



Farewell Banquet



Dr. Chang Wen-Yu, Vice Director of the Institute of Atomic Energy at the Chinese Academy of Sciences, and BNL Director Dr. George Vineyard offer a toast during a farewell banquet at Berkner Hall recently. Dr. Chang headed a delegation of scientists from the People's Republic of China that spent four days at BNL meeting with scientific personnel and touring research facilities here.

New Beam Intensity Record At The AGS

On May 25, 1973, the AGS proton beam intensity reached a level in excess of 9×10^{12} protons per pulse. This achievement came toward the end of a continuous one-week accelerator study effort which was mainly devoted to commissioning a novel mode of fast beam extraction (reported elsewhere in the *Bulletin*) and the attempt to reach higher beam intensities in the AGS.

During the past seven months, the overall performance of the accelerator has been significantly improved. Compared with the previous running period, the AGS outage time due to failures has been reduced by approximately 40%. As a result, it became possible, during the recent period, to improve the precise "tune-up" of both the 200 MeV linear accelerator injector and the synchrotron proper. Routinely, weekly average beam intensities of approximately 4×10^{12} protons per pulse were obtained for operation of the high energy physics program. It was evident, however, that with a concerted effort of the accelerator experts during an extended study period, higher intensities could be reached at this stage of the AGS development. Occasionally, at the intensity values of 5×10^{12} protons per pulse, evidence had been observed of intensity dependent beam instabilities resulting in particle losses during acceleration of the proton beam in the AGS. It was important to ascertain if a real intensity limit existed and whether such a limit might prevent higher beam intensities in the AGS.

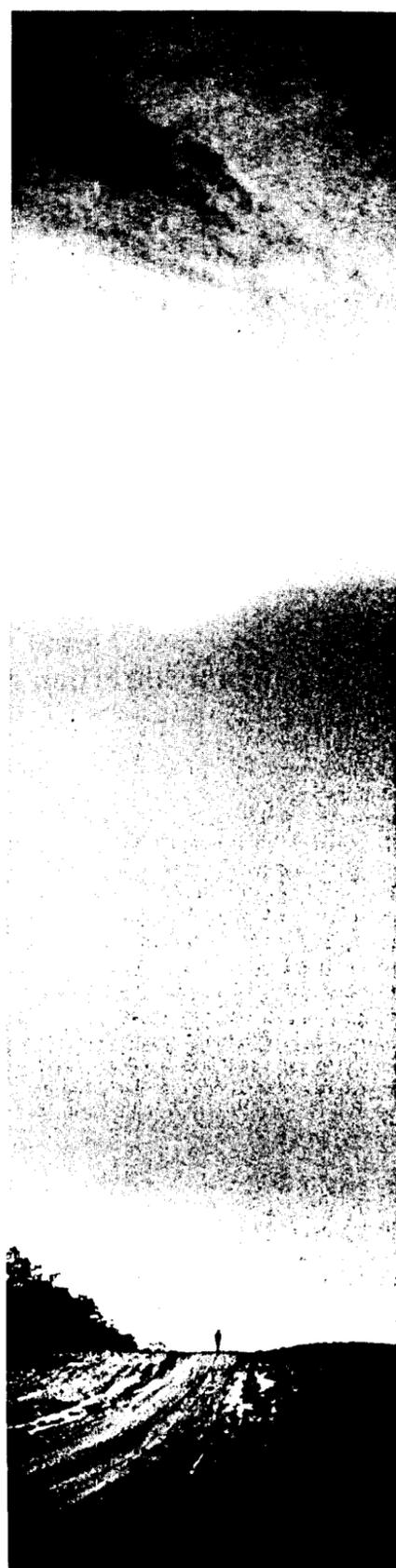
As a conclusion of the machine study week effort, not only was the new intensity record reached, but it was also established that at the intensity of 9×10^{12} protons per pulse, no unforeseen effects were limiting the intensity and, therefore, with further anticipated improvements of the beam "quality" of the linac injector, the magic number of 10^{13} protons per pulse could be reached in the near future.

All in all, this result was very rewarding to all those members of the accelerator staff in the AGS Division who have been working continuously toward these objectives for a long time. With this new beam intensity record, the AGS remains clearly the highest intensity high energy proton accelerator in the world.

Academic Journal At OSP

The Academic Journal, a directory of employment sources for college, jr. college, public and private school teachers, can be consulted at the Office of Scientific Personnel, 40 Brookhaven Ave.

BNL Marathon



Barely visible on the horizon, a lone runner covers one of BNL's back roads during the Second Brookhaven Perimeter Marathon. The 10-mile event drew 22 contestants early last Friday evening, with the winner's cup going to Ernie Warburton of Physics. More inside.

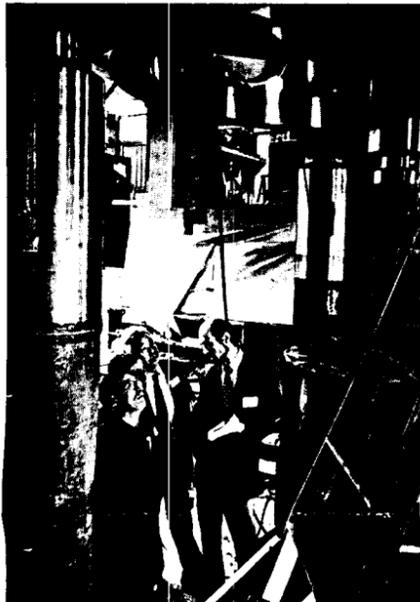
Walter C. Hamilton Memorial Symposium

A one-day symposium in honor of the late Walter C. Hamilton will be held on Friday, June 15 in Berkner Hall. It will be jointly sponsored by Brookhaven National Laboratory and the American Crystallographic Association.

The symposium will open with a ceremonial session with welcoming remarks by BNL Director George Vineyard, followed by remarks by Chemistry Department Chairman Gerhart Friedlander, and a presentation of R.A. Young as Chairman of the symposium. An appreciation of Walter Hamilton will be delivered by R.A. Young, Georgia Tech. and David P. Shoemaker, University of Oregon.

After the ceremonial session, there will be a scientific session lasting to late afternoon, with the following papers being delivered by crystallographers who were personal and professional contacts of the late Dr. Hamilton. They include: "Difference Maps and Least Squares" - Verner Schomaker, University of Washington; "Chemical Crystallography" - James A. Ibers, Northwestern University; "Electron Densities" - Philip Coppens, University of Buffalo; "Crystallographic Measurement: Results and Significance" - S.C. Abrahams, Bell Laboratories; and "Biological Structures, Hydrogen Bonding" - Alexander Rich, M.I.T.

Dr. Hamilton's friends, colleagues and other interested persons are invited to attend this symposium. No registration fees are required. Lab employees who wish to attend the luncheon (price - \$2.75), please call Bonnie Wesolowski, Ext. 4304.



Bob Louttit gives the visitors a tour of the 7-foot Bubble Chamber.

Blood Pledgers Step Forward

The Bloodmobile of the Greater New York Blood Program will visit the Laboratory for two days on June 28 and 29. Facilities are planned for taking 1000 pints of blood on these two days. Pledge cards have been mailed to all employees. For information or answers to questions about the blood program, call Alf Christoffersen, Blood Program Chairman, on Ext. 3322; or Monroe Petty, Personnel Services Supervisor, on Ext. 2881.

Biology Symposium



150 Biologists attended the most recent of the Brookhaven Symposia in Biology. Entitled "Basic Mechanisms in Plant Morphogenesis," the three-day meeting was held in Berkner Hall where 22 papers were presented. An evening session featured a lecture by Yale's Ian Sussex. Beatrice Sweeney (left) of the University of California delivers her presentation, "Temporal Regulation in Plants." Symposium Chairman Peter Carlson of Brookhaven's Biology Department; Jack Van't Hof, Biology; and A.D. Bradshaw from Liverpool University, England; discuss proceedings. Bradshaw's paper, "Environment and Phenotypic Plasticity," was presented during the symposium's second session.

Distinguished Lecturer



Professor Kenneth Wilson of Cornell University (left) meets with Dr. Joseph Weneser, Physics Department Chairman, during Professor Wilson's visit to Brookhaven as the Fourth Distinguished Lecturer in Physics. While here, Professor Wilson delivered a two-part lecture on "Renormalization Groups and Critical Phenomena." He also met with staff members for other specialized discussions. Other Distinguished Lecturers in Physics at BNL have been Francis Low, Tsung-Dao Lee, and Ben Mottelson.

New Beam Extraction Method Tested At The AGS

On May 8 a fraction of the AGS 28 GeV internal beam was extracted from the ring chamber by a new "shaving" technique, culminating a 2½ year design and development effort by the AGS Division under Dr. A. van Steenberg to provide an external proton beam for the new North Area 7-ft bubble chamber complex. Following an early suggestion by J.W. Glenn for this method of fast extraction an initial design was carried out by L.N. Blumberg, J.C. Cottingham, J.W. Glenn, J.J. Grisoli, M. Month and A. van Steenberg. This design study and the subsequent detailed engineering execution and beam commissioning studies were directed by Dr. Blumberg, Section Head of the External Beams Section of the AGS Division.

The technique involves a rapid deflection (approximately 3µsec beam kick) of the AGS internal beam across a hyper-thin (0.25 mm) septum energized at 3000 amps which in turn deflects the protons into the aperture of a thin septum (2 mm) ejection magnet operating at 21,000 amps. This magnet channels the beam out of the AGS ring vacuum chamber into the external beam channel, where the beam is directed towards the neutrino target upstream of the 7-ft bubble chamber. Initial external beam studies were done in a separate external beam test channel. The septum and ejection magnets were designed and constructed by H.C.H. Hsieh and the External Beam Component group. The power supply for the septum magnet was designed by A. Tranis and A. Feltman. The ejection magnet power supply, capable of delivering pulsed currents up to 24,000 amps, was designed by A. Soukas and constructed by J. Schirmer.

An important component of the extraction system is the full-aperture ferrite beam kicker magnets which provide the rapid beam deflection. The power supply for this component, which produces a variety of current waveforms to serve the multiple requirements of the extraction system, was designed by J. Keane who also served as project electrical engineer for the entire

beam extraction system. The project mechanical engineer was J. Schuchman, who specifically executed the beam transport vacuum system design. The mechanical design of the kicker magnets was done by R. Damm who also developed an extremely thin (0.05 mm) electrostatic septum with beam deflection fields in excess of 100 kV/cm to precede the magnetic septum unit, so that beam losses on the septum unit would be further reduced. The extraction method also requires that the AGS beam orbit be deformed at the azimuth of the septum and ejection magnets. The power supplies necessary to energize backleg windings about AGS magnets to produce the orbit deformation were designed by G. Bagley.

An important feature of the extraction system is the operation and eventual control of all power supplies via the AGS PDP-10 computer. The design and implementation of this single-wire DATACOM system has been accomplished largely by R. Frankel and J. Curtiss of the AGS Division Computer and Control section under Dr. B. Culwick.

The effort to study the properties of the extraction method prior to the May 25 AGS shutdown was done by Drs. L. Blumberg, G.W. Bennett and E.C. Raka. The instrumentation needed to measure the external beam performance was developed by L. Repeta, J. Guthy and G. Levine. The initial studies were concerned with the fast extraction mode whereby a fraction of the AGS beam is directed on an external target to produce secondary particles for study in the 80-in. bubble chamber.

Another extraction mode was also studied, in which the entire AGS beam is extracted for use by the neutrino experiments to be conducted with the 7-ft. bubble chamber and counter-spark chamber equipment. In this case the AGS beam of 4×10^{12} protons was extracted in about 2.9 microseconds - the most intense beam ever extracted from the AGS or any high energy proton synchrotron.

Golf News

The first Golf Tournament of the year was played at Middle Island Country Club on May 15, using the Calloway System of Scoring. Results are: Low Net 43 George Korhut, 2nd Low Net 44 John Dioguardo, Low Gross 34* Jack Detweiler, 2nd Low Gross Ed Beadsworth. (*Tie broken by lower net score as per official Calloway System.)

The June Tournament has been scheduled for the 21st with a Rain Date of the 28th at the Dogwood Course at Middle Island C.C. A closest to the pin (Hole #5) plus a longest drive (Hole #8) competition will also be included in the Tourney. Persons wishing to enter should send \$1.00 to Jim Petro, Bldg. 750.

A July Tournament is planned to be held at the Suffolk County Course at Riverhead. A Suffolk County permit is required to play at this course and can be obtained from the Parks Dept. for a \$1.00 fee. Applications can be obtained from Jack Detweiler or Jim Petro.

Cafeteria Menu

Week Ending June 15, 1973

Monday, June 11	
Chicken Rice Soup	
Barbequed Roast Pork & 1 Veg.	.99
Jumbo Knackwurst & Sauerkraut w/Mashed Potatoes	.90
Macaroni & Chopped Beef, Spanish Style & 1 Veg.	.90
Tuesday, June 12	
Puree of Split Pea Soup	
Beef Stew Casserole w/Biscuit Crust	.99
Southern Fried Chicken & 1 Veg.	.90
Stuffed Cabbage & 1 Veg.	.90
Wednesday, June 13	
Cream of Mushroom Soup	
Beef Hash w/Chili Sauce & 1 Veg.	.90
Broiled Link Sausage w/Scrambled Eggs & French Fries	.90
Seafood au Gratin Casserole	.95
Thursday, June 14	
Navy Bean Soup	
Beef Chop Suey on Rice	.90
Sliced London Broil & 1 Veg.	1.05
Cheese Omelet w/Bacon Strips & French Fries	.85
Friday, June 15	
Fish Chowder	
Fired Fillet Sole w/Tartar Sauce & French Fries	.99
Codfish Cakes & Spaghetti	.90
Baked Beef Loaf w/Savory Gravy & 1 Veg.	.90

May Retirees



Lydia Viljur, a Research Services Assistant in the Medical Department who had been employed at BNL since April 18, 1966, retired on May 31.



Nathan Levenson, a Design Engineer in Mechanical Engineering who began work at Brookhaven on February 15, 1965, retired on May 31.

BROOKHAVEN BULLETIN

Published Weekly for the Employees of Brookhaven National Laboratory

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Letters To The Editor

Dear Sir:

The conservation notes appearing in recent issues of the *Bulletin* are important and necessary. This community of scientists and support workers is as wasteful as any group of government workers I have ever known. The most striking conservation problem is our wasteful, over-luxurious life style, and it certainly needs more attention. The simple practice of shutting off light switches and other electrical equipment at night is another practice which people need to be reminded of. Please encourage this action. I hope people become sensitive to the upcoming fuel shortage and the feet of these scientists and workers are offered as transportation (bipedal or bicycle locomotion) in a more efficient way than simply pressing down the accelerator.

Doug Carlson

We consider all Laboratory employees as potential reporters and would like to solicit news articles from you. When something is happening in your area that you think is of interest to the entire community why not try your hand at writing it up as a short article and send it to the editor? Any article selected by the editor, who could use a fair amount of material each week, will bear the credit line of the person who wrote it.

Arrivals & Departures

Arrivals

Viney P. Aneja	Applied Science
Thomas S. Clifford	Applied Math
Richard J. Crawford, Jr.	Medical
Allan G. Farrago	Medical
Walter J. Hughes	Plant Engrg.
Barbara L. Sapienza	Applied Science
John M. Virgilio	Medical

Departures

Flossie M. Bennett	Systems & ADP
David C. Bonar	Accelerator
Elsie Feiler	Medical
Bennie L. Futch	Plant Engrg.
Leonard Galanter	Applied Science
Peter J. Hlavac	Applied Science
Robert T. Johnson	Staff Services
Nathan Levenson	Mech. Engrg.
H. Garton Lewis, Jr.	Applied Math
Frederick E. Mills	Accelerator
Donald M. Strayer	Physics
Lydia Viljur	Medical

Tennis Notes

As tennis grows more and more popular, and the number of courts remains constant, the inevitable must occur. There will be many times when all six courts are in use and players are waiting on the sidelines for their turn. In order to accommodate as many people as possible, in an orderly manner, the Tennis Committee suggests that when others are waiting, play be limited to one hour. In addition, to avoid confusion those groups waiting their court turns should informally queue so that no one plays out of turn.

It should be emphasized that the courts are to be used solely for tennis. Individuals should not hold courts while others are waiting. Family members and non-employees are requested to limit their play to times other than the noon hour and after 5:00 p.m.

These same general guidelines apply on weekends and holidays.

The BNL Tennis Committee feels that with cooperation and goodwill on the part of players and "waiters," a pleasant season will be had by all. The Committee also welcomes comments, suggestions, and criticisms by interested individuals. Any member may be contacted. Committee members are Alan Auskern - DAS, Jim Brandon - DAS, Helen Connell - DAS, Steve Feldberg - DAS, Tom Kaetzle - Chem., Carol Redvanly - Chem., and Maryjane Stangby - HP&S.

Selected Reading

- New Sci. 58, May 10, 1973
The sunshine spreaders. A. and M. Meinel talk to T. Johnson. 337-9
- Trans. Amer. Geophys. Union, 54, May 1973
Scientific communication. P.H. Abelson. 531
- The AEC, energy and the future. D.L. Ray at the American Public Power Association, New Orleans, Louisiana, May 14, 1973. AEC Press Release No. S-8-73.
- Quality assurance: Translating doctrine into action. J.T. Ramey at the Opening Meeting of the 35th Annual American Power Conference, Chicago, Illinois, May 8, 1973. AEC Press Release No. S-9-73.
- Science, 180, May 25, 1973
Science, technology, and some dilemmas of advocacy. M. Adams. 840-2
- Peer review: OMB may dismantle NIH study Bull. At. Sci. 29, May 1973
- President Nixon's 1973 reorganization plan No. 1: Where do science and technology go now? F.A. Long. 5-8

BNL Chess Club

Meetings have been recessed for the summer months. A notice will be published in the fall announcing the continuation of Thursday night meetings.

Anyone interested in running a weekly seminar for children of Lab employees please contact G. Malcolm, Extension 3298. These sessions will not be started until after July 4th.

See you in the fall!!

BNL Rifle & Pistol Club

The regular monthly meeting of the Rifle & Pistol Club will be held on June 13th at 5:10 p.m. in the Apartment Area Recreation Building. Following the meeting there will be a showing of a movie entitled "Hunting in the Yukon."

Perimeter Race



At precisely 5:27 p.m. Bob Powell triggered the gun at the starting line outside the Meteorology Building on Brookhaven Avenue.



Joe Meo, timekeeper Jerry Kinne, and radioman Harold Worwetz monitored positions of runners during the Marathon. Nine stations around the 10-mile course were monitored by amateur radio operators to provide constant touch with the position and condition of each runner.



Proudly displaying the silver and ceramic trophy mugs, Marathon winner Ernie Warburton (63:37.6) is flanked by second and third place winners Doug Carlson (64:27.5) and Dave Cox (69:58.5).

Brookhaven Perimeter Marathon

June 1, 1973 10 Mile Course* Starting Time 1727

Weather Conditions: Clear, Wind SW 15, Barometer 29.82, Temperature 74° F

Place	Name	Department	Time
1	Ernest K. Warburton	Physics	63:37.6
2	Douglas M. Carlson	Biology	64:27.5
3	David E. Cox	Physics	69:58.5
4	Augustus Prince	DAS	70:23.7
5	Donald R. MacKenzie	DAS	70:47.4
6	Yasuo Endoh	Physics	71:37.2
7	Vincent P. Racaniello	Accelerator	74:11.8
8	John C. Norvell	Biology	74:25.0
9	Richard B. Britton	Accelerator	74:32.2
10	Donald J. David	Physics	78:45.0
11	Robert A. Bari	Physics	79:09.2
12	Arthur B. Scott	Applied Math	79:24.9
13	Arthur D. Harris	Applied Math	79:43.3
14	Stephen M. Shapiro	Physics	80:11.9
15	John J. Brennan	Plant Engineering	80:40.1
16	Richard A. Houghton	Biology	82:00.3
17	Robert H. Tucker	Physical Review	86:41.3
18	Oren A. Wasson	Physics	86:41.5
19	John D. Axe	Physics	90:34.4
20	Nicholas J. Carrera	Physics	91:58.8
21	Martin Blume	Physics	108:38.6
22	Stuart Glass	Applied Math	DNF

*The course was 3/10 mile longer than last year - exactly 10 miles.

Robert Powell Starter

Jack Phillips Timekeeper Georgia Irving Asst. Timekeeper
 Jerry Kinne Timekeeper Mrs. A. Prince Asst. Timekeeper

The following amateur radio operators participated in the 10-mile marathon:

E. Cote DAS W. Tooker Accelerator
 E. Hagelberg Instrumentation A. Torre Applied Math
 W. Hirzel Accelerator R. Warkentien Accelerator
 J. Mayo Instrumentation H. Worwetz Accelerator
 S. Sajnicki Reactor

Whodunit



Once upon a time there lived a man named Oliver Costello. Everyone agreed that he was mean.



Then one day he came to Copplestone Court and someone hit him over the head. Now poor Oliver is dead.



Inspector Lord and Constable Jones received an anonymous call that a murder had been committed. Their job - Find the murderer, find the caller, and try real hard not to lose the body more than once.

Who could have dealt Oliver the fatal blow?



Could it be Clarissa Hailsham-Brown? She hates being blackmailed, especially by Oliver Costello, and she has an uncanny talent for getting rid of dead bodies - Is she equally capable of creating them?

Could it be Sir Rowland Delahaye? This prominent citizen is Clarissa's guardian. He would do almost anything to protect her interests. Could this include putting a dent in Oliver Costello's head?



Could it be Miss Peake, the strange lady gardener who came with the house? She dug a trench for peas the size of a grave the morning before the murder - how convenient.

Could it be Henry Hailsham-Brown? Clarissa's husband? Oliver was married to his former wife, a drug addict, and wanted to take Henry's daughter back to her mother who has legal custody.



Could it be Jeremy Warrender, the dashing young bachelor with a crush on Clarissa? He seems like the kind of young man who would do anything for a lady in distress. Nothing fazes him.

Could it be Pippa, Henry's young daughter? The last time she had to live with her mother and Oliver, she had a nervous breakdown. She'd do anything not to have to go back - anything!



Could it be Hugo Birch, a family friend? He's so nice and innocent, with absolutely no apparent motive. In fact, the least likely person to be capable of murder - or so it seems.

Could it be Elgin the butler with the shady references and unknown background? What was he doing in the house on his night off? Anyway, it's never the butler who did it - well, almost never.

All of them knew about the secret drawer in the desk.
 All of them knew about the hidden wall panel.

But which one did it? Come and find out at the BNL Theater this Saturday or Sunday evening (June 9, 10) or next Friday and Saturday (June 15, 16). You're bound to get totally caught up in Agatha Christie's **Spider Web**.

Rainbow Tournament—1973

Never underestimate the power of a woman, especially in the art of bowling. Ellen Jacobson, Kit D'Ambrosio and Grace Fales put it all together to defeat Lew Jacobson, Vinnie Bilms and George Guldish in this year's Rainbow Tournament. (The guys, in observing bowling forms of bowlers on adjacent lanes, noticed how they pit it together.)

The first two games, which the gals won, were close, for the first two frames at least. The guys went on to win the third game of the match. The fourth "post match" game resulted in the guys paying for the pizza and drinks.

The guys are anxious for next year's rematch under one condition; that the gals don't show up. It was another enjoyable night of bowling.

Tickets for **Spider's Web** are available from BERA Sales and Services Office in the Cafeteria from 7:30-11:15 and 11:45-2:30 or from the following ticket sellers.

- Diane Fedorenchik HFBR
- Eena-Mai Franz Chemistry
- Claire Hull Medical
- Helen Keeley AGS
- Mary Kinsley DAS
- Iris Mastrangelo Biology
- Ruth Otterstedt AMD
- Christine Saitta Phys. Rev.
- Marge Stoeckel Fiscal
- Pat Towey Physics

Admission fees are:
 Employee and Family \$2.00
 Visitor 2.50
 Under 18 and Senior Citizen 1.00

Classified Advertisements

Placement Notices

Each week, the BROOKHAVEN BULLETIN lists personnel placement requisitions currently being processed. The purpose of these listings is, first, to give notice of all non-scientific staff positions being filled and, second, to give employees an opportunity to request consideration for themselves or others whom they wish to recommend to BNL. In filling vacancies, the Laboratory's objective is to give first consideration to present employees, as follows: employees within the immediate group having the vacancy, employees within the department or division, employees within the Laboratory as a whole.

For further information regarding a placement notice, please contact Employment Supervisor, extension 2879 or 2882.

COMPUTER OPERATORS (2) - Shift work. One position temporary. Applied Mathematics Department and Systems and Data Processing Division.

RESEARCH SERVICES ASSISTANT - Applied Mathematics Department.

COMPUTER SCIENCE ANALYST - B.S./M.S. with programming experience desired. Applied Mathematics Department.

CUSTODIAN - Plant Engineering.

TECHNICIAN - Superconducting transmission line group. Accelerator Department.

COMPUTER AIDE - Meteorology group. Department of Applied Science.

SUPERVISOR, PERSONNEL PLACEMENT AND DEVELOPMENT - Personnel Division.

PERSONNEL ASSISTANT - Personnel Placement section. Personnel Division.

SECRETARY - To Manager of Personnel and Labor Relations. Personnel Division.

MASTER META. WORKER (1) - Central Shops. Application deadline: June 19, 1973.

ELECTRICIAN A (1) - Plant Engineering. Application deadline: June 13, 1973.

Autos & Auto Supplies

63 FORD ECONOLINE VAN - \$275. Al, Ext. 3535, 744-5022.

68 CHEVY 3/4 TON PICKUP - 4 w/d, undercoating, snow plow, mileage 31,500, excel. \$2500. LT9-0277 after 6.

70 OLDS 88 CONV - R/h, ps/pb, 2 dr, air cond, am/fm stereo, very low miles, excel mech cond. \$1875. 289-0020 after 7.

66 HONDA - 90 cc, rebuilt eng. \$100. Ext. 4489.

66 RAMBLER - Excel second car. \$350. George, Ext. 4810.

CARTOP CARRIER - Will fit med. sized car. \$10. 744-6174.

60 BUICK - Running cond. \$50. 281-5205.

2-14" MAGS - W/F70-14 tires. \$65. HR3-2523 after 6.

68 COUGAR XR-7 - Excel cond, 1 owner, a careful 70 year old lady. \$1400. 744-3208.

JEEP - CJ2A - 4 w/d, compl rebuilt eng, new canvas & top, free locking hubs, fiberglassed underneath & inside, excel cond. Ext. 3120.

64 VW - No eng. \$45. 581-0932 after 6.

VW WHEELS - 5 lug type. \$2.50 ea. Bill, Ext. 4531.

65 CHEVY - 6 cyl, std shift, 30,000 mi, very clean. \$500. George, Ext. 4460.

65 PLYMOUTH VALIANT - Runs well but needs handyman. \$60. 212-243-5918.

70 OLDS 442 - Ps/pdb, 4 spd, posi, all new rubber, excel cond, must sell. \$1925. 981-0210.

67 CHEVY BISCAYNE - Good cond. \$500. M. Strongin, Ext. 3505.

63 CHEVY WAGON - Std trans, 283 V8, radio; oil pressure, water temp & amp meters; inspected in Feb, runs well. \$125. R. Lorenz, Ext. 3910.

1936 PLYMOUTH - Excel running cond. \$1000. 281-0143 after 6.

65 RAMBLER - 2 dr, auto trans, very clean, only 58,000 mi, recent valve job. \$395. Ext. 3120, 286-0626.

71 TOYOTA CORONA - Std shift, r/h, air cond, new tires. \$1550. Gerard, Ext. 4375, 744-6509.

TRAILER HITCH - Compl for mobil home/camper. \$50. 475-0918.

66 CHEVELLE - 327, 4 spd, posi, headers & new point job. 281-0511 after 6.

69 VW - Lt blue bug, 4 spd trans, r/h, very clean car, mech excel. \$850 firm. Ext. 4670, 744-3945.

69 HONDA 160 - New batt & tires, very clean cond. \$200. Gene, Ext. 4670, 744-3945.

TIRES - 4 ply-6 ply rating w/w, 14" size, used only 5000 mi. Ext. 3120.

72 MERCURY COMET - 2 dr sedan, 6 cyl, auto trans, ps, 9000 mi, excel cond. Asking \$1875. 286-9260 eves.

68 LE SABRE - Ps/pb, 2 snows, motor excel, body good. \$1000 firm. Pat, Ext. 4763, 589-2648 after 6.

TIRES - 7.00x15, set of 4 Army issue jeep tires, like new. \$50. Lee, 4058, 286-0436.

CORVAIR TO VW CONVERSION - 65 Corvaire 110 hp eng w/compl VW adapter, best offer. Lee, Ext. 4058, 286-0436.

68 MUSTANG - 6 cyl, std shift, low mileage, good cond. Asking \$800. Ext. 3993.

63 CHEVY PICKUP - W/66 eng, new front shocks, 6' steel bed, runs well. \$400 firm. Mike, 878-1325.

62 VW - Good rubber, int good cond, runs but eng needs some work. \$75. 363-6597.

60 BUICK - In running cond. \$50. 281-5205.

69 FURY III - hdtip, std, 383-2bbl, good cond, h.d. susp, 78,000 mi, new brakes, batt & wheel bearings. B. Museler, Ext. 4280.

Boats & Marine Supplies

10' ROWBOAT - Marine plywood on mahog framing, excel cond, in water. \$50. H. Jewett, Ext. 2502.

20' SIGNET SAILBOAT - Fiberglass, twin keels, sleeps 4, NYS approved head, stove, sink, 5 hp OB, cover, sails, trailer, etc. \$3300. Bob, Ext. 2405, 941-4696 after 6.

12' ALUM SEMI-V BOTTOM BOAT - W/floatation seats. 924-8547 after 5.

14' CLAMMING TONGS - \$55; clamming rake, \$55. 924-8547 after 5.

17 1/2' FIBERGLASS SPORTCRAFT - 1970 Evinrude 85 hp motor, elec start, mech steering, 70 Little Dude trailer, much equipment. 924-2954.

30' OUT OF GLOUCESTER - Twin 135 Chrys Crown, flying bridge, dbl planked mahog, compass, depth finder, ship shore. \$7000. 924-8296.

17' ELTRO - Cream puff, 69 Evinrude 55 hp elec start, new canvas, A-1 equipment. Mike, 581-4318 after 2.

22' OWENS CABIN CRUISER - 185 hp Flagship eng, new manifolds, winter cover, etc., a coat of varnish & you're ready to go. Mike, 475-4007 after 6.

22' CHRIS CRAFT SEA SKIFF - 185 hp inboard, excel cond. \$695. Paul, 473-4796.

12' BEETLE CAT - W/2 sets sails, new ribs, good sturdy beginner's boat, in storage. Asking \$200. 286-1076.

JOHNSON 6-GAL GAS TANK - \$12; 16 pts 50/1 oil, \$6; Mini-King bilge pump, \$5; 22-tooth 3" mud rake w/skids, \$20. LT9-3269 after 5.

LOVETTE AUTO BILGE PUMP - 12v. \$15. R. Meyer, Ext. 4615, LT9-5757.

12' V-BOTTOM ALUM BOAT - \$135. 475-0918.

ALCORT MINIFISH - Similar to sunfish, 2 yrs old, excel cond. \$300. 286-1062.

21' SHOREBIRD - Gaff rig sloop, f/g over wood, compl equipped, 4 hp Evinrude OB (10 hrs old). \$700. Ben, Ext. 2902.

18' TROJAN 1959 - 70 hp Graymarine, bottom fiberglassed, all equipment, ready to go, reduced for quick sale. Ext. 3434, HR2-1097.

15' MFG - 40 hp Evinrude, skis & many extras. \$550. Ruppert, Ext. 3255.

17' BORUM 1961 - Wood hull, Gray 109 eng, needs work, reasonable. R. Lane, Ext. 4285.

28' PEMBROKE 1965 - Sleeps 4, ship to shore, full galley, 215 hp. \$5500. 289-3666.

Miscellaneous

BABY ITEMS - Carriage, play high chair, good cond, by Bilrite. Jack, Ext. 2907.

RUGS - Rust wool, 13x15, \$50; yellow/white shag, 9x12, \$30; blue/green tweed stair runner, \$15. 286-0428.

FREE - 2 blk & white female kittens, 7 wks old. Alina, Ext. 3618, 281-7547.

REFRIG - 2 dr refrig/freezer, lg cap, old but in good cond, no reasonable offer refused. John, Ext. 4174 after 4.

36" KITCHEN STOVE - Gas, 3 burner & deep well, w/lg oven/broiler compartment. \$35. Paul, Ext. 4218.

26" GIRL'S BICYCLE - 3 spd, rear wheel baskets. \$20. 286-1169 after 6.

MAPLE CRIB - Full size, w/new matt. \$15. Paul, Ext. 2447.

LYMAN BULLET MOULD - 4 cavity, 185 gr cal .45, w/handles. \$13. John, Ext. 3499.

UPRIGHT PIANO & BENCH - Old resonant sounding Steinway, solid mahog. Asking \$500. Roy, Ext. 3499, 884-0177 after 6.

COLLIER'S ENCYCLOPEDIA - Full set (20), like new, plus 9 yrbs 60-68. Cost \$400, asking \$200. Roy, Ext. 3499, 884-0177 after 6.

AUTO TELEPHONE CALLER - Brand new, \$40; pool pump, Sierra, mphp 1/2, \$35. Ext. 3575.

KITCHEN SET - 36" round table, formica top, w/4 woven fiber seat chairs. \$25. John, Ext. 3386.

FREE - Adorable kittens, asstd colors, clean, healthy & litter trained. 924-5192 after 4.

SHORTWAVE RECEIVER - Hammarlund, rack model, 5 bands, very good working cond. \$40. 924-5192 after 4.

UTILITY TRAILER - Home made, lights, best offer over \$25. 924-3312.

CRAIG PIONEER FM - 8-track car stereo w/2 speakers & mount, excel. \$50. LT9-3269 after 5.

PAINT SPRAYER & GUN - Never used, \$65; machinist tool kit w/7 drawer locking cabinet, instruction manuals, asking \$200. 878-0079.

STEEL DESK - Excel for office or den, 3 drawer, flip top, excel cond. \$20. Ext. 3316, 698-1362 after 6.

PORTABLE TV - 16" b/w, needs some work, \$15; Black Angus king size broiler/oven, \$20. 281-7844.

ORLON YARN - Lg variety of colors, \$2.50/lb, \$1.25/1/2 lb, will deliver to Lab or may be picked up at my home. Ann, Ext. 3163, 732-9384.

PORTA-CRIB - Good cond, folds flat, legs extend. \$15. 286-0798.

BEGINNER'S WATER SKIS - \$10. J.D. Smith, Ext. 4532.

REDWOOD PATIO SET - As new, \$45; gas chain saw, 14", \$45; wheelbarrow, \$12; Sony micro TV, 12"/11.5v, \$40; 4 spd stereo changer, amp, speakers, \$25. Ron, Ext. 4310.

GE FREEZER - Upright, 16 cu ft, 3 yrs old. \$160. 928-5124 eves.

STEVEN 12 GA PUMP SHOTGUN - Excel cond, \$70; Springfield 30-40 Krag, sporterized, Lyman target sights, \$95. P.R. Hichborn, 929-4133.

MINI BIKE - Rupp Hustler 1970, 4 hp, excel cond. \$185. R. Hichborn, 929-4133.

CAMPING EQUIPMENT - 11'x11' umbrella tent, 10'x12' dining fly w/poles, 2 steel-fiberglass insulated coolers. Ext. 3460, 929-4631.

LAWN MOWER - Self propelled Yazoo. \$100. 286-0798.

BEAUTIFUL PUG PUPPIES - 3 mos old, fawn color w/blk mask, AKC reg, 2 males, 2 females, had all shots. 732-7275.

24" GIRL'S BICYCLE - Coaster brake, good & sturdy. \$25. 281-7844.

HAM EQUIPMENT - HA-750 6 mt transceiver w/power pack; 2 short-wave receivers; HA-800, 80-10 mt, CW-AM-SSB receiver; SWR meter; HE-45B, 6 mt transceiver & BFO, good cond. Ext. 4001.

SHOT GUN RELOADING PRESS - \$30. John, Ext. 3499.

DINETTE SET - Oval formica top table, 4 swivel chairs, upholstered blk leatherette, excel cond. \$140. Dee, Ext. 3675, 286-8909.

LIV RM SET - 3 pc Fr Provincial sectional, white & gold, round glass-top coffee table & end table, excel cond. 585-4040.

MAGNUS CHORD ORGAN - Beginner's, 22 whites, 6 major & 6 minor chords, volume control, music holder & light, upholstered seat. \$40. Don, Ext. 3511.

VIBRATORY EXERCISER - Belt type, vibrate inches away on your spare tire, hips & thighs, machine is on stand, hip high. \$5. Don, Ext. 3511.

2 YOUTH BEDS - Vinyl headboards, guard rails. Both \$50. 473-3938.

SEAR'S WINDOW FAN - 20" w/thermostatic; Robbins & Myers 22" window fan, 2 spd. Henry, Ext. 3084.

GUITAR - Acoustic steel-string Yamaha, good action & sound. \$40. Paul, Ext. 4047.

RUSSIAN COURSE - Records & bks, \$40; pwr lawn mower, \$20. 928-6538.

SWIM FINS (FLIPPERS) - Blk, floatable, size 7-8, good for scuba diving. \$7. A. Rosenka, Ext. 2957.

15' TRAILER - Scotty-Highlander 1970, sleeps 6, toilet, 3-burner stove, ice box, heater, hitch, extra bumper. 732-3474.

OLD OAK DIN RM SET - China closet, buffet, round table w/5 legs, 2 leaves & 7 matching chairs, excel cond. 363-2825.

SURPLUS ELECTRONIC EQUIPMENT & PARTS - At bargain prices. Ext. 4058, 286-0436.

LEICA III F - W/synch, self-timer, 50 mm f 3.5 Elmar, excel cond, \$125; K&E builders transit, Sears farm service transit, Brunning eye level, Seiler Theodolite. Ext. 4058, 286-0436.

UTIL SINKS - 2 new, never used, all parts, \$5/both; high chair, folding, good cond, \$5; baby bicycle seat, max 40 lb psgr, \$5; rocking horse, all wood, made in Sweden, \$5. 751-8158.

WURLITZER ELEC ORGAN - 2 decks, good cond. \$600 firm. 286-1454 after 6.

FREE - Upright piano in need of repair. J. Crow, 286-3726.

WINDOWS - For campers, etc., alum siding glass w/screens, 3 in good cond, 1 has broken window. \$29.95. 744-8268.

FREE TO GOOD HOME - Husky, spayed female, beautiful, well trained, affectionate, good w/children. Saxon, Ext. 3435.

DEVELOPING TANK - Ansco, used, w/thermometer. \$3. 286-0037.

FR PROVINCIAL BEDRM SET - Dbl bed, triple dresser w/full wall mirror, night table, very good cond, well made, reasonable. Naomi, Et. 3618, 744-1081.

BOY'S BICYCLE - Rollfast, 1 yr old, ram handle bars. \$25. LT9-0277 after 6.

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

STONY BROOK - 4 bedrm Gladstone colonial, 2 1/2 baths, 2 car garage, fully carpeted, fine cond, pleasant area, 6% mtge. 751-6372.

PORT JEFF STA - 3 bedrms, 1 1/2 baths, lg kitchen, 20'x22' fam rm w/fireplace, many built-ins, 1/2 acre w/trees. Ext. 4652.

For Rent

FURN ROOM - Kitchen privileges. W. Lundgren, Ext. 3800, 585-3794.

SHOREHAM - 3-story, 4 bedrm house, fireplace, porch, garage, walk to village beach. \$1200/season, June 24 - Labor Day. 744-8639 eves.

PT JEFF-HARBOR HILLS - Furn 4 bedrm colonial w/liv, din, fam rm, on wooded 1/4 acre, priv beach rights. \$400/mo. 473-4828.

3 BEDRM RANCH - 2 baths, fireplace, patio, laundry rm, many extras, 10 min from lab. \$240/mo. George, Ext. 4810.

2 1/2 RM APT - W/priv entrance, gentlemen only. \$135/mo incl util. Ext. 2311.

3 BEDRM HOUSE - Furn, spacious grounds, avail 7/1/73. Ext. 3688, 363-7032.

Wanted

STROLLER - W/lg wheels, for camping. W. Powell, Ext. 3499.

HOME - For white adult female cat. Bob, 744-7170 after 6.

PUPPY SITTER - For 2 wks in July. J. Brooks, 475-8406.

GERMAN WAR SOUVENIRS - Helmets, medal, dagger, post cards, pictures & other memorabilia. 924-8296.

FREEZER - In good working order. 744-5079.

SCUBA SET - W/newly tested tank. 212-243-5918 eves.

GIRL'S BICYCLE - 5 or 10 spd. Ext. 4619.

HOME - For really sweet, gentle, 10 mo old spayed female, mixed Spaniel & Golden Labrador Retriever, housebroken, good watchdog. Dot or Paul, 286-3768.

SMALL ROTOTILLER - Saxon, Ext. 3435.

GOOD HOME - For beautiful male sable & white Collie. Claire, Ext. 3356.

FILE CABINET - 2, 3, or 4 drawer. Ext. 3462.

BABY STROLLER - Reasonable. Hisako, Ext. 3076.

BRICK MASON - To repair chimney in Patchogue. Ext. 2449, 289-3246 eves.

TO RENT - Some wends in summer, rm in house or apt w/priv beach or pool, or swap for city apt. R. Horwitz, Ext. 4134.

BICYCLE - Light & large. 928-6538.

STROLLER - Folding, swivel front wheels. J. Hayes, Ext. 2262, 475-7025.

TIRES - Need 3 ea 5.60/15 for Beetle, also 4 lug wheels. J. Davis, Ext. 4504.

BOAT TRAILER - For 18', 1000 lb boat. 286-3726.

HOME - For miniature Schnauzer, 1 yr old, adults only. Ext. 4697, 727-4859.

WHEEL CHAIR - Working order, foot & leg rests, collapsible, to buy, or source reasonable. Ripperger, 286-0247.

WOMAN'S TRICYCLE - In good cond to buy, need immediately. 286-0247.

ROWBOAT OR PRAM DINGHY - Ext. 3765, 744-5079.

USED CAR - Sm or compact car in good cond, around 1970 model. Susskind, Ext. 4465/4461.

Carpools

WANTED - Someone to share driving occasionally from Riverhead hospital area. B. Beuhler, Ext. 4324.

DRIVER - To compl 5-man Huntington carpool. Irv, Ext. 4581; Frank, Ext. 3270.

LONG-ESTABLISHED CARPOOL - From E. Queens seeks 4th member. K. Fuchel, Ext. 4116.

DRIVER WANTED - To compl existing carpool from Exit 52 (or further west) on LI Expwy. Elliott, Ext. 4457.

WOULD LIKE TO JOIN - Carpool for summer from vicinity of Freeport to AEC & return. S. Lockworth, Ext. 3441.

Lost & Found

LOST - May 15, circular gold earrings, 1 inch diameter, for pierced ears, perimeter design of interlocking circles. Ext. 3414.

LOST - 18K gold ring w/a Persian coin encased, on May 24. Morcos, Ext. 4339.

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

Classified Ad Policy

Deadline is 12 noon Monday for publication Friday of the same week.