BROOKHAVEN BULLETIN

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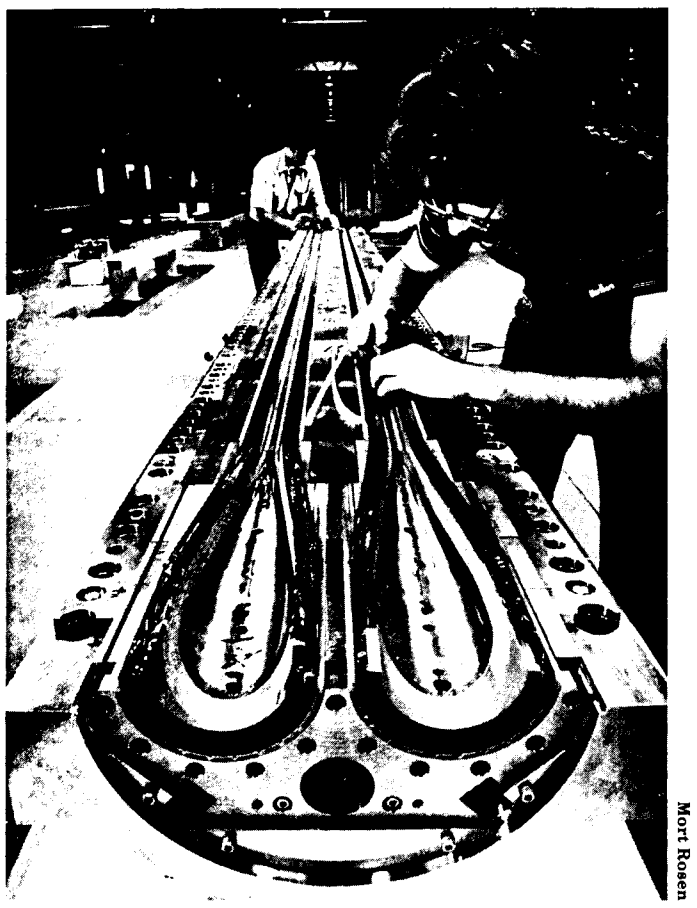
BROOKHAVEN NATIONAL LABORATORY



Mort Rosen

Technicians Richard Jackimowicz (rear) and Thomas Dilgen assemble the lower half of the dipole. Shown are the two coils with flared ends, their common iron yoke and stainless steel containment vessel.

First 5-Meter Magnet For SSC Passes Test At BNL

The first R&D magnet for the Superconducting Super Collider (SSC) has been assembled and successfully tested at Brookhaven. As reported in our March 2 issue, Lawrence Berkeley Laboratory and BNL have been collaborating on one of three main types of superconducting magnets being developed around the country for possible use in the proposed giant accelerator. Last week the first 5-meter long magnet was tested at a temperature of 4.5 degrees Kelvin and reached 5.5 tesla (T), approximately 96% of its "short sample" limit, the highest magnetic field which this particular magnet could reach under ideal conditions.

The magnet is of the so-called 2-in-1 design developed at BNL, having two coils within one iron yoke. It has a small (3.2 cm) aperture, probably smaller (and thus more challenging) than would be used in the SSC. The ends of the long coils of niobium-titanium (NbTi) superconductor are flared out into "dogbone ends" to allow a gentler bend of the delicate cabled conductor.

Final versions of this magnet are to be over 16 meters long, have a 4-cm aperture and use an improved NbTi conductor (not yet available) which would produce 6.5 T fields. A still more ambitious niobium-tin (Nb_3Sn) conductor is under development with the goal of reaching 8 T fields in the same coil configuration.

The magnet was constructed by the Magnet Division of High Energy Facilities under the leadership of Ralph Shutt. Its successful testing is an important step in the tight schedule set by DOE for making a decision this August on whether to proceed with a major R&D program aimed at producing a detailed design for an SSC project. Achievement of the deadline was made possible by the cooperation of the Shops Division. Two more 5-m magnets are scheduled to be built at BNL in the near future, but this may be the only magnet (of any of the three types) which will have been tested by the time of the DOE decision.

Muon g-2 Physics at AGS?

Over 40 physicists from throughout the U.S. and Europe have been meeting in the Snyder Seminar Room of Bldg. 911 all week, at a "Workshop on a Possible High Precision Muon g-2 Experiment at the AGS." This morning, with four days of intense discussion behind them, they began a two-day process of drawing conclusions and formulating an R&D plan for such an experiment.

Chaired by Vernon Hughes, Sterling Professor of Physics at Yale University and an AUI Trustee, the workshop is examining the feasibility of taking a series of experiments, conducted at CERN's PS accelerator during the 1960's and 1970's, a major step further, at Brookhaven's Alternating Gradient Synchrotron (AGS).

At CERN, a small muon storage ring, with a magnetic field of 1.4 tesla (T), was positioned at the end of the PS beam to capture muons from pion decay. This concept would be repeated at the AGS, but with a superconducting muon storage ring, five meters in diameter, which would operate at 5 T. "The precision required for the magnetic field is about 0.1 parts per million," says Hughes, "which has never been achieved before and is well beyond the present, obvious state-of-the-art." Essentially, the motivation behind the workshop is to examine whether the idea seems sensible for an experiment that would take four or five years to build.

"The projected operating conditions of the AGS represent an improvement in intensity by a factor of 50 or so since the experiment was done at CERN. That, together with the use of the superconducting storage ring, would, we hope, enable us to do the experiment about a factor of 20 more precisely. The physics objective of the experiment is most fundamental and exciting. The precision we aim at

(Continued on page 2)

Mort Rosen

Six participants in earlier muon g-2 experiments at CERN joined the organizers of this week's workshop on a possible experiment at the AGS for this photo taken outside Bldg. 911: (standing, from left) Gordon Danby, conference co-chairman, BNL; John Field, DESY and the U. of Paris; Francis Farley, Reading; Emilio Picasso, CERN; Frank Krienen, SLAC; (kneeling, from left) John Bailey, TRIUMF; Vernon Hughes, conference co-chairman, Yale; Fred Combley, U. of Sheffield.

Stephen Jay Gould To Deliver 30th AUI Lecture

Stephen Jay Gould and friend at the Museum of Comparative Zoology, Harvard.

Outspoken evolutionary theorist Stephen Jay Gould, widely recognized for his challenge of traditional Darwinism, will give the 30th AUI Distinguished Lecture at Brookhaven on Thursday, June 28. His presentation, entitled "Pattern and Non-Pattern in the History of Life," begins at 8:30 p.m. in Berkner Hall and is open to the public, free of charge.

Gould has recently taken a firm stand against some of the basic principles of Darwinism, which include the theory that the great trends in the evolution of individual organisms are due to their struggle for survival. Instead, Gould and colleague Niles Eldredge (of the American Museum of Natural History) have proposed a theory of their own: "punctuated equilibrium."

They hold that most species of the world have evolved relatively quickly and have remained unchanged for millions of years. Should this theory prove correct, a revision of current evolutionary thought will take place.

Born in New York City, Gould received his Ph.D. in paleontology from Columbia University in 1967. He currently serves as Alexander Agassiz Professor of Zoology at Harvard University. The 42-year-old Gould has received numerous awards for his work, including the 1983 Phi Beta Kappa Book Award in Science for "Hen's Teeth and Horse's Toes", the 1984 Distinguished Service Award from the American Humanists' Association, and is the recipient of a five-year MacArthur Foundation Prize Fellowship.

Gould's challenge has caused a lively debate in the field of evolution, and the battle over where we came from and where we are headed, rages on. Despite the brouhaha, Gould asserts that his theory is correct.

"We're not just evolving slowly," he said in a recent New York Times feature, "for all practical purposes we're not evolving. There's no reason to think we're going to get bigger brains or smaller toes or whatever — we are what we are."

Variations on a Cord

In the hands of Ella McLean, colorful cords are combined with brass rings, glass trays and other accessories to form an amazing variety of macramé products. Plant hangers and Queen Anne tables, Christmas bells and Easter baskets, pocketbooks and toothbrush holders — these are but a few of the items her nimble fingers have created since she first took up the hobby, just over two years ago.

At that time McLean, a photographic technician with Photography & Graphic Arts, began taking macramé classes from Virginia Eleazer,

Surrounded by some of their macramé creations, Ella McLean (left) and Virginia Eleazer examine a completed tissue box holder.

wife of Plant Engineering's George Eleazer. She was an excellent student, which she attributes to "the fact that I've always been able to do things with my hands." In addition to macramé, McLean crochets, sews, does embroidery and ceramics.

Before too long, McLean and Eleazar became partners, holding "Macramé Parties" in people's homes. "Of course we like to show off the things we do and one thing led to another," explains McLean. "First, we went to a couple of peoples' houses and they liked our work. Then they asked if they could bring a few friends in to see it. And slowly, it became kind of organized."

Now, the partners hold about two parties a month, around Suffolk County. And that's enough for McLean. "It's still just a hobby," she says. "We both work full time and we're not concerned about the money. If we didn't sell a single piece, we'd still have fun."

To McLean, the real fun in macramé is that she can make hundreds of different objects, just by tying knots in cords, to form designs or figures. Using about five basic macramé knots, each of which has at least three variations on its ornate geometrical pattern, McLean fashions bright and useful objects from polypropylene cords, ranging in thickness from 2 to 10 millimeters.

The prices of her products depend, of course, on their complexity. A small plant hanger, which she describes as "a simple knot with a couple of rings," takes McLean about 45 minutes to make and goes for about $5. But it took a month of her spare time for McLean to finish a $125 Queen Anne table. This hanging, glass-topped table has many knots and two layers of cord at the bottom. That cord, she explains, had to be unraveled, which took almost five hours of continuous combing.

Sometimes McLean follows instructions, while other times she becomes intentionally inventive. And other occasions are more serendipitous. "Sometimes," McLean says, "you start making something and the cords don't go quite right and it ends up being something different. One Christmas I was making a Santa's hat on a ring, and I had an idea. Instead of putting the tassles on, I put three 'hats' together and made a bell to hang on the door." But no matter what it ends up as, McLean says, "We try to make sure that anything we spend time making is useful."

Being useful is a creed with McLean, who spends other chunks of her spare time volunteering her services at Brookhaven Memorial Hospital or serving as Director of Christian Education at the Grace A.M.E. Zion Church in Patchogue. In that capacity, she uses her macramé, as well as her skills in other arts and crafts, to organize projects for the children.

"I like to show the youngsters they can do things that will help them in life." she says. McLean also feels that learning a skill like macramé is one way to instill pride in youngsters. "That's my main reason for doing this," she says, "to show the children that it can be done and to teach them that they can do it themselves. You'd be surprised how youngsters glow in their pride, once they have done something."

McLean and Eleazer have brought their macramé exhibit as far west as Nassau County Community College in Hempstead. "I was asked to bring it to the city," she says, "but I said no. It's a hobby and I don't want it to get out of hand. I never anticipated it taking off like this. I just wanted to meet people, get my fingers in something before I retire. I couldn't see myself retired and dying of boredom."

The partners have exhibited their macramé for two years running at BNL during the Afro-American Culture Club's celebration of Black History Month (February), and they will probably do so again next year. But if you would like to see it before then, call Ella McLean, Ext. 2384, for dates and locations of their upcoming house parties.

—Anita Cohen

This display of macramé by McLean and Eleazer was set up in Berkner Hall. Among the items exhibited against the wall are (from left) a Queen Anne table, plant hangers, a lawn chair, utensil holders and towel racks. —photos by Rosen

Summer Begins With Students' Arrival

"This is your summer — take advantage of the resources available to you at BNL" is the theme that greeted the latest additions to the BNL summer community during their first week of work and orientation. For the 32nd summer in a row, BNL will be a combination home and classroom for many college juniors and seniors from across the nation. For the period of June 4 to August 17, 63 students representing 38 different schools, from as far away as the University of California at Berkeley to nearby Southhampton College, will be enlisted as student collaborators in 13 BNL departments.

This unique educational and training program recruits many undergraduates who have an interest in scientific research or teaching. These 63 college students were selected for their respective assignments from a pool of 407 applicants based on academic records, letters of reference and their particular area of scientific interest.

Under funding provided by the Division of Intergovernmental and Institutional Relations of the U.S. Department of Energy, the students will be assisting their supervisors in research projects pertinent to their area of study. This ranges from writing programs for computing the properties of helium, to dealing with site-directed mutagenesis. One of the most valuable parts of the program, says Glenn Price, Head of the Office of Academic Relations, is that the students "get to work in labs with sophisticated and advanced equipment that is probably not available in the university."

However, a summer at BNL doesn't mean all work and no play. Already plans are under way for a trip to Hershey Park, Pa., rides to New York City, tickets to Broadway shows, and informal parties.

— Sally Sargent
(Summer Student in the Public Relations Office.)

Muon g-2 (Cont'd)

would test the renormalizability of the electroweak theory by measuring virtual radiative corrections."

These corrections are analogous to those in the theory of quantum electrodynamics (QED), which gave rise to the Lamb shift, a very slight shift in the energies of certain atomic transitions from those predicted by the earlier Dirac theory. As the observation of the Lamb shift was to QED, so new, higher precision g-2 measurement would be to the electroweak theory. The g stands for the muon's gyromagnetic ratio, which is proportional to its magnetic moment, and is exactly equal to 2, in the Dirac theory. With the introduction of QED, the g-factor of a muon deviates slightly from 2; so one looks at the deviation g-2. The more recent introduction of the electroweak theory adds yet another deviation. "There's a great deal of QED physics, hadron physics and electroweak physics in that difference," Hughes says.

The CERN experiments were aimed at testing QED; the electroweak theory would be the main focus of the more sensitive AGS experiment. The proposed experiment would not only test the accuracy of these corrections and the electroweak theory, but it would also test sensitively for any structure of the muon. In addition, it would put constraints on all kinds of speculative theories. "For example," Hughes explains, "there have been a number of papers recently on the relationship of the events seen in CERN's collider to the implications from the g-value of the muon."

At the moment, the AGS is the only accelerator under serious consideration for this experiment. Since this would represent a whole new kind of physics for the AGS and a substantial investment in experimental equipment, the workshop is concentrating on such questions as: Is such an experiment really feasible? What are the difficulties or potential problems involved? How should R&D proceed? Should the experiment move out of the conceptual stage and become a proposal?

Some of the answers are being provided by the six conference attendees who participated in the CERN experiment and who have come here to share their experience. Other answers are coming from the week's discussions on the physics of the experiment, magnet and storage ring design, beam dynamics and associated components, detectors, and data handling and analysis.

In Appreciation

I was overwhelmed by the memorial which Warren's and Clarke's friends and colleagues made possible with their contributions. Such an outpouring of affection and admiration is very heartwarming. My daughters join me in thanking all of you who expressed in any way your warm feelings for Warren.

— Mary Ann Winsche

I would like to thank everyone who contributed to the beautiful memorial trees and plaque to Clarke and Warren. It is a very heartwarming remembrance, and I know Clarke would be very pleased. I am so sorry I could not be present at the dedication, but hope to visit the Lab and see the memorial soon.

— Margaret Williams

Lecture Reminder

The next Brookhaven Lecture is on Wednesday, June 20 at 4:30 p.m. Raymond Tice, Scientist in the Medical Department, will speak on "Identifying Genotoxic Hazards to Humans."

Blood Drive In Low Gear

The human body replenishes blood at a rate that allows the healthy individual to donate a pint of blood every eight weeks. Although volunteers could conceivably donate five times a year, statistics show that, for example, less than three percent of the Greater New York population participate as blood donors. As a result of this general apathy, more than one third of America's blood needs must be met by European donors.

Next week, Long Island Blood Services will make their 14th annual summer trip to BNL. On Wednesday, June 20, and Thursday, June 21, volunteers will have an opportunity to donate blood from 10 a.m. to 3 p.m. in the gymnasium. At the Director's Office, Elaine Zukowski reports that as of the beginning of the week, less than 400 pledge cards had been returned. "We have about 385 pledge cards in and could really use 385 more," exclaimed Zukowski. The goal of the summer blood drive is set at 600 pints.

Blood donating is a community reponsibility. Commit yourself to giving your blood for the sake of a sick child, an injured person or a surgery patient. Call Len Emma at Ext. 3334 to make your pledge to life. And don't be late for your appointment, as bottlenecks develop and the Blood Service cannot take donors after 3 p.m.

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TID-Bits

Beginning June 15 and continuing through the middle of July, the Research Library will get a new carpet. This is great for the library, but users will have to be patient. There will be limited access to the main reading area, specifically to abstracts and indexes, reference, ready reference, current periodicals, general science and information science. Several office and service areas will also be affected. But the main book collection, bound periodicals and reports will be accessible, as will material in the Research Library Annex.

The carpeting will progress in stages. As circumstances permit, every effort will be made to make the most popular parts of the library collection available.

WIS Meeting

A joint WIS-AWIS dinner meeting will be held on Tuesday, June 26 at 6:30 p.m. in Room A, Berkner Hall. Joanna Fowler, chemist in the Chemistry Department will speak on "Short-lived Radiotracers for Visualizing Brain Biochemistry in Action."

Fowler received her Ph.D. in 1967 from the University of Colorado, specializing in synthetic organic chemistry. She spent a postdoctoral year at the University of East Anglia, England and in 1969 came to Brookhaven to work as a postdoc with Stanley Seltzer of BNL's Chemistry Department. Currently she is with the Radiotracer Research Group in the Chemistry Department. Since 1971, she has been involved in developing radiotracers via rapid and novel synthetic methods for *in vivo* studies of biochemical and physiological functions utilizing positron emission transaxial tomography (PETT). She is the author of over 80 publications and serves on the Editorial Board of the Journal of Nuclear Medicine.

PC User Meeting

The next meeting of the PC/Workstation User Group will be held on Tuesday, June 19, at 10:30 a.m. in the Applied Math Seminar Room. The topic will be "Introduction to the LOTUS Spreadsheet Package."

Farmers' Market

For the third year, a farmers' market will be set up in the parking lot on Brookhaven Avenue opposite the Cafeteria. The market will open on June 20 and close on October 31. Every Wednesday, from 11:30 a.m. - 1:30 p.m. local farmers will be selling fruits and vegetables of the season, as well as plants and other items. The market is for Lab employees only and is not open to the general public.

Equipment Demos

LeCroy Research Systems will host a product show on June 20 in the lobby of Berkner Hall from 10 a.m. - 4 p.m. Data acquisition systems will be displayed along with FASTBUS instrumentation. In addition, a seminar will be given at 1 p.m. in Room C.

Mahmoud Ghavi of **Nuclear Data, Inc.,** will discuss advancements in whole body counting technology on Tuesday, June 26, at 1:30 p.m. in Bldg. 535A Conference Room. A discussion and equipment demonstration will follow the seminar.

PSI News

The Upton Chapter of PSI will hold its second annual meeting on Monday, June 18 in Room B, Berkner Hall. The program for the evening will include "Everything You Wanted to Know About PSI," followed by the installation of new members and officers for 1984-85. Visitors and guests are welcome.

Dinner will be at 6 p.m. There is a choice of flounder or London broil for $11 and your choice should be relayed to Pat Towey on Ext. 3445 before 5 p.m. today. Checks will be taken at the door on Monday evening.

Vanderbilt Viewings

The Vanderbilt Museum, Historic House and Planetarium at 180 Little Neck Rd., Centerport, hosts many events designed to be of interest to the general public. Here are some of the programs on view next week:

June 15 8:30 p.m., Sky Theater, "Constellations in the Summer Skies." Tour the skies and discover shortcuts in finding the summer constellations. $3, free for members.

June 16 7:45 p.m., Vanderbilt Courtyard enclosure, "Bannerman Harp Concert" with music by Gershwin, Handel, Grandjany and more. Tickets $7, $5 museum members, reservations 261-5656.

June 22 8:30 p.m., Sky Theater, "Wonders of the Milky Way" observable through binoculars or small telescopes. $2.50 adults, $2 children, free to members.

June 23 8 p.m., Vanderbilt Courtyard, "Northport High School Pre-Vienna Concert." Preview of the choir's July performance in Vienna. Also Bayview Chamber Players. Tickets $10, museum members $8; reservations 261-5637.

T-Shirt Time

Looking for a memento from your 1984 summer at Brookhaven? "Brookhaven National Laboratory - Summer '84 " T-shirts will be available to all employees, students and guests for only $5, including tax. These white with blue print T-shirts are 50% cotton and 50% polyester. They are available in unisex adult sizes: small(34-36), medium(38-40), large(42-44), extra-large(46-48); and unisex children's sizes: small(6-8), medium(10-12), and large(14-16). T-shirts must be ordered on or before July 13 and each order should be accompanied by cash or a money order made payable to "Renee Flack - T-shirts '84". No personal checks please. Orders and payments can be mailed or brought to Renee Flack, Affirmative Action Office, Bldg. 460, Ext. 3316. Allow two weeks for delivery.

Roger Stoutenburgh

"HELLO THERE"...these baby woodchucks venture out from under the Department of Nuclear Energy's Data Center for a little of Tuesday's sunlight. Only about five inches long when first spotted last month by employees in the building, they have grown nearly 10 more inches. Along with their mother and two other babies, the woodchucks have built an extensive tunnel system beneath the Data Center that they call "home."

Notice to Visitors

The Public Relations Office has a limited supply of The Long Island Guide available for summer visitors. The Guide is published by Newsday and gives comprehensive information on where to go and what to do on Long Island. For your copy, call Ext. 2345, or stop by Public Relations in Bldg. 134.

P.O. Schedule

Effective June 25, the following schedule will go into effect at the Upton Post Office:

Monday through Friday

Window Hours	8 a.m. - 4:45 p.m.
Money Orders	8 a.m. - 4:30 p.m.
Outgoing mail	11:30 a.m., 4:30 p.m., 4:45 p.m.
	Sat. only-9:30 a.m.

Arrivals & Departures

Arrivals

Mary Durham ..... Plant Eng.
George Kontovrakis ..... Plant Eng.

Departures

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

Yang-Ho Sun ..... DNE

Growing Shrubs From Cuttings

Now is the time to take cuttings from those favorite French lilac, forsythia, Weigela and pyracantha shrubs. Six to eight-inch sections of new growth should be cut just below the node, where the leaf connects to the stem, and the lower half leaves stripped off. Dipping the cut end of the stem in a root hormone speeds up the rooting process, and the cuttings can then be planted in a mixture of one-half perlite and one-half peat moss, either outside in the shade or indoors in a well-drained container. The soil should be kept moist. A plastic bag with a few ventilation holes should cover but not touch the cuttings for the first two weeks. The plants can then be transplanted to their final location after four to six weeks.

"Nutrition: Facts and Fallacies" will be the topic of discussion for the next seminar of the Employee Wellness Program. On Wednesday, June 20 at noon, Dr. Ashok Vaswani of the Medical Department will be in Berkner Hall to comment on the basics of sound nutrition as well as many of the current nutritional trends.

-BERA News-

Quilting Club

The BERA Quilting Club will hold its last meeting of the season on Tuesday, June 19 from 9:30 - 11:30 a.m. in the lobby of the Brookhaven Center. Bring your sewing tools and any squares which you have completed for the scrap quilt. For more information, call Bernie Benz, 928-1068.

Softball

Games for week of June 4

League I
Six Pax 11 - Phoubars 10
Ice Pops 12 - Renames 10
Blue Jays 18 - Big Sticks 2
Ravens vs. Moles - No score reported.
Makeup of rained out games:
Ice Pops 14 - Big Sticks 6
Blue Jays 11 - Renames 0

League II
Dirty Sox 11 - Faze II 10
Medical 12 - Light Outs 8
Magnuts 8 - Scram 5
Titans vs. Random Errors - No score reported.

League III
Farm Team 16 - E-Z Riders 12
Nads vs. Survivors
Source vs. No Names
No scores reported.

League IV
Mole-Esters 8 - TNT 1
Turkeys 12 - Underalls 5
Kidz-R-Us vs. Septembers
No score reported.

League V
Who Cares 11 - Foul-Ups 9
No Feedback 14 - Spacekadets 9
Mudville Sluggers 13 - Erasers 5

Astronomy Club

A general meeting of the Astronomy Club will be held at noon on Wednesday, June 20, in Room B, Berkner Hall. At that time, officers will be elected for the coming year. The observatory is now complete and functioning. Everyone is welcome to attend the next observing night on Friday, June 22, starting at 8 p.m.

Gymnasium Hours

June 19 through 5 p.m. June 22
Closed for Blood Drive
June 22
Open evenings only, 5 p.m. - 9:30 p.m. (general activities)
June 25 through July 3
Open weekdays, 11 a.m. - 2 p.m. (employees only)
5 p.m. - 9:30 p.m. (general activities)
July 4 and 5
Holiday closing
Starting July 6
Normal summer schedule
Open weekdays 11 a.m. - 1:30 p.m. (employees only)
5 p.m. - 9:30 p.m. (general activities)
Closed Saturdays and Sundays

Cafeteria Menu

Week Ending June 22

Monday, June 18

Chicken rice soup	(cup)	.65
	(bowl)	.85
Beef teriyaki & 1 veg.		2.20
Quiche Lorraine & 1 veg.		1.90
Hot Deli: Turkey breast	(bread)	1.95
	(roll)	2.10

Tuesday, June 19

Lentil soup	(cup)	.65
	(bowl)	.85
Stuffed pepper & 1 veg. or w/spaghetti		1.90
Broiled fresh fish fillet & 1 veg.		2.10
Hot Deli: Grilled Reuben		1.90

Wednesday, June 20

Beef noodle soup	(cup)	.65
	(bowl)	.85
Fresh ham & sweet potatoes		1.95
Turkey chow mein on rice		1.90
Hot Deli: Beef & bean burrito		1.90

Thursday, June 21

Split pea soup	(cup)	.65
	(bowl)	.85
Pork & cabbage crisp on toasted Chinese noodles		1.95
Sauerbraten w/potato pancake		2.05
Hot Deli: French toasted ham, cheese & bacon		$2.10

Special

Bowl of steamed mussels w/drawn butter .75

Friday, June 22

Fish chowder	(cup)	.65
	(bowl)	.85
Seafood platter		2.15
Veal patty scallopine & 1 veg.		1.95
Hot Deli: Knockwurst & kraut	(bread)	1.85
	(roll)	2.00

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.

2075. TECHNICAL POSITION (2 positions) - Requires AAS degree in mechanical technology or equivalent and a minimum of 5 years' experience in the installation, operation and maintenance of UHV components and systems. A working knowledge of the maintenance and repair of leak detectors, turbomolecular sputter ion pumps and related equipment necessary. Ability to do basic electronic troubleshooting. National Synchrotron Light Source Department.

2076. CLERICAL POSITION - Requires excellent typing skills and knowledge of general office procedures. Primary responsibility will be to type technical reports on an NBI word processor. Biology Department.

OPEN RECRUITMENT - Opportunities for present Laboratory employees and outside applicants.

2077. CARPENTER (Temporary through September 28, 1984, 4 positions) - Under minimum supervision lays out, constructs, modifies and maintains buildings and component parts from construction drawings, rough sketches or verbal instruction. Works with wood, wood substitutes, and combination materials and flooring, roofing and wall materials. Plant Engineering Division.

2078. TECHNICAL POSITION - Requires extensive experience in industrial-type preventive and breakdown mechanical maintenance. Above average proficiency in technical skills and techniques in areas such as use of test equipment, precision tools and data evaluation required. Ability to obtain "Q" clearance mandatory. Reactor Division.

Autos & Auto Supplies

78 FORD F150 XLT - 4 WD, green, auto., 14/35/15" tires, cap, Alpine stereo, $5,800. Mark, Ext. 4028 or 734-7561.

76 FIAT X19 -recent paint job, extra parts, needs work, $1,500. Phil, 286-3679.

80 TOYOTA CELICA - 5 spd., a/c, am/fm, cassette, sunroof, $5,500 or best offer. Ext. 5024 or 369-0478.

74 YAMAHA D250 - Enduro, upper and lower engine rebuilt, $450; 72 Plymouth Duster, p/s, am/fm, $500 or best offer. Al, Ext. 5545 or 273-9086.

77 TROPHY TRAILER - 26', sleeps six, living room, many extras, mint, $7,000. 924-3071 after 5 p.m.

77 PLYMOUTH VOLARE - 6 cyl., stick, good cond., 20 mpg, reg. gas, $2,000. Ext. 4605 or 281-5456 eves.

MAG RIMS - Chevy, 14", slotted, has rubber, $80 pair. 363-6850 after 5 p.m.

69 CHEVY - 4 dr, a/t, 307-V8, 99,000 mi., very reliable, good running cond., $450. Ext. 4219.

79 PONTIAC SUNBIRD - am/fm cassette, standard, 53,000 mi., half vinyl roof, $2,000 firm. Mano, Ext. 2429.

78 VW RABBIT - high mi., good cond., a/c, 4 spd., radio, avail. July 10, $1,750. Susumu, Ext. 3878.

75 HONDA CB200T - excel. cond., hardly used, great gas mi., $450. Ext. 2705 or 286-2964 eves.

73 VW CAMPER - poptop, rebuilt eng., excel cond., $2,000. 286-0497 eves.

75 TOYOTA COROLLA - rusted, runs well, good for parts, $400. 744-2461.

74 BUICK CENTURY - 360 eng., 2 dr., runs well, $500. Roman, Ext. 3751.

74 VOLVO - sta. wg., model 145, orig. owner, auto., high mi., $1,900. 584-5039 or 751-7389 eves.

74 TOYOTA COROLLA - deluxe, 2 dr. sedan, 1600cc engine, 4 spd., am/fm, $750. Ext. 2423.

FORD MAG WHEELS - 4 lug, 13", set of 4, $65; black roll bar for mini pickup, $50. Ext. 4113.

81 BUICK SKYLARK LTD - 4 dr., V6, a/c, p/b, p/s, p/w, auto., am/fm stereo, orig. owner, mint cond., 286-4652 after 7 p.m. (all day wkends).

75 JAGUAR XJ6L - 75 body, excel. cond., new 327, 300 HP Corvette engine, leather int., p/w, a/c, very clean, $12,500. 473-4493 days or 928-1236 eves.

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

69 CUTLASS - 4 dr., much rust, two almost new tires, $250. Ext. 4168 or 286-3675.

HONDA XR80 - dirt bike, excel. cond., new back tire. Neal, 286-2435.

79 DODGE COLT - std. trans., 38K mi., 30 mpg., $2500. Frank, Ext. 3270.

MIDGET PARTS - engine, trans., many trim parts. Jerry, Ext. 2934.

77 MERCURY MARQUIS BROUGHAM - all power, a/c, cruise cont., am/fm, CB, $2,000. Lorraine, 548-3885.

81 HONDA ACCORD - sedan, am/fm cassette, 5 spd., mint cond., $6,400. Eddie, Ext. 7519.

73 OLDS 98 - a/c, a/t, p/b, p/s, p/w, pdl, p/seats, p/trunk, tune up, new snows, am/fm 8 track, mech./int. good, $695. John, Ext. 7519.

HONDA CB550 - 14K mi., many extras, excel. cond., $950. Ext. 7654.

72 OLDS 98 - a/c, p/s, runs excel., 4 new tires, many new parts, body rusty, must see, asking $750. Marian, Ext. 3999 or 282-3175 eves.

79 CHEVY MALIBU - auto., a/c, high mi., excel. running cond., $2,500. 744-8659.

70 FORD MUSTANG - Grande, needs work, reliable trans. 475-4451 eves.

69 CHARGER - needs work, (2) N50SX15 Pro Track, 4 ply, new, both reas. 924-0960.

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

69 MUSTANG MACH I - for parts or sale, front end damaged, good 390 eng. 399-4480.

TRAILER HITCH - class 2, for mid-size GM cars, $50. Ext. 2799 or 757-1581.

74 VW BUS - reliable trans. 286-0975 after 6 p.m.

67 CADDY - Sedan deVille, mechanically good, body fair, $200. Ext. 3828 or 751-7250.

76 VOLARE WAGON - new brakes, muffler, battery, motor, alternator, needs tires, 120K mi., body rust. Ext. 3592.

73 HONDA - 450, 23K mi., good cond., $500. Jim, Ext. 3499 or 981-7369.

1978 PLYMOUTH HORIZON - 4 dr., $2,800. Deb, 298-4854.

73 GREMLIN - hi mi., many new parts, $250 firm. 878-2865 eves. only.

78 KAWASAKI K2400 - 14K, saddle seat, roll bar, rack, recent. tune up & serviced, new battery, tires, chain & sprockets, asking $950. Ext. 7148 at noon.

68 VW - needs some eng. work, good body, tires, $225 or best offer. Bill, Ext. 4938.

79 FIAT 124 SPYDER - 2000, conv., 5 spd., am/fm stereo, low mi., $3,950. Ext. 5182 or 924-5513.

74 VW DASHER - s.w., auto., am/fm cass., needs trans., $300 or best offer. 929-8330.

74 MG MIDGET - $1,400. 475-8158.

SNOW TIRES - (2) for 78 Honda Civic, $10 each, (2) regular tires, $10 each. Divadeenam, Ext. 5076.

78 CHEVY SUBURBAN - 9 passenger, p/s, p/b, am/fm, good cond., $3,600. Ext. 3923 or 689-9797 after 4 p.m.

72 FORD GALAXIE - many new parts, $500. 929-8153.

76 TOYOTA STATION WAGON - 4 spd., high mil., a/c, good tires, needs muffler, $700. Ext. 3658.

73 DODGE SWINGER - orig. owner, 6 cyl., auto., good cond. 654-1216, eves.

TIRES - (4) Bridgestone, HR-78-15, mud & snow steel belted radials on white spoke rims, excel. cond., best offer. Jerry, Ext. 2907.

Boat & Marine Supplies

15' SEASPRITE - 1982, '83 35 HP Johnson, '83 Shoreline trailer, $3,800. 331-9424 after 6 p.m.

23' CABIN CRUISER - Broadwood, inboard, needs painting, $600. Tony, 281-0350.

13' AMF SAILBOAT - main, jib, spinnaker, large cockpit, fast, $1,200. Joe, Ext. 7961 or 369-0432 eves.

'80 CRESTLINER - V6 Merc., power trim, mooring cover, full canvas, 24 gal. fuel tank, 7 gauges, galv. trailer, SS swim ladder, teak trim, mint cond., garaged. Brian, Ext. 2799 or 757-1581.

GAS TANKS - (2) 6 gal. w/Mercury connections, $10 each. Ext. 2050.

MUSHROOM ANCHOR - 150 lb. w/50' chain, $100; Danforth anchor, w/50' rope, $35. Jerry, Ext. 2934.

73 JOHNSON - 40 HP, manual start, excel. cond., $400. Jim, Ext. 3499 or 981-7369.

TRAILER - 12' Duranautic Skiff & galvanized Holsclaw w/1981 7-1/2 HP Evinrude, like new, $950. 744-9832.

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

19' SUNFISH - $350. 399-4908 after 5 p.m.

12' SEARS SUPER GAMEFISHER - glass, excel. cond., extras, $300. Greg, 286-0065.

Miscellaneous

DRESSING TABLE - with bench, $15; frameless mirror, 48" long, 36" high, $30. Ben, 475-2873.

CIRCUIT BREAKER BOX - GE, 100 amp service, $25; baseboard heat, 25' slant fin, all or any part, $2/ft. Ext. 4532.

COLOR COMPUTER - R/S, 32K, disk drive & adapter, cables, cassette, 100's of prof. programs for wp, communications, spread sheet, games, etc., $2,000 value, $575. Dick, Ext. 2911.

TENT - Morsan 7x7 wall, used once, $75. John, Ext. 4312.

REFRIGERATOR/FREEZER - side-by-side, 22 cu., copper, Westinghouse, very good cond., $375. 249-8223 after 5 p.m.

BOX SPRING - all metal, full size, you pick up, $10. Bill, Ext. 2378.

PERSONALIZED CAKES - any occasion. Carol, 289-3917.

WASHER & DRYER - Kenmore, $100/ea.; Kroehler sleep lounge, $75; naugehyde recliner, $60. Diana, Ext. 2108.

GAS GRILL - Charmglow, w/propane tank, $40; roller skates, size 2, $8; toy elec. oven, Coleco, works perfectly, $8. 473-6546.

COUCH - club chair, recliner, good cond., $75. Bob Sick, Ext. 2897 or 473-3693 eves.

STRAWBERRIES - pick your own, top quality, large and juicy on weed-free patch in Center Moriches. Barbara or Chris, 878-0621.

POOL COVER - 18' round mesh, ladder, filter, $75; (2) bifold fireplace screens, new, blk/chrome, $15/ea. Ext. 2090 or 331-9264.

PEDESTAL TABLE - round, 24" dia., mahogany; $15; vanity bench, wood, $5. Nancy, Ext. 5274 or 281-2767 eves.

OFFICE DESK - antique, oak, 32"w x 50"l, 7 drawers, refinished, $500. Ext. 2452.

ALUMINUM STORM DOOR - 80-1/2"x32-1/2", w/screens, window frame, $20; picture window, 5'10-1/2"w, w/storms & screens, $75. Ext. 4532.

BABY ITEMS - crib, changing table, seats, stroller, pram, cloths; playpen, $15; swing, $5; potty chair, $8; walker, $5; more. Diana, 286-0243 after 3 p.m.

INSULATION - foil face, 11R, 3-1/2", 9 bails, 15-1/2"x75.5' long, $12/ea. Al, Ext. 3145.

ROTOTILLER W/SNOWPLOW - 5 HP, 26", pneumatic tires, chains and weights, $400 negotiable; B&G circulator, 1-1/4, excel, $25. 472-0339.

AIR CONDITIONER - good BTU, $40; child's 20" bicycle, mag wheels, $45. 744-4789 between 6 & 7 p.m.

CALCULATOR - Cannon, full function, w/paper print, small desk model, excel. cond., cost $65, now $25. Ext. 5138.

STEREO - Magnovax, hi/fi console, good cond., good sound, $150; Wurlitzer organ, Spinet, solid cherry, model 4300D, multimatic percussion, excel. cond., $900. Lloyd, Ext. 3381 or 386-1024.

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

CASSETTE RECORDER - Panasonic, compact, am/fm radio, battery, ac volts 120 & 240, suitable for Europe, $55. 727-3608 after 5 p.m.

METAL LATHE - 10" swing, $750. 727-6148 after 4:30 p.m.

WATER TANK - 42 gal., elect. pump, 1 HP, used 4 months, like new. Ext. 7678.

LAWN SWEEPER - $10; seed spreader $10. 281-7844.

SOFA - $25; kit. table w/4 chairs $25; chest of drawers, painted, $20; coach carriage, $10; exercizer, $10. 878-6637.

MINOLTA XGM - 50mm, 1:2 lens, case, sunpak, 120C elect. flash, skylight, protective lens, $150. Ext. 2386.

SLIDE PROJECTOR - Airequipt 125 w/slide wheel, $30. Ext. 2386.

MASTER BEDROOM SET - chest, triple dresser, night table, $350. Ext. 2895.

MARQUIS DIAMOND RING - beautiful, total 1.0 pts. appraised $3,125, asking $2,400. Maryann, 286-2435.

AIR CONDITIONER - Westinghouse, 5000 BTU, $45; Fedders, 6000 BTU, $65; Wurlitzer organ, mint, $550. 821-0080.

MAMIYA C330 - leather case, lens shade, 80mm, F2.8 lens, acces., $175. Ext. 2799 or 751-1581.

CLOTHES DRYER - GE, electric, new belt, new coils, works great, $50. 475-6938.

BIKE - boy's 20", Columbia, 3 spd., hand brakes, like new; Atari cartridges, $10 and under; Frigidaire refrig., 18 cu. ft., w/ice maker, $80. Divadeenam, Ext. 5076.

BUS TRIP - Dreamgirls, Aug. 18, 1984, $45/person. Rosa, Ext. 2064 or 727-6515 after 6 p.m.

WINDOW TREATMENTS - vertical blinds, miniblinds, wovenwood shades, custom colors & sizes. Jim Griffin, 281-2849.

SINKBASE - 5' cabinet, colonial white, birch, formica front, lime blank top, excel. cond., $75. 929-8443.

GARDEN HERB PLANTS - culinary and old time, over 40 varieties, for June delivery. 924-0092.

TAPE RECORDER - Tandberg, model 64, 1/4 track open reel deck, $230; violin, 1/4 size, Suzuki made, case and bow, $150. Ext. 3828 or 751-7250.

CHESS SET - hand carved, onyx inlaid, onyx board, $40; mobile fm stereo, Craig, Model 1901 w/2 speakers, $60. Lou, Ext. 4364.

CRIB & MATTRESS - $10; dishes, kitchen tools, $10 takes all; lamps, $5. Ext. 3108 or 2341.

PHOTO ENLARGER - Bessler 23CII, $300; 5 draw metal file cabinet, $50; steel drafting table, tilt top w/light box, $100. 399-4908 after 5 p.m.

DINETTE - w/4 chairs, good cond., best offer. Ext. 3565 or 924-8594.

FREEZER - GE, frost type, upright, 15.5 cu. ft., good cond., $100. Dave, Ext. 7922.

WASHING MACHINE - Sears, good running cond., $75; Fedders air cond., 18,500 BTU, fits in window, excel. running cond., 220 volt, $200. 265-7547.

BICYCLE - 26", Ross, 10 spd., good cond., $85. Greg, 286-0065.

LOVE SEATS - (2) custom contemp., excel. cond., $425/pr. Ext. 3923 or 689-9797 after 4 p.m.

Free

CAT - 9 months old, white w/black and brown coloring, friendly, healthy. 751-2149.

AIR CONDITIONER - Carrier, 11,000 BTU, old but ran last season, you pick up. Dave, Ext. 4234 or 472-2394.

Yard Sales

FARMINGVILLE - Saturday, 6/16/84, 9-4 p.m., 59 Hanrahan Ave., near car wash.

MILLER PLACE - 6/16/84, 10-4 p.m., 258 North Country Rd.

Car Pools

STONY BROOK - (vicinity 3V Inn), cogenial twosome seeks threesome, regular hours. E. Kaplan, Ext. 2007 or L. Fishbone, Ext. 5180.

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

MILLER PLACE - 4 bdrm., formal l/r, d/r, country kitchen, family room w/brick fireplace, .9 acre, $165,000. 331-1718.

SOUTH SETAUKET - 3-V school dist., 5 bdrm., colonial, 3-1/2 bath, d/r, l/r, large family room, 2 car garage, 2-zone heat, new kitchen, 1/2 acre, must see, $135,000. 698-6437.

SHORIDGE HILLS - waterfront house, 5 rooms, low, Bermuda like, white, large porch overlooking the Sound, quite, residential setting, gardens, trees, shrubs, beach assoc. membership, $160,000. 744-9749 or Box 609, Shoreham.

SHOREHAM NORTH - 4 bdrm, l/r, 2-1/2 bath, den w/brick fpl., 2 car garage, 3/4 acre, prof. landscaped. 821-0080.

For Rent

NORTH SHIRLEY - large, furnished studio apt., w/kit., private entrance, utilities incl., 5 min. from Lab & stores, 1 person only, security, $375 pays all. 281-8044.

WADING RIVER - sublet, 4 rm. apt., 1 person, non-smoker, Aug. 1 thru Nov. 30, $375/mo. Janet, Ext. 2345 or 929-8152.

SAYVILLE - 1 bdrm., kit., l/r, huge closets, no pets, singles preferred, $475 mo. Debra, 563-2847.

SAYVILLE - cottage, kit., liv., bath, furnished, single only, no pets, $425 mo. Debra, 563-2847.

RIDGE - 2 bdrm. townhouse, 1-1/2 baths, no pets, preferably no children, $550/mo. Betsy, Ext. 5182 or 924-5513.

SHOREHAM - 4 bdrm., colonial, wash/dryer, fpl., yard, garage, 3 baths, carpeting, drapes, avail immed., $1,200/incl. all. 744-8659.

HOLBROOK - immaculate, quiet, lg. furn. room, private entry, 20 min from Lab., $195 mo. incl. all plus 1 mo. sec. 467-2859.

VERMONT - reas. vacation, 3 bdrm., 2 baths, fpl., fully equip., woodland trails, alpine slide, golf, summer theater, boating, fishing, etc., family oriented, avail. weekly. 732-6499.

Wanted

ROOMMATE - to share large 4 bdrm. house, 5 min. to Lab, washer/dryer, etc., $200+. Doug, Ext. 7521 or 924-3669.

HOUSE TO SIT - free, responsible & caring, any period, any duration, July 30 to Nov. 1. J. Allentuck, Ext. 2412.

OLD DOLLS - related items. 475-4199.

HOUSE SITTER - June 30 thru July 21, 4 bdrm., E. Patchogue. Phil, Ext. 3913.

PRESERVING JARS - pints; 2 rims for 71 Gremlin. Janet, Ext. 2345 or 929-8152.

KNOWLEDGEABLE PERSON - willing to head-up the start of a mushroom hunters club. Ed, Ext. 4035.

TO RENT - prof. couple, mature, no children/pets, seeks 2 bdrm unfurn. apt., 3 bdrm. house, long term rental/option to buy, near BNL, 1 yr. lease min. Ext. 7969 or 282-3116 after 7 p.m.

PLAYPEN - Raul, Ext. 4331 or 924-1421.

TRICYCLE - good cond. for 4 yr. old. Meena, Ext. 3420 or 282-3177 eves & wkends.

HOUSE OR APT. - 2-3 bdrm., furnished if poss., to rent by 7/1/84, 2 females. Debbie, Ext. 3420.

HOUSE - to sit, 8/1 to 9/7/84, respon. couple, with references. 929-3566.

HOUSE - 2-3 bdrm., furnished if poss., to rent by 7/1/84. John, Ext. 5515 or Greg, Ext. 5508.

HIGH CHAIR - and portable crib, good cond. Bob, Ext. 5120 or 878-2687.

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