BROOKHAVEN BULLETIN
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BROOKHAVEN NATIONAL LABORATORY

Where Have All the Scallops Gone?

This year, the "brown tide" of algae that plagued the Peconic Bay since 1985 has disappeared.

No overabundance of the algae *Aureococcus anophagefferens* that discolored the waters of Peconic Bay for four years was detected by Long Islanders who depend upon the bay for work or recreation. Nor was brown tide spotted by the detectors that BNL placed in the bay as part of Suffolk County's effort to understand the Peconic Bay and its system of waterways and watersheds.

"BNL is providing the first long-term, continuous, *in situ* data record of the Peconic's productivity," explains Robert Nuzzi, Supervisor, Bureau of Marine Resources of the Suffolk County Department of Health Services (SCDHS). "The bay's parameters change almost hour by hour, so this data will help us correlate those changes with other factors, such as tide, wind, sun and rainfall."

"According to our first set of data, the algae were within the historical range for the Peconic Bay this year," says Creighton Wirick, a scientist in the Oceanographic Sciences Division of BNL's Department of Applied Science (DAS).

Along with the brown tide, however, the Peconic Bay scallop has disappeared too — and it may take up to a decade for the scallops again to flourish in the bay.

"Until the brown tide, bay scallop on any restaurant menu meant scallops from the Peconic Bay," explains Nuzzi. "Most bay scallops came from the Peconic, and the Peconic Bay's major product was the scallop."

Because of the death of both Peconic Bay scallops and the scallop industry due to the brown tides of 1985-88, Suffolk County launched BTCAMP — the Brown Tide Comprehensive Assessment and Management Program.

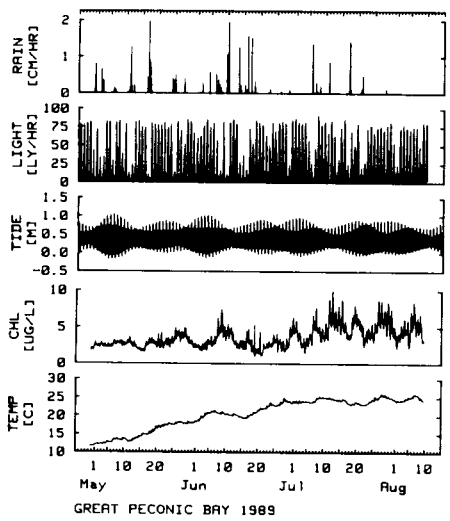
"Our goal is to determine the cause of the brown tide — was it a transient occurrence or is it part of the bay's long-term decline — and to identify what we must do first to restore the bay at least to its pre-1985 condition and then to preserve this natural resource," says Vito Minei, SCDHS, manager of the BTCAMP study.

To do this, Suffolk County is assessing the general ecology and condition of the bay and its watershed area — with the help of BNL, among other institutional collaborators.

Creighton Wirick (left) and Skip Medeiros secure a BNL fluorometer on a cradle before mooring it six feet down in Flanders Bay.

To determine the abundance of algae in a bloom, the Lab has loaned Suffolk County two fluorometers — underwater detectors that, every 30 minutes, measure the fluorescence of chlorophyll *a* within the water and the water temperature. Chlorophyll *a* is one of the green plant pigments that accepts energy from the sun for use in photosynthesis, and it occurs in all higher plants and algae.

(Continued on page 2)



The first data on chlorophyll *a* concentrations (CHL) and water temperature (TEMP) collected by the BNL fluorometer stationed in the Great Peconic Bay. These *in situ* observations will be correlated with predicted tidal heights (TIDE) and with other environmental factors, such as rainfall (RAIN) and sunlight (LIGHT) data, which were collected at BNL's meteorology tower.

BNL Lecture: Photosynthesis and Global Climate

Over 70 percent of the Earth's surface is covered by ocean, which is home to many forms of life. Among the most plentiful life-forms are single-celled plants that drift near the surface. These organisms, called phytoplankton, harvest sunlight for photosynthesis.

During photosynthesis, a plant's chlorophyll converts the energy of light to chemical energy, forming organic compounds by reducing, or fixing, inorganic carbon dioxide.

This process is basic to most life-forms in the sea, but it also has implications for the global climate — some of which will be discussed by Oceanographer Paul Falkowski when he addresses the question "Does Photosynthesis in the Ocean Regulate Global Climate?", in the 255th Brookhaven Lecture.

Falkowski, who heads the Oceanographic Sciences Division in the Department of Applied Science (DAS), will deliver his talk on Wednesday, October 11, at 4 p.m. in Berkner Hall. He will be introduced by former DAS Chairman Bernard Manowitz.

Roger Stoutenburgh

Paul Falkowski

To introduce his topic, Falkowski will describe the distribution of phytoplankton in the oceans. Using satellite images, he will identify large areas of the central oceans with very dilute chlorophyll levels, as well as those with high concentrations.

Phytoplankton grow in the presence of nutrients and available light. But what controls their growth rate and distribution— nutrients or light? Falkowski will explain why he advocates that light is the primary factor controlling growth and that nutrients influence distribution.

Due to the burning of fossil fuels, there has been a global increase of some two billion metric tons of carbon per annum in the atmosphere since the beginning of the Industrial Revolution. Annually, phytoplankton fix ten times more carbon than that, but has phytoplankton carbon fixation changed since the Industrial Revolution?

Falkowski will show data indicating that phytoplankton have doubled in the North Pacific over the last 20 years — implying that increasingly more carbon dioxide from the atmosphere enters the ocean via photosynthesis. This carbon may be stored in the deep ocean as the phytoplankton sink.

One element crucial to the phytoplankton's life cycle is nitrogen. To determine what fraction of the phytoplankton population may be leaving the surface and sinking to the deep ocean, BNL researchers have looked at nitrate and ammonium uptake at vanishingly low concentrations. To examine the uptake of these compounds, they used BNL's cyclotron to create a radioactive tracer, ^{13}N, which has a ten-minute half-life. Falkowski will describe these experiments and how they seem to indicate that previous estimates of the sinking rate of phytoplankton in the ocean were too low.

Another element critical to the life cycle of phytoplankton is iron, which is essential to photosynthesis. The only source of iron to the ocean is

(Continued on page 2)

Roger Stoutenburgh

Watching Out For the World's Water

World concern about the effects of noncarcinogenic pollutants in drinking water, and other environmental health issues drew over 130 scientists and environmentalists from places as diverse as China, Europe, Israel, Lebanon and South America to the First Annual Meeting of the International Society for Environmental Epidemiology (ISEE), held at BNL September 13-15.

Among the attendees were (top, from left) Sam Ozolins, World Health Organization (WHO), Geneva; Raymond Neutra, California Department of Health Services and President, ISEE; Michael Lebowitz, University of Arizona College of Medicine; (bottom, from left) John Goldsmith, Ben Gurion University, Negev, Israel; Leonard Hamilton, Biomedical and Environmental Division, Department of Applied Science, BNL, and WHO; and Tord Kjellström, WHO, Geneva. Organized and chaired by Hamilton, the meeting was sponsored by the U.S. Environmental Protection Agency.

A special seminar, sponsored jointly by the World Bank and the World Health Organization, was held immediately after the ISEE meeting. At the seminar, plans were discussed for studies on environmental epidemiology and health risk assessment in developing countries.

Scallops (Cont'd)

Valued at $50,000 each, the reusable instruments are two of 16 built for the Shelf-Edge Exchange Project. This project is funded by the U.S. Department of Energy and being undertaken by DAS's Oceanographic Sciences Division.

A fluorometer uses a strong, blue light to add energy to the chlorophyll *a*. In losing that energy, the algae's chlorophyll emits a red light, the intensity of which is proportional to the concentration of chlorophyll *a*, and, hence, the abundance of algae in the water.

From April 28 to August 10, BNL monitored algal abundance using a fluorometer moored vertically in 22 feet of water in the Great Peconic Bay and another moored horizontally in Flanders Bay in six feet of water. The original couple were replaced with two other fluorometers on August 15, which will remain in place until the beginning of December.

Each device stores data on magnetic tape, or can transmit its information to shore via radio. Collected separately, statistics on wind, sun, tides and rainfall from the same two time periods will then be correlated with the fluorometer data.

BNL's data, along with that collected by Suffolk County and its other collaborators, will be used by a consulting firm to model dynamics of the Peconic Bay system. The project is expected to be completed by mid-1990.

According to the incoming data, it appears that bay scallops were affected in two ways by an overabundance of brown-tide algae.

As the predominant floating, microscopic plant life in the water, *A. anophagefferens* had become the only available food stuff for the bay scallop. For as-yet-to-be-determined reasons, the brown-tide algae could not support the bay scallop's growth, and so the scallop died.

In addition, by overgrowing and discoloring the surface water, *A. anophagefferens* blocked the sunlight from reaching the bottom-growing eel grass. Like any plant, eel grass needs sunlight to photosynthesize its energy. When the sun-starved eel grass died, the settling site for immature scallops was eliminated.

Brown tides were seen following very dry winters, so Nuzzi speculates that, under these conditions, either the algae outcompete the more typical phytoplankton or the microscopic animals that normally keep the population of *A. anophagefferens* in check by feeding on the algae are eliminated.

As Wirick concludes, "We may not discover the causes of the 1985 through '88 brown tides during our current investigation. However, we will increase the understanding of the Peconic Bay's ecosystem, and, in carrying out the monitoring and analysis, we will also increase the cooperation among friends, neighbors and colleagues who have a common concern about a problem that affects us all."

— Marsha Belford

By the dock at Meschutt Beach County Park on the Shinnecock Canal this August, (from left) BNL's Skip Medeiros, Creighton Wirick and William Behrens stand with Gary Chmurzynski and Robert Ochsenreiter of the Suffolk County Department of Health Services (SCDHS). Before them is all the equipment necessary to deploy BNL's two fluorometers; to their left is Robert Dietrichson, SCDHS, captain of the sampling vessel from which the fluorometers were launched.

BNL Lecture (Cont'd)

wind-borne dust from the land. To close his talk, Falkowski will share his thoughts about the apparent relationship between global warming, destruction of forests, the increase in wind-borne iron and phytoplankton photosynthesis.

Paul Falkowski earned his Ph.D. in biology and oceanography at the University of British Columbia in 1975, then became a postdoctoral research associate at the University of Rhode Island. In 1976, he moved to Long Island, to become an assistant oceanographer at BNL, as well as an adjunct professor at the State University of New York at Stony Brook. At Brookhaven, he was named Associate Oceanographer in 1978 and Oceanographer in 1980.

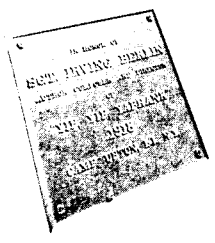
Falkowski has worked extensively in the Atlantic Ocean and in the Red Sea, and with Japanese collaborators. His most recent cruise was with the Shelf-Edge Exchange Project, which last year measured phytoplankton and other concentrations on the mid-Atlantic continental shelf.

Since 1978, Falkowski has had a U.S.-Israel Science Foundation Grant to work on the light-shade adaptation of corals. He had also had grants from the National Aeronautics and Space Administration since 1983, to develop a multiple-flash fluorometer to estimate photosynthesis. Since 1976, he has been a principal investigator under contract to the U.S. Department of Energy, to work on primary productivity off the east coast of the U.S.

He is a member of Sigma Xi, the American Society of Limnology and Oceanography, the New York Academy of Science, the American Society of Plant Physiologists and the American Phycological Society.

After the lecture, those attending are invited to to join the speaker for discussion and hors d'oeuvres. In addition, anyone interested in joining the lecturer for a dinner at a restaurant off site, should call James Hurst, Ext. 3844, or James Reilly, Ext. 4502.

Irving Berlin Dies at 101



Composer Irving Berlin died on Friday, September 22, at the age of 101. For his contribution to the site's history, Berlin is remembered at BNL with the above plaque, which has adorned a large rock near the flagpole in front of the Brookhaven Center since it was dedicated in 1982.

Long before the Lab site gained fame for its world-class scientific facilities, it was known as Camp Upton — a U.S. Army camp in both World Wars I and II. And World War I Camp Upton is often remembered as the place where Sgt. Irving Berlin wrote the musical *Yip, Yip, Yaphank.*

In addition to this military musical based on his life at the camp, Berlin leaves quite a legacy: "God Bless America," "White Christmas," "A Pretty Girl Is Like a Melody" — these standards top a list of nearly 1,000 songs that Berlin wrote in the course of his long career.

Berlin's songs will continue to be sung and enjoyed for many years, and many are already deeply embedded in the common culture — as an event that occurred on the TV game show "Jeopardy" last month demonstrates.

On "Jeopardy," contestants supply the questions to answers displayed on the game show's board. If you were watching on September 19, you would have seen this answer: "A sergeant at Camp Upton, New York, Irving Berlin wrote, 'Oh, How I Hate to' do this."

The contestants had no trouble supplying the question: "What is 'get up in the morning' ?"

"Oh, How I Hate to Get up in the Morning" is probably the best-known song from *Yip, Yip, Yaphank.*

New ID Cards to Be Issued

A program to replace all Laboratory identification cards will begin next week. The U.S. Department of Energy (DOE) mandates a reissue of ID cards every five years or when five percent of the cards are lost, whichever occurs first. As the Lab's maximum allowable loss rate has been reached, new cards must be issued.

In addition to regular Lab employees, new ID cards will be issued to all others who regularly work or come on site. This will number about 6,000 people, including BNL retirees; BERA employees; individuals with official guest or collaborator appointments; U.S. government employees with the DOE Brookhaven Area Office and the Upton Post Office; and those employed by Barclay's Bank, Federal Business Systems, the Gulf service station, Service America Corporation and the Teachers Federal Credit Union.

New cards will be issued beginning Thursday, October 12, in Berkner Hall, Room B. The process will continue every weekday through December 31. If your last name begins with the letters A through L, you can come from 9 to 11:50 a.m.; if your last name begins with the letters M through Z, come from 1 to 3 p.m.

Priority in getting new cards goes to those employees or guests who have either a Q or L security clearance or card encoded with a PIN number, but others who wish to take advantage of the Berkner Hall location may do so. In January 1990, the operation will move to Police Headquarters, Bldg. 50. Everyone should have a new card by March 31, 1990.

When you go for a new card, bring a completed application form, BNL F 2868, which is available through your supervisor. Actual enrollment should take only a few minutes. Your card will be delivered at a later date, at which time you must surrender your old card.

Your new card will be issued for five years or for the term of the appointment, if less than five years, and must be personally returned to the Safeguards & Security Division when you terminate.

If you stay beyond five years, however, and there is no significant change in your facial appearance, you will never have to go to the card-issuing station again. The Police Group will be using a new, computerized system, in which images can be stored.

For more information, call Hank Raimondo, Ext. 7258.

Go Shopping In Reading

BERA will sponsor a shopping spree to the outlet capital of the East — Reading, Pennsylvania — on Saturday, November 4. Tickets can be purchased for $22 each at the BERA Sales Office in Berkner Hall, from 9 a.m. to 2 p.m. daily. The tickets will be sold on a first-come, first-served basis.

The bus will leave the Brookhaven Center promptly at 7:30 a.m. and return to BNL at approximately 5:30 p.m. There will be an additional stop at the park-and-ride at LIE Exit 63 if needed. The trip does not include lunch or a lunch stop. Please bring along your own snacks or plan to visit a nearby restaurant.

Equipment Demos

IBM will give a seminar on OS/2 Extended Edition, their PS/2 operating system, featuring the Presentation Manager and Query Manager, on Thursday, October 12, at 2 p.m. in the CCD Seminar Room, Bldg. 515. For information, call Ken Hammer, Ext. 7311 or 349-3462.

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Arrow Electronics will host a seminar on current and future Intel Systems products on Thursday, October 12, from 10 a.m. to 2 p.m., in Berkner Hall lobby.

The program will feature Intel 486 platforms, Intel personal computer enhancement products, Arrow Electronics customer computer capabilities and Intel multi-bus single board computers, as well as a question-and-answer period and refreshments.

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

Inside Info

Derek Lowenstein has been appointed to a second five-year term as Chairman of the Alternating Gradient Synchrotron Department (AGS), effective October 1.

In announcing the appointment, Laboratory Director Nicholas Samios noted, "The AGS has continued to be one of the country's most productive research facilities, with its increased intensity matching user requirements. While we pass through near-term difficult times, it is gratifying to look forward to participating in exciting new programs in particle physics and opening new realms in nuclear physics with the upcoming commissioning of the Booster facility.

"The next five years will present great challenges to the talented staff at the AGS. I am sure that, in meeting these challenges, the staff under the leadership of Derek will bring the AGS to new and stimulating physics frontiers."

Stony Brook Events

The following events will be held in the Staller Center at the State University of New York at Stony Brook. For more information, call the box office, 632-7230.

- **Haitian Art: The Graham Collection** — including over 80 paintings and sculptures by 20th century Haitian artists; through October 26, noon to 4 p.m., free.
- **"Beijing in Crisis: A Historical Perspective"** — University Distinguished Lecture by Xiaopo Huang, Deputy Director of China Press Club in Beijing, P.R.C.; Tuesday, October 10, 8 p.m., free.
- **Tulsa Ballet performs *Coppelia*** — an all-new production; Friday, October 27, 8 p.m., tickets $20,18,16.

Breakfast Truck Starts Next Week

Did you miss breakfast? Forget the newspaper? Now you can solve these problems with a quick stop at the new breakfast truck that Service America Corporation (SAC) will be introducing Monday, October 9, in the parking lot across from Berkner Hall, where the Farmers' Market is held on Wednesdays. The truck will be open from 7 a.m. to 8:15 a.m., Monday through Friday, offering such things as coffee, bagels, rolls, muffins, pastries, juices and newspapers.

SAC welcomes your comments on this and the other services it offers, including the Cafeteria, the vending machines and the lunch truck. To give your input, call Food Service Director Chris Fautas or Food Service Manager Ed Gross on Ext. 3541.

Cooking Exchange To Resume Demos

"A Chinese Luncheon" will be the theme at the first Cooking Exchange demonstration of the season, to be held on Wednesday, October 11, at the Recreation Building in the apartment area, from 12:30 to 2:30 p.m.

At the meeting, food will be prepared and served. A fee of $2 will be charged to help defray the cost of the ingredients used. Baby-sitting will be provided at 50¢ per child.

After the demonstration, a short meeting will be held to set up the calendar for the coming year. All suggestions are welcome, and your participation is needed.

Service Awards

The following employees received service awards during the month of September:

Forty Years

Garman Harbottle.....Chemistry
Virginia F. Pond.....Biology
Seymour Rankowitz.....Instrum.

Thirty-Five Years

Donald J. Metz.....Dir. Off.

Thirty Years

Stanley P. Cherouski.....P&GA

Twenty-Five Years

Lester G. Epel.....Nuc. Energy
Geoffrey Hind.....Biology
Kelvin K. Li.....Physics
Edward D. Platner.....Physics

Twenty Years

Barbara S. Boerjes.....Sup. & Mat'l.
John Czachor.....AGS
Theolphilus A. Gray.....Plant Eng.
H. Ronald Manning.....Staff Serv.
James T. Muckerman.....Chemistry

Ten Years

Timothy R. Bowden.....Sfgds.& Sec.
Bernadette Christian.....App. Science
Richard A. Ferrieri.....Chemistry
William J. Foyt.....Light Source
Ronald L. Gill.....Physics
Philip R. Hayde.....S&EP
Steve M. Heald.....App. Science
Herbert L. Kinney.....Dir. Off.
Chuen-Ching Lin.....Nuc. Energy
Yousef I. Makdisi.....AGS
Edward A. Meier.....Physics
Gary A. Nintzel.....Light Source
Eldon Schmidt.....Nuc. Energy
Peter E. Sikinger.....Physics

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Wine & Cheese Party

Brookhaven Women in Science (BWIS) will hold its annual Wine & Cheese Party at the Recreation Building, on Wednesday, October 18, from 4:30 to 6:30 p.m. Members and nonmembers are invited as BWIS's guests; reservations are not necessary.

Please come to meet the newly elected BWIS officers: Joyce Tichler, Department of Applied Science (DAS), and Susan Eng, Computing & Communications Division — Group Coordinators; Dorry Tooker, Director's Office — Secretary; Elizabeth McBreen, Physics Department — Treasurer; Carmen Benkovitz, DAS — Program Chair; Susan Hobbie, Department of Nuclear Energy (DNE) — Publicity Chair; Jane Setlow, Biology Department — Seminar-Lecture Chair; Ruth Kempf, DNE — Scholarship Chair; Michelle Cummings, Management Information Systems Division (MIS) — Membership Chair; and Cindy Pohlig, MIS — Newsletter Editor.

Golf Tournament And Awards Dinner

The BGA end-of-the-year tournament and awards dinner will be held on Thursday, October 19, at the Middle Island Country Club. The cost for playing golf and attending the dinner is $25 for BGA members and $42 for nonmembers. This cost does not include the use of an electric cart, which is optional.

Tee times will start simultaneously on the Spruce and Oak courses at 11 a.m. and run until 12:15 p.m. Contact Ron Webster, Ext. 2845, to obtain a starting time and for further information. The deadline for signing up is Friday, October 13.

Cafeteria Menu

Sunday, October 8
Sunday Brunch: 9 a.m. to 2 p.m.

Monday, October 9
Columbus Day Pasta Buffet

Soup: Minestrone	(cup)	.75
	(bowl)	.95
Entree: Tortellini primavera		3.00
Entree: Manicotti w/Italian bread		3.00
Lite-line: Baked chicken w/1 veg.		3.10
Carvery: Roast fresh ham sandwich		2.85
Grill special: Italian hot dogs	(two)	2.50

Tuesday, October 10

Special: Chili Cook-Off — Look for chili-toppings bar		
Soup: Navy bean	(cup)	75
	(bowl)	.95
Entree: Honey-dipped chicken		3.10
Entree: Chili w/steamed rice		3.10
Lite-line: Broiled sole		3.10
Carvery: Hot corned beef sandwich		2.85
Grill special: Cheese & mushroom omelet		2.30

Wednesday, October 11

Soup: Chicken rice	(cup)	.75
	(bowl)	.95
Entree: Salisbury steak w/mushroom gravy & 1 veg.		3.10
Entree: Chicken potpie		3.10
Lite-line: Pasta & vegetables		3.00
Carvery: Baked Virginia ham sandwich		2.85
Grill special: Pork roll w/cheese sandwich		2.00

Thursday, October 12

Special: Personalized Pizza — Top your own		3.00
Soup: Potato leek	(cup)	.75
	(bowl)	95
Entree: Breaded pork w/1 veg.		3.10
Lite-line: Chicken tarragon w/steamed rice		3.10
Carvery: Hot turkey sandwich w/gravy & cranberry sauce		2.85
Grill special: Grilled ham & cheese		1.50

Friday, October 13

Special: Fruit & cheese salad bar	(ounce)	.25
Soup: Fish chowder	(cup)	75
	(bowl)	.95
Entree: Flounder Florentine		3.10
Entree: Chicken breast sandwich		2.95
Lite-line: Vegetable taco (soft)		2.50
Carvery: Hot roast beef sandwich w/gravy		2.85
Grill special: Seafood nuggets w/fries		2.95

Saturday, October 14
Open 9 a.m. to 2 p.m.

Grill special: Something different — Turkey on pumpernickel bread w/broccoli & melted swiss cheese.

Let Us Entertain You!

Roger Stoutenburgh

Entertainers (from left) Karl Swyler, Skelly Frei, Fran Ligon and Janet Sillas are revving up for the show to be given by members of the Theater Group and others at the BERA Special Event Dinner-Dance and Theater on Saturday, October 21. The festivities will also include a fashion show, dinner with your choice of chicken cordon bleu or prime rib, a Viennese table and dancing to an "oldies" band or dee-jay music. A cash bar will be open all evening.

Tickets at $27.50 per person are on sale on a first-come, first-served basis from 11 a.m. to 1 p.m., Thursdays and Fridays in the Cafeteria. For more information, call BERA Special Events Committee chair Rosalie Piccione, Ext. 3160, or member Betty Pergan, Ext. 2937. Remember: *The last day to buy tickets is October 14.*

Social Club

The BERA Social Club has planned a trip to Switzerland, March 15-23, 1990. The cost of $929 per person includes round-trip airfare on Swissair from New York to Zurich, in-flight movies, complimentary drinks and round-trip bus transfer to the Sunstar Park Hotel, a four-star hotel. The price, which is based on double occupancy, also includes buffet breakfasts, dinners, all local hotel taxes, and use of the hotel pool and sauna. The $13 U.S. departure tax and customs fee is not included.

To participate in this trip, a $200 deposit is due immediately, and the balance is due by November 15. For reservation forms, call Doris Terry, Ext. 7610.

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

Bowling

If you are interested in bowling but do not want to commit yourself to being a permanent member in a weekly league, consider joining the mixed-league substitute pool on Thursday nights in Shirley. For a one-time sanction fee of $6, you can bowl only when convenient. Contact Ed Sperry, Ext. 2697, for further information.

Pink League
Tracy Ryan had a 179, Donna Cunningham 169.

Purple League
Ed Sperry IV had a 223, Kurt Jellett 211, Joe Ferrante 200, Pat Manzella 196, Denise Monteleone 196, Karen Vogel 194, Georgia Irving 194, Sharon Smith 187, Nancy Erickson converted the 6/7 split, Vito Manzella the 4/7/10.

White League
Andy Warkentien had a 201, Joyce Pinelli 201, Ed Sperry 201, Elaine Zukowski 194, Joe Mayeski converted the 6/7 split, Joe Fernandez the 2/4/10.

Attention: Artists in the Family

Calling all talented artists of age 16 or over from BERA families: Enter your work now for the 11th BERA Members' Art Exhibit, opening Monday, November 6, in Berkner Hall.

All employees, retired employees and their immediate families are BERA members and are invited to contribute their work to the exhibit, which will run Monday through Thursday, November 6 to 9, from 11:30 a.m. to 1:30 p.m., and on November 6, from 5 to 6:30 p.m. A reception with beverages and home-baked goods will be offered during the Monday noon hour.

Pictures, including photographs, and sculpture will be displayed in the exhibit. Crafts should not be submitted as they will be shown at another time. Exhibitors may be asked to limit their contributions if space becomes a problem.

Artworks done in all media are welcome, and pictures should be framed and ready for hanging. The judgment of the BERA Art Committee on acceptable works is final.

For catalog purposes, two copies of the form printed here should be completed for each work to be entered and returned to Robert Chrien, Bldg. 510A, by October 16. Additional forms may be picked up at the BERA Sales Office in Berkner Hall. Works should be delivered to Room B, Berkner Hall, on Friday, November 3, between 2 and 4:30 p.m., and picked up there on November 9 between 1:30 and 3:00 p.m.

Return To Robert Chrien, Bldg. 510A, by October 16.

Name of Artist_____

Title of Artwork_____

Medium_____

BNL Contact _____ Ext_____

Self_____ or Relation to BNL Employee _____

Arrivals & Departures

Arrivals

Robyn R. Bates ..... Biology
Jean-Paul Blaizot ..... Physics
Miguel A. Corporan ..... Physics
Aida El-Khadra ..... Physics
Nancy Forbes ..... Physics
Gerhard Grubel ..... Physics
Wolfhard G.E. Kern ..... Physics
Robert D. Leone ..... Biology
Leon Petrakis ..... DAS
Per O. Spanne ..... DAS
Renata M. Wentzcovitch ..... Physics

Departures

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

Yoshiyuki Amemiya ..... NSLS
Wilson E. Buvinger ..... Biology
Geraldine G. Callister ..... DNE
Chun-Zhang Chen ..... Biology
Brian J. Collinson ..... Plant Eng.
Thomas D'Alessandro ..... Medical
Cheryl Y. Dunmore ..... Biology
Samir K. Dutt ..... NSLS
Randall C. Furlong ..... Physics
Vito Graziano ..... Biology
Ewa Gudowska-Nowak ..... DAS
Kamal Hammountene .. Comp. & Com.
Edward A. Jastrzembski ..... Physics
Clement G. Jones ..... NSLS
Andre T. Krzywicki ..... Physics
Andrei G. Lebed ..... Physics
I-Hsiu Lee ..... Physics
Laurence G. Lee ..... S&EP
Hai-Qing Lin ..... Physics
Giovanni Matone ..... Physics
Mati Meron ..... DAS
Kelly A. Murphy ..... DAS
Luiz Fernando Oliveira ..... DNE
William J. Osborne ..... Plant Eng.
Michael J. Punda ..... Sup. & Mat'l
Asko E. Vehanen ..... Physics

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.

4112. SECRETARIAL POSITION - (part-time) - Requires AAS in secretarial science or equivalent and a thorough knowledge of Laboratory policies and procedures. Word-processing experience essential; IBM PC experience desired. Will perform diverse secretarial duties including technical typing, correspondence and maintaining files. Chemistry Department.

Motor Vehicles & Supplies

80 REGAL - light brown, 2-dr., p/s, a/c, a/t, Ext. 4647 or 878-9369 after 6 p.m.

79 DODGE SPORTS VAN - p/s, p/b, cb, must see, very good cond., $1,500. 472-1302.

79 OLDS CUTLASS CRUISER - wagon, a/t, p/s, a/c, am/fm, V-8, carrier, 100k mi., top cond., $1,100. Ken, Ext. 2147 or 929-6634.

79 SUNLINE TRAVEL TRAILER - sleeps 6, new tires, battery & brakes, stands, awning, excel. cond., $4,300 neg. Artie, Ext. 4988 or 325-0743.

79 DATSUN 280Z - black w/maroon int., 5-spd., am/fm cass., p/s, p/b, runs well. Bill, Ext. 2036.

79 DATSUN 510 - 86k mi., very reliable transportation, $600 pr best offer. Henry, Ext. 3817 or 874-2775.

78 CADILLAC ELDORADO - classic, mint, triple white, low mi., orig. owner, garaged, $3,395. 423-2327.

78 CAMARO - a/t, excel. in/out, runs well, cass., must see, $1,150. 751-1562.

78 FIREBIRD - 305 V-8, 4-spd., T-tops, 67k mi., 2nd owner, new clutch, rear spoiler, excel. cond. in/out, $2,800 neg. Ext. 3334 or 744-2404.

78 PONTIAC FIREBIRD - mint cond., motor excel., clean in/out, must see, asking $2,500. Ext. 5105 or 286-1615.

77 LINCOLN CONTINENTAL - needs rear body work, $150. 821-0250.

76 TOYOTA CORONA - needs work on starter, $150. 821-6321.

74 MERCURY COUGAR - 350 V-8, fair cond., $150. 821-0250.

TOYOTA LAND CRUISER - from 1960s, good for parts or restoration, $45. Paul, Ext. 7697 or 689-2829.

57 CHEVY - 4-dr., stick, V-8, duals, skirts, new paint, int. harbor blue, $6,000. Mike, 281-6070.

MOTORCYCLE HELMET - white, $5; CB/SWR tester, $5; canvas bunk-bed kit for camper, $5. Charlie, Ext. 3897.

TOOL BOX - for Jeep CJ7, hardly used. 289-1732 after 6 p.m.

AUTO-TOP CARRIER - Sears X-Cargo, large-size, like new, used twice, $75 firm. Larry, Ext. 4295.

RIMS - 2, for a Volvo, 15", $20. Bill, Ext. 3369 or 929-6442.

TIRE - new, 721 Firestone, 235/75R15, Eldo rims, $40. Ernie, 588-4987.

TIRES - 4, Bridgestone, Desert Dueler, P21575R15 m&s on 6-lug rims, new, $200; 60-mo. battery, $30 or best offer. Donna, Ext. 4103 or 821-2875.

TIRES - 185/70R13 Goodyear Eagle, $15; 2, 185/70/SR13, $10/ea.; 185/60/R13 m&s, $20; 2,155/80/SR13, $10/ea.; more. Ext. 4597 or 924-8213.

Boats & Marine Supplies

28' SLOOP KIT - 90% completed, Holman & Pye, solidly built, dark blue hull, sacrifice, $18,000, neg. Jim, Ext. 4584.

22' CATALINA SAILBOAT - 3 sails, trailer and motor, good cond., asking $4,500. 929-8912.

19' CRUISER INC. - 1972, Bowrider w/1976 115 h.p. Johnson, Coast Guard pkg. and trailer. Frank, 567-5131.

16' DURANAUTIC - w/1984 40 h.p. commercial Johnson o.b. motor, v.g. cond. extras, $1,900. 298-4172.

15' AQUAGLASS - 85 h.p. electric start Mercury o.b., Highlander trailer, v.g. cond., $1,500. 286-1709.

14' RHODES BANTAM - fiberglass sloop, in water, main, jib, spinnaker, spinnaker gear, mooring, asking $800. S. Aronson, Ext. 2051.

BAYLINER - 1973, cuddy cabin, stand-up head, galley, electronics, 188 Merc. i/o, Shoreline trailer, tandem axel. Bill, Ext. 3271 or 924-3243.

J24 - 1978, harken blocks, 9 sails, '85 5 h.p. Mariner, DKM, DDM, auto helm, cradle, faired keel, $8,900. Mike, Ext. 3476 or 473-2863.

POWER WINCH - Model 812, 2,000 lb. single line pull, 3,500 double, like new, $125. Roy, 286-8624.

RAFT - 3-person PVC, good for dinghy or for fun. Ext. 7697 or 689-2829.

MISCELLANEOUS EQUIPMENT - OB controls and various equipment, 55 h.p. Evinrude for parts, all for $100. 325-0567.

88 YAMAHA - 2 h.p., $295; Apelco 9900 radar head, no antenna, brand-new, $200. Ext. 3341 or 981-9474.

Furnishing & Appliances

KITCHEN TABLE - good cond., $60. Georgia, Ext. 3182.

RECLINER - Lazy Boy, rust color, good cond., $50; Paul Bunyan 5-piece bedroom set, 4-poster bed, excel. cond. Nancy, Ext. 3309.

FILING CABINET - antique, oak, $150; country dining table, $150; 3-drawer dresser, $35; camel-back loveseat/sofa, $200, more. 821-9089.

CARPET - nylon, orange, 11'x10', excel. cond., $20. Bill, Ext. 3369 or 929-6442.

BRAIDED RUG - good quality, blue & gray tones, 8½'x11', $75. Gary, Ext. 5786.

STAINED GLASS FIXTURE - Sommers, hanging, Gothic design, blue/beige & orange/rust glass, orig. $450, sell for $200 firm. B. Nichols, Ext. 3727.

SLEEPER - king size, Colonial, new, $150 sacrifice. Ext. 2043.

DINING ROOM SET - w/hutch, 6 chairs, maple wood, $700; couch w/matching chair, $100, both good cond. JoAnn, Ext. 4120 or 689-7963.

AIR CONDITIONER - GE Carry Cool, portable, 4,000 Btu, fits 26"w x 14½"+ window, excel. cond., $60. Brian, Ext. 5265 or 234-9487.

MICROWAVE - Tappan, 700W, w/browning coil, instructions, 1 cu. ft., excel. cond., $75. C. Albert, Ext. 3717 or 727-6481.

FREEZER - Westinghouse, 9 cu. ft., upright, $75. Peter, Ext. 7687 or 744-1112.

KITCHEN UNIT - stainless steel top, 3-burner stove w/oven, sink, refrig., $300; 3-cushion sofa/double bed, $250. Mary Baker, 286-8552.

UPRIGHT FREEZER - Welbuilt, 12.1 cu. ft., 6 years old, very good cond., $75. Willie, Ext. 4489.

BEDROOM SET - Burlington, girl's, desk, dresser, hutch, mirror, day bed, hand-painted detail, light pine, $500 neg. Bill, Ext. 7625 or 732-9102.

KITCHEN TABLE - solid oak, $20; antique china cabinet, $300. 751-8240.

FURNITURE - for living room or den, 6 pieces, removable cushions, heavy pine construction, $325. 727-7515.

CHANDELIER - capriz shell, $50; 3 decorative stack tables, $15; glass & chrome coffee table, rectangle, $25. 924-5419.

CLUB CHAIR - & ottoman, $25; 6 cane-back dining chairs, cane OK, legs need work, $30/all. 878-0331.

OAK DESK - 64" x 34" x 31"h, 4 side drawers, 1 middle drawer, leather swivel chair w/arms, $100/both. Bob, Ext. 2542.

DESK - 3'x5', wood, painted gray, 6 drawers, old, good cond., $50. John, Ext. 3292.

DISHWASHER - electric range & side-by-side refrigerator, all GE, coppertone, asking $200 for all. 698-8514 after 4 p.m.

DISHWASHER - portable, GE, good cond., $75. Tom, Ext. 5350 or 929-3298 after 6 p.m.

WASHER/DRYER - GE, 1 yr. old, $450/both; Sanyo portable washer, under 4 mo., $200; refrig., 1 yr., 16 cu. ft., auto. defrost, $400. 698-1317.

ELECTRIC COOKTOP - GE, 4-burner, harvest gold, 220/240V. 821-0865.

ELECTRIC RANGE - Magic Chef, 20", harvest gold, $100. Pager 0925 or 728-4495.

VACUUM CLEANER - Hoover Spirit, good cond., $50. Cindy, Ext. 5130 or 874-3652.

TOASTER OVEN - GE Deluxe, 2-slice, $5. Ext. 5053.

Tools, House & Garden

SNOW BLOWER - Toro, #421-4 h.p., $100. 588-1251 eves. & wknds.

DRILL PRESS STAND - for portable drill, new, $25; B. & Decker Univolt battery pack, 9.6V, for cordless drill, $25. Bill, Ext. 4986 or 563-1940.

LAWN MOWER - Wheeler, rear bag, 3½ h.p., crank starter, 21" cut, like new, $85. Dan, Ext. 4987.

KEROSENE HEATER - Omni 105, 18,000 Btu, new, $90; propane convection heater, 75-125 Btu, $75; heat lamp, UV & infared, $90. Tony, 269-9510.

WINDOW SHUTTERS - outdoor, black alum., assorted sizes, 13 pairs, $5/pair. Pat, 727-0547 after 2 p.m.

CAST-IRON STOVE - Franklin, antique; Lincoln arc welder, input 230V, 50A output, 225A, almost new, $450. 286-0682.

COAL STOVE - Atlanta Fireball radiant heater, w/1½ tons of coal, asking $275. Andy, Ext. 3953 or 281-8274.

LUMBER - 2 x 12s, various lengths, $30/all. Donna, Ext. 4599.

HAY - for garden mulch, $2/bale. Ext. 3841 or 286-9450.

Sports, Hobbies & Pets

WEIGHT-LIFTING SET - steel, barbell/dumbell set, w/bench, 130 lbvs., $100. Frank, Ext. 2314 or 567-5131.

CAMERA - Chinon Bellami 35mm compact, like new, takes great pictures, orig. $120, asking $60. Joann, 472-6742.

PING-PONG TABLE - 5'x9', fold-up, on wheels, w/paddles, balls & net, $25. Roy, 286-8624.

ELECTRIC GUITAR - Memphis-style, red, excel. cond., $75. Bill, Ext. 7625 or 732-9102 after 6 p.m.

AQUARIUM - 20 gallon, hex. shape, wood cabinet, under-gravel, filter, other access., $75. 289-1732 after 7 p.m.

RABBIT CAGE - w/feeder & water bottle, $20. 878-0331.

PUPPIES - Lhasa Apso, 7 weeks old, from champion stock, $200/each. Ramona, 928-3088.

CLARINETS - Wurlitzer, student model, $125; advanced Signet, $250. Jim, Ext. 3372 or 821-0250.

ORGAN - Yamaha, double keyboard, rhythm box, excel. cond. Ronnie, 281-1862.

CAMERA - Pentax Program Plus, 28-70mm lens, Vivitar dedicated flash, & camera bag, $200. 289-8212.

ORGAN - Baldwin Fun Machine, w/bench, $175. Charlie, Ext. 3897.

SKIS - Rossignol, 2 pairs, 172cm, 185cm, w/Geze bindings, Caber boots, size 10, $150/all. Ext. 3341 or 981-9474.

PSE COMPOUND BOW - 30" draw, 60 lb. draw weight, quiver, mongoose sights, w/guard, more, $150 neg. Donna, Ext. 4103 or 821-2875.

BURMESE PYTHON - 10', w/100 gallon tank, 6'x1½'x1½', screen top, 2 hot rocks, best offer. Michele, Ext. 2907, or Hans, 298-4148, after 6 p.m.

Audio, Video & Computer

VIDEOTAPE - *ET, the Extraterrestrial,* still in box, VHS, $25. 289-8212.

VCR - Goldstar, used 4 months, VHS, 4-head, needs work in transformer, $100. 821-6321.

COMPUTER - IBM-XT Turbo Clone, 640 RAM, 2-5¼ drives, EGA-card monitor, 8088 processor, several ports, mouse. Tom, Ext. 5275.

MICRO-ENHANCER CARD - Everevex, EGA Graphics Card, can run any software to any monitor, make offer. Marty, Ext. 3941.

Miscellaneous

SOUP - seafood bisque, homemade, thick, delicious, fattening, $12/quart. Ruth Ann, Ext. 7774 or 929-6235.

APRICA STROLLER - carriage, LeBeau, excel. cond., $15. 589-0625.

FUR COAT - gray Persian lamb, full length, very good cond., $350; short white fur coat, $120. Ext. 3701 or 751-8128.

PUMPKIN COOKIE JAR - clear glass, $10; 2 cake platters, clear glass, $10 & $20; ironstone coffee pot, $15. Kathy, 744-2203.

Free

AIR CONDITIONER - 8,000 Btu, still works. Pat, 727-0547 after 2 p.m.

WHITE BIRCH TREE - dead this year, you cut. Ext. 4841 or 289-5433.

UPRIGHT PIANO - Bruce, Ext. 2188.

REFRIGERATOR - works. Bert, Ext. 5156.

Lost & Found

LOST - man's wedding band, 14k gold, in gymnasium, Fri. afternoon, 9/29. Ext. 4688.

Yard & Garage Sales

BELLPORT - 19 New Jersey Ave., 9:30-4:00 p.m., Sat., Oct. 7. 286-8624.

CENTER MORICHES - 263 Main St., Sat., Oct. 14, 9 a.m.-4 p.m.

HOLBROOK - household items, clothes, toys, records, books & misc., 10 a.m.-4 p.m., Sat., Oct. 7., 269 Thunder Road.

PT. JEFFERSON STATION - many items, Sat., Oct. 7, 26 Hurtin St.

Car Pools

BELLPORT - want 5th member for established car pool. Liz, Ext. 2346, or Ed, 286-7539 after 6 p.m.

BOHEMIA-OAKDALE-SAYVILLE - need 2 more drivers for car pool, also can meet at Exit 59 LI Expressway. Frank, Ext. 2314.

COMMACK - Exit 53 or 54 or Commack Rd. 543-7065.

SAYVILLE - ride temporarily to and from Lab, broke ankle. Claudia, Ext. 5174 or 563-9128 eves.

Real Estate

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

For Rent

BELLPORT - 3-bdrm. ranch, furnished, l/r, d/r, eik, den, 2 baths, gar., $1,000/mo. + util. Fred, Ext. 3155

BELLPORT VILLAGE - 2 bdrm. + sleeping loft, 2 full baths, outside hot tub, decks, secluded, steps to golf & tennis, beautifully furn., $1,200/mo. + util. Susan, Ext. 2888 or 286-0422.

MASTIC BEACH - 3-bdrm. house, $850/mo. + util. and sec. 281-6372.

MEDFORD - 1 room, priv. ent., no pets, non-smoker, no children, $100/wk. + sec. 475-7250.

MEDFORD - 1-bdrm. apt., kit., l/r, bath, deck, nonsmoker, no pets, no children, $650/mo. + sec. includes all, priv. ent. 475-7250.

RIDGE - studio apt. w/priv. sun-deck ent., full bath, cable and new kit. appl., carpeting, track lights and ceiling fan, $550/mo. all. 744-2118 or 744-4615 after 6 p.m.

ROCKY POINT - large studio apt., cable, 15-20 min. from Lab, near shopping plaza, $400/mo. includes util., avail. immed., 1 mo. sec. 744-9089, leave message.

SHIRLEY - 3-bdrm. ranch, eik, bath, gar., furnished, ½ acre, $900/mo. + utils. 473-6432.

SHIRLEY - 1-bdrm. apt., l/r, eik, full bath, w/w, for single working adult, no pets, $575 + sec., incl. utilities, avail. 10/1. 281-1840 after 6 p.m.

SHIRLEY - 2-bdrm. apt., kit., l/r, full bath, $700/mo. includes all, refs., sec. Joann, 744-2821.

SHIRLEY - 3-bdrm. Cape, den, fam. rm., gar., large yard, walk to school, $825/mo. + util., 6 miles from Lab. Frank, 878-0562.

SHIRLEY - 3-bdrm. ranch, large country kit., fenced-in, ½ block to priv. beach, walk to Smith Point Park, avail. now. 399-2290 or 399-6390.

NORTH SHIRLEY - unfurn. 1-bdrm. apt., w/w, full bath, l/r-kit. combo, 3 miles to Lab, $600/mo. incl. utilities & cable. 395-9112.

YAPHANK - restored Victorian house, large, treed property, 4-bdrms., 10 min. to Lab, avail. Oct. 1, $950/mo. 924-4872, 924-3066, Ext. 4342.

For Sale

SOUTH BAYPORT - 3 bdrm., 1½ baths, cac, sprinkler system and more, near bay, $158,500. 472-0982.

MANORVILLE - restored 3-4 bdrm. country home, f/dr, l/r, fam. rm., full bsmt., 1 full, 2½ baths, porch, gar., oak floors, new kit. 1½ acres, 10 min. to Lab., $169,000. 878-8875 eves.

MASTIC - 3-bdrm. ranch, ¼ acre, 1½ baths, den, fin. bsmt., deck, appl., house fan, 3 ceiling fans, shed, fence, near school, shopping, 15 min. to Lab, ask. $115,000. 265-2366 after 6 p.m. wknds.

MIDDLE ISLAND - 3-bdrm. ranch, 18'x24' great room, l/r w/fp, d/r, eik, 1½ baths, skylights, i/g pool, sprinklers, deck, more, 5 min. to Lab, mint, $152,900. 924-8426 eves.

QUOGUE — mobile home, adult park, 55 and over, 12'x55', 2 bdrm., l/r, eik, 1 bath, washer, storage, reasonable. 878-4350.

ROCKY POINT - 3-bdrm. high ranch, l/r w/brick fp, cath. ceiling, d/r, large kit., 2 baths, bsmt., cac, deck, 2-car gar. w/elec. doors, beach rights, 0.34 acre, $162,900. Kochman, 744-1057.

ROCKY POINT - 4-bdrm. Cape, l/r, large eik, 1 bath, new appl., wood floors, full bsmt., new cedar siding, deck, 100'x100' lot, beach rights, $129,990, eves., after 7 p.m. Jay 369-8374.

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

SETAUKET - 7 rm., 2 baths, custom-designed & built by technical expert owner for own use, 0.86 acre, rare plants, deeded beach rights. 473-4666.

Wanted

HOUSEMATE - to share 3 bdrm. furn. house in Mastic Beach, w/absent tenant, 15 min. from Lab, $480. Daniel, 281-4372 or 212-777-3449.

HOUSEMATE - to share 3-bdrm. house, 20 min. to Lab., all appl., sundeck, $300/mo. + 1/3 util. Cat, 928-8379 eves.

COMPUTER MONITOR - compatible w/Commodore 128D, printer & other accessories. 289-8212 any time.

HOUSEMATE - to share 10-rm. furn. house in Shirley, conven. to shopping, 9 miles to Lab, woodburning stove, $450/mo. incl. all. 399-1868.

MICROSCOPE - for student, high school to college level. Hughes, 286-3301.

CHOPPER-SHREDDER - electric or gas, light to medium duty. 298-4172 after 6 p.m.

SPARE TIRE - compact, for Accord T10580DIA w/o rim. Thomas, Ext. 2225.

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

MINERALS - mineral collections, mineral books, any language. Plotkin, Ext. 7974, Wednesdays, 798-2887.

MICROWAVE - & desk. Ext. 3125 eves.

STEREO COMPONENTS - old tubed Marantz or Macintosh, working or not. Jim, Ext. 4584.

In Appreciation

To My Dear Friends at BNL,

Your comforting expressions of sympathy will always be remembered with deep gratitude.

— Leo Sadinsky and Family

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