORM DOOR - 36"x80", crossbuck, white. Sue, Ext. 7235.

LAWN MOWERS - 2, one gas, one electric. Tom, Ext. 5350.

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

BLUE POINT - 2-bdrm. Cape, cac, fp, attic rm., bsmnt., fenced yard, sec., $850/mo. + util., avail. May 1. 395-1084.

BROOKHAVEN HAMLET - 2-3 bdrm. house, l/r w/fp, sun room, enclosed porch, sec., refs. 286-8552 after 6 p.m.

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

MATTITUCK - 1-bdrm. apt., w/d, large l/r & closets, full bath, kitchenette, sep. ent., quiet wooded area, near water, nonsmoker, $375/mo. Ext. 7657 or 298-9560.

MATTITUCK - 3-bdrm. house, 1½ baths, l/r-d/r w/2 bay windows, sun deck, w/w, drapes, all appl., on ¾ acre, 2 blocks to town, $850/mo. + util., avail. May 1. Ext. 5161 or 298-2166.

PATCHOGUE VILLAGE - 1-bdrm. apt., new, full bath, furn. or unfurn., kit., use of fenced-in yard, cable, phone jacks. Ext. 4087 or 289-7902.

PORT JEFFERSON STATION - 2-bdrm. apt., l/r, eik, bath, quiet area, 30 min. from Lab., priv. ent., single preferred, $500/mo. all. 757-1973.

SOUND BEACH - 1-bdrm. apt., full bath, kitchen-l/r combo, cable, priv. ent., $600/mo. incl. all; also, 2-bdrm. apt., bath, l/r, eik, near all, $675/mo. + elec. Ext. 2671 or 744-3284 after 4 p.m.

SPEONK/WESTHAMPTON BEACH - 2 bdrm., 1½ baths, cac, patio, 1000 sq. ft., skylights, 20 min. to Lab., $800/mo. or $135,900. Rich, Ext. 4834 or 588-0507.

YAPHANK - 2-bdrm. house, l/r, d/r, new eik, bath, porch, quiet dead-end street, 7 min. from Lab., $750/mo. + util. John, Ext. 3302 or 924-0651.

MAINE - Mt. Desert Island, lakefront, full furn., 1-rm. cottage w/sleeping loft, kitchenette, bath, fp, deck on Echo Lake, Acadia National Park, June 15-Oct. 15, $400/wk. Bob, Ext. 2514.

HOLDEN BEACH, NC - 3 bdrms., 2 baths, a/c, d/w, w/d, TV, extras, ocean view/access, Oct.-May, $425/wk., June-Sept., $525/wk. 399-4897 after 6 p.m.

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

For Sale

BAYSIDE - exclusive 1-bdrm. co-op, breakfast nook, modern kit., bath, California closet, tennis, pool, beautiful area & grounds, 1st class shops, rent/lease/option, Julia, 718-468-8097.

BROOKHAVEN HAMLET - 4-bdrm. Cape Cod, 2 baths, d/r, l/r, eik, 2-car gar., 20' deck, patio, more, close to bay, ¾ acre, red. to $219,000. Vera, Ext. 7108, or Carl, 214-708-2058.

CORAM - Strathmore East, 4-bdrm. ranch, 2 baths, cathedral l/r, 2-car gar., gas heat, fenced corner lot, $120,000. Ext. 3791 or 928-7154.

EAST MARION - beautiful 1 acre bldg. lot, adjacent to Greenbelt, walk to Sound. 325-0447.

EAST MORICHES - 3-bdrm. ranch, 80'x100' lot, public water, principals only, $100,000. 878-0653 after 6 p.m.

MIDDLE ISLAND - Coventry Manor, 3-bdrm. townhouse, 2 baths, kit., l/r, d/r, laundry, cac, 5 appl., encl. patio, pool, tennis, carpets, ask. $99,000. Rosalie, Ext. 3160 or 289-5704 eves.

RIDGE - 2-bdrm. house in adult community Leisure Knoll, ac, newly carpeted & decorated, walking distance to rec. hall, pool, tennis, lots of extras, 5 mi. to Lab, $135,000. 744-3366.

RIVERHEAD/SOUTHAMPTON TOWN - 2 bdrm., l/r, d/r, custom kit., sun porch, deck, bsmt., gar., deeded lake rights, borders DEC control land, appl., 15 min. to Lab., $118,000. 369-0432.

SELDEN - 3-bdrm. L-shaped ranch, l/r, d/r, eik, den, gar., new heating system, ac, w/w, custom fence, agp, shed, walk to schools, $119,000. Ben, Ext. 7732.

SHOREHAM - SWR SD, 3-bdrm. ranch, 5 min. from Lab., stone fp, den, l/r, d/r, 1¾ baths, atrium, storage rm., all appl., ig sprinklers, $149,500. Ext. 2833 or 744-7172.

SHOREHAM - 3-bdrm. brick Cape, eik, den, playroom, gar., full bsmt., 1½ baths, conven. loc., SWR SD. Carol, Ext. 3315, 2345 or 744-7493.

SHOREHAM - N25A, SWR SD, 4-bdrm. Colonial, 2½ baths, low taxes, energy efficient, encl. porch, ⅓ acre, fully fenced, ideal for large family, walk to schools, shopping, $165,000. Rich, 744-0960.

SMITHTOWN - all brick, 3 bdrm., l/r, d/r, eik, den, 2 baths, full fin. bsmt., 1-car gar., gas hot air, 2 zones, Andersen windows, ¼ acre, $1,100/mo. + util., option. Bawa, Ext. 3499 or 331-8128.

SPEONK - 2-bdrm. mobile home, 14'x60', has 10'x10' shed, bay window in l/r, 2-car driveway, $42,000, avail. July 1. Dave, Ext. 5460.

HUBBARDTON, VT - 38 deeded acres on town-maintained road w/power & telephone, 30 min. to Killington ski area, views of Lake Bomoseen, ask. $35,000 neg. Tom, Ext. 2823.

MERRITT ISLAND, FL - ⅓ acre, Indian Bay Est., canal to Banana River, ocean access, clubhouse, pool, etc., red. to $29,900. Ted, 298-4801.

TAMARAC, FL - 1-bdrm. condo, 1 bath, Florida rm., cable, clubhouse, pool, tennis, 5 min. from all, $44,000. 305-722-4661 or 286-9390.

Wanted

CHILDREN'S BOOKS - readable condition. Kumi, Ext. 3193.

CRATE - large enough for English Springler Spaniel, will purchase or rent. Cynthia, Ext. 5459.

HOUSEMATE - 2-bdrm. home, l/r, eik, d/r, w/w, 1½ baths, more, no pets/child., working, non-smoker, $450/mo. + ½ util. 698-0576 or 231-6017.

LAWN MOWERS - old, complete, any cond. Dan, 698-7322 days or Ext. 4987 eves.

TRAINS - Lionel & American Flyer, priv. collection, pays top $. Carole, Ext. 7100.

Services

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

AUTOMATIC LAWN SPRINKLERS - free estimates, professional layouts, repairs, alterations & additions, prompt courteous service. 928-7042.

BABY-SITTER - exp. mom to babysit at my home, any age, any daytime hours, good rates & certified. Alice Ann, 395-4839.

BABY-SITTER - 13-yr.-old, responsible male, trained in first-aid, child safety & CPR, avail. Sat. nights. Andrew, 981-5646.

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

CARPENTER - 18 yr. exp., quality work, reasonable rates, sheds, decks, windows, doors, etc. Kevin, 758-2653.

CARPENTER - contractor, licensed, insured, extensions, dormers, finished bsmts., decks, skylights, free estimates. J. Salvato, 698-2501.

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

CERAMIC TILE INSTALLATION - bathroom, kitchens, foyers, etc., quality work, cheap prices, all types of tile. Patrick, 475-8504.

DISTINCTIVE MAILBOXES - custom-made, heavy gauge steel, 9 colors, free lettering & catalog, 10% Lab discount. Mike, 821-9709.

DECKS & DECK DESIGN - also remodeling & construction. Ron, 298-5625.

FACIALS - non-surgical facelift, smooth wrinkles, minimize pores, look years younger. 399-1868.

FINANCIAL - retirement planning, free individual seminars through April. Rich, 744-4816.

FLOOR COVERING & REPAIR - custom work, stripes, borders, print in carpet. Mark, 981-9075.

GIFT BASKETS - made to order w/holiday candies & gifts, prices starting at $20. 345-2543.

HANDYMAN - all phases of home improvement, liscensed/insured. Ed, 928-7539.

HOME IMPROVEMENT - all phases of carpentry, specializing in remodeling kitchens & baths, decks, windows, siding, more. Phil, 758-8428.

HOME IMPROVEMENT - complete carpentry, roofing, siding, decks, sheetrock, windows, extensions, licensed & insured. Joe, 399-0828.

HOME IMPROVEMENTS - windows, decks, roofing, siding, extensions, kitchens, licensed, insured. AJ or Mike, 289-3798.

HOUSE CLEANING - reliable, very thorough & organized. 878-1468 after 5 p.m.

HOUSE CLEANING - reasonable rates, weekends, Mondays & eves. Mike, Ext. 929-6227.

LANDSCAPING - complete lawn and shrub care, over 20 yrs. exp., licensed & insured, free estimate. Pat, 277-9528.

LANDSCAPING - construction, lawn maintenance, planting, decking, clean-ups, cement drives, outdoor lighting, more. Dennis, 395-6055.

LANDSCAPING - in business 6 yrs., reasonable rates, reliable lawn cutting, clean-ups, trimming, planting, + more. John, 924-3915.

LAND CLEARING - using excel. rake on 450 loader, $70/hr., w/operator. Tom, 878-1060.

LAWN MOWER REPAIR - reasonable rates. Dan, 698-7322.

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

NURSING CARE - certified nursing assistant, companionship, housekeeping, quality care. Lorraine, 929-6433.

PAINTING - interior, exterior, wallpaper, spackling & taping, power washing. James, 399-4912.

PARTY TENT - 20'x30' w/side curtains, we set up & take down, $250/38 hr. 321-2889.

PARTY TENTS - for rent, we set up & take down. Fred Kuehl, Ext. 7947 or 588-2268.

PARTIES - make all your parties special events, every detail covered, all size parties, any occasion. Rosalie, Ext. 3160 or 289-5704.

PHOTOGRAPHY - all types, from sports action cards to family portraits. 924-8558.

PLUMBING & HEATING - alterations, repair work by Jim Morris, ret. BNLer. Jim, 472-1205.

POOL TABLES - repairs, refinishing, set-ups, moving, also old tables bought & sold, slate tables only. Joe, 929-4425.

ROTOTILLING - Troybilt, custom, lawns & gardens; also, Bar-B-Ribs, will cook at backyard parties. Bob, 732-9517.

ROTOTILLING - small & medium size gardens, free est. Paul, 924-8143.

ROTOTILLING - gardens & yards, large or small, reasonable rates. Mark, 281-5060.

ROOFS - new, installations & repairs, specializes in wood roofs & siding. 878-1178.

SHEETROCKING & SPACKLING - call for free estimate. Kevin, 563-9855.

SKIN CARE CLINIC - diminish the effects of aging, how-to class and more, Wed. April 10 at 7:30 p.m. Joann, 472-6742.

SKYLIGHTS - complete, prof. service, cleaning, preventive maint., installations. Joseph, 924-6019.

SPRING CLEANUP - landscaping, shrubs, moved, general cleanup, reas. Ernie, 698-9274.

SPRING CLEANUPS - lawn maintenance, reliable & reasonable. Bob or Dawn, 724-5772.

TAXES - prepared by tax consultant, your home or mine, reasonable, serving Lab people for over 15 yrs. John, 732-2472.

TAXES - prepared by CFP, BNL discount. Bob, 689-7963.

TREE REMOVAL - trimming, over 20 yrs. exp, free estimates. 289-8212.

TREE SERVICE - removal, pruning, stump grinding. Bob, 727-2346.

TV/VCR REPAIR - no job too small. Vincent, 727-1690.

WAXING - cars & trucks. Emil, 744-7343.

WEDDING PHOTOGRAPHY - quality work at reasonable price, personal touch photography by Patricia Clancy Kriss. 298-5648.

WINDOW CLEANING - all work squeaky clean, reliable, courteous. 928-3189 after 4 p.m.

In Appreciation

The Howell family wishes to thank everyone from the Chemistry Dept. for their sympathy & concern regarding the loss of our Dad. — Steve Howell

My sincerest appreciation for the condolences from my friends and coworkers on the loss of my mother. —Thomas Tsang

Classified Ad deadline is 4:30 p.m. Friday for publication Friday of the next week.