BROOKHAVEN BULLETIN
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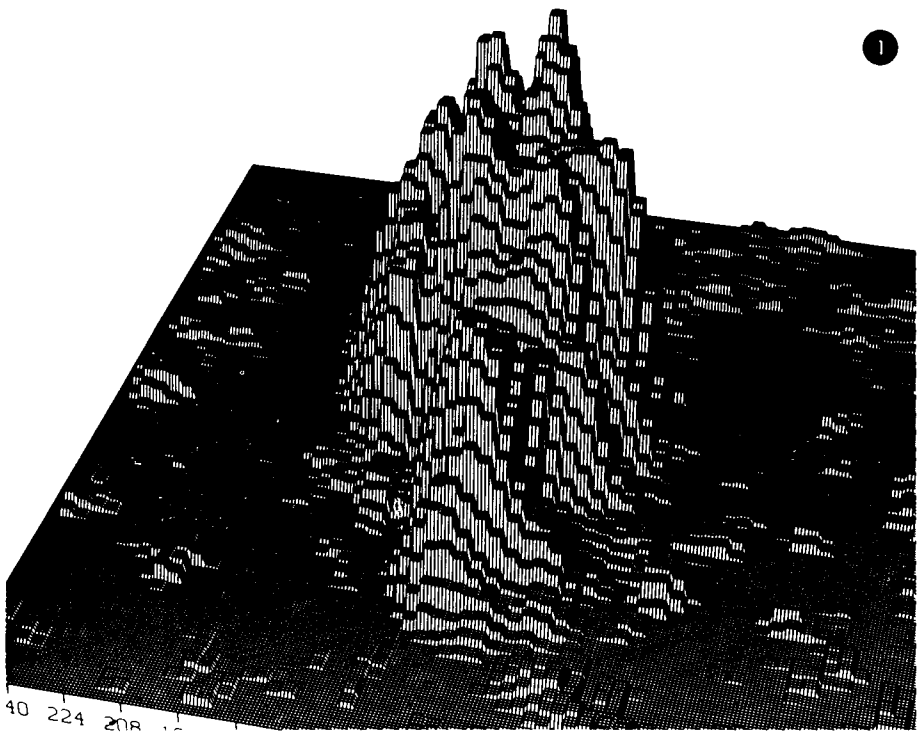
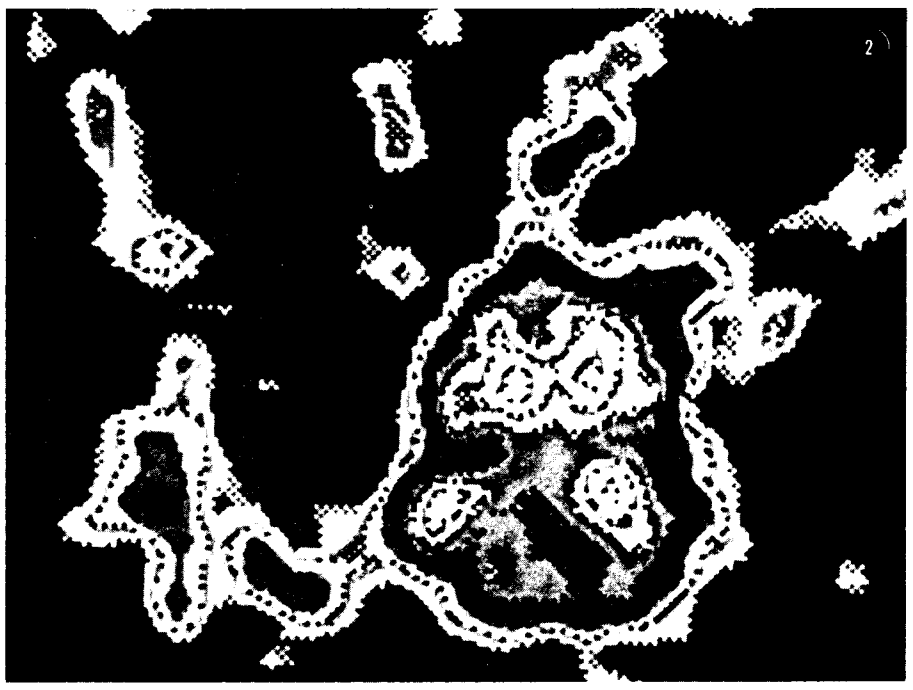
BROOKHAVEN NATIONAL LABORATORY





Peter Horton

Turning on the Gene...

The mountain range (1) shows an assembly of 12 or more proteins. Two or three of them are control proteins, and the rest belong to the machinery for copying out genetic information from DNA. The proteins are assembled at a key checkpoint on a gene. The DNA of the gene is the low mound entering the range at rear right and leaving at the front, slightly right. The contour map (2) is another way to show these structures. The DNA enters the contoured central complex from upper right and leaves at the left, before turning upward. These three-dimensional pictures are new ways to make an electron micrograph (3). They represent research being done by Paul Hough and Martha Simon, in BNL's Biology Department, and by Iris Mastrangelo, in the Microbiology Department at SUNY Stony Brook (4, left, right and center).

Control proteins turn on genes, that is, they control whether or not genes are copied from DNA into messenger RNA. Messenger RNA carries that information out of the cell nucleus into the cytoplasm, where it is read by ribosomes, which link together amino acids to make proteins. Proteins make everything work. Depending on the particular sequence of amino acids in a protein, it can be an enzyme, a hormone, a muscle, and so on.

If a control protein gives out wrong commands, it can wreak havoc. For example, cancer seems to arise from uncoordinated or excessive expression by sets of two or three genes taken from a dangerous stockpile of about 30.

A micrograph begins as 250,000 numbers generated by the Biology Department's Scanning Transmission Electron Microscope (STEM). STEM was built by Joseph Wall and co-workers, and the development of methods for data analysis has been led by James Hainfeld. Frank Kito and Kristin Chung carry out experiments, in collaboration with other scientific groups.

When an assembly of control proteins is scanned by STEM, the total mass (or molecular weight) of a single protein can be found by adding up the number of electrons scattered at each probe position. The mass can identify the protein (if only a few are in question). It can also determine whether the protein is binding to the DNA as a monomer, dimer, trimer, etc., key information in working out details of control.

A conventional micrograph made from STEM data has areas of black and white, the brighter areas being those of higher mass. But with a conventional micrograph, small changes in image intensities are difficult to see. So additional steps are taken to generate the three-dimensional micrographs.

Image processing is carried out on a VAX computer in Applied Math, and new display methods use essential program components from Harold Berry of Applied Math and Lily Liu of Graphic Arts. With the 3-D micrographs, the information contained in the data has not changed, but because it is presented three-dimensionally, the ability of humans to interpret the data increases, sometimes strikingly. For example, the apparent volume of any part of a protein complex is proportional to the mass there.

Spanning America: The National Bridge Building Contest

Last weekend, BNL hosted 14 high school student model builders from seven states, their parents and teachers, and tested 25 balsa wood bridges from 11 states during the 1984 National Bridge Building Contest. Each of the contestants had placed either first or second in one of 15 regional model bridge competitions. While the Lab has sponsored a regional bridge building contest for four years, this is the first time it has held the national competition, and the first time the national contest has been held on the East Coast.

Weighing 38.60 grams, the winning bridge, built by James Martin of Colorado Springs, Colorado, held 208 pounds, or 2444.23 times its own weight. For winning the national contest, Martin received a Commodore 64 computer with datasette, and an engraved loving cup at an awards banquet that Saturday evening.

With a load-to-mass ratio of 2094.93, a 39.19 gm balsa bridge which held 181 lbs placed Leonard Nevulis of Wickliffe, Ohio, second, for which he was presented with a trophy and a Commodore 64. A Commodore Vic 20 computer with datasette, and a trophy cup went to Alan Weiss of Shaker Heights, Ohio, for his third place bridge which weighed 39.49 gm, held 179 lbs, or 2056.04 times its own weight.

Like the regional bridge smashing tournament, the national contest was organized by Janet Tempel and Jackie Mirzadeh, Public Relations. Marty Woodle, NSLS, who developed the bridge specifications, positioned the bridges under the loading plate of the Instron stress tester at Metallurgy, and commented upon their structure and failure. Don Horne, DAS, operated the Instron, increasing the load on a bridge until it could not support any additional weight, or until it deflected by 1 1/2 inches. Woodle and Horne were helped by Carl Klamut, DAS.

Alex Reben

Winner of the National Bridge Building Contest James Martin (right) of Colorado, and guest speaker Edward Cohen of Amman & Whitney display the first place balsa model.

Woodle did not say where he would apply the load to the roadbed of the bridge. "A real bridge has to carry a load all the way across its roadbed, not just in one spot," says Woodle. "Therefore, the design specs were like those for a real bridge."

The bridges could weigh no more than 40 gms, measure no more than 18 inches long and five inches high, and had to be between three and four inches wide. The structures had to be constructed from the 3/16 inch square balsa wood of various densities sent to the entrants. "The kids were not allowed to use their own wood," says Mirzadeh. "The official balsa was specially treated so that we could see if substitutions were made."

"The strength of balsa wood varies with its density," explains Woodle, "And the density of the wood ranges over a factor of five. If the wood is very dense, then it is very strong, and can be used in the top and bottom members of a bridge. The light wood can be used in other bridge members.

"If a bridge is really well designed, it will fail almost simultaneously in a couple of places," continues Woodle. "In a really efficient structure, the top

(Continued on page 3)

Keeping Tabs on Energy

This year, $940,000 will be spent to improve the efficiency of the power supplies for AGS magnets that focus and bend beam lines to experiments. In fiscal '85, an additional $950,000 will be spent to continue the project. And all in the name of energy conservation.

The money comes from the U.S. Department of Energy, through the Office of Project and Facilities Management, Construction and Facilities Management Division. Since fiscal year 1977, BNL has received $12.9 million for in-house modifications to buildings and equipment for energy conservation. An additional $2.1 million is expected in fiscal '85, including the nearly $1 million for the AGS retrofit.

The AGS project was inspired by Andy Soukas, Accelerator Department. Soukas came up with the idea of replacing magnetic amplifiers with silicon-controlled rectifiers, for an 8-10% improvement in efficiency. The retrofit is expected to save over five million kilowatt-hours a year, with a quick payback period of just over two years.

Retrofit projects like the one at the AGS are often suggested by BNL's energy conservation coordinators, which represent each organizational unit at the Laboratory. The coordinators are also responsible for monitoring building energy consumption, especially billed electric power; insuring departmental compliance with BNL building temperature policies (in the winter, 65°F during the day and 55°F at night; in the summer, 78°F); watching for and reporting energy waste; and promoting energy awareness among employees.

Each year, the energy conservation coordinators are asked to submit proposals for energy conservation projects. This year, the Laboratory is particularly interested in suggestions to improve energy efficiency of scientific equipment and facilities.

Proposals are submitted to Robert Terwilliger, who is the Laboratory Energy Coordinator. Terwilliger, Ed Murphy, Mark Culp and Ken Testa, all in Plant Engineering, evaluate the proposals for submission to DOE.

Energy-saving ideas are always welcome. If you have one, contact Terwilliger or the energy coordinator in your department.

Energy Conservation Coordinators

Laboratory Energy Coordinator: Robert C. Terwilliger — Ext. 2542

Department/Division	Coordinator	Phone	Building
Accelerator	Frank Heimburger	4784	911A
Applied Math	Stu S. Rideout	4108	515
(Alternate)	Clarence Pittenger	4128	515
Biology	Neal Tempel	3412	463
Budget Office	Don Robbins	3313	460
Colliding Beam Accelerator	Ed Dexter	4462	902A
Chemistry	Blair Munhofen	4302	555A
Central Shops	Richard Spellman	5033	462U
Contracts & Procurement	Alfred P. Lewis	3140	355
Director's Office	Thomas LeMaire	3320	460
Energy & Environment	Dick Krajewski	7619	526
Fiscal	Bernard J. McAlary	2492	134A
Instrumentation	Jerry Tiller	4228	535B
Management Info. Systems	Robert Bacharach	7653	459
Medical	Ken Mohring	3564	490
NSLS	George Grigg	4837	725B
Nuclear Energy	Tony Romano	4024	197C
Personnel	Bob D'Angio	2113	185
Photography & Graphic Arts	Jack Laurie	7640	197B
Physics	Fred Vandervoort	3718	510A
Plant Engineering	M. Joe Rose	2492	134C
	John Iulo	2480	134C
	Alfred Mahlmann	2500	134C
	Jack Hennessy	3085	326
	Bruce Medaris	7676	134C
Public Relations	Anne Baittinger	5055	134
Reactor	Gerry Kinne	4061	703
Safeguards & Emergency Services	Joseph Weynand	7955	50
Safety & Environmental Prot.	Roy McWilliams	7936	535A
Staff Services	William Webster	2525	179B
Supply & Materiel	Mike Guacci	2976	211
Technical Information	Ken W. Ryan	3489	477A
Tandem Van de Graaff	Theodore Robinson	4589	901A

WIS Panel Reminder

A panel discussion on "How to Grow Older and Better" is being sponsored by the Brookhaven Women in Science at a dinner meeting on Thursday, April 26 at the Brookhaven Center. Dinner will be served at 5:30 p.m. Anyone planning to attend should send $9.75, by cash or check payable to BNL-WIS, to Ena-Mai Franz, Bldg. 703, by April 20.

I.B.E.W. Meeting

Local 2230, I.B.E.W., will hold its regular monthly meeting on Thursday, April 26, at 6 p.m. in the Knights of Columbus Hall, Railroad Ave., Patchogue. There will also be an afternoon meeting at 2 p.m. for shift workers in the Union office at 31 Oak Street, Patchogue. On the agenda will be regular business, committee reports and the president's report.

In Memoriam

It has been learned that Oliver Scott Reading, a retired Laboratory engineer and Bellport resident died at the age of 89 on April 10. Reading came to Brookhaven in 1957 after a distinguished career with the U.S. Coast and Geodetic Survey, to perform the exacting work necessary to place the AGS strong focussing magnets in a precise plane. He worked in the Accelerator Department for 10 years. He is survived by his wife, Martha, his son, George, his daughter Martha, and by eight grandchildren and three great grandchildren.

Stony Brook Events

April 23

Lecture. The Martin Buskin Memorial Lecture. "News - The Inside Story," Dave Marash, WNBC-TV, 8 p.m., Room 231, Stony Brook Union.

April 24

Movie. "Seven Beauties," 7 & 9 p.m., Stony Brook Union auditorium, $1, students 50¢.

April 25

Theatre. "God's Trombones," by James Weldon Johnson, 8 p.m., Theatre II, Fine Arts Center. Tickets $5, students and senior citizens $3. Also on 4/26, 27, 28.

Concert. Jeffrey Kahane, piano. 8 p.m., Recital Hall, Fine Arts Center. Tickets $7, students and senior citizens $4.

Here Are the Winners!

Fourteen sons and daughters of BNL employees have been named winners of the 1984 AUI Trustee Scholarships. Each student will receive $1,700 per year for up to four years to defray college expenses. Winners were selected from a field of 67 applicants by an independent committee reporting to the Educational Testing Service which administers the program for AUI. The winners are:

Susan Benkovitz...daughter of Carmen Benkovitz (DAS)...student at Smithtown H.S. West...resident of Smithtown...will attend SUNY at Oneonta...major in psychology and child development.

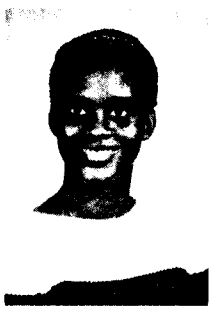
David R. Cerbone...son of Ralph J. Cerbone (DNE)...student at Earl L. Vandermeulen H.S....lives in Port Jefferson...will attend Harvard...plans to major in physics.

Kevin A. Dell...son of George F., Jr. (Accel) and Janice Dell (Personnel) ...student at Bellport H.S....resident of East Patchogue...plans to attend U. of Michigan or Cornell...major in electrical engineering.

David G. Foley...son of Kenneth Foley (Physics)...student at Shoreham-Wading River H.S....resident of Shoreham...will attend Cornell...major in physical sciences.

Elaine Hsieh...daughter of Hank Hsieh (NSLS)...student at Connetquot H.S....lives in Ronkonkoma...plans to attend Johns Hopkins or Boston U.... pre-med.

Regina C. Kistner...daughter of Ottmar Kistner (Physics)...student at Earl L. Vandermeulen H.S....resident of Port Jefferson...will attend Stanford or Cornell...major in physical sciences.



Nagadi W. Kponou...daughter of Ahovi (Accel) and Barbara Kponou (Personnel)...student at Rocky Point H.S....resident of Rocky Point...will attend Amherst or U. of Chicago...pre-med.

Johanna Li...daughter of Kelvin K. Li (Physics)...student at Ward Melville H.S....resident of Stony Brook ...will attend Brown or Yale...major in fine arts or English.

Thomas E. Love...son of William Love (Physics)...student at Bellport H.S....resident of Bellport...will attend Columbia U....major in mathematics.

Patricia Sacker...daughter of Donald and Maureen Sacker (Medical) ...student at Mattituck H.S....lives in Mattituck...plans to attend Holy Cross or U. of Richmond...major in mathematics.

Carol M. Studier...daughter of F. William Studier (Biology)...student at Ward Melville H.S....lives in Stony Brook...will attend Dartmouth...major undecided.

Jonathan S. Tichler...son of Paul (Reactor) and Joyce Tichler (DAS)... student at Patchogue-Medford H.S.... lives in Patchogue...will attend Princeton...major undecided.

Robert E. Willen...son of Erich Willen (Accel)...student at Shoreham-Wading River H.S....lives in Shoreham...will attend U. of Virginia...major in science.

MeiPu Yang...daughter of Ji Wu Yang (DNE)...student at Ward Melville...resident of East Setauket...will attend Cornell U...major in economics.

PC User Meeting

The next meeting of the PC/Workstation User Group will be on Tuesday, April 24, at 2 p.m. in the AMD Seminar Room. Kurt Fuchel will talk on "Data Base Management for the Personal Computer," a comparison of dBASEII and R:BASE.

Garden Plots

Spring has arrived and it's time to begin gardening. Ten-foot square plots have been set aside for onsite residents who wish to grow their own flowers and vegetables. Garden equipment is also available. To secure a plot, please contact Christina Trautmann, Ext. 3107, Apt. 10B.

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CREF Values

April	65.12	May	65.07
June	67.12	July	65.43
August	66.13	September	67.02
October	65.95	November	67.06
December	66.84	January	66.50
February	64.21		

March $65.37

Diners Note

The cafeteria will be closed on Saturday, April 21. On that day, snack bar service will be available from 9 a.m. to 2 p.m. at the Brookhaven Center.

Bridges

(Continued)

member, which is loaded in compression, will start to buckle as the bottom member, which is loaded in tension, all of a sudden snaps," adds Woodle. "In a bridge that is not so well designed, usually a glue joint goes."

Frank McNulty and George Sintchak, Instrumentation, again loaned their computer for the running of the contest, and assisted Mirzadeh with entering the load and mass data, calculating the load/mass ratios, and displaying the results on video monitors. The entire proceedings were video taped by Doug Humphrey and photographed by Alex Reben, P&GA, for later use by the news media in the contestants' home states.

At dinner at the Brookhaven Center after the contest, the model makers were congratulated by Associate Director Martin Blume, and Assistant Director Jerome Hudis. The guest speaker was Edward Cohen, chairman of the board of the engineering firm Ammann & Whitney, a 38-year-old NYC corporation which has been involved with the design, engineering, and construction of such bridges as the Bronx-Whitestone, Throggs Neck, and Verrazano Narrows, and the testing and rehabilitation of the Golden Gate and Williamsburg.

— Marsha Belford

Learn About PSI

In recognition of Professional Secretaries Week, which begins April 23, the Upton Chapter of Professional Secretaries International will set up an information table for three days next week in the Cafeteria lobby. From noon to 1 p.m., on Monday, Wednesday and Friday, PSI members will be on hand to discuss PSI and the secretarial profession and to distribute brochures on these subjects.

Arrivals & Departures

Arrivals

Mary C. Davis ..... S&ES
Wendy S. Mancuso ..... Chemistry
Christine Hudak ..... Personnel

Departures

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

William J. Fedrich ..... Reactor
Charles D. Freeman ..... Accelerator
Sidney W. Jungreis ..... Medical
Louis T. Kolb ..... Plant Eng.
Peter Wikstrom ..... Biology

Cafeteria Menu

Week Ending April 27

Monday, April 23

Spinach egg drop soup	(cup)	.65
	(bowl)	.85
Beef liver & onions w/1 veg.		1.80
Tamale pie & 1 veg.		1.85
Hot Deli — Knockwurst & kraut	(bread)	1.85
	(roll)	2.00

Tuesday, April 24

Minestrone soup	(cup)	.65
	(bowl)	.85
Pot roast of beef w/vegetable, gravy & red cabbage		2.05
Lasagne & 1 veg. w/garlic bread		2.00
Hot Deli — Chicken patty club	(bread)	2.15
	(roll)	2.30

Wednesday, April 25

French onion soup w/croutons	(cup)	.65
	(bowl)	.85
BBQ spare ribs & 1 veg.		1.95
Beer batter fish filet & 1 veg.		1.90
Hot Deli — Sandwich steak w/peppers & onions	(bread)	1.95
	(roll)	2.10

Thursday, April 26

Cream of tomato soup	(cup)	.65
	(bowl)	.85
Beef teriyaki w/1 veg.		2.20
Ham & broccoli crepes w/cream sauce & 1 veg.		1.85
Hot Deli — Monte Cristo		1.90

Friday, April 27

Manhattan clam chowder	(cup)	.65
	(bowl)	.85
Veal ragout on egg noodles		2.00
Corned beef & cabbage		1.95
Hot Deli — French bread pizza		2.00

BERA News

Cooking Exchange

Tropical specialties, such as chicken in pineapple, will be featured at the "Hawaiian Holiday" meeting of the Cooking Exchange on April 25.

Exchange meetings are held every other Wednesday in the Recreation Building between 12:30 and 2.30 p.m. For a $1 admission fee, those attending receive copies of the recipes being demonstrated as well as a sampling of each completed dish. Babysitting is provided at 50¢ per child.

Dee Polychronakos, this year's chairperson, will be happy to answer any questions about the activity. Call her on 744-3578.

Quilting Club

The next meeting of the Quilting Club will be held on Tuesday, April 24, from 9:30 - 11:30 a.m. in the lobby of the Brookhaven Center. We will continue the work on our scrap quilt; please bring your sewing tools. New members are always welcome. For evening meeting information call Bernie Benz, 928-1068.

Basketball

Boxscores — 4/13/84

Game 1

Longshots — 84		Hollywood — 78	
J. Gaffney	14	E. Meier	27
J. Jones	3	L. Walcott	16
L. James	20	D. Nordstrom	16
J. Garrison	12	L. Lawrence	9
B. Johnson	12	R. Schuman	4
D. Harris	15	R. Kowalski	6
D. Hall	8		

Game 2

Runaways — 108		Coasters — 102	
S. Gilbert	23	B. Orr	30
R. Banks	12	L. Snead	2
G. Shepherd	2	M. Williams	18
P. Johnsen	28	R. Doty	27
T. James	30	L. Smith	21
G. Smith	6	E. Taylor	4
S. Woodson	7		

Team Standings

Hollywood	7-4
Longshots	7-4
Runaways	6-5
Coasters	2-9

Anyone who is not on a softball team, but would like to play, please call Sharon Smith on Ext. 3995.

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 28, leaving at 8:31 a.m. Round-trip fare is $6.50, and must be received no later than Wednesday, April 25. Reservations will be accepted on a first-come, first-served basis.

The second is a regularly scheduled trip on Wednesday, May 2, leaving at 7:55 a.m. The round-trip fare is $5 and must be received by Thursday, April 26. 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.

Bowling

Pink League

K. Kissel rolled a 188, S. Asselta 184, S. Moore 178.

Red/Green League

R. Larsen had games of 228/216 for a 632 scratch series, E. Sperry IV 225, J. Connelly 220, J. Morris 218, J. DiNicola 212, E. Meier 202, J. Muller 202.

White League

P. Manzella bowled a 228, K. Griffin 205, M-G Meier 191, K. Conkling 184, K. Riker 208, J. Austin 207, E. Sperry IV 200, M. Scheidet converted the 4/7/10.

Purple League

High games for the past two weeks were bowled by B. Barberich 225/215, G. Fales 217, J. Petro 206, T. Natoli 199, J. Roesler 199, M. Stoeckel 196/191, K. Vogel 193/191, D. Stonebridge 192, S. Asselta 191, L. Barberich 190/190.

Hispanic-American Society

The Hispanic-American Society will meet on Thursday, April 26, at noon in Berkner Hall.

Swimming Pool

A new four-month pool season will begin on Tuesday, May 1. Season tickets may be bought at the pool during scheduled open hours starting on that day.

Fees:

Season Tickets (fees not prorated)	
Individual Membership	$23.00
Family Membership	33.00
Daily Admissions	
Employee/Family Member	1.25
Guest	1.75

Schedule:

Monday through Friday
(Employees Only)
11:00 a.m. to 1:30 p.m.
(Employees/Families/Guests)
5:00 p.m. to 9:30 p.m.

Saturday and Sunday
(Employees/Families/Guests)
1:00 p.m. to 6:00 p.m.

The swimming pool is closed on all Laboratory holidays.

Guest Ruling (Applies to all recreation facilities)

One Guest - An employee is allowed to bring one guest per visit without special permission or prior arrangement. The guest must be accompanied by the employee.

Two to Five Guests - Advance arrangements for two to five guests may be made at the Recreation Office. (No more than five guests per employee are ever permitted.) When such an arrangement is made, the Recreation Office issues an admission card stating the sponsor's name and life number, the number of guests permitted, the date of visit, and the facility to be visited. Guests must be accompanied by the employee, who will be requested to show the admission card at the main gate and at the swimming pool ticket desk.

Note: The pool will be closed Sunday, April 22.

Camera Club

The next meeting on Thursday, April 26 at 5:30 p.m. in the Recreation Bldg., will feature a lecture on using Cibachrome to make color enlargements from slides. Non-members are also welcome to attend.

Flights Planned

The BNL Aviation Club is planning a flight to Block Island on Wednesday, May 30. They plan to leave in two contingents; one early morning, another at noon, and will meet for dinner and the return flight.

Also planned is a weekend trip to Quebec after June 15. Contact Audrey Karzenski if you have questions or would like to participate with the group in either trip.

Mtn. & Canoe Club

The club will hold an organization meeting in the North room of the Brookhaven Center at 5:30 p.m., Tuesday, April 24. Topics for discussion include spring trips and the local canoe trip planned for April 28. All interested are welcome. For further information, contact Pat on Ext. 7635.

Rifle & Pistol Club

The rifle team will be shooting a postponed league match at our range (Patchogue Armory) on Tuesday, April 24. The match should be completed by 9 p.m. which will leave two hours for pistol shooters.

Volleyball

Standings as of 4/16/84

Mixed League

A Division	
Dinkers	17-1
Teddybares	15-3
Up Fagrabs	13-5
Mixed Ups	8-10
Semi Tough	8-10
EPO's	7-11
Nuts and Bolts	3-15
TNT	1-17
B Division	
Phoubars	16-2
Bottoms Up	12-6
Screwballs	13-5
Chungas Revenge	11-7
Servers	9-9
Excitons	5-13
CRAW	5-13
Quirks	1-17

Tickets for the Volleyball End of Season party are available through your team captain. Cost is $4 for participants and $8 for guests. The date is May 11, 5:30 p.m. at the Rock Hill County Club.

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.

LABORATORY RECRUITMENT: Opportunities for Laboratory employees.

2037. CUSTODIAN, Group Leader - (temporary 5/14/84 - 10/12/84) Staff Services Division.

2038. RESIDENCE CUSTODIAN - (temporary 5/14/84 - 10/12/84) Staff Services Division.

2039. MAIL CLERK - (temporary 5/14/84 - 8/31/84) Staff Services Division.

2040. LAUNDRY OPERATOR B - (2 positions -temporary 5/21/84 - 10/14/84) Plant Engineering Division.

2041. LABORER - (6 positions - temporary 5/21/84 - 9/30/84) Plant Engineering Division.

OPEN RECRUITMENT: Opportunities for Laboratory employees and outside applicants.

2042. DESIGNER POSITION - Requires AAS degree in mechanical technology or equivalent and an extensive background in mechanical design and fabrication techniques. Capability of implementing a design through layout, detail and assembly phase necessary. Background in vacuum systems and welded structures is desirable. Accelerator Department.

2043. TECHNICAL POSITION - Requires AAS degree in nuclear science/technical field or equivalent and experience in the fabrication, calibration and maintenance of control and process instrumentation. Ability to perform mathematical computations required. Previous reactor experience desirable. Ability to obtain "Q" clearance mandatory. Reactor Division.

2044. TECHNICAL POSITION - Requires AAS degree in electronics technology or equivalent and significant background in interfacing computers with experimental equipment. Experience in digital electronics, microprocessors and assembly language programming necessary. Will be responsible for the set-up, check-out and documentation of experimental computer interface systems. Physics Department.

2045. PLUMBER A (2 positions - temporary) - Requires successful completion of a four year apprenticeship program and/or substantial experience in the commercial/industrial sector as a plumber. Will be responsible for the layout, construction, installation, repair and maintenance of water, sewage and gas systems, related facilities and auxiliary equipment. Plant Engineering Division.

2046. SENIOR STATIONARY ENGINEER (temporary) - Requires demonstrated experience in the maintenance, repair and operation of high pressure boilers firing #6 fuel oil. Current stationary or marine engineer license is highly desirable. Plant Engineering Division.

2047. STEAMFITTER A (temporary) - Requires substantial experience in the commercial/industrial sector as a steamfitter. Will be responsible for the layout, construction, installation, maintenance and repair of heat, steam and water distribution systems, related facilities and auxiliary equipment. Plant Engineering Division.

Autos & Auto Supplies

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

MOPED - Tomas, 5,000 mi., 2 baskets, 30 mph, 90 mpg. $200. Tony, Ext. 3637.

79 CHEVY - Monza, p/b, p/s, 4 spd., great gas mi., am/fm stereo, $2,375. 744-5224.

CHEVY WESTERN RIMS- (4) 6 lug, 15 x 10, 9 mos. old, $300. 289-1665 after 6 p.m.

78 HONDA MOTORCYCLE - Hondamatic, 400cc, new battery, cust. seat, crash bar, excel. cond., $550. Ext. 2172 or 744-4386.

78 HONDA HOBBIT MOPED - very good cond., 100 mpg., two side baskets, $275. 286-8448.

80 SUZUKI - 1000GS, touring bike, full fairing lowers, saddle bags, many extras, $2,700. Dan, 277-1284.

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

72 CONCORD TRAILER - 24 ft., sleeps 5, bathroom, kitchen, 30 gal. water tank, gas & elec., windup jack, good cond., $2,500. 475-4831.

83 HONDA CIVIC - 1500S, 5 spd., am/fm, sport pkg., showroom cond., $6,200. Charlie, Ext. 3950.

TIRES - (4) radial, P165-13 or equal, $15 ea., firm. Ext. 2964.

72 VW SQUAREBACK - runs well, good transportation, $650. Ext. 4363 or 286-1183 or 924-7238.

73 VW BEATLE - 22,000 mi. on rebuilt engine, am/fm radio, new tires, runs great, $1,300. Jim, Ext. 2050.

74 VW SUPERBEETLE - good cond., 100K mi., snows on rims, $1,100. Ext. 4101.

70 SAAB - runs more or less, 3 good tires & other good parts, $75. 286-1205.

81 MERCURY LYNX - 2 dr., white, blue interior, 40K, $3,495; 81 BMW 7331, auto., sunroof, 36K, $21,500. 363-7032.

MOTORCYCLE PARTS - & access., discount prices, Maico 250cc, Motorcross. 325-9580 after 6 p.m.

73 VW THING - $500; 70 VW Squareback, $500. 289-8253.

79 PONTIAC ESPRIT - p/s, p/b, auto., T-roof, 60,000 mi., $4,500. Bob, Ext. 4547 or 473-3987.

75 HONDA - Super Sport, CB400F, 6 spd., 4 cyl., roll bar, fairing, sacrifice, $595. Kevin, 467-8563 between 7-10 p.m.

WHEELS - (4) 14", chrome, 4 bolt, $50. Pat, 588-6879.

78 HONDA MOTORCYCLE - 750-K, fairing, radio, 11,000 miles, excel. cond., $1,500 firm. Ed, 929-6798 after 6 p.m.

77 YAMAHA 360 - kick start, 8K miles, $450. 588-6879.

28 MODEL A FORD SPECIAL - coupe with rumble seat. 475-8200 or 289-5607.

74 CADDY COUPE - garaged, fully loaded, excel. cond., asking $1,500. Otto, Ext. 4248 or 331-1907 evenings.

78 CHEVETTE HATCHBACK - hi. mi., excel. cond., garaged and pampered, $2,000. Ext. 2514 or 757-3178 after 6 p.m.

81 TRANS AM - special edition, turbo, black & gold, every possible option, 1,100 miles, better than showroom cond., $11,500. Dick, Ext. 2911.

83 HONDA ACCORD HATCHBACK - blue, low mileage, am/fm stereo, excel. cond., $8,500. Joyce, Ext. 2456 or 929-4268.

DUNLOP TIRES - (2) steel radial, mud & snow, FR-78-15, like new cond., asking, $75. Ext. 7518.

HONDA MOTORCYCLE - 750cc, completely customized chopper, $1,000. Ext. 2309 or 473-9180 after 4 p.m.

VESPA BRAVO MOPED - super deluxe, class B, excel. cond., used very little, $500. Lloyd, Ext. 3381 or 286-1024.

82 MERCURY LYNX - hatchback, L5D00D, 4 cyl., 4 spd., p/s, p/b, stereo tape deck, excel. cond., 33 m.p.g., $4,000. 363-6487 after 6 p.m.

78 HONDA - CB-550, 4 cyl., 5 spd., roll bar, low mi., garaged, excel., cond., sacrifice, $850. 467-8563.

TIRES - (2) 614, 6 ply, less than 100 miles, $50/pr. Ext. 3082.

78 FIAT X-19 - am/fm cass. stereo, targa top, excel. cond., $2,500. Ext. 2208 or 289-5688.

SNOW TIRES - (4) 175R14 radial, little wear, $45. Ext. 4566.

84 MAZDA PICK-UP - B2000, silver, model SE-5, 4 cyl., 5 spd., 10,000 mi., mint, $5,700. Matt, 878-1847.

75 MAVERICK - 2 dr., auto., new battery and exhaust, reliable, $600. Ext. 4566.

79 CHEVY MONZA - 4 spd., am/fm stereo, runs excel., good gas mileage, $2,250. 821-9280.

75 HONDA MOTORCYCLE - 500 cc, windshield, fairing good condition, $375. Frank, Ext. 2022 or 399-4480.

STARCRAFT POP-UP CAMPER - sleeps 8, stove, sink, ice box, excel. cond., $1,300. 878-4664.

ROTARY MOWER TRACTOR, 6 hp, Simplicity, new engine, 30" mower, 36" snow plow, $375. 286-2289.

71 CADDY HUBCAPS - new, $5; Caddy rims 15", 2/$10; 1965-66 Mustang Covt. boot, new, $20. 929-8105.

76 MERCURY MONARCH - excel. running cond., many extras - $1,700. 744-6423.

73 DUSTER - runs, needs some work. Rich C., Ext. 3499.

80 KAWASAKI 650 LTD - red, crash bars, excel. cond., must sell, $1,400. Bob Johnson, 475-2305 or 283-4741 after 6 p.m.

MICHELEN TRUCK TIRES - 7.50x16, 9,000 mi., rated at 3,000 lbs. per tire, steel belted, $150/pr. Bob Geib, Ext. 2957.

69 TOYOTA COROLLA WAGON - new radials, starter, exhaust, struts, and timing chain, $600. Dave Cook, Ext. 4254.

74 CHRYSLER NEWPORT - excel. interior, rest fair, $200. J. Guthy, 929-8287.

79 PLYMOUTH VOYAGER - 12 pass., a/c, p/b, p/s, auto. excel. cond., 73K mi. $4,550. Paul, Ext. 2476.

79 CUTLASS SALON - 4 dr., a/t, p/s, cruise, a/c tilt am/fm, clean new exhaust, white, 73K, $3,100. Ext. 4242.

81 COLEMAN CAMPING TRAILER - Sun Valley pop up, sleeps 6, used six times, $2,500. Ext. 4483.

74 DATSUN 260Z - 4 spd., silver, a/c, stereo cassette, wire wheels, runs well, some rust, $2,100. 699-9180.

81 HARLEY DAVIDSON - 1000cc, Sportster, low mileage, like new, customized, $4,300. 929-3455.

78 FIREBIRD ESPRIT - 4 spd., T-top, new radials, clutch, excel. cond,, 60,000 mi., Ext. 3499 or 473-7071.

79 DODGE STATION WAGON - 66K, roof rack, am/fm cassette, clean, p/s, p/b, a/c, slant 6 eng. 543-0079.

72 ATCO TRAVEL TRAILER - 20 ft., self contained, sleeps 6, Tandem axle, good cond., $1,995. John, Ext. 4089 or 298-4567.

74 FORD RANCHARO - p/s, p/b, cap like new, must sell, $2,000. 473-8486.

76 CHEVY MALIBU CLASSIC - 90,000 mi., small V8, a/c, p/s, p/b, new tune up/tires, best offer. Ext. 2926 eves or 744-3298 days/weekends.

76 CAMARO - Rally Sport, 4 sp., excel. cond., $3,500. 288-1898.

Boats & Marine Supplies

C&C 31' CORVETTE - shoal draft, loaded, exc. cruising boat. Joe, Ext. 7961 or 722-3957 eves.

21' STARCRAFT - 1975, with motor and trailer w/electric winch. 744-9475 eves. and weekends.

SUNFISH - 1981, used 4 tires, $850. Cumming, Ext. 4347.

20' COBIA - 85 HP Johnson & trailer, many extras, $3,900. 744-5855, after 6 p.m.

76 O'DAY - 25 K/CB, very roomy, many extras, sailaway. Joe, Ext. 7961 or 722-3957 eves.

12' DURANAUTIC SKIFF - & galvanied Holsclaw trailer, w/1981 7 HP Evinrude, like new, $1,000. 744-9832.

80 CRESTLINER - V6 Merc., power trim, mooring cover, full canvas, 24 gal. fuel tank, 7 gauges, shoreline trailer, power steering, ss swim ladder, teak trim, mint cond., garaged. Brian, 757-1581.

Miscellaneous

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

MAGNAVOX STEREO - hi fi, console, good cond., nice piece of furn., good sound, $150. Lloyd, Ext. 3381 or 286-1024.

SPALDING GOLF CLUBS - 8 irons, 3 woods, very clean, $40. Nick, Ext. 4701.

YASHICA CAMERA - 35mm, excel. cond. with case, $75; camera tri-pod, heavy-duty, husky IV, like new, $75. 286-8448.

RIDING MOWER - Jacobsen Pace Command, 5 HP, excel. cond., $400. 744-8167, after 5 p.m.

WASHER AND DRYER - Westinghouse, heavy-duty, harvest gold, excel. cond., $350; Westinghouse refrigerator, 18 cu. ft., harvest gold, excel. cond., $375. George, Ext. 7956 or 281-7110.

FIREWOOD - 1 cords, $150. 286-3235.

MINIATURE PIANO - 58 key, antique, $200; foldup bed on wheels, thick mattress, $45. 298-4398.

ENGLISH SADDLE - 18", German made, Shoenthal, forward seat, knee rolls, good, $325. Pat, 744-8512 eves.

ELEC. TYPEWRITER - Adler SE1000, two balls (elite & script), uses cc or cloth, $300. Dan, 277-1284.

FREEZER - upright, 19-20 cu. ft., imperial white, commercial grade, $275. Carol, 289-6121.

VICTORIAN BUREAU - mahogany, marble top, mirror, 86" high, beautiful, $350. 234-8229.

COLOR TV - Zenith, 25" console, $120; colonial sofa, loveseat, chair, otterman, $375. 732-3951, after 6 p.m.

HAND LAWN MOWER - good cond., $25; sand filter, 1 HP, ss; above ground pool slide, both new cond. 325-0447, after 6 p.m.

HORSEBACK RIDING HAT - w/chin harness, size 6-7/8", very good, $15. 234-8229.

BENCH VICE - $15; steel bench plate, approx. 12" x 15", $10. Morris, Ext. 4986.

HUGGABLE DOLLS - 16", $18; Cabbage Patch doll clothes, $3.50 and up. Rose, 737-0246.

DINING TABLE - colonial, round, maple, w/chairs, $150. Judy, Ext. 2145.

LE CREUSET POTS - brand new, no boxes, 2 qt. covered oven, $20; 9" fry pan, brown, $12. Ext. 8105 or 929-4701.

55 GAL. FISH TANK - and stand, good for gerbils or hamsters, $50. Bob, Ext. 4547 or 473-3987.

WICKER FURNITURE - 2 chairs, 1 small table. 878-0717.

LADIES BICYCLE - coaster brake, balloon tires, basket, good cond., $40. 929-3455.

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

MOVIE CAMERA - Yashica Super 8 w/200m lens, $50. Carol, Ext. 2896 or 475-8640.

FLUSH DOOR/FRAME - 30" x 80", $20; 4 dr., file cab., $20; dresser, 4 drs., $20. 286-0795.

LADIES LEATHER JACKET - size 22, black belted, zipout lining, like new, $90. 654-8438.

WINDOW BLINDS - verticals, mini's, wovenwoods, custom colors and sizes. Jim, 281-2849.

KLH PORTABLE STEREO - & 2 speakers, $50; ladies rollerskates, size 8, $25. Sherie, Ext. 4478.

DINING ROOM SET - rect. butcher block, Formica/chrome, w/matching tufted chairs, excel. cond. 467-6171, after 6 p.m.

GOLF CLUBS - men's starter set, 3, 5, 7, 9, putter, driver, 3 wood in new continental nylon carrybag, $75. Lloyd, Ext. 3381.

MINK STOLE - size 12, excel. cond., $150. 325-0191.

TENNIS RACQUETS - 3 Wilson Prostaff, wood, $20/ea.; Adidas triple racquet bag, $15. 744-6423.

SPALDING CATCHERS MASK - like new condition, price, $5. 727-3608 after 5 p.m.

FLOWERS - vegetables, 4 and 6/pack, large selection, delivery week of 5/14, $.75/ea. Ray, 727-6818.

MOTORCYCLE HELMET - Snell, green, approved, $25. Ext. 4167 or 722-4821.

GE REFRIGERATOR - brown, medium size, non-frost free, works well, $75. Frank, Ext. 2022 or 399-4480.

OIL TANK - 275 gal., $75; lawn mower, 3 Hp. 20" cut, $45. 331-2228.

WOMAN'S WINTER COAT - 15/16; 5-speed Raleigh bicycle; student guitar; Japanese doll w/display case. Kathy, 286-8470.

CHESS SET - hand carved onyx inlaid oxy board, $30; mobile fm stereo radio, Craig Mod. 1901 & 2 speakers, $60. Lou, Ext. 4364.

EVERGREENS - Golden Oriental Aborvitoe, 5 ft., excel. cond., you dig, $10/ea. Joe, Ext. 2575 or 281-2767 eves.

EASTER BUNNIES - & cakes for any occasion. Carol, 289-3917.

LIVING ROOM - 3 piece set, sofa, love seat, Queen Ann chair, excel. cond., $650. 878-0717.

G.E. REFRIGERATOR - 12 cu. ft., in box, $275; baby's crib, $30. 744-0919.

AIR CONDITIONER - Westinghouse, 15,000 BTU, 220V, single phase, efficient, hardly used, $175. 878-1067 after 5 p.m.

POOL - 15' x 30', all aluminum (minus liner) as is, $395., incl. accessories. Walt, Ext. 2907 or 698-0576.

SHARPENER - for reel mowers, Peerless, old but works, $150. 289-0413.

COMFORTER - queensize, w/dust ruffle; shrams and swags; 2 pair, 84" drapes, blue/white print. 744-7734.

TROMBONE - Bundy, 8 yrs. old, beginner model, good condition, best offer over $125. Bob, Ext. 2350 or 475-4382.

PUPPIES - SHIH-TZU, AKC reg., 6 wks. old. Ext. 7727 or 929-4631.

BEDROOM SET - "Heritage," walnut, full bed, men's dresser, women's dresser w/mirror; 2 end tables, excel. cond. B. Stars, Ext. 4278 or 298-9648 eves.

PIANO - Winter Spinet, mahogany, with bench, very good, $400. 234-8229.

FUJI BICYCLE - 10 spd., racer, 27" wheels, lt. weight, excel. cond., $125. Ext. 2705 or 286-1062.

REFRIGERATOR - 12 cu. ft. cap., freezer, comp., white, runs well, 6' high, apt. size, $100. Roy, Ext. 4664 or 331-2401.

LAWN SPRINKLER - self-propelling, $20; new hair dryer, $12. Ext. 3701.

BROWN SUIT - size 40, reversible vest, 2 pr. pants, $25. 289-0687.

SEARS VACUUM CLEANER - w/power mate and all other access., hardly used, $100; ladies tennis shoes, Nike, new, size 7, $30. Ext. 2907.

CAMERA - SRR autoreflex Konica, very good cond., $100. 286-8448.

Yard Sales

PORT JEFFERSON - 22 Pilgrim Dr., Saturday, April 21, 10 a.m.-4 p.m.

SHOREHAM - 10 Farm Rd. (off Highland), Saturday, April 21, household/outdoor furniture, tools, "finds".

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

WEST SAYVILLE - 4 bdrm. cape, 1 bath, formal dining room, finished basement, porch, deck, stucco-brick front, fenced, $105,000. 589-4187.

LEISURE VILLAGE - Greenbriar, 2 bdrm., good location. 744-7140.

For Rent

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

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

SOUTH SETAUKET - furnished, 4 bdrm. Colonial, for the month of Aug. 698-0135 after 6 p.m.

MIDDLE ISLAND - 2-3 bdrm. house, dining room, living room, kitchen, on quiet river, fishing, boating, swimming, 5 min. from Lab, references, security. 924-3755.

SMITHTOWN PINES - prime area near highway, sunny new apt., 1-2 bdrms., lg. living room, nice eik, dishwasher, a/c, private, yard, $625 incl. all. Ext. 2830 or 543-0487.

CORAM (LA BONNE VIE) - 2 bdrm. apt., new lease (or sublet up to 9/30/84), dishwasher, central air, avail. April 1 or later, $600/mo. heat incl. Ext. 2435 or 732-6546 eves/weekends.

Free

COLOR TV - 19", Sears console, needs work; (2) tricycles; crib. 698-9282 eves.

ANIMAL CAGE - for chickens, pigeons, etc., 4'x3' house, 3'x3' screen. Ken, 289-8212.

Car Pools

BABYLON/W. ISLIP - driver needed for on-time car pool, 8:30-5:00. M. Tesla, Ext. 2705.

QUEENS - to join or start car pool. Aron, Ext. 3397.

Wanted

BOY'S SPORT COAT - or suit, size 8, navy or gray, clean, good cond. only. 928-1068.

STROLLER - convertable sleeper for infant use, (ex., Aprica, Perego) front swivel wheels, before July. Kathleen, 281-5605.

DISTORTION BOX - Ext. 3082.

CAMPBELL'S SOUP LABELS - send to F. Chandler, Bldg. T-89, for St. Mary School, East Islip. Ext. 2311.

CANOE - 14', good cond. 289-7470.

SAILBOAT - to crew on for Block Island, around Long Island races, experienced. Joe, Ext. 7961 or 722-3957 eves.

FURNISHED HOUSE - or apt., August 1984 to August 1985. 821-0250.

HOUSE - to sit, free, responsible and caring, any period, any duration, May 21 until Oct. 15. J. Allentuck, Ext. 2412.

APARTMENT - to rent, or small house near Lab, married couple. Ext. 7603 or 3901.

WHEEL - for construction wheelbarrow, good cond. Victor, Ext. 2395.

SLIDE PROJECTOR - Kodak. John, Ext. 3675.

TOYOTA TERCEL - 1980, 5 spd., low mi. Debbie, Ext. 3420 days or 736-4280 eves.

ROOM - north shore, garage for car. Janet, Ext. 2345, 929-8152.

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