

How Did We Do?

The wait, like the drill, is over. The fact that a selective evacuation drill of the Lab site was to be held in October was widely publicized at BNL. But the actual date and time of the drill were not announced in advance. As it turned out, the wait was not too long: The drill began on Wednesday, October 8, at 4:01 p.m.

At a review following the evacuation, Len Emma, Laboratory Emergency Supervisor, said, "People did things just as they would have on an ordinary work day, and that's just what we wanted — it was a very good simulation."

Addressing those who attended the review, Emergency Planning Coordinator Frank Crifasi said, "The drill's success would not have been possible without your cooperation and the cooperation of the people in your departments, who waited so patiently for their Plectron message to evacuate."

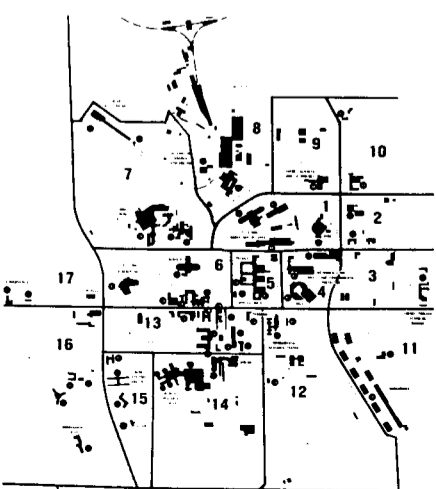
The drill began with the sounding of a Laboratory-wide alert, a steady siren signal, coupled with a general call to department and division offices via the Plectron communications devices. For emergency planning purposes, the Laboratory is divided into zones. Five minutes after the initial warning, zones 1, 2, 3, 9, 10 and 11 were evacuated, Crifasi said, "to clear out the hypothetical source of the problem and the eastern area of the Lab. This accounted for about 500 people, and we tried to evacuate people in groups of about 500 after that."

Accordingly, zone 4 was evacuated about five minutes later, then zone 5 about five minutes after that. Zone 6 was the last zone to be singled out by Plectron at 4:23 p.m. Two minutes later, the intermittent sirens signaled a Lab-wide evacuation, telling the remaining eight zones to leave the site.

Evacuating the last zones, "resulted in some traffic gridlock at the latter part of the drill," Emma said. "This happened because we were carried away by our own success. Our observers were relaying information that traffic was light and moving nicely. So, with about half of the Lab evacuated, we decided to evacuate the rest."

Where the subsequent traffic jams developed also proved a surprise. "From previous experience," said Crifasi, "we expected any problems to occur near the exits. But this time, trouble points were interior to the Lab, at intersections like Cornell Avenue and Upton Road, and Bell Avenue and Rochester Street."

Despite the delays, Crifasi stressed, "Most people were evacuated after 30 minutes. The Fire Department did a sweep of the site at 4:45 p.m. and found around 350 cars still remaining, representing about 15 percent of the Lab population. We consider this good compliance, since exemptions had been made for people involved in the drill and for others such as shift workers and computer operators."

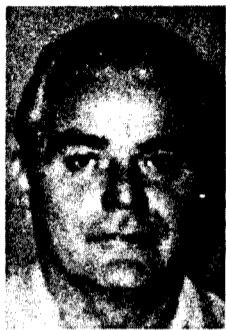


BNL's emergency planning zones.

Steam System Accident Claims Employee's Life

The flag by the Brookhaven Center flew at half-mast this week, as BNL mourned William Peterson. He was the first person ever to die as a result of a work-related accident on the Laboratory site. Peterson was one of four BNL steamfitters who were injured last Friday, October 10, while working on improvements to the Laboratory's steam-heat distribution system.

In a letter to employees following the accident, Laboratory Director Nicholas Samios wrote, "It is with great sadness that I must report that William Peterson died on Saturday afternoon as a result of his burns."



William Peterson

... An investigation is already under way to determine the causes of this tragic accident and to ensure that nothing like it will ever happen again."

The accident occurred at about 1:30 p.m., at the site of new steam lines recently installed on the west side of the Medical Building. Peterson, who had suffered severe steam burns over most of his body, was flown by Suffolk County Police helicopter to the University Hospital at the State University of New York at Stony Brook, where he later died.

After initial treatment at the Occupational Medical Clinic, Stanley Dobzeniecki, burned over almost half of his body, was driven to University Hospital in an ambulance from the Ridge Fire Department. Alfred Schlendorf, who was burned on the arms and legs, was driven to the same hospital in the BNL ambulance. The fourth

accident victim, Edward Erhardt, was treated at the Clinic, then released.

The cause of the accident is not yet known, and a full Department of Energy Type "A" investigation is underway to determine how it happened. Until more is known, work on the new steam distribution system will be on hold.

As the Bulletin went to press, both Schlendorf and Dobzeniecki remained in University Hospital. Schlendorf was in stable condition, and Dobzeniecki's condition was listed as critical, but stable.

William Peterson, who was 54 years old, lived in Manorville. He came to Plant Engineering in 1977. He is survived by his former wife, Andrea; his four children, Andrea, William Jr., Jeanmarie and Gloria; his mother, Mary Killian; and his sister, Marie Burns.

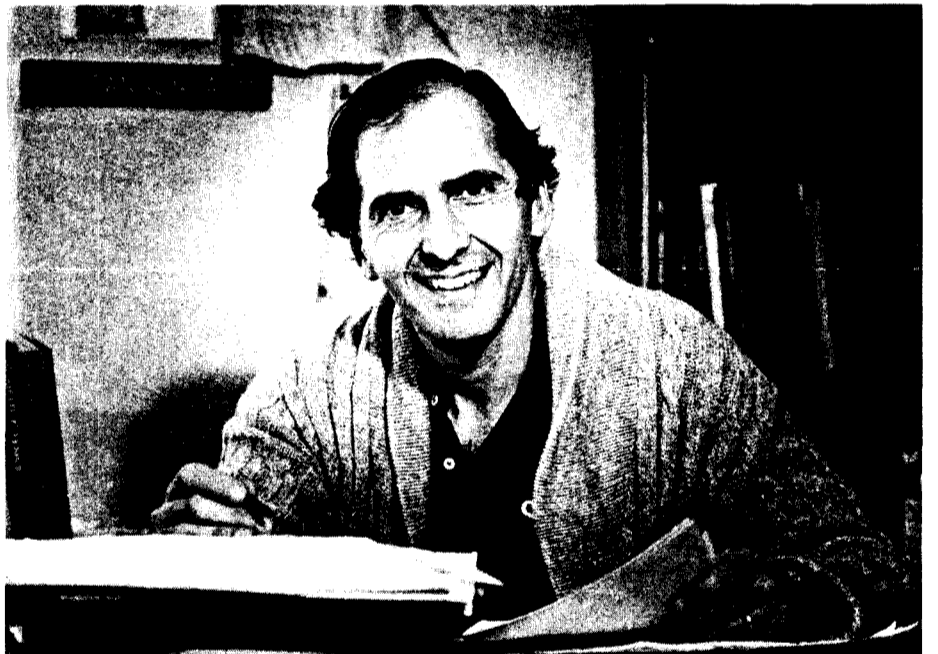
DNI Lecture: To Catch a Quark

A basic law of physics is that objects with the same charge repel each other. Given that, why do the positively charged, subatomic particles known as protons stick together with other neutral particles called neutrons to form an atomic nucleus?

In the 1950's physicists believed that protons overcome their natural tendency to repel through an exchange of other particles called pions. But in the 1980's, the view is quite different, all because of the discovery that protons and neutrons are made up of even smaller particles called quarks that are held in close confinement by an exchange of other particles known appropriately as gluons.

How did this change in thinking come about? That's the question Physicist Michael Tannenbaum, Physics Department, plans to answer next Thursday, October 23, in the 228th Brookhaven Lecture. Entitled "How We Caught Quarks by the Tail," Tan-

(Continued on page 3)



Michael Tannenbaum

—photo by Rosen

Hon. Ralph Earle II to Speak On Questions of Arms Control

As underscored by the outcome of last week's summit meeting in Reykjavik, Iceland, arms control is one of the most complex issues in today's world. The subject of arms control will be addressed at BNL next Monday, October 20, when the Honorable Ralph Earle II speaks about "Problems and Prospects for Arms Control." The Lab-wide Colloquium, sponsored by AUI, will begin at 3 p.m., in the Hamilton Seminar Room of Chemistry, Bldg. 555.

Ralph Earle was involved with matters of national defense during four administrations, beginning in April 1968 when Lyndon Johnson was president. From then to July 1969, during Richard Nixon's presidency, he served as Principal Deputy Assistant Secretary of Defense for International Security Affairs. Then he became the principal civilian representative of the Secretary of Defense in Europe, serving as Defense Advisor, U.S. Mission to NATO.

In November 1972, as a partner in the law firm of Morgan, Lewis & Bockius, Philadelphia, Earle became involved with the Strategic Arms Limitation Talks (SALT) between the

U.S. and the Soviet Union, serving as consultant to the Secretary of Defense on SALT. His October 1973-May 1977 tour as a representative of the U.S. Arms Control and Disarmament Agency (ACDA) on the U.S. SALT delegation spanned the rest of the Nixon administration, the Gerald Ford years and the beginning of Jimmy Carter's presidency. Continuing with SALT, he became the Alternate Chief U.S. Negotiator, moving up to Chief U.S. Negotiator in October 1978; both positions carried the rank of Ambassador.

In January 1980, after the Salt II Treaty was completed, Earle became the Director of the ACDA. In this capacity, he was principal advisor to President Carter, the National Security Council and the Secretary of State on matters involving arms control and disarmament. When he left this position, in January 1981, he began his current association with the Center for Foreign Policy Development at Brown University, to write a book on his experience as the Chief U.S. Negotiator of the Salt II Treaty. Earle's views on the present status of the SALT II Treaty are contained in the article "America Is Cheating Itself,"



Hon. Ralph Earle II

which leads off the fall 1986 issue of the quarterly publication Foreign Policy.

In July 1982, Earle also returned to his original profession — law. He had graduated from Harvard Law School with an LL.B. in 1955. Today he is senior and managing partner in the Washington, D.C. office of Baker & Daniels, an Indianapolis law firm.

Transatlantic Navigator

The Azores are ten islands of volcanic origin, located in the North Atlantic Ocean. They sit about 900 miles west of Portugal, to which they belong, and about 2,000 miles east of Patchogue, from which Eric Forsyth, chairman of the Accelerator Development Department, sailed last July 5.

Forsyth, with a crew of two, set across the Atlantic in the *Fiona*, his fourth and largest boat, a 42-foot cutter he finished building in his backyard in 1983. Since he launched his boat, Forsyth has sailed a total of about 16,000 miles during annual, extended cruises to far-off islands. "I worked seven years on that boat," explains Forsyth, "and after all that work, I'm not going to let it sit in a boat slip all summer.

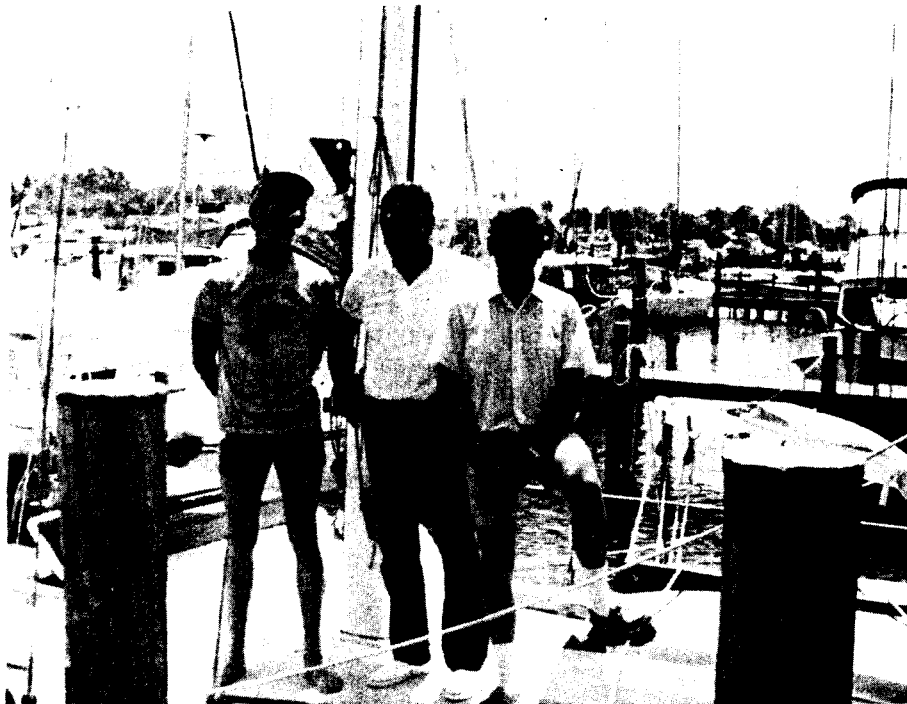
"In 1968, I quit the Lab and lived on a 35-foot sloop with my wife Edith [formerly of BNL's Medical Department] and son Colin until we ran out of money in late '69," continues Forsyth, who learned to sail in 1961, after coming to BNL. During the 1968-69 cruise, they visited Bermuda, the Leeward and Windward Islands, Puerto Rico and the Bahamas, and they returned to New England via the Intracoastal Waterway.

Forsyth used the knowledge he had gained from living onboard full time in designing the *Fiona*. In 1975, Forsyth purchased a bare fiberglass hull and deck molding "because I wanted to know that at least it was structurally sound." As he had never built a boat before, he learned by doing. The backyard ship builder worked on his craft evenings and weekends year-round.

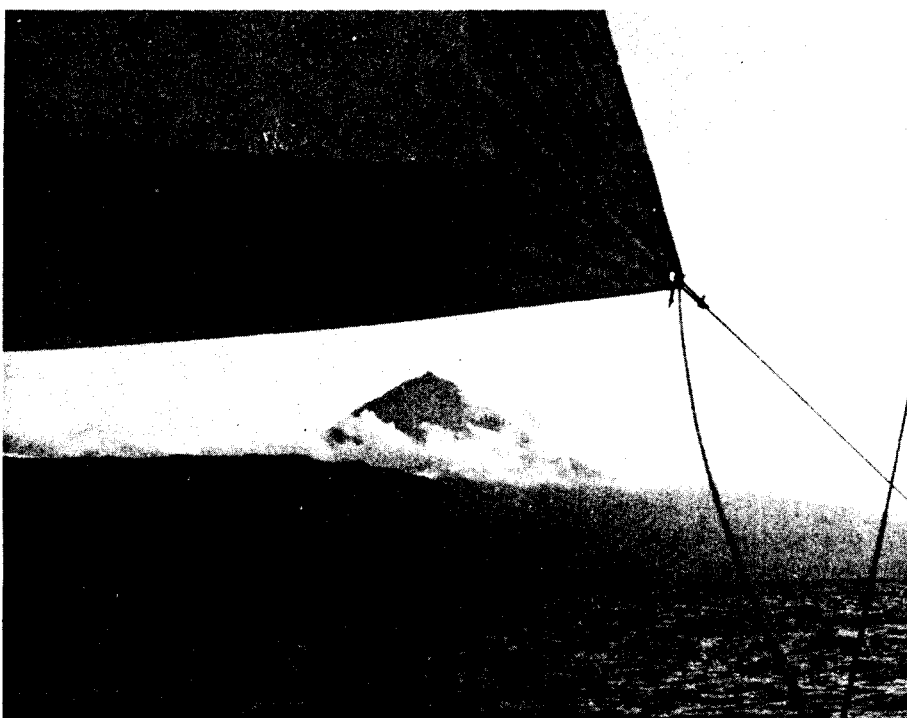
For her maiden voyage, the *Fiona* was navigated to Bermuda in 1983 by Forsyth. As has become a tradition, he set sail on July 5 and on the way docked first on Block Island, where he purchased any items he found he had forgotten. Forsyth spent one week each way, and two weeks cruising the dozens of coral rocks, islets and islands comprising Bermuda.

For six weeks in 1984, he sailed to the Canadian islands of Nova Scotia, Cape Breton, Prince Edward and Newfoundland. The next year, 1985, Forsyth spent six weeks island-hopping from Bermuda to the Virgin Islands to the West Indies Leeward Islands of St. Martin and St. Barthélemy.

This summer, Forsyth was at sea for seven weeks and five days, again stopping at Block Island on his way to the Azores. "During this Atlantic crossing, I saw a lot of whales — especially humpbacks," he reports. "As we would sail up, they would sink under or spray us. When Portugal joined the European Common Market, they agreed to stop killing whales,



Eric Forsyth (right) with his crew on board the *Fiona* on July 5 in Weeks' Yacht Yard, Patchogue, prior to their departure for the Azores.



The 7,000-foot volcanic peak of the Azorian island of Pico, as seen under the foot of the *Fiona*'s jib during a night passage from Fayal to Terceira.

including those off the Azores. And I think the whales are now coming back."

Forsyth went ashore on four Azorian islands: Flores, in the northwest, and Fayal, Terceira and Graciosa, in the center of the Azores. "Fayal is the traditional center and meeting point for transatlantic sailors," says Forsyth. He picked up his family at the airport on Terceira and sailed to the port city of Horta, which is the capital of Fayal.

Since his wife and daughter always fly to his destination, cruise around and fly home, Forsyth has to fish for deck hands. "It is very hard to find people who have the time," explains Forsyth, who annually advertises in the Bulletin classifieds for shipmates. Every year so far, at least one of his crew has jumped ship because of the lack of time — or seasickness.

"This year, one of the crew flew home with my wife and daughter," says Forsyth. He and his remaining

hand each stood one 6-hour and two 3-hour watches per day from the Azores back to Bermuda, a trip three weeks long.

"On my other boats, you were tied to the wheel when on watch," says Forsyth, "But the *Fiona* has an autopilot, which steers the boat under power, and a self-steering wind vane, which controls the rudder under sail. So when you are on watch, you just have to make sure she is holding the desired heading, the sails are trimmed, and she is not on a collision course with other ships. You can steer her yourself if you want to, but we did this for less than five percent of the time."

While sailing to the Azores took 16 days, the return trip took 21. Bermuda is 1,900 miles from the Azores as the crow flies, but the *Fiona* had to sail 2,700 miles between the two points.

"We had to power for five days in the Azores-Bermuda high, a permanent high-pressure area with no wind," reports Forsyth. "After that, we had light headwinds, which killed our chance for a fast passage to Bermuda.

"Twenty-one days at sea and five days late to Bermuda, we had just about run out of fuel — propane, scotch and beer." In addition to restocking their supplies, they added an extra hand for the five-day trip from Bermuda to Greenport. When she reached the North Fork of Long Island the day before Labor Day, the *Fiona* had sailed over 6,100 miles since July 5.

Forsyth was an experienced transatlantic navigator before he put the *Fiona* in the water. From 1972-82, he served as navigator in six biennial Newport to Bermuda yacht races. "I learned how to navigate as a Royal Air Force pilot in the 1950's, and it was easy to transfer the skill from air to sea," he says. He made his first transatlantic sailboat crossing in 1964, when he navigated from Port Jefferson to Falmouth, England, with his wife and five friends on board.

Experienced in celestial and electronic navigation, Forsyth is a member of the Institute of Navigation, the professional organization for navigators and navigational equipment designers. In addition, he has belonged to the South Bay Cruising Club since 1962. The club promotes sailboat cruising and racing on the South Shore, and Forsyth will be teaching a course on off-shore navigation that the club will offer in early winter.

"During the classes, I'll explain the use of the sun, moon, planets and stars to find your position and direct the course of your boat," he says. The ten-week course will meet one night a week and is open to members of the BNL community. For more information, contact Bill Fritz, another South Bay Cruising Club member, at Ext. 3278. — Marsha Belford

Advanced Summer Study, NATO-Style

If you were in Italy this summer, and happened to pass through Castelvecchio Pascoli on the way to Pisa or Florence, you might have glimpsed some visitors whose main interests were rather different from the art and architecture usually studied in that area. These were the 110 participants from the NATO Advanced Study Institute (ASI), held from July 20 through August 1, directed and organized by Suresh Srivastava, head of the Radionuclide and Radiopharmaceutical Research Division in BNL's Medical Department. The theme of the institute was "Radiolabeled Monoclonal Antibodies for Imaging and Therapy — Potential,

Problems, and Prospects."

Monoclonal antibodies (MAbs), which are homogeneous gamma globulins that selectively and avidly bind to a particular antigen, have been developed against antigens of most common solid tumors and for various skin, blood and soft tissue cancers. When labeled with a suitable radioisotope, these MAbs have the potential to act as "magic bullets" of radioactivity, either for diagnostic imaging or for delivering lethal doses of radiation to tumors.

At BNL, Srivastava's group has investigated radiolabeled MAbs for the last four years. The international recognition of their work led to the NATO award to Srivastava for organizing and directing this ASI, at which a selected team of experts from around the world provided in-depth lectures, tutorials and workshops centered on radiolabeled MAbs. NATO chooses sites especially for their beauty and tranquility, and the relaxed atmosphere encourages discussions among

participants. Collaborative research and lasting contacts develop, all on a truly international level.

Besides the primary sponsorship of NATO, this ASI was cosponsored by the Office of Health and Environmental Research in the Department of Energy. Partial financial support came also from ten industrial companies in Europe and the U.S., which have interests in radiopharmacy and biotechnology.

Said Srivastava, "Despite the tremendous amount of work, the organization of this ASI was very rewarding, professionally, as well as personally. Work at BNL was highlighted and discussed, as well as the latest results from top investigators in the field. The proceedings, to be published in spring 1987, are expected to be the first complete treatise on radiolabeled monoclonal antibodies. The ASI contributed greatly toward setting general directions and specific goals for further research in this exciting field." — Liz Seubert

Holiday Note

The next BNL holiday, Veterans Day, will be observed on Tuesday, November 11.

Coming Up

"What is Matter Made of? An Age-Old Quest" will be the subject of a Lab-wide lecture by Leon Van Hove, CERN, on Thursday, October 30, at 3:30 p.m., in Berkner Hall. The lecture caps the last of Van Hove's three stays at BNL as the first Leland J. Haworth Distinguished Scientist. A reception will follow in the lobby at 5 p.m.

The Concord String Quartet will present an all-Beethoven concert on Tuesday, October 28, at 8:30 p.m., in Berkner Hall. Tickets will be sold at the door: \$9 for general admission, \$6 for students and those over 65, and \$5 for those under 18.

BNL Lecture (Cont'd)

nenbaum's talk will be given at 4:30 p.m. in Berkner Hall.

In his lecture, Tannenbaum will explain how, in the early 1960's, with the advent of particle accelerators like the Alternating Gradient Synchrotron (AGS) that could reach previously unattainable energies as high as 30 billion electron volts, a whole new picture began to form about the structure of matter. As accelerators grew more powerful, more was learned. In 1972, during a search for new particles at the Intersecting Storage Ring at CERN, the European high energy physics laboratory, many more particles were found than had been predicted at large angles at higher energies. Said Tannenbaum, "This was one of the first indications that quarks were there—the 'tail' by which quarks were found."

By 1982, physicists had determined that quarks scatter off each other in accelerator collisions and could be identified by measuring the angular distribution of the produced particles. In fact, Tannenbaum played a major role in the first direct measurement of this type.

To many people, however, the mystery remains: If quarks are so strongly confined, how can we measure their scattering and infer their existence? Explaining the physicist's solution to that mystery is at the heart of Tannenbaum's lecture.

Michael Tannenbaum, who was a summer student at BNL in 1960, received his Ph.D. in physics from Columbia University, in 1965. His thesis, which dealt with muon-proton elastic scattering, was based on AGS experiment #4.

After graduation, he became a visiting scientist at CERN until 1966, then an assistant and associate professor of physics at Harvard, until 1971. From 1971-1980, he was an associate professor at the Rockefeller University. Concurrently, from 1973-1984, he was an Attaché Scientifique at CERN.

Tannenbaum returned to BNL in March 1980, to head the Planning and Analysis Section of the ISABELLE Project, then switched to head of the project's Superconductor Procurement and Magnet Lamination Physics, in 1981. He has been with the Physics Department since May 1982.

In addition to other honors, Tannenbaum was twice named a National Science Foundation Fellow, once predoctoral and once postdoctoral, and is a member of both Phi Beta Kappa and Sigma Xi. He is also a Fellow of the American Physical Society.

All those interested in getting together after the lecture are invited to go with the lecturer to a restaurant off site. Anyone who would like to be part of this group should call George Rabinowitz, Ext. 7637.



Marcus Uzilevsky, who created this artwork, is one of the artists who may be featured in the upcoming Art Expo and Auction.

Going Once . . . , Going Twice . . .

Pablo Picasso, Salvador Dali, Norman Rockwell, Will Moses and Mary Vickers are some of the artists who will be featured in an Art Expo and Auction, to be held at Berkner Hall on Saturday, November 1. A preview of the artwork will begin at 7:30 p.m., and the auction is scheduled for 8:30 p.m. The event is being held as a fundraiser for the Renate W. Chasman Scholarship Fund, sponsored by Brookhaven Women in Science. The auction is open to the public, and the \$5 admission fee is a tax-deductible donation to the scholarship fund.

Included in the works for sale are original, signed lithographs, paintings, etchings, oils, watercolors and enamels. With prices starting as low as \$25, this will be a good opportunity to acquire works by established artists. Credit cards will be accepted.

The auction will be conducted by Marlin Art of Deer Park. If more than 100 people attend the auction, Marlin

Art will contribute to the scholarship fund \$500 or 10% of the auction income, whichever is more. If more than 200 people attend, then the fund will receive \$1,000 or 20% of the take, whichever is greater. So even if you just want to browse, your attendance alone will benefit the fund.

Refreshments will be served, and attendees will have a chance to win a door prize donated by Marlin Art.

The Chasman Scholarship was established to encourage Long Island women to resume their formal education in technical fields. BNL physicist Renate Chasman (1932-77) is most noted for her unique design, in collaboration with the late Ken Green, of an electron storage ring optimized for synchrotron radiation production. The Chasman-Green design is the basis for the National Synchrotron Light Source and other synchrotrons around the world.

Gym Closing

The gymnasium will be closed for floor repairs during the weekend of October 18 and 19. Normal schedule for activities will resume on Monday, October 20.

PSI News

Mary Aretakis, Recording Secretary of Professional Secretaries International's New York State Division, will be the guest speaker at the next monthly PSI meeting, on Tuesday, October 21, at 6 p.m., in Room C, Berkner Hall. A Certified Professional Secretary, Aretakis will speak about "Marketing PSI Through Membership."

Arrivals & Departures

Arrivals
Theresa A. Esposito P&GA

Departures
This list includes all employees who have terminated from the Laboratory, including retirees:
Ching N. Guey DNE
Jacob P. Varkey Biology

Theater Group

The BERA Theater Group will meet on Wednesday, October 22, at 8 p.m. in Berkner Hall, for a program of readings from plays on a Halloween theme. Anyone with an interest in theater, even in only a spectator role, is most welcome to attend.

Visitors to BNL



A delegation from the Japan Technology Transfer Association visited BNL on September 22 to learn about the Laboratory's research in areas related to nuclear power, such as radioactive waste management, decontamination and decommissioning. Among the group's hosts at BNL were: (front row) Walter Kato (left), Deputy Chairman, Department of Nuclear Energy (DNE); Seymour Baron (third from left), Associate Director for Applied Programs; DNE Chairman Herbert Kouts (fourth from left); Mark Fuhrmann (right), DNE; (back row) Peter Soo (second from right), DNE; and Donald Schweitzer (right), DNE.

Swim Club

The Swim Club will hold practice on Thursday, October 23, at 5:15 p.m. at the BNL pool. For more information, call Marsha Belford, Ext. 5053, or Peter Heotis, Ext. 2304.

Cooking Exchange

Recipes for Japanese wonton, sushi, chicken and salad will be demonstrated and sampled at the Cooking Exchange meeting on Wednesday, October 22, at 12:30 p.m., in the Recreation Building.

The Exchange is open to Laboratory employees and their immediate family members. A small donation of \$1.25 per person is collected from those attending each meeting to help defray the cost of ingredients for recipes to be demonstrated. Babysitting is provided at 50¢ per child.

Contact Noemi Katz, Ext. 3073, for more information.

Indoor Tennis

Sign-up for indoor tennis in the gymnasium will begin today, October 17. The gym is available for tennis from 5 p.m. to 9 p.m. on Tuesdays, and from 1 p.m. to 5 p.m. on Sundays.

Reservations can be made in person at the BERA Sales Office in the cafeteria between noon and 2 p.m. on Monday for play the next day, and between noon and 2 p.m. on Friday for play the following Sunday.

Players are reminded that they are limited to one hour of court time per week for singles or two hours each per week for doubles.

Bowling

Purple League
Tom Holmquist bowled a 241, Lee Barberich 206/184/178, Jim Vogel 200, Mary Scheidet 181, Pat Oster 178.

White League
Ken Riker had a 209, Pat Manzella 192, Audrey Karzenski 177, Elaine Zukowski 172.

Pink League
High games were bowled by Maryann Reynolds 213/180, Kathy Kissel 189, Sandy Asselta 188, Ellie Kristiansen 186.

Red/Green League
R. Jansson rolled a 253/622 scratch, W. Kristiansen 219, T. Holmquist 218, R. Jones 217, J. Muller 216, E. Sperry IV 212, R. Larsen 212, S. Dimaiuta 211, D. Jesaitis 209, J. Morris 208/208, H. Arnesen 204.

Cafeteria Menu

Week of October 20

Monday, October 20	
Chicken noodle soup	(cup) .70 (bowl) .90
Baked ziti w/garlic bread	2.55
Roast turkey w/stuffing and 1 veg.	2.65
Egg salad & cottage cheese plate (lite-weight)	2.25
Hot deli: Roast beef garden club	2.55
Tuesday, October 21	
Southern beef vegetable	(cup) .70 (bowl) .90
Stuffed peppers w/1 veg.	2.55
Quiche Lorraine w/1 veg. (lite-weight)	2.55
Hot deli: Pastrami	(bread) 2.40 (roll) 2.55 (hero) 2.65
Wednesday, October 22	
Minestrone soup	(cup) .70 (bowl) .90
Spaghetti w/meat sauce & French bread	2.99
All you can eat (no take-outs)	2.60
Cantonese pineapple pork over rice	2.60
Hot deli: Italian meatball hero	2.50
Thursday, October 23	
Beef barley soup	(cup) .70 (bowl) .90
Fried chicken w/1 veg.	2.65
Meat loaf w/mushroom gravy and 1 veg.	2.55
Hot vegetable plate (lite-weight)	2.20
Hot deli: BBQ pork	(bread) 2.40 (roll) 2.55 (hero) 2.65
Friday, October 24	
Boston clam chowder	(cup) .70 (bowl) .90
Turkey à la king w/biscuits	2.55
Seafood platter w/1 veg.	2.65
Chicken & rice salad (lite-weight)	2.25
Hot deli: Roast beef	(bread) 2.40 (roll) 2.55 (hero) 2.65

In Memoriam

Mingyang Ernest Chen, a research associate in the Physics Department, died on October 13. He was 33 years old. Chen had been at BNL since December 6, 1984. He was a resident of Middle Island. His survivors, who include two children, live in Taiwan.

BROOKHAVEN
BULLETIN

Published weekly
for the employees of
BROOKHAVEN NATIONAL LABORATORY

ANITA COHEN, Editor
MARSHA BELFORD, Senior Reporter
LIZ SEUBERT, Reporter

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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.

2484. OFFICE SERVICES/ACCOUNTING POSITION - Requires a minimum of two years' college accounting credits. Responsibilities include assistance in various aspects of General Accounting, i.e., A/R, capital equipment, inventories and other accounting analyses. Fiscal Division.

2485. CENTRAL SHOPS FABRICATION SPECIALIST - Requires working knowledge of machining, welding and a thorough knowledge of materials. Individuals will prepare job orders for fabrication, materials and shop supply orders and numerical controlled machine tool programs. Central Shops Division.

Autos & Auto Supplies

73 PLYMOUTH SCAMP - 50k mi. on eng., many new parts, asking \$375. Don, Ext. 4576.

84 ESCORT - diesel, 40+ mpg, p/s, a/c, p/b, am/fm, 32k mi., needs minor body work, \$3,800. 821-1525.

76 CRUISAIRE - motorhome, 21', 29k mi., self-contained, sleeps 6, \$8,000. 732-3919 after 5:30 p.m.

75 FORD LTD - 351 engine, runs well, body damage, \$450. Ext. 7200 or 7813.

80 CHEVY - pickup, 1/2 ton, good cond., \$2,500. Ext. 7592 or 929-4787.

81 CHEVY - 4 dr., 4 cyl., am/fm, a/c, good cond., \$1,750. 654-1146 after 5 p.m.

70 VOLKSWAGEN - Fastback, rebuilt engine, doors, fenders, misc. Walter, 757-6392 after 6 p.m.

78 FORD GRANADA - 2 dr., 6 cyl., a/t, 85k mi., running cond., needs minor work, \$550. 661-4401 after 6 p.m.

77 LINCOLN VERSAILLES - excel. cond., 59k mi., well maintained, good mileage, must sell, \$2,999 neg. Lee, Ext. 3850.

80 FORD FAIRMONT - good cond., orig. owner, standard, \$1,900. 286-9606.

80 DATSUN - 200SX, htchbk, am/fm stereo, a/t, sunroof, \$2,395. 928-4069 after 5 p.m.

78 NOVA - very good cond., dependable, new tires, \$995. Lisa, 567-5336 after 3 p.m.

14" GM WHEELS - 15" Chrysler wheels. Bob, Ext. 4824, beeper 343 or 744-5098 after 6 p.m.

TIRES - SB radials, Bridgestone, 165SR13 (4), used, \$25. Ext. 4449 or 751-8403 after 6 p.m.

TIRES - (1) 10x15 AT Tracker, new \$60; (2) 205/75R14, all season radials, excel., \$25/ea.; (2) snows, \$20/ea. Tony, Ext. 2462.

71 DODGE DART - Swinger, p/s, a/c, \$1,200. 567-5947.

83 NISSAN STANZA - 4 dr., 5 spd., 38k mi., extras, excel. cond., \$4,800. 744-4611 after 6 p.m.

67 CHRYSLER CONVERTIBLE - 383 V8, a/t, p/s, p/b, p/w, new top, new radio am/fm cass. Tony, 698-9274.

73 PLYMOUTH SCAMP - a/t, runs well, some body rust, motor good, \$250. Dave, Ext. 2694 or 941-9022.

79 MERCURY MONARCH - 6 cyl., 4 dr., a/t, a/c, p/s, am/fm radio., 71k mi., \$1,900 or best offer. Itsuki, Ext. 3028 or 4078.

76 CHEVY CAPRICE - 2 dr., mint cond., am/fm, a/c, new tires, must see; 4 mag wheels, 6 holes, Chevy pickup, \$80. Steve, Ext. 2314 or 929-6877.

85 RENAULT ENCORE - am/fm, new tires, 30k mi., 40+ mpg, excel. \$3,500. Ed, Ext. 3293 or 477-2880.

81 HONDA LX - htchbk, 65k mi., excel., orig. owner, asking \$3,900. 286-3829.

TIRES - P185R14, w/w, steel belted radials, excel. cond., \$20/ea. Richie, Ext. 2175 or 734-7342.

82 FORD EXP - no reasonable offer refused. 567-6226, eves.

81 CHEVETTE - yellow, 4 cyl., htchbk, a/t, clean, in good cond., \$1,200. Jim Pontieri, 475-9131.

82 DODGE - Sportsman Royal Ram van, V8, a/t, a/c, p/s, p/b, excel. cond., extras. 758-6069.

84 MAZDA 626DL - mint, 24k mi., sunroof, 5 spd., tilt wheel, new tires, p/w, p/l, \$9,000. 585-9149.

69 NOVA - new tires, battery, body/eng. good, am/fm, a/t, needs work. \$250. 722-3887.

76 CHEVY - pickup w/cap, V8, new tires, \$2,000. John, Ext. 3675 or 924-3528.

75 DUSTER - very good running cond., needs work on k-frame, \$300. Barbara, 281-5563.

77 MERCURY XR7 - good transp., needs some work, \$800. John, Ext. 3292.

67 MUSTANG - 85k mi., \$2,500. 728-3183.

MOTORHOME - 86 Winnebago, 31', low mileage, must see. Bob, Ext. 4965 or 289-1834.

69 VW BUG - convertible classic, new blue paint, runs well. \$1,800. 581-5462, eves.

77 CHEVY SUBURBAN - 2WD, made to pull trailer, a/t, p/s, asking \$1,795. 399-3064 after 5 p.m.

79 DATSUN 310 - a/c, am/fm stereo cass., new clutch, brakes, drive shafts, \$1,000. Mike, Ext. 4407.

74 DUSTER - 6 cyl., standard, 100k mi., good cond., \$400. Serban, Ext. 3721.

86 FORD ESCORT L - a/t, a/c, p/s, p/b, am/fm cass., excel. cond., asking, \$6,600. Ext. 2223 or 929-6421.

86 HONDA EXCEL - htchbk, silver, excel., 40 mpg, must sell, \$5,300. Ext. 2514 or 757-3178, eves.

81 VW RABBIT - diesel, 2 dr., a/c, fm/cass., 40-50 mpg, good cond., 86k mi., \$2,300. Ext. 3525 or 491-0753.

80 200SX - a/c, 5 spd., htchbk, sunroof, 76k mi., am/fm, p/s, p/b, runs well, \$2,800 neg. 654-0830.

81. CHEVY CHEVETTE - 4 dr., orig. owner, \$1,900. 242-9386 after 6 p.m.

TRAVA CAP - white, fiberglass, smoked sliding windows, screens, speed rails, fits Rancho-El Camino, 8 mo. old. Don, Ext. 4661.

TIRE - w/rim 14", good for spare, \$10; (2) 13" snows, \$10. Janet, Ext. 2345 or 929-8152.

82 DODGE SPORTSMAN - Royal Ram Van, V8, a/t, a/c, p/s, p/b, excel. cond., extras. 758-6069.

79 FORD T-BIRD - full power, am/fm stereo, immac. 369-1975 after 5 p.m.

78 DODGE OMNI - 4 dr., 4 spd., stereo cass., many new parts, good mpg, \$800 neg. 744-9394.

75 FORD PINTO - station wagon, good cond. Don, Ext. 5329 or 878-2215, eves.

76 MUSTANG - 2 dr., sedan, still runs, \$700. (718)847-1079, after 6 p.m.

TIRE - w/rim, 15", good for spare, \$15; (2) 14" snows, \$10 ea. Ext. 2181.

SCUFF GAUGE - to measure wheel align. for NYS insp., checks toe in-out, large size, drive over w/car. \$50. Dan, Ext. 4987.

85 FORD ESCORT - 4 spd., low miles, \$4,200; 83 Toyota, 4WD, SR5 pickup, loaded, \$7,600, excel. Jeff, 584-7970, eves or 575-5554, days.

REAR STEP BUMPER - for GM truck, new, \$85; front bumper, for GM truck, 73 to 81, excel. \$40. Tony, Ext. 2462.

81 JEEP SCRAMBLER - 3/4 ton, pickup, 4WD, 57k mi., many extras, 928-7139 after 8 p.m.

76 VOLVO WAGON - 78k mi., loaded, a/t, p/s, p/b, a/c, excel. cond., asking, \$2,950 neg. Ralph, Ext. 2368 or 928-6654.

79 TOYOTA - 2 dr., 5 spd., some body rust, runs well, asking \$1,000. 472-1735. — B.L.G.G.

73 FORD RANCHWAGON - full size, seats 8, dependable transp., new 5 year battery, \$300. Jack, Ext. 4447 or 744-3919, eves.

81 VOLVO GL - 4 spd., w/overdrive, white, all power, excel. cond., sunroof, \$6,950. Ext. 4142 or 286-0745, eves & wknds.

79 HONDA CIVIC 1200 - for rebuild or parts, \$150. Ext. 7200 or 7813.

71 BUICK LeSABRE - p/s, p/b, a/c. 584-7750 after 6 p.m.

75 VOLKSWAGEN BUG - fuel injection, good shape, good running cond., new tires and brakes, \$450. Ext. 4393 or 3010.

79 BUICK LeSABRE - 350 V8, a/c, 4 dr., p/s, p/l, am/fm, good cond., asking \$1,800. Ext. 7795 or 589-8331.

80 OLDS TORONADO - red, V8, diesel, all pwr, orig. owner, clean, \$3,000 neg. Ext. 3794.

TIRES - (2) 225/75-14 radials; (2) H78-14 snows, \$10 each. 744-9677.

78 CAMARO - a/t, p/s, p/b, am/fm, rebuilt trans., good, orig. owner, \$2,200. Stewart, 273-6993.

74 CADILLAC - Fleetwood Brougham, 4 dr., sedan, 80k mi., a/t, a/c, fully loaded, excel. cond., elegant, solid, \$2,100. 929-4446.

81 PLYMOUTH RELIANT K - a/t, p/s, 60k mi., 30+ mpg, new tires, excel. cond., \$2,000. Ext. 3016 (home).

77 FIAT SPIDER - needs some work, \$500. Ext. 2484 or 758-6241 after 6 p.m.

81 CADILLAC - Coupe DeVille, very clean. Roy, Ext. 7936, beeper 706.

70 DODGE DART - excel. running cond., excel. body, must see, \$100. Skip, 727-6369 after 5:30 p.m.

82 XJ6 JAGUAR - silver, black interior, 4 dr., excel. cond., low mileage, \$16,500. 727-2725.

Boats & Marine Supplies

21'2" CHESAPEAKE - Grady White, 170 h.p. fwc, Merc I/O, excel. cond., many extras, asking \$9,500. 589-5490.

FAMILY CRUISER - 1981 "Fiberform" 2375 Sun Blazer, sleeps 5, aft cabin, 200 h.p., fwc, Volvo, loaded, mint cond., only 115 hrs., 654-5888.

16' FLEETCRAFT - 1973, 70 h.p. Evinrude, new top, new canvas, excel. cond., 878-0994.

23' AQUARIUS SAILBOAT - 3 sails, 7.5 h.p. Evinrude outboard, good starter boat, \$3,500. Manny, Ext. 7578.

19' LIGHTNING SAILBOAT - FG w/trailer, excel. cond., race equipped, \$2,500 firm. Bob, Ext. 7197 or 399-1679.

28' PACEMAKER - 1973, S.F., fwc, rebuilt engines, sleeps 6, mint cond., 928-1144.

BOAT TRAILER - 14' aluminum Sear's, 10 h.p. Johnson outboard, excel. cond., \$800. Bud, Ext. 3083 or 281-6782.

17' PROLINE - 1974, center console, 50 h.p. Johnson w/trailer, excel., \$2,400. 878-2849 after 4 p.m.

MERCURY GAS TANK - and hose, \$15. John, Ext. 3675 or 924-3528.

OUTBOARD - 4 1/2 h.p., long shaft, Johnson, excel. cond., 10 hours running time, \$275 firm. Ext 4028.

19 1/2' SEA SPRITE - w/trailer, 1985, cuddy, all electronic, C.G. package, \$11,500. 363-6845.

19' RENKEN BOWRIDER - 120 h.p. Volvo, I/O (150 hrs.), full canvas, trailer, \$3,900. Ron, Ext. 7533 or 286-0353.

Miscellaneous

PUMPKINS - all sizes, you pick, Saturdays & Sundays throughout Oct., Meadows Farm, Beaver Dam Rd., Brookhaven.

MET OPERA TICKETS - balcony, 4th row, LaBoheme (2), Dec. 19; Manon LeScout (4), Jan. 23, \$22 ea. Dave, Ext. 2694 or 941-9022.

ICE BOX - old fashioned, galvanized, for collecting, cabin or trailer, \$25. Ext. 2384 or 878-0074.

FISHER AMPLIFIER - 700-T, \$50; Garrard turntable, \$25; 2 speakers, \$25. 286-0466.

DEHUMIDIFIER - 30 pint cap., auto. shut off., excel., \$50. Otto, 472-0339.

BEDROOM SET - king size, w/triple dresser, armoire, twin mirrors, night tables, \$650. 732-3919 after 5:30 p.m.

COLONIAL PIANO - top of line Wurlitzer, 8 yrs. old, excel. cond., 298-4398 after 4 p.m.

MATRESSES - 2 w/box springs and frames, new Aug. 9, \$400 for all. 821-0794 after 6 p.m.

SEWING MACHINE - Kenmore, older model, \$50 or reasonable offer. Marilyn, Ext. 2267.

CHINA CLOSET - 5', walnut contemporary, top, 4 glass panels, 2 doors, 3 drawers, excel. cond., \$200. Ext. 2529.

MEN'S SHIRTS - short sleeves, new, size 15, \$6 ea.; portable projector screen, \$5. Susan, Ext. 4267.

STOVE - 24" electric w/oven, good cond., asking \$50. 286-0237.

DISK DRIVES - (2) 8" w/supply, aligned, checked, w/manual, \$175. Rich, Ext. 4172.

FIREWOOD - split, seasoned oak, 4'x16'20'-22", pieces, \$105, delivered. 732-2849.

MOVIE CAMERA - super 8mm and movie editor, regular 8mm., \$80. Mark, Ext. 5350.

24" ATTIC FAN - 1/2 h.p. motor, a real air mover, \$20. Ext. 4238 or 286-3509.

TURNTABLE - receiver, am/fm, Sony, w/speakers, like new. Tony, Ext. 2050.

TRACTORS - (1) Farmal, super "C", gas; (1) B-275 international, diesel, 3-pt. hitch, plow, disk, rake, etc, \$12,000. Jim, Ext. 4040 or 289-0876.

ULTRASONIC HUMIDIFIER - Samsung HU-701A, \$20; child car seat, \$10. Uehara, Ext. 3028 or 4078.

SOFA BED - Q-size, red contemp., \$180; 4-piece bdrm. set, maple, \$300, or best offer, all excel. cond. Ext. 2683 or 751-2469 eves & wknds.

STOVE - GE, electric, needs thermostat, \$25; Norge gas dryer, \$25; windsock geese, mailards, & seagulls, \$9.99 ea. Ext. 4665 or 727-4859.

FLASHLIGHTS - \$1 ea; bulb planter, \$1; 15 cu. ft. refrigerator, \$175. Joe, Ext. 2898.

HOT AIR FURNACE - .65 gal/hr., approx. 80k Btu's hr. for shop, garage, \$100. F.J. Usack, Ext. 4798.

BEDROOM SET - good cond., 5 piece, \$350. Ralph, Ext. 3082 or Laura 654-3358.

WOOD BURNING STOVE - \$50; leaf shredder, 5 h.p., \$75; radiant king kerosene heater, \$15. John, Ext. 3675 or 924-3528.

FIREWOOD - split, cord, \$110. 924-8143 after 5 p.m.

FURNITURE - Rd. Maple table w/4 chairs, \$60; formica table, \$15; 90" sofa, \$65; velvet rocker, \$40; cor. china w/glass doors, \$75; more. 744-9822.

ELEVATED CHAIR LIFT - for stairs (Wecolator) good for heart patients, invalids, etc., excel. cond. Frank C. Ext. 4581 or 277-0464.

KEROSENE HEATER - powerful 20k Btu unit w/safety tipover shutoff, used 1 season, \$50. Ext. 4134.

COUCH - and two side chairs, good cond., \$200; coffee tables, end table, etagere, excel. cond., \$300 for all four. Rich, Ext. 7932 or 924-4734.

COMFORTERS - 2 Scandia, twin, feather down & 4 pillows, as good as new, \$150. Ext. 4106.

TABLE - formica, butcher block, 5 piece, w/4 Brewer arm chairs, like new, \$125. 289-3830.

CHAIN SAW - Stihl, 14" bar. 2 cu. inch, good cond., \$50. 744-4611 after 6 p.m.

BATHROOM VANITY - 36", white w/gray & pink marble top, brand-new, \$125; coal stove, Haas & Sohn, "pluto", model 121u, brand-new, \$325. Joan, Ext. 2922 or 295-1588, eves.

EXERCISE BICYCLE - Converse, white and blue, weighted flywheel, adjustable tension, like new (40 mi.), \$50. Ext. 5110.

FABERWARE - convection oven; knitting machine w/table; men's skis, 250cm, 200cm, boots 10 med., women's Hart skis, 185cm, boots 7 & 8. Ext. 475-0509.

DRAPES - for 7'x8' window area (approx.), very good cond., Morris, Ext. 4192.

STORM WINDOW - white alum., combo, brand new, 41"x33", fits 39"x31" opening, \$20. Ext. 4238 or 286-3509.

RANGETOP - Hotpoint, 4 burner, 20x20 1/2", \$15; birch box cabinet for rangetop, \$15. Jack, Ext. 4447 or 744-3919, eves.

CHAIRS - 4 kitchen chairs, good cond. \$40. 924-8143 after 5 p.m.

OFFICE DESK - 30"x60", and chair, steel, good cond., \$50. Fred, Ext. 2057 or 261-5735.

BABY CARRIAGE - and bassinet mattresses, potty, all excel. cond. Joe, Ext. 2975.

CHILDREN'S CLOTHES - new girl's designer, sizes 4T, 4, 5, 6, and 6x, wholesale prices. Henry, Ext. 4547 or 727-7227.

LASA-APSO PUPS - moving must sell, 6 wks. old, \$50. Tom, Ext. 4660, beeper 145.

VANITY - w/mirror, \$25; girl's bike, 20" w/training wheels, \$35; rocking horse on springs, \$20, all in excel. cond. 286-0259.

SLIDING DOORS - glass, two panels, \$150. 878-2849 after 4 p.m.

YAMAHA SKIS - 195 w/straps. Dave, Ext. 7921.

DINING ROOM SET - Provincial, cabriole legs, cane backs, mint, \$200; 4 wood kitchen chairs, \$80. 475-0781.

19" COLOR TV - XL100 RCA, excel. cond., \$150; dining room table and 4 chairs, excel. cond., \$125. 281-8943.

SLIDING DOORS - Thermal pane, 6' wide, alum. frame, \$125. Ext. 7953 or 289-0532 after 6 p.m.

SPEAKER CABINET - reflex w/new 15", JBL 300 watt speaker, \$250. Cris, 475-8456 after 6 p.m.

OIL BURNER - used, good cond.; albums, 70's artists, \$1.50 ea. Ext. 4309 or 475-4394.

KILN - Paragon, 18 1/2" wide, 18" deep, 2 full shelves, 1 1/2 shelf & accessories, \$175. 475-5448.

PIANO - small upright, \$400; Sears wood wheel-chair, \$75; Simmons manual hospital bed, \$200. 363-7664.

Car Pool

GREENLAWN - Huntington, one person needed. Jim, Ext. 5057.

Lost & Found

LOST - one pair of Rayband glasses at the gym. Chas, Ext. 2021.

LOST - keys near bldg. 460, 10/8. Ext. 3325.