# BOLLETIN Volume 31 - Number 32 / August 19, 1977 BROOKHAVEN NATIONAL LABORATORY

# Degree Program Offered At BNL

Starting in September, credit courses towards a bachelor's degree in Business Administration or a Bachelor of Technology degree will be offered to BNL employees by the New York Institute of Technology. Courses will be conducted at the Laboratory immediately after working hours. Exact scheduling will be announced later.

The Adult Accelerated Degree Program provides up to four ten-week terms per year. This enables students to complete their degrees at a more rapid pace than usual. Under this program, each course will be given only one night per week. In a non-accelerated program, the average semester is 16 weeks in duration with each course being given two nights per week.

Individuals who do not have a high school diploma will automatically be granted a New York State General Equivalency Diploma upon completion of 24 credits in a degree program. No additional examinations will be required.

Advanced standing, up to 99 credits towards the baccalaureate degree, may be carned in several ways - life experience (industrial, commercial, military or community experience), successfully completed courses from other colleges and recognized schools in the military or in the private sectors. New York Tech advisors will be available to advise employees as to their eligibility for this credit.

Tuition for undergraduate courses is \$50 per credit. The Application for Admission fee is \$15 and there is a registration fee of \$10 per term. All fees are due upon registration and may be paid only by check or Master Charge. Employees may take advantage of the Laboratory's Tuition Refund Program, or may be eligible for Veteran's assistance. Under the Tuition Refund policy, employees who complete their courses with a "C" average or better will be reimbursed 75% of tuition fees only, after submitting proof of grade.

New York Tech requires a minimum of 15 students per course and it is expected that four courses will be offered. If space is available, members of an employee's immediate family may also be allowed to participate. The courses to be given will be determined by employee response to course lists which have already been distributed.

All interested employees should attend an orientation meeting at Berkner Hall on Wednesday, August 24, from 12 noon to 1:30 p.m. Registration will be held on Thursday, August 25, also at Berkner Hall from noon to 1:30 p.m.

Anyone who is interested in participating in the program should complete the form on page 3 and return it to Renee Flack, Director's Office, Bldg. 460, immediately. If further information is required, she may be reached on extension 3316.

#### Fire Safety Equipment

The BERA Board requests that all employees who had ordered smoke detectors and fire extinguishers to please pick them up at the Sales Office in the Cafeteria before Friday, September 9. Any units not claimed by that date will be put on open sale.

The Sales Office is open Monday through Friday from 11:00 a.m. to 3:00 p.m. The telephone extension is 3347.

#### I.B.E.W. Meeting

Local 2230, IBEW, will hold its regular monthly meeting on August 25, 1977 at 8 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.

# G. Kenneth Green Is Dead At 65

Dr. G.K. Green, a Brookhaven scientist for more than thirty years and one of the world's best-known accelerator experts died suddenly last Monday morning at his son's home in Texas. He will be sorely missed by his many friends and associates.

Ken was born in Illinois in 1911 and was brought up in Mark Twain country along the Mississippi; he spoke often and with delight of the traditions and atmosphere there and of its influence on a young man. His father was a power engineer and, while absorbing the early history of the Mississippi, Ken became acquainted with the arts of operating rotating machines and switchgear.

His formal training was at the University of Illinois where he received a B.S. in 1933 and a Ph.D. in 1937. He was a student of Professor P.G. Kruger, one of the pioneers in nuclear physics. Together they constructed one of the first cyclotrons and performed some of the early studies on nuclear disintegration.

After receiving his Ph.D. he was awarded a National Research Fellowship which was, in those days, the leading award in recognition of outstanding postdoctoral talent. With this support he moved to the University at Berkeley where he studied with the brilliant group headed by Ernest Lawrence and including Luis Alvarex and Ed McMillan. Here, in the birthplace of the cyclotron, he added greatly to his sophisticated appreciation of the accelerator art.

From Berkeley he went, in 1939, to the Department of Terrestrial Magnetism of the Carnegie Institution in Washington, D.C. A program there on development of particle accelerators and on their use in nuclear physics had been in progress for almost a decade; Ken immediately became an important member of a team building a cyclotron whose size, for those times, made it a major engineering project.

In 1942 World War II distracted him from nuclear physics and he joined the Army Signal Corps. His understanding of electronics rapidly brought him to the forefront of Signal Corps operations; gradually he added to his talents an appreciation of the technique of dealing with industry in the award and administration of large contracts. Postwar he was brought briefly in touch with nuclear weapons when he was made the Army Electronics Representative and Technical Head of the Signal Corps at "Operation Crossroads" at Bikini. For his various wartime services, in particular for his development of the proximity fuse, he received the Civilian Distinguished Service Award and the U.S. Army Legion

Returned to a quiet postwar service at the Evans Signal Laboratory in New Jersey, he became aware of the formation of the Brookhaven National Laboratory which, to him, sounded exciting and challenging. He came to Brookhaven in July of 1947 and soon became deputy to M.S. Livingston who was organizing Brookhaven's first accelerator project. Within weeks it was evident that he would be a leader in Brookhaven's future accelerator programs - as indeed proved to be true for more than thirty years.

His first major project was the Cosmotron, destined to be the first accelerator in the world to reach energies above one billion electron volts. This was also the world's

#### Memorial Fund

Dr. Green is survived by his wife, the former Ida (Peggy) Huie of Strong's Neck, Setauket, L.I., a son, Professor George K. Green of Brownsville, Texas, and a brother, Dr. James A. Green of Columbia, Mo.

The family asks that, in lieu of flowers, contributions be sent to:

PAUB Green Memorial Book Fund Pan American University Brownsville 804 Fort Brown Brownsville, Texas 78520

Ken Green

first proton synchrotron and presented an imposing array of unsolved problems. But one by one they were solved. Ken's painstaking attention to detail and insistence on perfection in each component assured the successful final operation - the Cosmotron reached its billion-volt goal in 1952.

In that same year a Brookhaven team invented a new method for focusing charged beams and immediately it became feasible to construct a machine for 30 billion electron volts. A department to build the new machine - the AGS - was formed under Leland Haworth with Ken Green as deputy. Later Haworth transferred management of the entire project to Ken and he brought the machine to successful completion in 1960.

In 1960 he reorganized the Department, which by then included operation of the Cosmotron, to form the administrative structure which still exists. He acted as its Chairman for another decade; in 1970 he turned over a highly successful and smoothly operating Accelerator Department to Fred Mills

Ken was not one to relax. He took an intense interest in the emerging plans for ISABELLE, the colliding-proton-beam storage rings now under design. To provide us with the best available experimental information about proton storage rings, he spent a year and a half at CERN in Switzerland watching the operation of the 28 billion electron volt proton storage ring there. He sent us incredibly detailed and cogent information and has been our ultimate authority on what can and cannot be accomplished with storage rings.

His most recent project was the National Synchrotron Light Source. With Rena Chasman he produced an imaginative, innovation electron storage ring design which so evidently meets the needs of its future users that support for its construction is virtually assured. At the time of his death, Ken was deeply involved in every detail of the machine's construction including magnet design, vacuum technique, electronics, soil mechanics, building design and staff organization.

He was an ideal leader on a construction project. During the building of the Cosmotron and the AGS he knew every construction detail, he reviewed every step with great care and many an error he caught before it was committed. Yet he was a man of great good humor and with a great affection and understanding for his associates.

We have lost a man of extraordinary talent whose like will not be seen again. Ken was skilled as a physicist, both experimental and theoretical, as an electronic engineer, as a power engineer, as a mechanical engineer and as a civil engineer. Withal he was a man with whom it was a delight to associate. Brookhaven will not be the same without him. —John Blewett

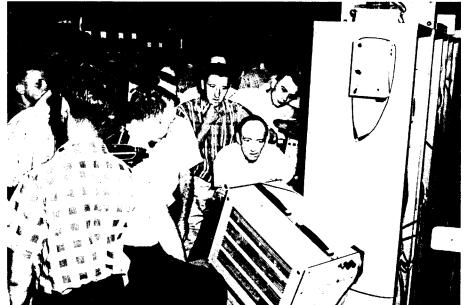
#### **A** Tribute

In the death of Ken Green Brookhaven has lost one of the very small number of outstanding individuals without whose contributions, especially those made in its early days, the Laboratory would be, at best, an undistinguished institution, if, indeed, it had survived at all. The essential reason for establishing Brookhaven was to provide to the scientific community opportunities for research requiring special capabilities such as large accelerators, nuclear reactors and special laboratories not generally available. As matters developed, the most nearly unique of such opportunities fell in the area of high energy physics, utilizing first the Cosmotron and later the Alternating Gradient Synchrotron. More than any other individual, Ken was key to the practical realization of these machines. Others matched, and some surpassed, his inventiveness in the conceptual sense; still others made important engineering or administrative contributions. But, when all was said and done, it was primarily Ken who took the new ideas, bent them into practicable form, combined them into a workable system, and then, through driving energy and dogged leadership, proceeded to reduce them to practice. The outstanding research programs over the years attest to the success of these facilities.

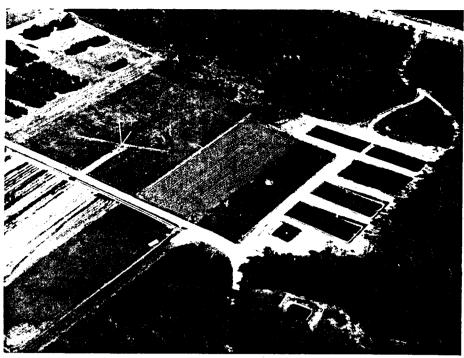
Ken's contributions continued until his death. Brookhaven, the world of science and, most of all, his innumerable friends are far the poorer for his passing.

—Leland Haworth

Messages of sympathy from other institutions appear on page two.



Ken Green in front of the oscilloscope in the AGS Control Room on July 29, 1960, when for the first time the AGS successfully accelerated a beam of protons, first to 24 BeV and then to more than 30 BeV, thus attaining full design energies.



Aerial view of the natural sewage treatment system, developed at Brookhaven, which will be open to the public as part of this weekend's tour of the Laboratory.

# From Sewage To Fresh Water

A novel sewage treatment project, known as the Lowland System, will be featured on the public tour of the Laboratory on Saturday, August 20 and Sunday, August 21. On these two days, project manager Max Small, the designer of the system, will board the tour buses and accompany visitors to the project site where he will explain how it operates.

The pilot plant which treats all sewage solids generated at Brookhaven, without the use of chemicals, returns fresh water to Long Island's ground water supply. A particularly attractive feature is that it produces no sludge to be disposed of separately. The natural plant consists of two systems: one is designed for use where large tracts of land are not available; and the other system includes a meadow where cash crops can be grown.

Small has appeared before many civic groups and town boards who have expressed an interest in this ecologically sound waste treatment concept. According to him, it could be an alternative to conventional sewage treatment plants now under consideration for Suffolk County. Although

#### Cafeteria Menu Week Ending August 26, 1977

Week Ending August 20, 1	,,,
Monday, August 22	
Corn Chowder	
Beef chop suey on rice	1.15
Scrambled eggs, sausages, fr. fr.	1.10
Hot deli – pastrami	
Tuesday, August 23	
Beef noodle soup	
Knackwurst & sauerkraut	1.10
Sauerbraten & potato pancake	1.35
Hot deli - veal pattie & peppers	
Wednesday, August 24	
Cream of potato soup	
Braised meatballs a la mode &	
buttered noodles	1.15
Hot deli – corned beef	
Davy Jones Fish Fry Special	

Cup of soup, fish fry, pie or ice cream Small beverage \$1.87 plus tax

Thursday, August 25 Cheese ravioli & 1 veg. 1.05 Roast chicken, stuffing, 1 veg. 1.15 Cold deli - 8' hero purchased by inch Includes: salami, ham, provolone, bolonga, marinated tomatoes, onions, lettuce, peppers Friday, August 26 Fish chowder Spaghetti & clam sauce 1.05 Breaded pork chop & 1 veg. 1.35

#### Bicycling

Hot deli - smoked tongue

The Aug. 14 trip to Block Island took place on schedule in spite of threatening weather. The rain held off until an indoor lunch at 1:30, and stopped again after lunch to permit the tour to finish. Five from BNL took part; Nahmin and Anne Horwitz, Gerry Morgan, Kate and Gary West.

Coming up Sept. 11 at 10:00 a.m. is the fall race. For the first time, outside clubs have been invited, so the race should be more interesting. A trophy and medals will be awarded to first place winners, and certificates to all who finish.

numerous town and country officials have visited the project site, this weekend will be the first time that it has been open the pub-

The free tours begin at 10 a.m. with the last tour leaving around 2:30 p.m. In addition to this unusual opportunity to see the Lowland System, visitors will be given a guided bus tour of the core of the Laboratory's site and will be able to explore the Exhibit Center, which houses the former Graphite Research Reactor and many models and exhibits of Brookhaven's research programs.

#### Runners' Corner

Led by their premier runner, Ted Landry (DAS), the BNL Roadrunners soundly defeated the Sperry runners at the 7.5-mile annual Frank Cuccu run held on August 12 in Oyster Bay.

Ted Landry, who keeps improving with each race placed 29th out of 416 starters which included some of the top runners in New York area. Landry was followed by Wayne Dunker (DAS) and Gus Prince (DAS) who placed 40th and 67th respec-

The first Sperry runner was 132nd. John Perrera (Plant Engr) a new and upcoming runner ran well enough to place 166th. The other team members were Paul Kupferman (AMD) 234th and Elaine Landry, 238th.

August 6th found the BNL Roadrunners again displaying excellent form with the Landrys (Ted and Elaine) winning trophies in the Brookhaven annual 7.6 mile run held in East Setauket. Other members who received trophies were Gus Prince and Pete (Steady) Rathvon (AUI).

## Garden Tips - August

- Don't prune or fertilize trees or shrubs now; otherwise unnecessary late growth will be promoted.
- Iron deficiency may be a problem on azaleas and other Ericaceous plants. This shows up as yellowish leaves with green veins. Apply iron chelates to counteract this deficiency.
- Remember not to spray herbicides on the lawn during the present hot temperature (over 75°F). This will keep ornamentals from being damaged.
- · Constantly be alert for the presence of chinch bugs. Sod webworm also continuing to damage lawn.
- Fusarium and verticillium wilt may be present on tomato plants. Use resistant varieties next season.
- · Continue applying an all-purpose fruit spray to peaches every 2 weeks and up until 3 weeks before harvest. If brown rot is a problem, continue spraying until 2-3 days before harvest with a recommended fungicide captan or Benlate.
- Spray grapes for black rot with captan.
- Cut out raspberry and blackberry canes that have just fruited.
- Lacebug can still be a problem through September on Andromeda and azaleas. For effective control, spray the leaf undersides with sevin.

#### In Memoriam

Grace Schiro, a Senior Executive Secretary in the Omega group of the Physics Department, died August 10, 1977, at the age of 49. Mrs. Schiro joined the Laboratory in 1957 and worked part-time until March 29, 1965, when she began full time work in the Physics Department. Except for three vears, from 1968-1971, when she was associated with the Director's Office, she remained in Physics. She is survived by her husband Lawrence, production planning supervisor in Central Shops, and two daughters Adrienne and Laura.

#### Trips To New York City

The Hospitality Committee is planning two group railroad trips to the city. The first one will be Wednesday, September 7, and the second will be Wednesday, September 21. Each of the trips will be limited to 120 people. Departure will be at 8:32 from the Patchogue LIRR Station. The round trip fare is \$2.45, children under six years ride free.

Reserve a ticket by sending your fare through the U.S. mail to P.O. Box 322, Upton, New York 11973, no later than Friday, September 2 for the first trip, and Friday, September 16 for the second trip. Make checks payable to "Brookhaven National Laboratory," and indicate on your check which trip you are taking. If you are planning on taking both trips, please send a check for each one. Your tickets will be given to you at the train station. Refunds will be made only if cancellations are received at least two days prior to the trip.

## **Upton Nursery School** Starts September 12

Upton Nursery School is a cooperative preschool for the three and four year old children of Brookhaven National Laboratory employees.

The board members for the 1977-78 calendar are: George and Linda Meinken, co-presidents; Lois Beuhler, secretary; Jeanne Hall, treasurer and Barbara Pringle, enrollment chairman.

The children attend school two or three mornings a week and participate in a varied program including art, music, outdoor activities and field trips.

The teachers are professionals and the classes are small enough to give each child the attention he needs. The teacher is assisted by one parent in each class at each session. Parents cooperate in the running of the nursery school which enables us to keep the tuition fee low. Car pools are also avail-

At present the three year old classes are filled, but there is a waiting list. There are still openings in the four year old classes. If you are interested in enrolling your child, please call Barbara Pringle, 728-9639, for further information.

#### and most recently the synchrotron light source. The field has lost an innovative physicist and engineer who remained productive throughout his career.

Please convey our sympathy to his family and his colleagues at the Laboratory. Sincerely, William A. Wallenmeyer

Div. of High Energy & Nuclear Physics, ERDA

It was with great sadness that we learnt of the recent death of Ken Green. As you know Ken was very closely associated with CERN during the construction of the AGS and CPS accelerators in the 1950's. He spent a year with us at CERN not so long ago and we were delighted that he was present at the inauguration of the SPS early this year. His death robs us of a valued colleague and the world of one of the great accelerator builders. We will all miss him.

Please convey the condolences of the SSRPT staff to the Brookhaven staff and the family of our respected colleague Ken Green. His passing is a great loss to the accelerator physics and synchrotron radiation research communities.

> Herman Winick Stanford Synchrotron Radiation Project

# **New Craft Apprentices**

Recently there have been two resignations from the Craft Apprenticeship Program. The Joint Apprenticeship Committee has taken two names from the top of the March, 1977, Master List and placed Wayne Hulse and Donald Hicks in the program as Carpenter Apprentices.

#### Getting Rid Of The Broken Wood



These young people are clearing dead pines on Upton Road that were damaged by the pine luper moth infestation a few years ago. They are here under the CETA program (Comprehensive Employment and Training Act) under funds given by the Federal government to provide jobs on public works projects throughout the country. They have been assigned by Suffolk County to help Brookhaven clear about 50 acres of dead pines. So far, they have cleaned up five acres. Working with Site Maintenance drivers, "Spider" Ligon (far left) and Larry Johnson (far right) the forest conservationists are, from left to right, William Magnus, Eric Frak, Kathy Lebron and Kevin Kobus. Handling the saws are Frances Negrin and Cynthia Robinson. Kurt Smith is another member of the team but was not present when the picture was taken. -photo by Reben

# Brookhaven's Loss Shared By Many

The death of Ken Green not only depletes Brookhaven, but was recognized as a great loss by accelerator physicists both in this country and abroad. Some of the expressions of sympathy received by the Laboratory, follow:

Shocked and saddened to hear of G.K. Green's death. The accelerator arts have lost one of the greatest pioneers. We share your loss.

Pief Panofsky and Ken's friends at SLAC.

Bob Wilson and I are both away from the Laboratory at the moment but have learned of Ken Green's sudden death. Ken was an important moving force in the development of high energy physics at Brookhaven, in the U.S., and in the world. I enjoyed working with him on several occasions. His loss will be felt by all of us. Please convey our condolences to his many friends and family at Brookhaven.

about the sudden death of Ken Green. Ken had

made great contributions to the development of

particle accelerators - the Cosmotron, the AGS,

Sincerely, Ned Goldwasser Fermilab It is with deep regret that we received the news

> Assistant Director for High Energy Physics Program

> > Sincerely, John Adams, CERN LAB

for the employees of

BROOKHAVEN NATIONAL LABORATORY

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CARL R. THIEN, Public Relations Officer

#### Letters To The Editor

To The Editor:

Many American scientists are becoming increasingly concerned about the arrest and imprisonment of Yuri Orlov in the U.S.S.R. Orlov, who was 53 years old on August 13, is a distinguished Soviet physicist specializing in problems concerned with particle accelerators. He is the author of numerous definitive papers on this subject. In May of 1976, he founded and led a group devoted to monitoring compliance with the human rights provisions of the Helsinki accord within the Soviet Union. This activity led to numerous harassments by the Soviet police. When the Carter administration expressed concern over the arrest of Aleksander I. Ginzburg in February, Orlov believed a degree of immunity would result for himself and other champions of human rights. Alas, his optimism was short-lived and he was arrested a few days later. To the best of our knowledge, he remains in Lefortovo prison awaiting trial. Fifty-two staff members of the Accelerator Department of Brookhaven National Laboratory, acting as individuals, have addressed to Orlov the following telegram:

"We, members of the scientific and professional staff of the accelerator department of Brookhaven National Laboratory, send greetings to you on your fifty-third birthday. We wish to take this occasion to express our concern and sorrow that events of the past few months have prevented you from pursuing your career as an accelerator physicist and have interrupted your activities dedicated to basic human rights. We feel that the rights to move about freely and to communicate ideas and sentiments are fundamental to the advancement of science. Violations of these rights seriously inhibit the scientific and personal dialogue that is of such great value to scientists of all countries.

We not only wish to express our sympathy to Orlov for the injustice he has suffered in this situation but to call to the attention of the worldwide community our concern that scientific and technical cooperation between our countries is severely undermined by such violations of the rights of a respected member of the scientific com--Ernest Courant

#### **CREF Values**

	19	76	
January	\$40.31	February	\$39.76
March	40.75	April	40.10
May	39.69	June	41.60
July	41.21	August	40.94
September	41.59	October	40.62
November	40.40	December	42.66
	19	77	
January	\$40.27	February	\$39.30
March	38.73	April	38.73
May	37.96	June	39.91
	July \$	39.34	

#### **Arrivals & Departures**

#### Arrivals

Peter de Toll	Accelerator	
Donald L. Kazmark	Physics	
Edward G. Skolnik	Applied Science	
Gene A. Sorensen		
Departures		

Departures		
Joseph M. Hendrie	Applied Science	
Mitchell A. Hoselton	Chemistry	
Alan M. Nathan	Physics	

.Chemistry

Israel Pelah





-photos by Reben

# An International Playground

They speak in many tongues and they have different cultural backgrounds, but they have no difficulty in communicating at Brookhaven's "summer camp." They are the children of summer visitors to the Laboratory and of other guest scientists who live on site. and throughout July and August they are entertained and instructed by the Laboratory's summer recreation program, which has been in operation for over 10 years.

That quite a few of the children don't speak English doesn't seem to be a problem. One little girl named Rachel, who lives in Chicago, explained that her Israeli friends, Ariela and Einat were learning English from her by listening to conversations and being spoken to in English. Three year old Amer from Israel has taught his 5-year old American friend Leaha a bit of Hebrew and she says she just might go and visit him in Israel.

Every weekday morning from 9:30 to 11:30, a number of small bicycles may be seen parked outside the Recreation Building where 120 children are kept on the go with crafts, reading, special events and outdoor play. A special treat for many of the youngsters was when five Japanese women came to teach them the art of origami. Ten year old David Lande from Philadelphia said he made several creations and the one he liked the best was a bird about two feet long and a foot high. He thinks the summer program is great and that it has a lot more freedom than school.

Jens (6) and Kristian (11) are here for a year from Norway. Kristian says the biggest difference between L.I. and Norway is the weather - "It's too hot six months of the year here," he said. They have also attended an American public school and that too is different. In Norway, he says, the children are in class for 45 minutes and then out doors for 10 minutes, and each class is held in a different room.

The morning program is under the direction of Anne Brassard, and she is assisted by Mary Grace Lazzaro, Liz McCafferty and Carl Verdi. During the rest of the year, they are all teachers at local schools. This year, for the first time, there are also afternoon sessions in arts and crafts taught by Pat McKenzie-Wilson and Joyce Butler.

Parents and members of the BNL community have also been contributing to the

#### Softball

Employees' League Circuits 17 - Bubble Boys 9 Six Pax 6 - Dirty Sox 7 No highlights available. Charlie Browns 4 - Nuke Powers 8 Power Packers - Medical The Pack and Medical split a double-

header. No highlights were available.

Mixed League Results Oh Kays 5 - Turkeys 4 TNT's 5 - Trouble 4 Balls & Strikes 11 - I Don't Know 1 Hard Ballers - Diamonds

This game has been postponed till Monday, August 22.

program. The arrival one morning of two BNL firemen with a fire truck was a big hit, particularly when the children got to ride in it. Marty Plotkin, when he is not being Chief Electrical Engineer at the AGS, is a rock and mineral expert. He spoke to a group of 7-13 yr. olds one day about minerals and brought an ultraviolet light to demonstrate the fluorescence of minerals. The children were particularly interested in learning about minerals to be found in their own countries. And archery expert Joe Bauernfeind, Accelerator Department, displayed his skill with bow and arrow for the delighted youngsters.

Swimming lessons are held in the afternoon, not only for on-site children, but for the children of all Lab employees. The only requirement is that they must be 48"

tall. After 3:30 p.m. they can play whatever they like in the gym. For the older youngsters, there are also basketball clinics and tennis lessons.

Fridays are for special events such as treasure hunts (complete with maps), crazy hats, contests where they chew crackers, whistle and blow bubblegum at the same time, and pool games. The grand finale will be Monster Day on August 26.

The entire recreation program is under the supervision of Guy Mastrion. Rich Parsons, who started at the Lab as a lifeguard 10 years ago, is in charge of the swimming program and helps Mastrion with the afternoon athletic programs, assisted by Guy Mastrion, Jr., Mark Myavec, Bob Messineo and Catherine Pawelko.



#### New York Tech Degree Program

Name	Dept.
Bldg. No Ext	
Please indicate p	rogram of your choice:
	B.S Bachelor of Technology
	Business Administration
Return to: Y	7. Renee Flack, Director's Office, Bldg. 460.

#### Classified Advertisements

#### **Placement Notices**

The Laboratory's placement policy is to select the bestqualified 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.

Each week, the Personnel Office lists new personnel placement requisitions. The purpose of these listings is, first, to provide open placement information on all nonscientific 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, as indicated below. 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. 2874 or

LABORATORY RECRUITMENT: Opportunity for present Laboratory employees.

#### CORRECTION:

279. TECHNICAL SPECIALIST - AAS in electronic technology or its equivalent with solid background in paging systems, master antennas, audio systems and radio communications equipment. Radio operator's license required. Radio Shop. Instrumentation

292. BIOLOGY ASSOCIATE - MS degree or equivalent in biology to supervise field sample taking and analyses; originate and carry out computer programs relative to project R&D objectives; prepare reports relating to physical, chemical and biological processes. Department of Applied Science.

293. MESSENGER - Staff Services Division.

OPEN RECRUITMENT: Opportunity for present Laboratory employees and outside applicants.

294. TECHNICAL SPECIALIST - AAS degree or equivalent in mechanical technology. Experience in the fabrication and operation of high energy experimental detector systems, including proportional and drift chambers. Close tolerance machinery and mechanical assembly ability required. Physics Dept.

295. SENIOR DESIGNER - Extensive board experience in mechanical design, including preparing details, lay-outs and assembly drawing. Requires working knowledge of engineering fundamentals, engineering materials and fabrication processes. Physics Department.

296. SECRETARY - AAS degree or equivalent in secretarial science with good communications and organizational skills plus familiarity with technical typing. Physics Department.

297. TECHNICIAN - Quick Copy Service Center. Shift work. Photography and Graphic Arts Division.

#### **Autos & Auto Supplies**

74 PLYMOUTH - Satellite, 360 cu in, auto, full power, power windows, 4 dr. Must sell, asking \$1850 or best offer. Call 273-7931 after 5:30

48 FORD - Pick up truck, V8, \$250; 67 Ford front end, complete. \$50. 589-9103.

SACRIFICE - 68 Chevy Impala, 307, 2 dr, ps, auto, good brakes, new heads, cam, lifters, universals, regulator, alternator & shocks, tires fair, clean, \$650. Pat, 588-8492.

68 T BIRD - 4 dr landau, clean, well serviced, maroon w/black int. \$500 firm. 924-3469.

71 GREMLIN - 21 mpg, 6 cyl, std shift. \$800. Ext. 4547, AN5-3731.

70 DODGE DART - 6 cyl, automatic, ps, radio, excel mechanical cond, used daily. Asking \$525. Rick, 727-7304

65 PONTIAC - Lemans, 6 cyl, 2 dr. Ext. 3846, 924-

73 PORSCHE 914 - 1.8 litre, maroon, 5 spd, excel cond. \$5200. 744-8980, 475-5522.

72 YAMAHA JT 2 - 60 cc, good cond, pp fenders, knobbies, runs very well. \$235. Ken, 473-2608.

/2 NOVA - 4 dr sedan, ac, good cond. Bob, 286-0407. 73 CAPRI - Red, blk vinyl roof, 4 spd, V6, am/fm cassette, low mi, leaving for school, need money. 732-

RIMS - 6-lug 15" GM rims, 5" & 8", installed & tested. Fred Usack, Ext. 4597, 475-4935 eves.

1849.

TIRES - (4) 650x13, (4) G78x14, (2) F78x14, free installation & testing, lunch time calls. Ext. 4597. Fred Usack, 475-4935 eves.

71 FORD MAVERICK - Automatic, 6 cyl, 4 dr, 68,000 mi, new battery & muffler. \$650. C. Nauman, Ext. 3412, 286-3764 eves.

72 HONDA - CB 450, 9500 mi, new rear tire & battery. \$650. C. Nauman, Ext. 3412, 286-3764 eves.

76 CAMARO - Economical 6 cyl, automatic, ps, am/

fm stereo, low mi, like new. \$3900. 924-3756. 66 OPEL KADETT - Good cond, new starter, generator, regulator, 28 mpg, excel transportation. \$250.

Ext. 3535, 744-1942.

76 FORD VAN - V8, auto, ps/ac, am/fm cassette, capt chairs, finished interior, roof vent, more. 399-

69 TOYOTA - 4 dr, Corona sedan, cracked block,

good for parts. \$75. Rick, Ext. 3460.

71 EL DORADO - Customized, excel cond. \$2800. 281-5321, 4-6.

72 BUICK RIVERA - Very low mi, auto trans, ps/pb/ ac, speed alert. \$2500. 286-1108.

70 DODGE VAN - B200, 7000 mi, fully customized, many extras, must sell, must be seen to appreciate.

70 FORD GALAXIE - High mi, good cond, new brakes, tires, battery, some body work. \$600. 757-3178 eves. 72 VW BUS - 65,000 mi, 20,000 mi on reblt eng, new steel belted radials, runs very well. \$1400. Tony, Ext. 4207, 928-1644.

70 PONTIAC CATALINA - Ps/pb/ac, needs recharge, new brakes, recent tuneup; just inspected, White w/blk vinyl roof. \$650. 473-4541 after 6.

68 VW BEETLE - Very good cond, new tires & battery, snows on rims. \$500 firm. 924-7662 after 6.

73 AMBASSADOR - Broughman wagon, 46,000 mi, ps/ac, amfm, reclining seat, tan w/woodgrain, excel cond. 475-5978.

75 FURY SPORT - 2 dr, hdtp, mag wheels, ps/pb, new brakes, recent tuneup. \$2500 or bst offer. 924-0056.

67 CADILLAC - Ps/pb/pw, am/fm, 8-track, white w/ blk roof, good cond. \$700. Frank, 744-0819.

4 LOTUS MAG EUROPA WHEELS - Excel cond. \$115/ four. Scott, Ext. 4526.

69 VOLVO - 40 sedan, 4 cyl. \$600, Ext. 4108.

73 GREMLIN - A-1 cond, steel radials, am/fm stereo, 23 mpg, std shift, mag wheels. AI, 588-4703.

TIRES - Michelin 205x14, Goodyear steel DR78-14, F78-14, F78x15, (2) G78x15, (2) HR70x14. Fred Usack, Ext. 4597 lunch, 475-4935 eves.

69 VOLVO WAGON - Good cond, \$1000. Ext. 2081,

75 SUZUKI 550 - \$950; 72 Honda 450, \$800, excel cond. Bob, Ext. 3313.

61 DODGE - 2 dr slant 6, reliable transportation. Asking \$100. 472-1392 after 5.

69 DODGE MONACO - High mi, 2 new tires, new 5-yr battery, good mpg. \$600. 286-8517 after 5:30. OIL FILTER - Puralator, PER-81, air filter, AFP-52, fits Dodge & Ply 6 cyl cars, 8-track player. Mano, Ext.

HARLEY DAVIDSON - 125 cc, 250 mi, dual purpose, excel cond. 286-8758 after 5.

69 FORD FAIRLANE - Sedan, 8 cyl, ps, good working cond, best offer. Shaw, Ext. 3415, Junch hour, 744-6804 eves

72 SAAB 99 - Needs clutch, am/fm stereo, 30 mpg, front wheel drive. \$650. Rich, Ext. 2501, 924-4237.

69 PONTIAC LEMANS - 8 cyl, ps/pb, auto trans, new brakes, shocks, tires & muffler, good cond. \$475 firm. 325-0482.

71 MERCEDES - 220, 4 cyl, 4 spd manual, steel radials, am/fm, excel cond. \$3,850 or best offer. 325-0233.

70 DODGE DART - 2 dr, 6 cyl, std trans, am radio, high mi, runs great. \$250. Rick, 727-7304.

66 CHEVY - V8, 67,000 mi, radials. \$250. Ext. 2543. 65 PLYMOUTH BARRACUDA - Good eng & int, auto trans, Sears Diehard battery, new brakes. \$220. 732-

70 CHRYSLER - Ps/pb/pw, ac, good tires, snows, good cond in & out. \$900. 751-7140, Ext. 3319.

71 VW - Am/fm radio, auto, clean, 56,000 mi. \$1150. Len, Ext. 4484, 473-3305.

67 DATSUN SPORTS CAR - Hdtp & conv, Pirelli radials, runs, but could use a little work. \$30. Steve,

70 FORD - 76,500 mi, small V8, good cond. \$800. Ext.

71 CAPRI - 2000, 4 spd, am/fm, new radials, low mi. Kim, Ext. 2871, 475-6728.

2 TIRES - W/w L78-15, 2 weeks old, \$25 ea; (1) L78-15, used, \$10, Ron, Ext. 4082.

#### **Boats & Marine Supplies**

27' OWENS - Express cruiser, 61 Lapstrake, f/g roof & decks, Chevy 307, s/s galley, sleeps 4, df, excel. \$3000. Otto, 363-7324.

17' COBIA - 1971 55 hp Chrysler, ob, full elec, trailer, all cg equip, many extras. \$2700. 281-3122 after 6:30.

H-15 SAILBOAT -  $15^{\prime}$  fiberglass, alum mast, dacron sails. Ext. 4703, 473-5406 eves.

19' THOMPSON LAPSTRAKE - Volvo io, 110 hp, reblt 1977, head, navy top, excel cond. \$1275. 938-6251.

69 WINNER - Bow rider, 55 hp motor, trailer, elec winch. \$1800. Ext. 4547, AN5-3731.

20' ANA SKIFF - 220 Pacemaker eng, in water, 281-7485 after 5

OUTBOARD - British Seagull, 2½ hp, long shaft, low hrs, excel cond. \$150. C. Nauman, Ext. 3412, 286-3764 eves

18' ISLANDER SKIFF - Gray marine eng, all accessories, new paint, battery, tuneup. \$650. Tom, 325-

SUNFISH SAILBOAT - Excel cond, ready to go. \$500. Ext. 4317, 286-0128.

16' SNIPE SAILBOAT - Excel cond, dagger board. \$600, Ext. 4317, 286-0128.

12' PENGIN GLASS SAILBOAT - New mast & sail, good cond. Robert Capo, 981-0753. 19' SLOOP - W/fixed weighted keel & s/s hull. \$650

or best offer. E. Platner, Ext. 3922. 19' OLDTOWN - Wood lapstrake, runabout, needs

work on hull. W. Hayes, 475-7025.

#### Miscellaneous

BICYCLE - Women's 3 spd, 26", excel cond. \$30. Sharon, Ext. 3995.

SPINET PIANO - Mahogany w/bench, excel cond. \$450. Can be seen on site. 345-3079.

MOVING - 2 twin beds (mattress & box spring), new; rotating desk chair, sofa. Angelika, Ext. 2246, 736-0135.

MOVING AUG 25 - Must sell 5000 btu ac, kitchen set, twin bed, Ig wooden work bench, sewing machine, much more. Ext. 2385, 289-2382.

HUGE YARD SALE - Furn, sports, appliances, books, etc. Aug 21 & 22, Shore, Woodville Rd off 25A to Overhill Rd.

TYPEWRITER - Olympia manual portable, math keyboard, 14 special symbols, \$45. H. Kasha, Ext. 3493/

VACUUM CLEANERS - 3 mo. Hoover canister & all attachments; Premier upright vacuum. \$50 each. Ext. 3336, 475-8456

CAR RADIO - Am, Chevy, 286-8758 after 5.

CLOCK RADIO - Battery operated w/horn guaranteed to wake the dead. Ext. 3655, 281-2002.

COLOR TV - Sears 25" remote control, new picture tube, mint cond, too big for room. \$425. Doug, Ext.

21" ZENITH COLOR TV - Console, working order, wood cabinet. \$45. 475-6938.

ALTO SAXOPHONE - Bundy, very good cond. \$90. Jayson, Ext. 2212.

WELLINGTON - 8-track car stereo, under dash, walnut finish. \$20. Harold Bronheim, Ext. 2092. CASSETTE DECK - Craig in-dash am/fm stereo cas-

sette deck, excel cond. Donna, Ext. 2318. AIR CONDITIONER - Philco, 5 yrs old, 8700 btu, 11.4

amps, works good. \$100. Ext. 4532, 581-9199. CAR RADIO - Am pushbutton Audiovox deluxe, new,

fits any late model GM car. \$20. Ext. 4532, 581-9199. STEREO - Am/fm Decca, Garrard record changer, 2 speakers, hookup for guitar & tape. \$85. Ext. 4532, 581-9199.

COFFEE MAKER - Norelco dial-a-brew, brand new, in orig box, \$30. June, Ext. 3484.

WINDOWS - Dbl hung, 31x54, w/screens, \$5 each; storms for above \$10 ea. T. Morris, 744-5096

PICTURE WINDOW - 6'x4', \$40. Frank, Ext. 2957.

BILCO DOORS - Size "C" with 1' extension, very good cond. \$90. Ext. 2497, 281-2767 eves. AC UNIT - GE 5000 btu, almost new. \$75. LT9-5514.

REFRIG/FREEZER - Lg Westinghouse frost free. \$100. E. Platner, Ext. 3922.

GE WASHER/DRYER - 1 unit, good cond, no air exhaust required. \$100. Ext. 3108.

DISHWASHER - Elec stove, Westinghouse, \$60. 286-8758 after 5.

Ads left out of this issue because of lack of space need not be re-submitted in order to run in next week's issue.

SWIM POOL OWNERS - (2) ¾ hp G.E. motors, used, reasonable price. 744-3514.

WALKIE-TALKIE - Pace, 3 channels, 3 watts, hardly used. \$40. Pete, Ext. 3297, 586-3579.

LAWN MOWER - Sears, excel cond, \$100; complete darkroom setup, \$100; trumpet, king, very good cond, \$110, 929-4450.

LVGRM SET - Spanish/American, couch, love seat, chair, black & gold, cost \$1000, asking \$300. 286-0638 after 6 p.m.

COFFEE TABLE - Good cond. \$50. 286-0638 after

GRASS SHEARS - Cordless, Black & Decker w/charger & sharpener, \$8. Bob, Ext. 4551.

PICTURE WINDOWS - Living rm, 6' x 4' high. \$45. Ext. 2957

COUCH & CHAIR - \$50 each or \$85 both, excel cond. 585-2862.

BILCO DOORS - Size 'C' w/1 ft extension, very good cond. \$90. Ext. 2497 or 281-2767 eves.

AIR COND - York, 8000 Btu, 115 v, 7 amp used two seasons, \$75, Bob, Ext. 4551 or 289-2159 eves

TURNTABLE - Am turntable, new, asking \$25, 281-6468 after 5 p.m.

CASTRO - Twin bed, green velvet cover, never used, asking \$75. 281-8497 after 5 p.m.

TAKING A LOSS - Hardly used, 75 Cox Camper excellent. \$825. 727-1617.

WHEEL CAMPER - Hardtop, gas/elec refrig, 3 burner stove, sink, double dinette, sleeps 8, extras, excel cond. \$1100. Ron, Ext. 4597, 924-8644.

BABY'S STROLLER - And potty chair, very good cond. \$10. 727-1617.

73 SUZUKI TM-125 - Dirt bike, very fast, extra parts, must sell. 744-3339, ask for Walt.

BABY ITEMS - Changing table, \$10; infant carrier (Cosco) \$4; sterilizing kit, \$2; warming plate (Gerber) \$3; other baby items all in excel cond. Theresa, Ext.

21"PROF BATON - \$3; Halloween costumes, devil sm & Tinkerbell med, 7:5¢ each; Digger walking dog, \$3; dolls high chair, \$2; boys ftball helmets, \$1; Play School Blocks, \$1. Carol, 586-3579.

#### 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

HOLBROOK - 2 bedrm house, Ig property, low taxes, garage. \$26,000. 585-4741.

VERMONT - 1.4 acres 10 min from Mt Snow on main rd. Sacrifice \$4195, 928-6251.

FLORIDA - Inverness County, 2 lots, 80x80 each. \$1495 each, 928-6251.

MASTIC BEACH - 3 bedrm ranch 11/2 baths, 100x100 corner lot, near water, patio. \$31,000. 281-7531.

STONY BROOK - 3 bedrm colonial, wooded, 5 appl, 2-car garage, 2½ baths, low 40's. Ext. 4663, 751-

N SHIRLEY - 4 bedrm, 1½ baths, garage, patio, pool, 2 mi from Lab. \$41,000. 281-1410.

N SHIRLEY - 5 min to Lab, 3 bedrm cedar ranch, 1 yr

old, 1½ baths, bsmt, ½ acre. 878-2879. 4 BEDRM SPLANCH - 9 min to Lab, 2-car garage,

furn or unfurn, extras, top cond. \$36,900. 732-2720. PATCHOGUE VILLAGE - 3 bedrm ranch, bsmt, attic, all appl, attached garage. \$34,000. Ext. 2951, 475-

W SAYVILLE - 3 bedrm all brick ranch, w/w carp,  $\frac{1}{2}$ hr from Lab, \$34,900, must sell. 744-9894 after 5.

CENTER MORICHES - 3 homes on 2½ acres, main house, 9 bedrms, 5½ rm rental cottage & barn is 3½ rm apt, all excel cond. \$120,000. 878-2335.

MEDFORD - 1 bedrm, w/w carp, appl, recreational facilities. \$29,500. 732-5252, 286-0838.

N SHIRLEY - 2 bedrm ranch, 1g kitchen, fp, treed ½ acre, June, Ext. 2970, 399-0836 after 5.

S SHIRLEY - 3 bedrm, sun porch, bsmt, storms, beautiful landscape, near water, \$29,500, 281-5328. MOBILE HOME - Deluxe, 24'x60', adult park, immac,

3 bedrm, 1½ bath, ac, appl, patio, shed. 727-6833,

Ext. 3716. 3 BEDRM - Porch, hd wood floors, lg yard, nr schools, shops, quiet shady st, less than \$40,000. Vis, Ext. 3512/3513, 878-4889 eves.

#### For Rent

VT CHALET - Furn, fp, hike, canoe, swim, fish, theatre, music, antiques. 757-5599.

BELLPORT - Near bay, 3 bedrm, 2½ baths, colonial, 2-car garage, bsmt, cent ac, gas heat, all appl. \$400/ month. 286-1366.

POCONO CHALET - Priv community, nr Lake Wallenpaupack, all season rec. Fran, 289-2159. Bob, Ext.

WADING RIVER - Bsmt apt, Ig 3 rm, fully furn, ac, on the beach. \$250/mo, util incl. 929-8443.

LG FURN RM - In condominium, priv bath, possible kitchen privileges. 6 mi from BNL, \$150/mo. 744-3235, 924-5294.

PATCHOGUE - 3 bedrm apt, all util, priv home. \$315. 289-9192.

#### Wanted

DESPERATE - Need cylinders for 66 Honda CB160, will also buy other engine parts. Walt Parsons, 744-

2 BEDRM APT OR HSE - South shore, Kim, Ext. 2871, 475-6728 or Pat, Ext. 3168. BICYCLE - 10 spd, for 11 yr old boy, must be in top

cond, reasonable. 286-3742 eves. TYPEWRITER - Manual, portable, for college student.

Lloyd Davis, Ext. 3952/4803, 325-0389 after 6. HORSE TRAILER - 2 stall, Ext. 2547, 281-5328.

69 OLDS - For parts, 98. Ext. 3376. WOMAN TO SHARE HOUSE - Chris, Ext. 2907.

HOUSE SITTER - Dog walker, 3 weeks, October. Ext. HOME - Free 7 wk old kittens, adorable, all white, half Persian, fully trained, 2 males, 1 female. Ted, Ext.

USED REFRIG - In running cond, cheap. Rick, Ext.

BABYSITTER - Mastic Beach, Mon/Wed/Fri, 8-5:30 for 16-month old airl, my home, exp, refs, own trans-

portation required, \$10/day, 281-7763. COOKBOOK - Joy of cooking, Rombauer or other

#### comprehensive cookbook. 281-2002, 3655. Car Pools

SMITHTOWN - Kings Park area, start or join. Ext.

CORAM - Seek member to join existing car pool. Alan, Ext. 2252.

SE QUEENS - Would like to join or start car pool. Gene Ferreri, Ext. 3289.

#### Services

HANDYMAN - All jobs. 286-8758 after 5.

HEMS & ALTERATIONS - Sharon, Ext. 3312.

& circular saws. Joe, 732-3286.

AUTO REFINISHING - Complete body work, painting, striping. Bob, Ext. 2546, 744-4047 after 6.

PAINTING - Int/ext, free estimates. 878-2357. SHARPENING SERVICE - Shears, knives, chisels, hand

EXECUTIVE TYPING/EDITING - Weekdays, weekends at my home, 288-2660. HOUSEKEEPER - For month of Sept, 8:30-5:00, Middle

Island. 924-7044. EXPERT PAINTING - Int/ext, free estimates, reasonable, refs avail. 473-5079, 751-0330.

USED TIRES - Rims, repairs, low prices, free installation & leak testing. Fred Usack, Ext. 4597 lunch only,

RESTORATION - Int/ext, painting, furn staining, free estimates. Tom, 325-1033.

CUSTOM ROTOTILLING - Gardens, yards, shrub planting, foundation planting. Tom, 325-1033. BABYSITTER - Woman w/21/2 yr old boy will care for

your children in her home, lunch provided. Barbara, 363-2765. MOVING? - Will move your entire home locally,

Queens, NY, Brooklyn, Nassau & Suffolk, good rates & service. Ext. 3217, 732-3145 after 5:30.