BROOKHAVEN BULLETIN
Vol. 38 - No.14 April 6, 1984
BROOKHAVEN NATIONAL LABORATORY

Molecules In Motion

A molecule is like a chameleon. But unlike a chameleon, which changes only its color, a molecule can change in many more ways.

Most of the time, a molecule is in its natural, or ground, state, in which the motion of the nuclei and electrons are in their lowest or near lowest energy state. With some extra energy, however, a molecule can go from its ground state to an excited state, in which the relative nuclear or electronic motions have been excited. If the excitation energy is great enough, the molecule can break apart or an electron can be removed completely from the molecule (called ionization).

The study of these processes is the preoccupation of Michael White and J. Robb Grover, in BNL's Chemistry Department, and of Edward Walters, a research collaborator from the University of New Mexico. This work is an example of basic research that contributes to our understanding of molecules and their interaction with light.

The team of chemists, with technical backup from John Densieski, is studying molecules with a technique called photoionization. In photoionization, molecules are zapped with photons of light. The added energy can either drive the molecules through various excited states until they ionize, or ionize them directly from the ground state. At some point, they absorb so much energy that the molecular ions fragment. By studying these different energy points, the scientists can derive information on the electron energy levels, as well as the bond strengths within a molecule.

Says Michael White, "Although the basic architecture of a molecule is elegantly simple, real states of even a diatomic molecule can be extremely complex." As he explains, there are basically three modes of molecular motion which can be excited: rotation, in which the whole molecule tumbles; vibration, in which the nuclei move relative to each other; and electronic excitation, in which electrons change orbits.

When a molecule absorbs visible or ultraviolet light, usually all three types of excitation take place. Often, motions become coupled with each other and with other excited states nearby: Photoionization provides yet another sensitive tool to probe these complex states of the neutral and ionized molecule.

These excited or ionic states are always available to a molecule. It's just a matter of hitting it with the right amount of energy.

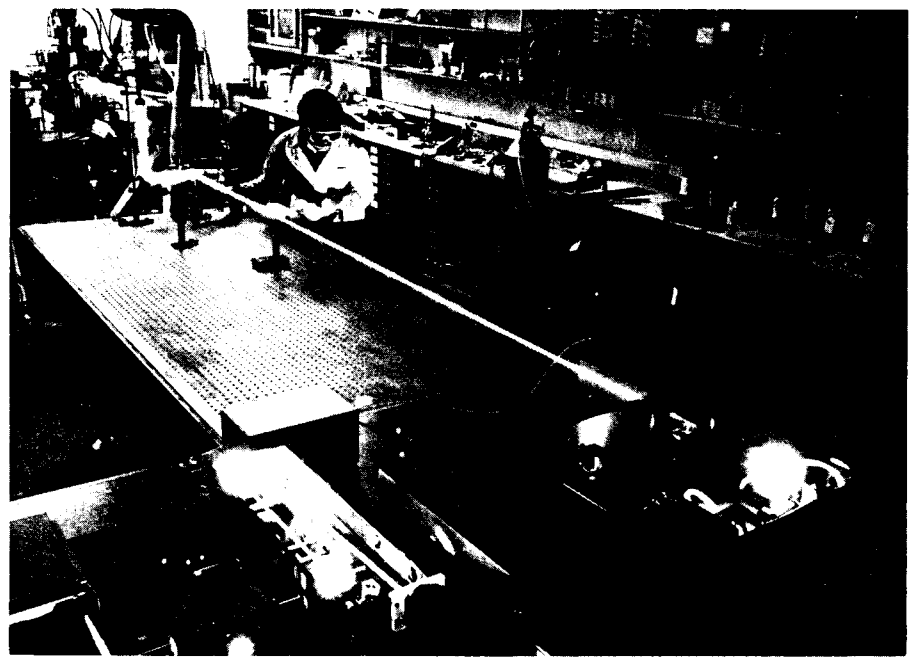
And that's where BNL comes in. According to White, Brookhaven has the latest generation of tools for doing photoionization — the National Synchrotron Light Source (NSLS) and a new laser laboratory in the Chemistry building.

The lasers send out pulses of intense visible and near ultraviolet light. With successive hits, the target molecule goes from the ground state to an excited state and then ionizes.

At the NSLS, the target is a molecular beam of molecules or cluster of mixed molecules. A single photon is used, and since it is much more energetic than a single photon from the laser, it ionizes the molecules in a single hit.

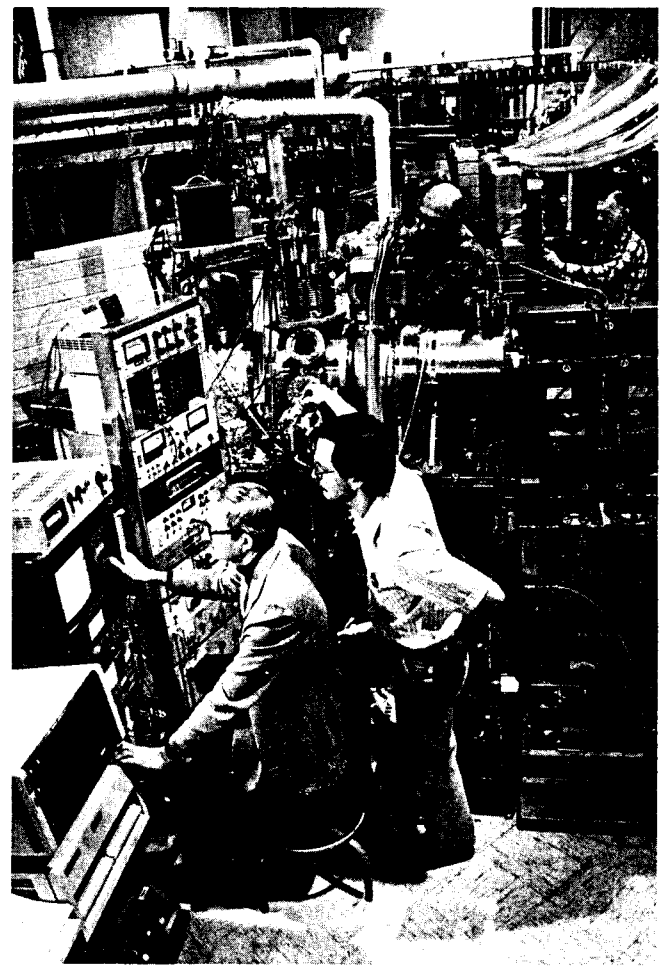
A major difference between the two techniques is that the lasers are used to study the ionization of molecules from the excited state, while the NSLS is used to study direct ionization from the ground state.

White notes that the first experiments with lasers in this field were begun only five years ago as a result of new advances in laser technology and detection techniques. As for the NSLS, it offers tremendous advantages over conventional laboratory light sources in both intensity and energy range. "We have the best of both worlds," he concludes.



Mort Rosen

In the Chemistry Department's laser laboratory, visible laser radiation is directed into a target vacuum chamber (left) for photoionization studies of excited molecules.



Mort Rosen

At the National Synchrotron Light Source, the Chemistry Department has photoionization apparatus installed at the U11 beam line on the ultraviolet ring. Doing research there are (from left) J. Robb Grover, Michael White, Edward Walters and John Densieski. Special equipment (center) is used to prepare molecular clusters by supersonic molecular beam techniques. The molecular beam (moving right to left) intersects the synchrotron radiation emitted from the ring (located behind the concrete shielding blocks).

Telecast

The Irvine-Michigan-Brookhaven Proton Decay Project has been filmed for the Smithsonian World program "Designs for Living" which will be shown on Channel 13, April 11, at 8 p.m. The program will be repeated at noon on April 15.

Manowitz Reappointed

Bernard Manowitz has been reappointed chairman of the Applied Science Department for a period of five years, effective July 1. In making the announcement, Lab Director Nicholas Samios said that "Mr. Manowitz' skill as an administrator has enhanced recognition nationally and internationally of the activities in the applied science programs under his purview."

Alex Reben

Bernard Manowitz

Reflecting on these programs, during the past five years and over the next five, Manowitz commented:

"The principal environmental issue has been acid rain, and we expect to continue our role in meeting this national need for the next five years. Another environmental problem that is likely to be prominent is the carbon dioxide greenhouse effect and we will certainly contribute to that program. In energy sciences, we will pursue a direction already taken, that is, to make better use of the Lab's major facilities, such as the Light Source and the HFBR in materials sciences research. As for energy technology, in the last five years we worked on what we perceived as national needs, for instance, the efficiency of oil burners. Now, we are turning to more fundamental and long term programs such as the proper selection of new building materials, and the conversion of coal into useful liquid forms. We also plan to continue our interest in science education and look forward to using our staff expertise in more programs like the MIT Practice School which was conducted here last summer and which we hope to see every year.

"In general, I would say that the department's programs are all in place and we expect the next five years to be very productive."

Alex Reben

A week-long symposium on Gas-Liquid Chemistry of Natural Waters concludes today at Berkner Hall. Members of the organizing committee for the meeting are: (seated from left) chairman Thomas Graedel, Bell Labs; Leonard Newman, BNL's Environmental Chemistry Division; conference secretary Jane Bennett, Environmental Chemistry Division; (standing from left) Rod Zika, University of Miami; L. Robbin Martin, Aerospace Corporation; Stephen Schwartz, Environmental Chemistry Division; and Theodore Mill, SRI International. The symposium focused on the photochemistry and chemical reactions in fresh water, oceans, aerosols, cloud droplets and rain. In attendance were nearly 50 chemists from all over the world who came to discuss new research and to exchange information on chemical data and processes which someday may be applicable in problem areas such as wastewater treatment, ocean surface pollution and acid rain.

Retirement Notes

On The Wing

Since his retirement in 1980, Joseph Scesny's life has been good — and it's also been "for the birds." If that seems paradoxical, it is because Scesny now devotes a lot of his time to racing pigeons.

This avocation did not appear out of the blue when he retired after 16 years as a carpenter at BNL. He has been well acquainted with pigeons since his boyhood days on a farm in Yaphank.

Of course, in those early days the pigeons Scesny had were barnyard pigeons. Now, he has Belgian racing pigeons which are bred, fed and trained to fly home after being released as far as 500 miles away.

Scesny started racing in the 1950s but did not have time to continue it during his years at the Lab. It's a complicated sport and it is not cheap. Each racing pigeon may cost as much as $200, is fed superior bird feed and, in Scesny's coops, receives tender loving care that other birds might envy.

Scesny has 50 pigeons, of which six are Belgian imports. His flock includes both racers and breeders. He says that a pigeon might be a hotshot in racing, but a dud in the breeding department. In the 1960s he had a pigeon who won two races — one a 572-mile race which he covered in 12 hours, averaging 45 miles per hour for 12 hours. Scesny thought the pigeon might pass on its remarkable genes, but, as he says, "this pigeon didn't produce a thing for me."

About seven days after birth, a band is placed around the bird's leg recording the year of birth. This verifies its age when it comes time to race. When they are two to three months old, the pigeons start flying around the loft, and then their training begins. "And once you start training, you do it every day," says Scesny.

First, the birds are put in a cage on a platform outside the coop and then let into wooden stalls on the side of the coop. There Scesny nudges them with a stick and "howls" at them until they run back into the coop. (Before a race, a numbered countermark is put on the bird's leg and it must be removed immediately on landing in order to calculate the racer's flight time. Therefore, it is important that the bird learn to land in a place where it can be reached easily.)

The next step is to remove the cage and let the fledglings fly in circles outside the coop. When they have mastered this, Scesny takes them down the road about two miles and lets them go — and they come back to the loft. He keeps increasing this distance up to about 25 miles. If they don't come home, he says that "those are the ones you don't want, they aren't smart."

The last stage in training is handed over to a man with a training truck. Scesny's birds, along with other pigeons being trained, are driven to a more distant spot, say, outside the Queen's Midtown Tunnel, and let loose. They are then expected to return to their respective homes. If they make it, they are now ready for races of 100 miles or more. And, eventually, maybe one of them will be entered in the big one — the Kentucky Derby of the Air — a 500-mile race generally held on June 21, the day with the most light.

Pigeons never fly at night. They stop and hole up on a rooftop and wait for morning. They are also not crazy about rain. Some will fly in a light rain, but others will stop. Pigeons won't fly over water unless they have been trained to do so. Wind can be a hazard. When headwinds are encountered the birds fly low and are liable to hit high tension wires.

Young birds (up to one year of age) fly against young birds. After that, they are considered old birds and fly against each other. According to Scesny, a pigeon's racing span is about five years.

Scesny estimates that there are about 250 people who fly pigeons on Long Island, and he says that it is a popular sport in every state. His pigeons fly the west course which includes Pennsylvania and some parts of Ohio. For the races, the birds are shipped to a designated race station in the area, and every flier is required to have an airline survey from that station to his coop. From 800-1200 pigeons participate in a race.

How the races are timed is complicated. Suffice it to say that the countermark is removed from the bird's leg on landing and placed in a pigeon clock, a continuous running timer for which Scesny paid $350. He can clock 12 pigeons at a time. "It's a question of whoever averages the best miles per hour, not who crosses the finish line first," he says.

Trophies and certificates are awarded to the winners and money is made by betting, as in horse races. "But it's not a sport where you make a lot of money," says Scesny. "You're lucky if you break even. What I get is a lot of personal satisfaction. On race days, it's great to look up in the sky and see them coming home. If you treat 'em right, they'll always come home again." — B.P.

Retirees: The Bulletin is always on the lookout for interesting stories. Drop us a line and tell us what you are doing now.

Scesny talks to some of his pigeons in the coop. They don't take kindly to strangers.
--photos by Reben

Joe Scesny and one of his favorites. This silver hen is a two time winner.

Mary Archer

WIS Lecture

Mary Archer of Cambridge University, England, will speak on "The Electrochemical Behavior of Glassy Metals" on Friday, April 13, at 11 a.m. in the Hamilton Seminar Room, Chemistry Department. The talk, which is sponsored by the Brookhaven Women in Science, is open to the Laboratory community.

Glassy metals are made by cooling molten alloys so quickly that the disordered structure of the liquid is retained. Their structural, mechanical, magnetic and electrical properties differ from those of comparable crystalline alloys. The talk will focus on the resistance to electrochemical corrosion of these materials.

Dr. Archer is associated with Newnham and Trinity Colleges at Cambridge. She has written several reviews in the area of photoelectrochemistry and has served on the Board of Directors of the International Solar Energy Society. She is a member of the editorial board of Nouveau Journal de Chemie and a Manager (Trustee) of the Royal Institution.

A dinner reception will be held for her at the Long Island Hotel, Center Moriches, on Thursday, April 12, at 5:45 p.m. Those interested in attending should reserve a place by sending $15 (cash or check) to Gail Williams, Bldg. 460.

Inside Information

Roger C. Newman, associate metallurgist, Department of Applied Science, has received the 1984 A.B. Campbell Award for Young Authors from the National Association of Corrosion Engineers (NACE). The award is given in recognition of the most outstanding paper published in an NACE journal during 1983 by an author under 30 years of age. Newman's paper "Environmental Variables in the Low Temperature Stress Corrosion Cracking of Inconel 600" was published in the October 1983 issue of Corrosion. Presentation of the award was made at the Association's annual conference on April 4 in New Orleans.

Traffic Note

On occasion, traffic is backed up south on the William Floyd Parkway due to an I.D. check at the main gate, or some other condition on site. In such a case, Safeguards and Emergency Services suggests that employees pull over to the paved shoulder on the right side of the inner lane and proceed into the Lab from there. This will free the parkway for through traffic.

In Memoriam

Barbara M. Barrett, a Sr. Secretary in the Department of Nuclear Energy, died on March 31 at the age of 48, after a long illness. She had been employed at the Laboratory since May 21, 1975. She is survived by her husband William F. Barrett of East Islip, two daughters, Patricia Micca and Mary Gemmelli, a stepson, Liam Barrett, and by her mother, Helen Tifverman of Florida.

Reports Available

The following reports are now available to the Laboratory staff and to affiliates of the DOE, AUI and NRC. Others may purchase the reports from the National Technical Information Service, U.S. Dept. of Commerce, 5285 Port Royal Rd., Springfield, VA 22161. Staff members should call Ext. 5068.

NUREG/CR-2808
BNL-NUREG-51553
GWMBNL1: A Computer Model for Groundwater Transport of Radioactive Isotopes and Dose Rate Calculations. C. Sastre, C. Hsu, J. Colman.

NUREG/CR-2813
BNL-NUREG-51556
TASK 3 - Development of Low Level Waste Form Criteria Testing of Low Level Waste Forms. R.E. Davis, E.P. Gause.

NUREG/CR-2977
BNL-NUREG-51589
Tets of Absorbents and Solidification Techniques for Oil Wastes. M. Lin, D.R. MacKenzie.

NUREG/CR-2870
BNL-NUREG-51576
Characterization of the Radioactive Large Quantity Waste Package of the Union Carbide Corporation. E.P. Gause, L.G. Stang, D. Dougherty, E. Veakis, J. Smalley.

NUREG/CR-3297
BNL-NUREG-51675
Review of the Catawba Units 1 and 2 Auxiliary Feedwater System Reliability Analysis. A. Fresco, R. Youngblood, I.A. Papazoglou.

NUREG/CR-3081
BNL-NUREG-51626
Review of the Crystal River Nuclear Generating Station Unit No. 3 Emergency Feedwater System Reliability Analysis. R. Youngblood, I.A. Papazoglou.

NUREG/CR-3226
BNL-NUREG-51667
Seismic and Dynamic Qualification of Safety-Related Electrical and Mechanical Equipment in Operating Nuclear Power Plants. Development of a Method to Generate Generic Floor Response Spectra. J. Curreri, C. Costantino, M. Subudhi, M. Reich.

NUREG/CR-3281
BNL-NUREG-51670
Investigation of Shell Cracking on the Steam Generators at Indian Point Unit No. 3. C.J. Czajkowski.

NUREG/CR-3340
BNL-NUREG-51680
In Situ and Laboratory Benchmarking of Computer Codes Used for Dynamic Response Predictions of Nuclear Reactor Piping. P. Bezler, M. Subudhi, S. Shteyngart.

NUREG/CR-3342
BNL-NUREG-51682
Probabilistic Models for Operational and Accidental Loads on Seismic Category 1 Structures. H. Hwang, P.C. Wang, M. Reich.

BNL-51706
Non-Linear Variation of the Beta-Function with Momentum. G. Parzen.

NUREG/CR-2830
BNL-NUREG-51565
Permissible Radionuclide Loading for Organic Ion Exchange Resins from Nuclear Power Plants. D.R. MacKenzie, M. Lin, R.E. Barletta.

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Golf

An organizational meeting of the BERA Golf Association will be held on Friday, April 13, at 5:15 p.m. at the Recreation Bldg. The meeting is open to all individuals interested in playing in the league. Applications for membership are now being mailed to all of last year's members. Prospective members may obtain an application by contacting Ron Webster, Bldg. 526, Ext. 2845.

Motorcycle Club

A meeting will be held on Monday, April 9, starting at 5:15 p.m. at the Recreation Bldg. The spring gathering and ride for April will be discussed. Refreshments.

Stony Brook Events

April 9 8 p.m.	Lecture by BNL's Willy Higinbotham on "The Beginning of Scientists' Involvement in Nuclear Arms Control." Old Chemistry Lecture Hall. Free.
April 10-14 8 p.m.	"The Woods," a play by David Mamet (author of "American Buffalo"). Theatre 1, Fine Arts Center. 246-5678.
April 13 9 p.m.	"Jesus Christ Super Star" - musical event at Stony Brook Union Auditorium. 246-4427.
April 14-15 7:30 & 10 p.m.	

Datawocky

by Jack Stack

'Twas global and the megabytes
Did gyre and gimbal on the disk
All mimsy were the prompts and codes
And the software was brisk

•

Beware the microchip my son
The bits, the bytes and bauds and such
Beware the CRT and shun
The gwerty keyboard's clutch

•

He took his self-pace book in hand
Long time the menu key he sought
Then wrestled he with the toaster drive
And sat a while in thought

•

Then as he sought that glitchy bug
The microchip, with gates aflame,
Came whiffling through its I/O plug
And processed as it came

•

Asynch, Bisynch, all protocols,
His binary went snicker snack,
He felt it crash, and with a dash
He came galumphing back

•

And didst thou tame the microchip
Come interface my beamish boy
O frabjous day, Caloo! Callay!
O database, O joy

•

'Twas global and the megabytes
Did gyre and gimbal on the disk
All mimsy were the prompts and codes
And the software was brisk.

•

(With due apologies to Lewis Carroll and Alice Liddell.)
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Alex Reben

Look. Up in the sky. It's not a bird. It is one of several paper silhouettes of a hawk-like bird taped to the windows of the corridors between Physics and Applied Math, and Physics and the Physics Seminar Room. Fred VanDervoort, Physics, obtained these birds of prey through the sign shop, and put them up hoping to frighten away migrating birds who were flying into the windows thinking there was just sky between them and the Physics courtyard. VanDervoort got the idea from a newspaper clipping about the success of bird-of-prey silhouettes in London, England. At BNL, the menacing paper hawks have reduced the bird mortality rate by 70%.

NYC Train Trips

The Hospitality Committee is planning two group railroad trips to the city in the next two weeks.

One is a special on Saturday, April 14, leaving at 8:31 a.m. Round-trip fare is $6.50, and must be received no later than Wednesday, April 11. Reservations will be accepted on a first-come, first-served basis.

The second is a regularly scheduled trip on Wednesday, April 18, leaving at 7:55 a.m. The round-trip fare is $5.00 and must be received by Thursday, April 12. Refunds will be made only if cancellations are received by the Monday morning preceding the trip.

Children under five years ride free on both trips. All departures are from the Patchogue LIRR station. To reserve a ticket send your fare through the U.S. mail to BNL, P.O. Box 322, Upton, New York 11973. Checks or money orders should be made payable to BNL. Do not send cash. Put the date of the trip, your telephone number and BNL life number on the check. Tickets will be given to you on the train.

Arrivals & Departures

Arrivals

Robert L. Gallagher ..... NSLS
Michael R. Huskey ..... S&EP
David J. Knoernschild ..... Accel.
Michael J. Mallon ..... S&EP
Robert E. Schmidt ..... S&EP
See-Meng Wong ..... DNE

Departures

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

Dorothy Groobert ..... Accel.
William E. Johnson ..... Plant Eng.
Robert T. Nicholas ..... Medical
James Plastiras ..... Central Shops
John G. Schirmer ..... Accel.
Edna W. Zollo ..... Medical

Softball

There will be a meeting on Friday, April 13, at noon in room B of Berkner Hall, for softball team captains, league representatives and board members.

If you cannot attend this meeting, please send a representative from your team.

Cafeteria Menu

Week Ending April 13

Monday, April 9		
Beef noodle soup	(cup)	.65
	(bowl)	.85
Monterey bake w/Spanish sauce		1.85
Western omelet w/hash browns		1.85
Hot Deli: Veal patty & pepper hero		2.00
Tuesday, April 10		
Pepper pot soup	(cup)	.65
	(bowl)	.85
Sautèd chicken breast on rice		2.10
Spanish macaroni & 1 veg.		1.90
Hot Deli: Italian roast beef	(bread)	1.95
	(roll)	2.10
Wednesday, April 11		
Lentil soup	(cup)	.65
	(bowl)	.85
Swiss steak jardinere (8 oz.) w/ onions & 1 veg.		3.25
Ham & potato au gratin & 1 veg.		1.85
Hot Deli: Corned beef	(bread)	1.85
	(roll)	2.00
Thursday, April 12		
Chunky tomato soup	(cup)	.65
	(bowl)	.85
Pork & cabbage crisp on rice		1.95
Fish kabob & 1 veg.		1.90
Hot Deli: Grilled Reuben		1.90
Special		
Top your cheesecake		1.10
Friday, April 13		
Fish chowder	(cup)	.65
	(bowl)	.85
Shrimp Creole on rice		1.95
Hungarian noodle bake & 1 veg.		2.00
Hot Deli: Breaded fish fillet	(bread)	1.90
	(roll)	2.05

Notaries on Site

Sometimes you need to get a document notarized but are not sure where to find a notary on site. Look no more. A poll of the various offices has brought to light a fair number of notaries public, and one may be just aound the corner from you. Here, then, is the list:

	Bldg.
Accelerator	
Ruth Ann Lutz	902A
Applied Math	
Muriel Kolomick	515
AUI	
Michael Goldman	460
Peter Rathvon	460
Frank Federmann	134A
Biology	
Ben Scala	463
Contracts & Procurement	
Roseann Callister	355
DAS	
Patricia Fox	179A
Betty Pergan	179A
Joan Slavinsky	179A
Director's	
Renee Flack	460
Carol McFadden	355
DNE	
Joseph Indusi	197C
DOE	
Marvin J. Laster	464
Joan M. Shands	464
Fiscal	
Melanie Covitz	134B
Medical	
Geraldine Callister	490
Carole Kerr	490
NSLS	
Jeanette Thiede	725B
Personnel	
Donna Gallagher	185
Kay Hunt	185
Photo & Graphic Arts	
Dolores Janes	197B
Physics	
Robin Scarola	510A
Reactor	
Bill Fedrich	750
Lisa Seymore	750
S&EP	
Susan Carlsen	535A
Tech. Information	
Rhea Robinson	477B

Bowling

Pink League

E. Kristiansen bowled games of 192/156/223 for a 571 scratch series, R. Rosati 206, S. Moore 199, D. Johnson 176, S. Asselta 175.

Red/Green League

J. Medaris rolled 229, E. Sperry 222/208, R. Larsen 212, L. Jacobson 212, R. Jones 205, D. Jesaitis 201.

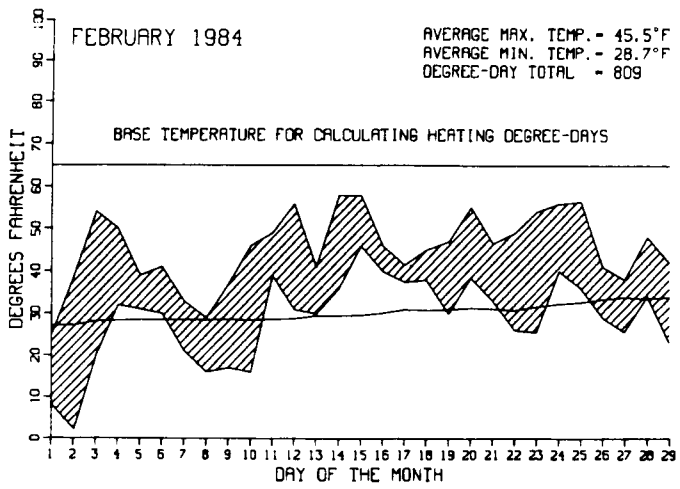
L.I. Industrial Tournament

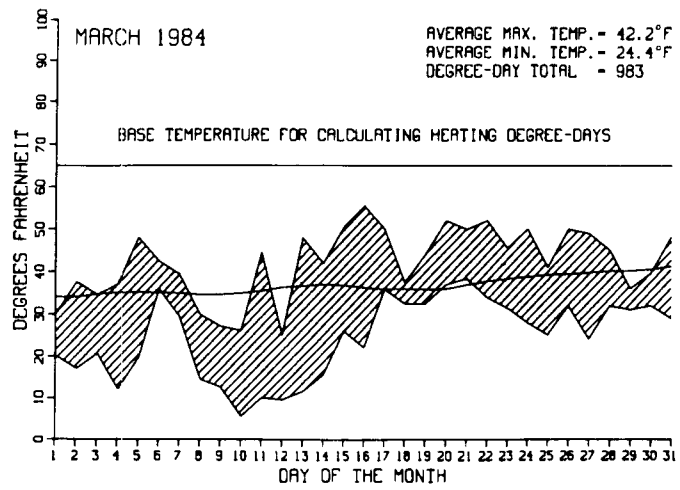
Besides a 1030 team scratch game, good games were bowled by R. Larsen 245/207/641 scratch series, K. Riker 232, K. Asselta 211/206/610 scratch series, D. Adams 201.

Singles Club

The regular monthly meeting will be held in the lounge of the Recreation Bldg. on Tuesday, April 10, at 5:15 p.m. The meeting will be followed by a wine and cheese get-together. Bring your own wine, cheese and crackers. Glasses and ice will be provided. For information, call Chuck Watson at Ext. 5317.

BNL Degree Days





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, 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 Personnel Placement Supervisor, Ext. 2882.

OPEN RECRUITMENT: Opportunities for Laboratory employees and outside applicants.

2033 TECHNICAL POSITION - Requires AAS degree in electronic technology or equivalent and 2 years' experience with control data acquisition systems. Will assist in the preparation, installation, maintenance and operation of a VUV beam line and its associated equipment. Ability to obtain "Q" clearance mandatory. National Synchrotron Light Source Department.

2034 TECHNICAL POSITION - Requires AAS degree in engineering science or equivalent and experience in machine shop practices with an emphasis on high precision assembly. Responsibilities include the assembly, test and maintenance of experimental x-ray, optical and mechanical instruments. National Synchrotron Light Source Department.

Autos & Auto Supplies

GERMAN AUTO PARTS - wholesale prices on new parts for VW, Porsche, Audi, BMW, and MB. Augie, 289-4211.

71 CUTLASS - runs well, new batt., starter, trans., dist., brakes, $200 or best offer. S. Spark, Ext. 4111.

72 CHEVY - Kingswood wagon, runs, $200. Nelson, Ext. 2303 or 732-3902.

79 PONTIAC - Firebird Esprit, auto., T/roof, am/fm cass., p/b, p/s, factory mag wheels, $4,500. Bob, Ext. 4547 or 473-3987.

70 VW - mag wheels, good tires, brakes, new heater box, runs well, $300. Tom, 286-1899 eves.

TIRES - (2) Tiempo steel belted radials, P195/75R14, $10 ea. Ext. 3919.

70 CHEVY - Monte Carlo, needs work, runs, $250. Ext. 3120 or 727-5212 after 5:30 p.m.

58 INTERNATIONAL - farm truck, cab and chassis, w/69 V8 engine, takes 12 ft. body, good cond., $350. Tom, Ext. 4084 or 878-1060.

79 HONDA - 750F Super Sport, 3,000 mi., prof. maintained, polyglycoat, garaged, $1,650. 759-2460 or 473-7809 eves.

73 DODGE - pickup, slant 6, cap, new trans., batt., stereo, low mi., no rust, $1,800. 399-3281.

83 MAICO - Motocross, 250cc, many spares. 325-9580 after 6 p.m.

72 VOLVO - 4/dr, a/c, $1,600; 1955 FORD dump truck, w/plow, $1,200. Winter, 744-7517.

MOTORCYCLE PARTS & ACCESS. - discount prices. 325-9580 after 6 p.m.

74 AUDI FOX - good transp., runs well. Greg, 286-8814 after 6 p.m.

76 VW - Rabbit, 62,000 mi., good cond. Ext. 2537 or 473-1658 after 6 p.m.

72 VOLVO - 142E, runs ok, asking $700. Eric, 289-2352.

74 FORD - Pinto, auto., needs work, $250. 758-9430 after 5 p.m., Mon.-Thurs.

72 PLYMOUTH - Scamp, 318, auto., 2 dr., new exhaust, radials, reliable. 722-4679.

73 HONDA - XL250, 6,000 mi., good cond., 4 cyl., $450. Ext. 3458 or 369-2504.

EARLY BUICK - or JEEP, V6, parts, blocks, heads, pistons, etc.; (2) 350 CHEVY short blocks, both apart, need work, $50 ea. Bill, Ext. 4434 or 399-6168.

CHROME BUMPERS - front/rear for 1980 & newer Dodge van, excel. cond., $100. 924-8224.

75 VOLVO - station wagon, good cond. Ext. 4970.

MOPED - Tomos, 5,000 mi., 2 baskets, $200. Tony, Ext. 3637.

80 PONTIAC - Sunbird, 4 cyl., 4 speed, p/s, a/c, am/fm tape, r/def., louvers, 38,000 mi., excel. cond., $3,500. 467-5058.

74 MUSTANG - 4 spd., 6 cyl., am/fm, $900. 744-6668 after 6 p.m.

61 COMET SHOP MANUAL - mint condition, $7. Morris, Ext. 4986.

HONDA DIRT BIKE - XR80, excel. cond., new back tire. Neal, 286-2435.

73 TOYOTA - 4 spd., good for parts, $100. Lourdes, Ext. 4741.

CANVAS TOP - for Jeep, beige, all hardware incl., never used, $195 or best offer. 286-3865.

69 MUSTANG - convertible, a/t, p/s, $1,200. 751-0833.

PLOW FRAME - for pick up, used, $50. 286-3865.

HONDA MOTORCYCLE - 500CC, good cond., best offer over $550. Irene, 589-5126.

76 DODGE ASPEN - 4 door sedan, auto., p/s, 6 cyl., radials, excel. cond., $1,795. Bill, 744-8999.

79 DODGE - station wagon, roof rack, am/fm cass., p/s, p/b, a/c, clean, 66K, slant 6. 543-0079.

79 HONDA CIVIC - needs engine work, best offer. 369-1844 late eves. or early a.m.

71 VOLVO 142 - 4 spd., stereo, rebuilt engine, needs body work, radials, runs well, $1,000. Austin, 363-2796.

79 MERCURY CAPRI - 4 cyl., auto., p/s, hatch back, garaged, excel. cond., $4,300. 727-8523.

73 DODGE POLARA - station wagon, needs work, running cond., $400. 654-9058 eves.

ANTIQUE AUTO PARTS - 10 boxes, misc., literature, tools, jacks, radios, etc., $75. Frank, Ext. 2022 or 399-4480.

62 CHEVY PARTS - front/rear windshield, other assorted parts. Joe, Ext. 2556.

68 FORD - Country Squire wagon, high mi., reliable, $350. Ext. 2021.

79 FORD RANGER - XLT, pick up, auto., p/b, p/s, a/c, runs well, $3,375. 821-9280.

74 VW SQUAREBACK - runs well, $750. Ext. 4363 or 286-1183 or 924-7238.

76 PINTO WAGON - auto., V6, p/s, p/b, sound body. Ext. 5294.

79 CHEVY MONZA - blue, 4 spd., am/fm stereo, runs well, $2,195. 744-5224.

78 THUNDERBIRD - 302 V8, Town Landau, all power, auto., stereo, mags, new radials, brakes, battery, etc., $3,500. Ext. 2492.

75 HONDA - 500CC, windshield, fairing, sissy bar, manuals, good cond., $375. Frank, Ext. 2022 or 399-4480.

VAN SEAT - high back w/swivel base, tan naugahyde, never used, $75. 473-1456.

81 HONDA - CB750, custom, mag wheels, excel. cond., garaged, $1,900. 924-6348.

71 VW CUSTOM CAMPER - stove, sink, elec. refrig., furnace, closets, am/fm/tape, single bed, $1,950. Marty, Ext. 3563 or 286-0478.

74 THUNDERBIRD - 100,000 mi., mech. perfect, good body, all options, many new parts, $1,275. 231-6690.

CAR COVERS - mid size, clear, $35, canvas, $48. 878-0717.

71 TORINO 302 - V8, low mi., good running cond., $700. Ext. 4008.

74 CHEVY - 4 dr., V8, am/fm cass., good second car, $750. 821-0758 6 to 8 p.m.

79 HONDA - station wagon, 4 spd. s/s, new tires, low mi., many extras, $3,300. 289-8267 after 6:30 p.m.

80 SUZUKI MOTORCYCLE - GS450L, excel. cond., $650. 289-8253.

80 PONTIAC - Grand Prix, 31K mi., V6, auto, am/fm, a/c, p/s, p/b, console, red w/white top, $5,200. 588-7687.

76 CHEVY MALIBU CLASSIC - 89,000 mi., small V8, a/c, p/s, p/b, new tune-up/tires, best offer over $1,800. 744-3298 days/weekends or Ext. 2926 eves.

82 YAMAHA MX100J DIRT BIKE - bought new, used less than 2 hrs. $700. Ralph, Ext. 2539.

Boats & Marine Supplies

60 LYMON - 17', runabout w/50 HP Evinrude, good cond., $1,200. Roger, Ext. 5211 or 878-8847.

WELL CRAFT - 17', 60 HP Evinrude, full canvas, CB, extras, excel. cond., $2,000. 765-3963.

CAPE COD KNOCKABOUT - 18', perf. cond., w/auxiliary outboard, extra sails. 286-2412.

PEARSON 365 - 36' sailboat, ketch, mint cont., excel. crusier; 1980 O'Day, 19' daysailer, outboard, centerboard, main, jib, $5,500. Joe, Ext. 7961 or 722-3957 eves.

SEARS - 12' alum. boat, w/7-1/2 HP outboard, $575. Joe, 744-3509 after 5 p.m.

80 BAR HARBOR - 26', 260 HP, camper back, swim platform, sleeps 5, fully equip., $18,500. 273-6813.

PACEMAKER CRUISER - 25', 220 HP, Palmer FWC, galley, head, sleeps 4, $1,500 firm. 475-7272 or 878-9582 after 6 p.m.

Miscellaneous

EASTER BUNNIES - choice of colors, $10. 363-6292 eves/weekends.

ENCYCLOPEDIA - Funk & Wagnalls, full set, $50. 821-0080.

MOVIE CAMERA - Yashica, super 8, w/zoom, $50; RCA color console TV, 21", mahogany console, new picture tube, $125. Ext. 2895, or 475-8640.

DIRT BIKES - 79 Suzuki, PE175, $700; 80 Suzuki, RS175, $650; BMX bike, $55; walnut hutch w/sliding glass dr., $75. Ron, Ext. 7696 or 289-1003.

GOLF CLUBS - men's irons, 2 thru 9 & PW, $50. 821-0865.

GO CART - dune buggy, 5 HP, 1 yr. old, excel. cond., $450. Guy, 732-6712.

CEILING TILES - used, industrial, white, insulating, 24 x 48 x 5/8 thick, 65 tiles, $25. Ext. 2981 or 473-7809.

ELECTRIC PIANO - Fender Rhodes Stage 78, excel. cond., $570; Peavey PA system, $170. Bob, 360-3808.

FORSYTHIA BUSHES - 6', you dig, $6. Walt, Ext. 7154.

CAMERA - Nikon 35mm, SLR, Nikormat FTN, 1.4 lens, case, elect. flash. 265-5426 after 6 p.m.

LATHE - small, $75. Tony, Ext. 4986.

STOVE - Godin wood flash coal, lg., used 1 season, $450. Winter, 744-7517.

TREES - fir & spruce 22" to 46" tall, you dig, 2 for $9; metal kitchen utility cabinets, white, $10 ea. 878-6637.

80 OVATION BASS - Mag 1 series, ebony fingerboard, walnut finish, hardshell, road case, beautiful, $350. 669-5181.

COMPUTER - Sanyo 555, 2 DSDD, 256K, IBM compat. w/monitor, W.S., and more, Alfeu, Ext. 2829.

CLUB CHAIR - upholstered, good cond., $50. Frank, Ext. 3121.

METAL PAIL - hand breadmixer, all parts, $20; lg. mission oak chair, $15; coat tree, wood, 4/hooks, $10. 878-6637.

SNOW PLOW - 6', fits CJ Jeep, pump, blade and controls, $550 neg. 744-5478.

STEREO - am/fm 8 track, space age design table, or ceiling ear & speaker connect., $30. Carol, 878-0885.

COLOR TV - 25" Magnavox, cable & remote ready, $450. 924-0910.

CANARIES - Border, Red Factors, selection of cages & flights, Romona, 928-3088.

HOT WATER HEATER - modern, glasslined LBG, 50 gal., 2 yrs. old, excel. cond., $50. Ext. 3354 or 475-7250.

STAINLESS STEEL FILTER - D. Earth, with 3/4 HP pump, used 1 month, under warranty, $125. Joe Bush, Ext. 4638.

PONTILED CRUET - pressed glass, $8; wedgewood pieces, $3 ea; depression glass plates, $ to $8. Irene, 589-5126.

NAT'L GEOGRAPHIC - 1964 to present, hard cover index; some 1961/62 issues, $100 or best offer. 929-4701.

WOOD STOVE - Federal, airtight, used 1 season, $75. 758-9430 after 5 p.m. Mon. thru Thurs.

RANGE HOOD - GE, 30", ducted, w/ducting new in box, neg. Katherine, 281-8021.

SUEDE COAT - ladies, 3/4 length, fur collar, size 11/12, $45. 924-6688.

BEDROOM - triple dresser, chest, 2 night stands, double bed frame, solid mahogany, mirror, $500. 751-1562.

KITCHEN - dinette set, French Prov., antique, white, w/leaf, 4 padded cane back chairs, $100. 744-3639.

ROCKER - pine, $40; wood coat rack, $15; Whirlpool refrigerator, avocado, 13.9 cu. ft., excel. cond., $250. 399-2033.

COFFEE TABLE - Paul McCobb, dark finish, 60" x 18", $40; bed tray, white, $30. 929-4701 or 929-8105.

ADMIRAL FREEZER - 15 cu/ft., upright, excel. cond. 475-7272 or 878-9582 after 6 p.m.

SHELF - 4' x 8" x 1-1/2" thick, $10; Cadillac hub cap, new $5. 929-4701 or 929-8105.

DINING ROOM TABLE - walnut, 58" x 40" w/2 leaves, (4) matching chairs, excel. cond. Ext. 4449 or 751-8403 after 6 p.m.

MAPLE SYRUP - from my family's VT farm, 1/2 gal. $12; qt. $7. P. Wanderer, Ext. 7687.

YAMAHA RECEIVER - digital tuning, preset stations, 100 W, 6 mos. old, new cost $450, sell for $300. Peter, Ext. 3379.

REFRIGERATOR FREEZER - GE, side by side, 21 cu/ft., excel. cond., $200. 878-1325.

AIR CONDITIONER - Westinghouse, 15,000 BTU, 220 V, single phase, efficient, hardly used, $175. 878-1067.

STAMPS - breaking up collection, worldwide, great variety, packets and singles, about 1/2 catalogue. 821-0766.

BED - queen size, $125; Pioneer stereo, $300; food processor, $125; Sanyo wash-dry, $125. Roger, Ext. 2751 or 878-1953.

OUTDOOR PLAYHOUSE - log cabin w/wooden floor, good cond., roof needs repair. Ext. 4449 or 751-8403 after 6 p.m.

COMFORTER - queen size w/dust ruffle; shams and swags, (2) pair, 84" drapes, blue/white print. 744-7734.

BMX - mongoose, racing parts, zap pads, excel. cond. Neal, 286-2435.

KEROSENE HEATER - Aladdin, hardly used, excel. cond., $125. 286-3865.

ACCENT TABLE - wood, stained mahogany, 24" dia. w/drawer, pedestal base, good cond., $15. Nancy, Ext. 5274 or 281-2767.

CANDLELABRA - antique marblebase crystal and brass ornate, $85; collectibles from $ to 15. Irene, 589-5126.

CRAFTSMAN - 10" radial arm saw, w/acces., excel. cond., $275. Bob, Ext. 7772.

REFRIGERATOR - 14 cu/ft., white, new, 2 months old, avail. after April 15, moving, $350. Ext. 5139 or 348-7884.

ATARI 2600 - w/attachments, 10 cart., Ms. Packman, Phoenix, Pitfall, and others, $95. Ext. 3105 or 282-3105.

HIKING BOOTS - Wolverine, ladies size 7-1/2 med., new, sacrifice, $35. Gene, Ext. 3354.

BICYCLE - almost new, woman's 10 spd., blue, Royce Union. Carol, Ext. 2907 or 698-8510 eves.

EASTER CHOCOLATES - and cakes. Carol, 289-3917.

COLECO POOL - 12' x 3', w/cover and chemicals, $70; outdoor swing set, $30. Bruno, Ext. 3369 or 289-6013.

OXYGEN CONCENTRATOR - Bunn Micro Lightest Best, plus free extras, cost $3,000, asking $500; bird cage, cost $60, asking $15. 929-4701 or 929-8105.

FLOWER POTS - 18 assort., $15 takes all. Ext. 7509.

CATCHER'S MASK - Spalding, new cond., $5. 727-3608 after 5 p.m.

FUEL TANKS - (2) 275 gal., good, no leaks, $25 ea. Ext. 2705.

DIAMOND ENGAGEMENT RING - yellow gold setting, worn 1 week, appraised at $1,200, asking $700. 473-1456.

KEROSENE HEATER - 9,300 BTU, $45; exercise treadmill w/timer, $35; cast iron furniture. 878-0717.

EASTER COOKIES - $5/lb; bunny breads $1.50 ea., delivered to Lab. Adrienne, 654-4206.

BEDROOM SET - Heritage, full size bed, wm/dresser w/mirror, mns/dresser, (2) night tables, $1,000. B. Stars, Ext. 4278 or 298-9648 eves/weekends.

Car Pool

RONKONKOMA - 2 drivers to join existing pool, meet near LIE exit 59, 8:30 to 5 p.m., Victor, Ext. 2395.

MASSAPEQUA/FARMINGDALE - points West, leave vicinity exit 32, Southern State Parkway. Plotkin, Ext. 4717.

BABYLON/W.ISLIP - driver needed for on-time car pool, 8:30 to 5 p.m. M. Tesla, Ext. 2705.

Real Estate

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

For Sale

SHOREHAM NORTH - 4 bdrm., 2-1/2 baths, full brick wall f/p, 2 car garage, 3/4 acre, low taxes. 821-0080 after 5 p.m.

SHOREHAM - 4 bdrm. cape on cul-de-sac, 1/3 acre wooded area, new Blue-Ray heater, private beach rights. Ext. 3262 or 821-1726.

LEISURE VILLAGE - Green Briar, 2 bdrm., good location, $51,000. 744-7140.

For Rent

WADING RIVER - on beach, 2-1/2 rooms, furn. apt., all included, $350/mo., lease April 1. 929-8443.

WADING RIVER - sublet 4 rm. apt., one person, non-smoker, no pets, Aug. 1 thru Nov. 30, $400/mo. Janet, Ext. 2345 or 929-8152.

MILLER PLACE - unfurn. apt., kitch/liv., 1 bdrm., priv. entrance. Ext. 2537 or 473-1658 after 6 p.m.

PATCHOGUE - apt., 1 bdrm. w/fireplace, full bath, lg. living room, w/w carpet, $475 incl. util., plus 2 mo. security. 289-0615 after 3 p.m.

SMITHTOWN PINES - near highways, beautiful 4 rm. apt., yard, private, avail. May 1, carpool to BNL also avail., $650 incl. all. Ext. 2676 or 543-0487.

CORAM (LA BONNE VIE) - 2 bdrm. apt., new lease (or sublet up to 9/30/84), d.w., cent. a/c, $610/mo. heat incl. Yannis, Ext. 2435 or 732-6546.

Free

FISH - male, Jack Dempsey, has outgrown tank, approx. 4" long. Sheryl, 689-7725 after 6 p.m.

SOFA - 90", worn but restorable. Marg, 475-9294.

ENCYCLOPEDIAS - complete set, Compton's pictured 1962 & yearbooks to 1965. 286-0379.

COLOR TV - used, needs repair, you pick up. 878-0717.

Wanted

WHEEL - for construction type wheel barrow, good cond. Victor, Ext. 2395.

TIRES - C78-13 only, reas. cond. Susan, Ext. 4267.

TRAINS - Lionel, American Flyer, access., any cond. brings good price. Carole, Ext. 3362 or 924-4097 eves.

TO RENT - 2 yr. lease, 3 bdrm., garage, good neighborhood, yard, quiet street, mid April. 589-5126.

CHILDCARE - urgently needed, after school, Charles E. Walters School, 2 boys. Pete, Ext. 7190 or 3246.

MINERALS - collections, literature, any language. Plotkin, Ext. 4717.

WOOD PLAYPEN - good cond., with or without pad, reas. 589-5126.

HOUSE/APPARTMENT - near Lab, married couple with two year old. 924-8722.

ENGINE HOIST - knock down type, heavy duty. Ext. 5294.

HOUSE TO SHARE - single professional, desired May to Sept., $250 to $350/mo., Hampton Bay to E. Moriches area. Bruce, Ext. 7132 or 653-9653.

TRAVELLER - to Paris France, before May 10, bring empty suitcase to student. S. Lacks, Ext. 3369 or 286-4022.

RIDING MOWER - Huffy, 8 HP, for spare parts. Lew, Ext. 3502 or 286-8166.

KENNEL CABIN - for travel on plane for 25 lb. dog, 36 x 24 x 27. Ext. 3755 or 3222.

HOUSE TO RENT - within 15 minutes of Shoreham, long term. E. Hendrey, 744-2192.

Services (published monthly)

ROTOTILLING - new or established gardens or lawns. 929-3204 after 5:30 p.m/weekends.

BABYSITTER - reliable, avail. afternoons, evenings, weekends, apt. area only. 282-3126.

VIOLIN LESSONS - all ages, also Suzuki method. Ext. 3091.

AUTO CLEANING - machine compound waxing, interiors, vinyl tops, etc. Bob, 744-4047 after 6 p.m.

ELECTROLYSIS - permanent removal of unwanted hair, physician trained, safe, private, by appointment. 331-4768.

TAXES - prepared by tax consultant, your home or mine, reasonable. John, 732-2472.

LAND CLEARING - using excellent rake on JD 450 track loader; $45/hr, w/operator. Tom, Ext. 4084 or 878-1060.

AEROBIC CLASS - on site, Krystyna. Ext. 3219 eves. or 2485 days.

PAINTING - int./ext., free estimate, BNL references. John, 924-5012.

FIRESIDE CHIMNEY SWEEP - fireplaces, wood, coal and oil flues, dustless removal, repairs and caps, Lab discount. 821-9690.

WATCH AND CLOCK REPAIRS - all types. George, 589-0819.

BURGLARY & FIRE ALARMS - professionally installed, can save you money and prevent losses. 269-4417.

KAYAK LESSONS - equip. supplied; basic thru advance, starting May 5. Tim and Ernie, 281-7873 or Ext. 3496 eves.

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