

Quality is the Best Policy

Marvin Shear, the newly appointed BNL Quality Assurance Manager, is using New York State's Quality Week, March 4 through 10, to make employees aware of the Lab's new Office of Quality Assurance and its programs. The Q.A. Office was established on February 1 to formally coordinate all administrative efforts to prevent, detect, and correct problems with the quality of equipment and facilities. Shear and a Q.A. steering committee are developing a general quality assurance policy, and a procedure manual which will guide the departments when they formulate their specific quality assurance programs. Upon request, Shear will assist the departments design their Q.A. methods and he will periodically review departmental practice of quality assurance for certain projects.

Shear defines quality as fitness for intended use. "Fitness for use involves, first, fitness of the design of equipment or facilities to meet the needs of the user," explains Shear. "Second, it means that the equipment and facilities must be built in conformance to that design. Quality assurance is a system for achieving conformance to user need and expectation through planning, inspection, and rectification of errors or potential problems.

"Formal quality assurance programs are new to most of the Lab's departments, although many of them routinely employ informal Q.A. procedures," says Shear. In December 1982, DOE directed the Lab to develop a formal Q.A. program that complies with 18 basic quality assurance requirements.

DOE requires the establishment of a quality assurance system which will control design, construction, procurement, installation, inspection, testing, handling, storage, shipment, and operation. Items that do not conform to specified requirements must also be controlled to prevent their inadvertent use. Audits must be performed to verify compliance with all aspects of the quality assurance program, and to determine its effectiveness. Documentation of the quality assurance program's structure and

(Continued on page 2)



At the recent meeting on the new heavy ion experimental program at Brookhaven, physicists discussed research with heavy ions from the Tandem accelerated to high energies in the AGS.

Peter Horton

Looking Ahead: Heavy Ion Research at BNL

Last week Friday, a meeting was held to announce the new heavy ion experimental program at Brookhaven. The program will be made possible by construction of the Tandem/AGS Heavy Ion Transfer Line, which will bring heavy ions from the Tandem into the AGS. Physicists from around the country gathered to make plans for the new research program.

The budget for construction of a tunnel, a beam line and modifications to the Tandem and AGS is \$10.3 million over a two-year period. The project should be completed in 1986, with experiments scheduled that year at the AGS.

History

The idea for such a facility is not new. For several years, physicists at the Tandem have proposed connecting that facility to the AGS to do heavy ion experiments at higher energies.

In the U.S., a lower energy heavy ion experimental program is going on at the Bevalac, a 2 GeV per nucleon accelerator at Lawrence Berkeley Laboratory. Nuclear physicists now have become eager to move to very high energies in order to investigate new states of matter at high nuclear density.

The next step is the Tandem link with the AGS, which will accelerate heavy ions to energies near 15 GeV/nucleon. Furthermore, the Laboratory hopes to carry this new experimental program to significantly higher energies, with construction of a heavy ion collider in the 100 GeV/nucleon range.

Physics of Quark Matter

Even at 15 GeV/nucleon in the AGS, however, significant new physics can be done, namely, the creation of new states of nuclear matter which have never been observed.

In the quest to understand matter, four major discoveries have been made: the discovery that matter is made up of molecules and atoms, that atoms are made of electrons and nuclei, that nuclei are made of nucleons, and that nucleons are made of quarks. The last discovery, which was made only in the past decade, is based on theoretical deductions and experimental measurements. No one has ever seen a quark.

According to theoretical predictions, a trio of quarks, bound very strongly together by gluons, makes up a nucleon, and many nucleons make up a

nucleus. If nuclei are raised to high enough densities and temperatures, the quarks will become deconfined, and a new state of matter, called quark-gluon plasma, will be created.

In the basic experiments to be done at the AGS, ions of carbon-12, oxygen-16 and sulfur-32 will be accelerated. Essentially, a heavy ion projectile will be smashed into a fixed target, increasing the nuclear density by five times. The violent collision between these massive ions at 15 GeV/nucleon may be enough to exceed the critical level of density necessary to cause quark deconfinement into larger units of quarks. Observations should lead to new insights on how particles can be composed of quarks, even though it seems impossible to observe a free quark. (Gluons get stickier as quarks get further apart.)

This new area of physics research, besides delving deeper into the nature of nuclear matter, will have strong impact on other fields, particularly cosmology and astrophysics. The nuclear matter created during high density experiments at the AGS will resemble the center of very dense stars. In contrast, experiments that create matter at extremely high temperatures, which would be possible in the heavy ion collider, will recreate conditions at the first millisecond of the birth of the universe.

History has shown that deeper exploration into the composition of matter has always led to unexpected pay-offs. Fundamental research has spawned nuclear technology, produced new elements and isotopes, and resulted in rich technological spin-offs.

Construction Schedule

Because the Tandem and the AGS are already operational facilities, the heavy ion project is expected to proceed quickly. Needed are modifications to both facilities and a beam transport line built between them.

The schedule calls for tunnel construction and AGS penetration to begin this summer. Soon after, Tandem building and machine modifications will begin, and the AGS will be modified in the summer of '85. By late that year, most components will have been installed and the pieces tested independently.

Beam commissioning is planned for early 1986, with experiments to begin sometime that year.

— Mona S. Rowe



Committee members from left to right: Joseph Haeg, Robert Aronson, Jules Godel, Leonard Emma, Paul Reardon, Marvin Shear, Horst Foelsche, and Walter Tucker.

Roger Stoutenburg

The Computer Connection

Computer networking is an elusive topic. It is even hard to define a computer network. Graham Campbell, Senior Computer Scientist, Applied Mathematics Department, will discuss in the next Brookhaven Lecture how computer networks are structured and how people use them. The lecture, "The Computer Connection" will be given at 4:30 p.m. on Wednesday, March 21 in Berkner Hall.

Computers are interconnected with a variety of techniques ranging from the phone system, to a simple wire, to fiber optics, to cable television methods. Campbell will talk about the ramifications of these interconnections; how they are used for tasks as simple as connecting a terminal and a computer, or as complicated as control of a modern accelerator.

Networking has also changed the nature of people-to-people communication. Campbell says it is almost as easy now to communicate with hundreds of people as with one. And although computers supply a great deal of information almost immediately, they cannot supply information communicated by the voice and body in face-to-face encounters.

Also, it takes a while for people to give up traditional ways of doing things. Campbell notes that at Brookhaven "we have several networks that allow electronic mail with other sites throughout the nation, and even internationally, but relatively few people make full use of these modern tools."

Graham Campbell joined the staff of the Applied Mathematics Department in 1966 after receiving his



Graham Campbell

Mort Rosen

Ph.D. in physics from the University of California at Berkeley. He also holds a B.A. in physics from Rice University, and an M.S. from Yale. At AMD, he was head of the Advanced Planning and Design Group from 1969-70 and head of the Programming Division from 1970-75. His fields of interest include computer networks, distributed computing and operating systems.

The dinners which were held on site following the lectures have been discontinued. Instead, all those interested in getting together after the lecture are invited to go, with the lecturer, to a restaurant off site. If you would like to be part of this group, call George Latham, Ext. 3372.

Speaking Out

Reporter: Mona S. Rowe
Photographer: Alex Reben

The question for women: Would you change your name if you got married now?
For men: When you got married, did you expect your wife to change her last name to yours? How do you feel about it now?

Kathleen Bar-kigia (DAS) — I would keep my maiden name. I've published [scientific articles] under my maiden name, so for professional reasons, I would certainly keep my own name.



Harris Fischer (DAS) — My wife and I never thought that keeping her name was an important part of women's liberation. It's what you do, not what you say, that counts. A lot of arguments about women's liberation are arguments about form, not substance, like not using 'his' as a pronoun. ... We have a cooperative marriage, ... and we've never been really too concerned about what you call things.



Melanie Meade (Medical) — I would probably hyphenate my name ... a marriage is supposed to be a partnership.



Pat Manzella (Personnel) — I come from the old school. When I got married, I changed my name. That's the way it was. But now women get married later, they establish themselves in careers. Would I change my name now? I probably still would. I think it's an individual choice.



Michael Haupt-mann (S&EP) — I would not necessarily expect my wife to take my name. ... Marriage is a partnership, really. My name is no more important than hers.



Fred VanDer-voort (Physics) — I expect a wife to take her husband's name! Maybe because I'm old-fashioned!



Martin Van Lith (Physics) — I believe that this tradition perpetuates the notion that the woman should shed her identity to belong to her husband's heritage. I feel a relationship is enhanced when each partner is seen as an equal. And there is nothing more personal than one's name. So why wear someone else's?



Ling Lie Chau (Physics) — It's not necessary. It's a convention, a long time convention, and there is no good reason it's got to be that way.



Peter Rathvon (AUI) — That was a long time ago when I got married. In those days, it was inconceivable that she would not take my name. Today I can't give you the same answer. I note that our telephone is listed in joint names. No, I don't think I would mind it if she were to go by her maiden name. She's the same person.



Jean Byrne (Staff Services) — Keeping my name would be an insult to my husband. He's the main support of the family. I'm a supporting branch.



Lisa Seymore (Reactor) — I never gave it a second thought. I changed my name automatically when I got married. I'd do it again now, although if I wanted to keep my name, I don't think my husband would mind.



Sal Giordano (Accelerator) — If you had asked me this question 20 years ago, I think I would have said, 'Of course she has to change her name to mine.' But as things have progressed, I've gone with the times. It would be entirely up to the woman.



Quality

(Cont'd)

functioning must be maintained.

The Quality Assurance Steering Committee, appointed in February 1983 by Associate Director Victor Bond, drafted the BNL Quality Assurance Program, and the first section of the Q.A. manual. The original members of the committee include Robert Aronson, Medical; Leonard Emma, S&ES; Jules Godel, NSLS; Jerome Hudis, DO; Gerald Kinne, Reactor; Shear; and Walter Tucker, DAS. Horst Foelsche, Accelerator, and Joseph Haeg, C&P, have recently joined the committee which is preparing section II of the BNL Quality Assurance Manual. Shear and the committee report to Associate Director Paul Reardon.

"The Lab's Q.A. program provides BNL with a maximum amount of flexibility while complying with DOE's 18 requirements," explains Shear. "A single, universal quality assurance program won't work at a multipurpose laboratory like BNL. Each department must develop its own approach to quality."

In developing their specific programs, departments can adopt or adapt the general program outlined in the BNL Quality Assurance Manual. Since not all of the elements of the general BNL Q.A. program apply everywhere at the Lab, each department must carefully select those elements that do apply to its activities. To coordinate Q.A. activities within each department and assist in resolving their Q.A. problems, the Q.A. committee has asked each department to appoint a quality assurance representative.

"A good Q.A. program should help get work done expediently and efficiently," says Shear. "If the program succeeds, the time, money, and energy expended in reworking, returning, and scrapping defective components will be reduced. The cost and delays of finding defects after major systems and facilities have been completed will also be decreased. As well, the investment in repeating parts of research experiments due to problems that can be prevented by an effective Q.A. system will be lessened."

—Marsha Belford

Inside Info

Arie van Steenberg has asked to step down as Deputy Chairman of the Light Source and will drop his administrative responsibilities to work solely on advanced accelerator research and development. Joining the staff of the NSLS and stepping in as interim Deputy Chairman is **Mark Barton**, former chairman of the Accelerator Department and, recently, head of the Laboratory Task Force on a Heavy Ion Facility.

Van Steenberg was appointed Head of the NSLS in September 1977 and, in the words of Associate Director Martin Blume, "under his leadership, the site on Brookhaven Avenue has been transformed from an open field into a forefront facility at the threshold of full operation." When John McTague was appointed head of the NSLS in 1982, van Steenberg agreed to continue in management as his deputy. Now he will concentrate on accelerator studies and on the development of advanced storage rings and special radiation sources.

Discussion Group on Nuclear Arms

Charles H. Hession, professor emeritus of economics at Brooklyn College, will speak to the Discussion Group on Nuclear Arms about "Defense Spending and Industrial Policy." The meeting will be held in Room B, Berkner Hall, on Thursday, March 15 from noon to 1 p.m. and all interested employees are invited to attend. Bring your own lunch.

Professor Hession taught at Brooklyn College from 1932 to 1974; held a National Research Professorship awarded by the Brookings Institution in 1957; and was Senior Fulbright-Hayes Scholar in 1976-77 at University College, Galway, Ireland. Among his publications are "John Kenneth Galbraith and His Critics" (1972), and a biography of John Maynard Keynes (due this April).

HMO Enrollment Open to March 31

The Laboratory is offering eligible employees the annual option of enrolling in the Blue Cross/Blue Shield Community Health Plan of Suffolk Inc., as an alternative to coverage under the AUI Group Medical Insurance Plan. The deadline for enrollment in the Blue Cross/Blue Shield Plan is March 31, with coverage becoming effective April 1.

The BC/BS Community Health Plan of Suffolk is a New York State certified Health Maintenance Organization (HMO) Plan, which serves residents of the five western townships of Suffolk County and the eastern part of Nassau County. The facility is affiliated with eight hospitals. The local hospitals are St. John's Episcopal in Smithtown, Smithtown General Hospital; and, for more specialized services, Stony Brook University Hospital.

The BC/BS HMO provides continuity of care under the direction of an internist (or pediatrician, for children), who is in effect the member's private physician. In addition to primary care physicians, specialists in such areas as gynecology, ophthalmology, urology, dermatology and neurology, as well as registered nurses and supporting health care personnel, are on staff.

The BC/BS HMO facility is equipped to take x-rays and laboratory tests, and to provide immunizations, allergy treatments, eye examinations, well-baby care and physical examinations. Care is available 24 hours a day, seven days a week.

It is AUI's policy to subsidize the cost of the HMO Plan by paying the same premium amount it currently pays for the AUI Medical Insurance Plan. Last year the cost of the two plans was equivalent, resulting in no premium charge to em-

ployees electing the BC/BS HMO plan. However, this year the BC/BS HMO plan premium was increased by approximately 17% which is greater than the premium increase for the AUI Medical Insurance Plan. The difference in premium will be \$6.60 per month (\$1.52 per week) for both individual and family coverage. Employees electing to participate in the BC/BS HMO Plan will be required to pay this charge through payroll deduction when the new premium takes effect April 1, 1984. Premiums are guaranteed for a one year period, April 1, 1984 through March 31, 1985.

Employees who enroll in the HMO Plan and also are covered by the AUI Dental Assistance Plan will be charged an additional monthly amount of \$2.08 for individual and \$5.20 for family coverage. This charge is to offset the difference in cost between the \$100 and \$200 a year deductible coverage in the AUI Medical Insurance Plan, and agreed to by employees who enrolled in the Dental Plan. Therefore, the total premium for employees enrolled in the HMO plan and the AUI Dental Assistance plan will be \$8.68 a month for employee only coverage and \$11.80 a month for family coverage.

Those who are interested in the BC/BS HMO Plan are encouraged to visit the facility at 3001 Express Drive North, Hauppauge (intersection of LIE, Exit 57 and Veterans Memorial Highway). If you have questions regarding the BC/BS HMO plan or wish to arrange a visit, call (516) 582-9000.

Employees wishing to enroll in or terminate their membership in the BS/BS HMO Plan can obtain the appropriate forms at Personnel Services, Bldg. 185, Ext. 2877.

NYC Train Trips

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

The first is a regularly scheduled trip on Wednesday, March 21, leaving at 7:55 a.m. The round-trip fare is \$5.00 and must be received by Thursday, March 15. Refunds will be made only if cancellations are received by the Monday morning preceding the trip.

The second scheduled trip is on Saturday, March 24, leaving at 8:31 a.m. Round-trip fare is \$6.50 and must be received no later than Wednesday, March 21. Reservations will be accepted on a first-come, first-served basis.

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

Herrick Quartet
Tonight at 8:30
Berkner Hall
General Admission \$7

BROOKHAVEN BULLETIN

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WIS Meeting

Jane Setlow, Senior Geneticist, Biology Department will speak at the Women in Science dinner meeting on March 14 at 5:15 p.m. in the NSLS conference room. Her topic will be "The Impact of Genetic Engineering on Modern Life." Reservations can be made by sending a check for \$6.75, payable to BNL WIS in Science, to Nancy Fallon, Bldg. 535A before March 9, or by calling her at Ext. 4530.

CSCF Courses

The Central Scientific Computing Facility has scheduled the following courses at the Applied Mathematics Seminar Room, Bldg. 575:

Pascal for Programmers — 6, 1½ hour sessions, from 10:30 a.m. to noon, Mon., Wed. and Thurs., March 19 through 29.

Personal Computer BASIC — 3, 1½ hour sessions, from 1:30 to 3 p.m., Mon., Wed., and Thurs., April 2, 4 and 5.

Introduction to the UNIX Operating System — 3, 1½ hour sessions, from 1:30 to 3 p.m., Mon., Wed. and Fri., April 9, 11 and 13.

The C Programming Language for Programmers — 6, 1½ hour sessions, from 1:30 to 3 p.m., Mon., Wed. and Fri., April 23 through May 4.

To register for any of the above, call Ronald Wittlock at Ext. 4112.

Camping Club

The Brookhaven Family Camping Club will hold its monthly meeting at the Recreation Building on March 15 at 8 p.m. All those interested in family camping are invited to attend. For information, call Bob Tallon, Ext. 4547.

Rifle & Pistol Club

It is time to start planning outdoor rifle and pistol activities. All people interested are welcome to attend the next club meeting on Wednesday, March 14, at 5:15 p.m. in the conference room of Building 490.

Arrivals & Departures

Arrivals

Sylva M. Cohn Mgt. Info. Sys.
Ramesh C. Gupta Accelerator
Chariclia T. Petricou Physics
Steiner Raaen Physics
Bernard Schmall Medical
Satinder S. Sidhu Accelerator

Departures

This list includes all employees who have terminated from the Laboratory, including retirees:
Charles J. Lyons Supply & Mat.
John D. Ranlet DNE
Robert W. Spencer Supply & Mat.
Dennis B. Wayne NSLS

Bumper Stickers

Safeguards and Emergency Services will not honor 1983 bumper stickers after March 16. So don't get caught out. Apply for your 1984 sticker now.

Singles Club

The regular monthly meeting of the Singles Club will be held on Tuesday, March 13 at 5:15 p.m. in the lounge of the Recreation Building. For information, call Chuck Watson, Ext. 5317.

Cafeteria Menu

Week of March 12

Monday, March 12	
Beef noodle soup	(cup) .65 (bowl) .85
Cheese omelet & 1 veg.	1.80
Hungarian beef on egg noodles	2.00
Hot Deli: Baked ham	(bread) 1.90 (roll) 2.05
Tuesday, March 13	
Chicken gumbo soup	(cup) .65 (bowl) .85
Spanish macaroni & 1 veg.	1.90
Pork and cabbage crisp on Chinese noodles	1.95
Hot Deli: Knockwurst and sauerkraut	(bread) 1.85 (roll) 2.00
Wednesday, March 14	
Lentil soup	(cup) .65 (bowl) .85
Ham and potato au gratin & 1 veg.	1.85
Swiss steak Jardiniere & 1 veg.	2.20
Hot Deli: Italian sausage & pepper hero	2.00
Thursday, March 15	
Chunky tomato soup	(cup) .65 (bowl) .85
London broil w/mushroom gravy & 1 veg.	2.15
Broccoli cheddar bake & 1 veg.	1.85
Hot Deli: Corned beef	(bread) 1.90 (roll) 2.05
Special	
Baked potato w/selection of two toppings of your choice	.75
Each additional topping	.25
Friday, March 16	
St. Patrick's Day Special	
Fish chowder	(cup) .65 (bowl) .85
Corned beef & cabbage w/parsley potatoes	2.15
2 Sl. pepperoni, mushroom, & onion pizza & french fries	1.90
Hot Deli: Breaded fish fillet	(bread) 1.90 (roll) 2.05

Bowling

The Scotch Doubles were enjoyed by 43 couples last week. The winners were:

- Mildred & John Connelly
- Denise Miesell & Barry Karlin
- Ann & Richard Fort
- Mary & Richard Eggert
- Sandra & Kenneth Asselta

Red/Green League

J. Cochrane rolled a 226, N. Combatti 225/611 scratch series, E. Sperry IV 220, J. Petro 217, L. Jacobson 216, T. Holmquist 201, J. Connelly 200, E. Meier 200.

White League

High games were bowled by J. Griffin 229, K. Riker 223, R. Eggert 222, D. Klein 220, A. Pinelli 213, E. Sperry 203, J. Austin 201, M-G Meier 211, P. Lebitski 198, A. Spira 196, S. Moore 188. The Alley Oops had a 952 gross game.

Purple League

J. Ferrante had a 211, J. Vogel 211, E. Adams 188, A. Stonebridge 168, K. Cody 171, S. Smith converted the 5/7.

Volleyball

Standings as of 3/5/84

Mixed League A Division

Dinkers	18-3
Teddybares	16-5
Up Fagrabs	13-8
EPO's	11-10
Semi Tough	9-12
Mixed Ups	9-12
TNT	5-16
Nuts and Bolts	3-18

B Division

Phoubars	17-4
Servers	15-6
Bottoms Up	15-6
Chungas Revenge	13-8
Screwballs	9-12
Excitons	6-15
Quirks	5-16
CRAW	4-17

Congratulations to the Dinkers as winners of the second third.



John Connelly



Edwin Taylor



Mary Durham



Richard Adams

Mort Rosen

BERA Election

During the week of March 19-23, employees will be invited to cast their ballots in the 1984 BERA Board election. Voters will select two candidates from the slate of four to replace Janet Sillas and Nelson Tyler whose terms as BERA trustees will expire on April 30. The candidates:

Richard Adams, a Training Assistant in the Reactor Division, has been employed at the Laboratory since 1948. His interest in BERA has been as a member of the Softball and Bowling Leagues.

John Connelly is Plumbing Supervisor in Plant Engineering. For many years he has been active in the Golf League. He has also been vice-president of the Bowling Executive Board, and regularly coordinates the annual Bowling Awards Dinners and the Scotch Doubles tournaments.

Mary Durham is Secretary to the Department of Energy Area Manager. She has played softball and volleyball, and is a very active member of the BNL Afro-American Culture Club.

Edwin Taylor is a Sr. Technical Specialist in Applied Math. His BERA credits include: team captain and member of the Softball Executive Board; team captain and chairman of the Football League; team captain and chairman of the Basketball League; and vice-president of the BNL Afro-American Culture Club.

Voting Schedule:

	Cafeteria
Monday 3/19	11:30 a.m. — 1 p.m.
Tuesday 3/20	" "
Wednesday 3/21	" "
	Bank
Thursday 3/22	1 p.m. — 2:30 p.m.
Friday 3/23	10 a.m. — 2:30 p.m.

Absentee votes will be accepted from employees who will not be on site during voting week. Ballots, in the form of signed memos with candidate selections, must be received by BERA Board President Nelson Tyler, Bldg. 211, before 5 p.m., Thursday, March 22.

Cooking Exchange

"The Lunch of the Irish" is the theme of the next meeting of the Cooking Exchange on Wednesday, March 14. To celebrate St. Patrick's Day, Irish stew, Irish coffee pudding, Irish raisin bread, and other dishes of the "Old Sod" will be demonstrated and sampled.

The meeting will start at 12:30 p.m. in the Recreation Building. Employees, family members and guests are invited. Admission is \$1 and babysitting is provided at 50¢ for each child.

Call Dee Polychronakos, 744-3578, or Michiko Tanaka, 744-3690, for more information.

Motorcycle Club

To prepare for the 1984 season, the next meeting of the club will be held on Monday, March 12 at 5:15 p.m. Refreshments will be available.

Basketball

Boxscores — 3/1/84

Game 1

Longshots — 77	Coasters — 58
J. Gaffney 21	K. Damico 6
L. James 12	B. Doty 17
B. Johnson 8	L. Smith 21
M. Thomas 6	M. Fulkerson 4
R. Church 2	M. Williams 10
R. Seymore 4	
J. Garrison 24	

Game 2

Hollywood — 75	Runaway — 63
B. Woodson 8	T. Mooney 4
G. Mack 13	S. Woodson 3
E. Meier 18	J. Shepherd 8
L. Walcott 14	G. Smith 4
L. Lawrence 6	S. Gilbert 16
B. Kowaski 2	T. James 12
D. Nostron 14	H. Bell 12
	R. Banks 4

Team Standings

Hollywood	6-0
Longshots	4-2
Coasters	1-5
Runaways	1-5

Sign Up For Soho

The BERA Art Committee is sponsoring a bus tour on Thursday, April 26 to the Soho section of New York and to the Brooklyn Museum. Soho is an exciting area with over a hundred galleries of contemporary art within a few blocks, as well as interesting shops and restaurants. After lunch and some browsing, the group will visit the Brooklyn Museum, one of New York's treasures. Four Art Committee members will serve as tour guides.

The cost of the trip will be between \$5 and \$8 (lunch is not included) and, when determined, will be published in the Bulletin. Only 40 people can be accommodated, as galleries have a limit of 20 people at a time. The bus will leave from Berkner Hall at 8:30 a.m. and return about 6 p.m. To sign up for the tour, fill out the form below and return it to the BERA Sales Office in Berkner before March 26.

To BERA Art Committee

Please sign me up for Soho trip.

Name _____

BNL Bldg. _____ Ext. _____

Home address _____ Tel. _____

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.

2026. **TECHNICAL POSITION** - Requires AAS degree in mechanical technology or equivalent experience. Will be responsible for cleaning vacuum components via established procedures and maintaining cleaning solutions and equipment. During periods of low demand for cleaning will work as mechanical/vacuum tech. Chemical cleaning and vacuum experience desired. National Synchrotron Light Source Department.

OPEN RECRUITMENT: Opportunities for Laboratory employees and outside applicants.

2027. **COMPUTER OPERATIONS POSITION** - Requires AAS degree in data processing or successful completion of computer operations training program or equivalent experience. Will assist in the operation of a Hewlett-Packard 3000 computer. Must be willing to work midnight to 8:00 a.m. shift. Management Information Systems Division.

Autos & Auto Supplies

76 CHEVY MALIBU CLASSIC - small V-8, a/c, p/s, p/b, new tune-up and tires, clean in and out, runs well. Donna, 744-3298 days/weekends or 282-2926 eves.

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

67 VOLVO - runs, many new parts, needs little work, \$250. Rose, 744-5069.

TIRES - (4), Goodyear, A70-13, \$5 ea. Frank Rumph, Ext. 4581, 981-2529.

80 KAWASAKI 650 LTD. - red crash bars, excel cond., must sell, \$1550. Bob Johnson, 475-2305 or 283-4741 after 6 p.m.

68 GMC - 1974 motor, runs well, extra parts, \$1000. Ext. 3457 or 698-5701.

78 FAIRMONT - 2 dr., auto., a/c, am/fm, 66K mi., clean, \$2500. Toshio, Ext. 2609 or 3009.

PORSCHE 911E TARGA 73 - red, very good, slight rust, orig. owner, \$12,000. 981-2323.

76 FORD PINTO - 48,000 orig. mi., good tires, 4 spd, front end hit, \$250. 331-5118.

79 DODGE STA. WGN. - V-6, p/s, p/b, a/c, am/fm cassette, 65K mi., clean. Ext. 4452 or 543-0079.

TRAILER TIRE AND RIM - size 570x500x8, 4 hole, \$15. Steve, 585-8395.

VOLVO RIMS - 2 15", \$30. 929-6442 after 6 p.m.

80 CHEVY CAPRICE - V8, a/c, 32K mi., like new, \$5500. 734-7582.

72 TAG-A-LONG - 18', sleeps 6, self contained, \$2450. 286-0505.

72 FORD GALAXIE 500 - p/s, p/b, a/c, good mech. cond., \$550. 473-8292 or 928-0297 eves.

SERVICE MANUAL AND WIRING DIAGRAMS - for 1977 Chevrolets, both for \$8. Tony, Ext. 7214.

71 DART HARDTOP CONV. - orig. paint, very good body and eng. \$700. Mary Anne, Ext. 4230 or 363-7431.

81 HORIZON - 4 dr., auto. 40K, \$3500. Ext. 4360 or 689-9644 after 5 p.m.

83 HONDA - V45, Sabre, 7000 mi., garaged, \$2500. 744-7073.

23' PUMA - fiberglass sloop, sleeps 4, deep keel 6 HP/OB many extras, must sell. Walter, Ext. 2050.

74 OLDSMOBILE CUTLASS SUPREME - runs well, but needs some body work, \$550. Frederick Williams, Ext. 5316.

82 KAWASAKI KDX 175 DIRT BIKE - mint cond., with helmet, \$1000. 821-1042 eves.

BLAZER QUARTERPANELS - 74-79, new, \$500 pr. Leave message at 744-3968.

AUSTIN/MARINA RIMS - (4), make offer. Rich, Ext. 5284.

74 CHRYSLER NEWPORT - leather interior, \$300. 929-8287.

74 JEEP CJ5 - 304 eng., many new parts, looks and runs great, \$3400, or best offer. 234-9630.

72 BUICK - 350-V8, automatic, p/s, p/b, cruise control, excel. body, needs motor work, \$350. 924-8224.

77 GRAND PRIX - runs well, p/s, p/b, a/c, auto., \$800. 698-6723.

76 CADDIE ELDORADO - loaded, \$2600. 732-1913.

73 DUSTER - it's no cream puff, but it'll get you there, \$600. Doug, Ext. 4095.

76 TOYOTA COROLLA - 2 dr., 4 spd., excel. cond., little rust, \$1000 firm. Tom, Ext. 4976 or 698-9407.

TIRE MACHINE - (Coats 505), semi pneumatic with tools, \$100. Fred, Ext. 4798.

73 CHEV. PICK UP C10 - 307 3 spd., Craig am/fm, \$950. Bob Geib, Ext. 2957.

MAG WHEELS - (4), silver, 13"x5 1/2", 4-lug, with (4) Goodyear Eagle NCT P185R10 tires mounted, \$300. Eric, 289-2352 days.

78 CHEVY NOVA - 2 dr., V8, p/s, p/b, a/c, high mi., \$1795. 698-8514.

74 FORD PICK-UP F-100 - 8 cyl. 64K mi. standard trans., excel. cond., \$2700. 475-2058.

81 MOPED GARELLI LTD - good cond., black, deluxe, seat, \$350 firm. Ext. 3318.

AUDIOVOX RADIO - push button, am/fm stereo, \$50. Ext. 3389.

HONDA 200 cc - excel. commuter with fairing and windshield. Kristin, Ext. 3372 or 744-6287 after 6 p.m.

63 FORD - trans 2-spd., low mil., very good cond., best offer or trade. Joe, Ext. 2556.

GOODRICH TIRE - 13", new with rim, for Pinto, \$40 firm. Al, Ext. 2561 or 331-5118.

75 HONDA CB-400F - 6 spd., 4 cyl., fairing incl., excel. cond., \$650. 467-8563 after 7 p.m.

78 FAIRMONT - 2 dr, auto., a/c, am/fm, 66K mi., clean \$2500. Toshio, Ext. 2609 or 3009.

78 TOYOTA COROLLA LIFTBACK - a/t, am/fm, cassette, hi mi., dealer maintained. Pat. Ext. 4628.

65 BUICK SKYLARK - good for local transportation or parts, best offer. 369-2838 after 6 p.m.

71 FORD LTD. - V8, ps/pb, excel. running cond., must sell, \$695. Bill, 744-8999.

75 CHEV. CHEVELLE V8 - ps/pb, needs no work, \$1200. Rich F., 246-7110 afternoon only.

MICHELIN C78-14 RADIAL - 1/2 used, \$10; 6.00-12 unused, \$10 or make offer. Tom, 7196 or 286-2505.

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

73 PONTIAC GRAND PRIX - rebuilt eng. and tranny, interior immac., loaded, \$2750. Joe, Ext. 3084 or 499-4369.

72 VW SQUAREBACK - runs well, good transportation, \$750. 924-7238 or 286-1183.

72 HONDA 350 cc - needs work, best, offer. Mike, Ext. 4612.

73 APACHE POP-UP CAMPER - beach ready, new axle, excel. cond., \$1350. Joe, Ext. 4255 or 289-1831.

78 HONDA CB550K - black custom seat, 13,000 mi., mint cond., \$950. Ext. 7654.

81 BUICK SKYLARK LTD. - 4 cyl. many options, mint in and out, \$5100. Pete, Ext. 7627 or 581-1773.

DATSUN - 200 SX, auto., a/c, p/s, am/fm, 30K mi., \$5750. 924-4857.

77 DATSUN 210B - 4 spd., a/c, am/fm radio, new tires, excel. body, \$1200. 727-2471 after 5 p.m.

81 CHEV. CHEVETTE - 4 spd. am. radio, 2 dr., 34,000 mi., mint, \$2700. 281-0374.

80 TOYOTA - 4x4 longbed p.u., fiberglass cap, extras, excel., \$7400. Ext. 4031 or 878-8255 eves.

78 MGB - runs well, body excel., interior very good, 70K mi., \$3750. 331-2298 after 5 p.m.

76 COX POP-UP CAMPER - sleeps 6, w/stove, sink, heater, \$1600. Ext. 7005 or 473-8338 after 6 p.m.

FORD TIRES AND WHEELS - 31-1050-15 chrome spoke wheels. 924-9212 after 6 p.m.

78 HONDA - 750K fairing, radio, 11,000 mi., excel., \$1500 firm. Ed, 929-6798 after 6 p.m.

68 VW BUG - body going, but good mechanically, \$250. Ext. 3821 or 473-6624.

75 FORD GRANADA GHIA - excel. cond., V8, loaded, rust free, 60,000 mi., \$2800. 286-2749 after 6 p.m.

74 MG MIDGET - \$1800. 475-8158.

73 MONTE CARLO 454 - power windows, tilt steering, new brakes, springs, hi mi., \$1800 neg. Scott, 399-1157.

76 VW RABBIT - good cond. Ext. 2537 or 473-1658 after 6 p.m.

68 VW POP-TOP CAMPER - sleeps 3-4, sink, icebox, runs, needs some work. Wanda, 3583/3692.

78 HONDA 550 cc - black, low mi., garaged, \$850. 467-8563 after 7:30 p.m.

Boats & Marine Supplies

18' ALUM STARCRAFT - center console, no-motor boat, trailer in excel. cond., \$1000. 924-6521 after 5 p.m.

FIRESTONE OUTBOARD MOTOR - 10 HP, 2 cyl., \$100. Steve, 585-8395.

PROPELLER AND SHAFT - 3 blades, 12" diam., 3/4" bore, bronze, \$10. Muller, Ext. 3057.

CATALINA 25 - pop top, 4 sails, Honda 9.9 HP, O/B, VHF, many extras, \$14,500. 473-2473 or 744-7127.

19' THUNDERBIRD - sit down cabin, 105 HP Chrysler, navy top, \$2200. Stan, Ext. 2075.

LI'L DUDE BOAT TRAILER - 20', tilt bed, good tires, needs some work, \$200. 221-1210.

14' FISHING BOAT - fiberglass, trailer, \$350; Johnson trolling motor, \$100 or best offer. 698-1676.

Miscellaneous

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

BSR TURNTABLE RECORD CHANGER - ceramic cartridge, \$20. Frank Rumph, Ext. 4581 or 981-2529.

GIBSON FREEZER - 18 cu. ft., upright, good cond. Don, Ext. 2043.

CAMERA - Olympus OM-1 with 50 mm and 200 mm lenses, \$225. 286-0422.

DRUM-TOP TABLE - 24" dia., \$15; pole lamp, 2 amber globes, \$8. Nancy, Ext. 5274 or 281-2767.

STEREO AMPLIFIER/RECEIVER - Pioneer SX 636, 25 watts, \$85. Ext. 2041.

POOL TABLE - composition top 4'x8', \$50. GR5-8710.

BABY SWING - carrier seat, walker and bottle sterilizer. 286-3718.

RACING HANDLE BAR - chrome, ram style, for 10 spd., new cond., \$2; shoe rack stand, chrome, holds 9 pr. of shoes, new cond., \$4. 727-3608 after 5 p.m.

TRAILER - utility, heavy duty, \$275. 234-9630.

LOVE SEAT - rust color, \$100; brown vinyl rocker and swivel chair, \$40. Ext. 3967.

BRASS FIREPLACE SCREEN AND ANDIRONS, \$35; stereo speakers w/enclosures, both \$20. 744-9832.

BRIDAL VEIL - beautiful mantilla cap style, truly a buy, \$60 from \$120. Cindy, 924-5533, 8-4 p.m.

HAMSTER CAGE - new \$7.50. Brian, Ext. 4383 or 3106.

VIDEO MONITOR - 9" Conrac, b&w, 10 mhz for computer or CCTV, \$50. Alan, Ext. 2928 or 821-1389.

BABY STROLLER - umbrella type. Duke, Ext. 2957 or 289-3586.

BEDSPREAD - white lace, full size, excel. cond., used twice, \$25, highrider, \$30. Carol, 878-0885.

TABLE - Ethan Allen, oval kitchen, 4 chairs, \$50. 744-7073.

GRACO COMBINATION CRADLE AND SWING SET - excel. cond., \$30. 941-4328.

CONTEMPORARY LIVING ROOM SET - 1 couch, 2 chairs, 3 end tables, 1 coffee table, 2 lamps, excel. cond. 363-2070.

10 QT. COMMERCIAL HOBART MIXER -extra 3 qt. bowl, dough hooks, wisk, \$1000; 15 Atari cartridges, \$3-\$7, titles include Bzerk, Defender, Mousetrap, etc. 751-7408 after 3 p.m.

BABY ITEMS - crib, dressing table, playpen, swing, training potty. M. McGrath, Ext. 5371 or 472-4087 after 6 p.m.

AZTEC PIN-BALL MACHINE - needs work, \$50; o.n.o., twin studio couches w/bolsters, \$75; sm. couch, \$75. Ext. 3811.

POPCORN MAKER - \$15, juicer, \$15; hair dryer, almost new, \$12. Ext. 3701.

CANOPY BED - complete with dresser and night stand, \$125. Stan, Ext. 2075.

WASHING MACHINE - yellow, used 2 yrs., 7 yrs. old. Joan, 298-9594.

COLONIAL LIVING ROOM - large two-piece sectional and chair, \$300. 929-8287.

PORTABLE ORGAN - Casiotone MT-40, cost \$172, sell \$95 firm. 924-8634.

SOFTBALL GLOVE - hardly used, too big for hand, Regent, best offer. Ext. 7112 or 472-1922.

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

PROGRAMMABLE CALCULATOR - TI58C, 480 steps/60 memories, library module, w/optional software, \$30. Ext. 3242 or 7192.

LAWN MOWER - push type, \$10. Ken, Ext. 4421 or 744-0722.

FRETLESS PRECISION BASS - graphite neck, EMG pickups, Schaller tuners, Badass bridge, w/case, \$500. Dave, Ext. 4254.

BAR - 6 ft. - brass rail, w/3 stools, \$40; free-standing fireplace, \$25; thermal 6 ft. patio doors, \$100. 698-3394 after 3 p.m.

COAL STOVE - new, never used, \$125. Ext. 4798 or 929-4940.

KIRBY VACUUM CLEANER - end tables; couch, Danish sleeper, mason jars, \$2.25 doz.; living room set. 475-9083.

ANTIQUE SINGER SEWING MACHINE - treadle, good cond., \$65. Peter Rathvon, 282-3328.

GUN CABINET - cherry wood, holds four to five rifles, \$150 firm. 924-8488 after 6 p.m.

OAK LUMBER - mostly 2x4, some 2x6, varying lengths from 10' to 14'; mill cut - unplanned; both sizes \$1.50 running ft. or best offer takes all. Adam, Ext. 5213.

GOWN - with matching hat, ideal for spring or summer wedding or prom, apricot, size 7/8, will sell separate or \$25 for both. 878-2239.

VIC 20 COMPUTER - with game cartridges, priced to sell, make a deal, need drill press. Joe, Ext. 4255.

COMPUTER VIC 20 - games, memory, manuals. Ext. 4255 or 744-6794.

SOFA BED - green, fair cond. Debbie, 736-6081 after 12.

ORGAN - Conn Prelude, full size, double keyboard, \$350; refrigerator, 10 cu. ft., \$90; 20" gas stove, \$75; 40" sink with cabinets, \$75. Jack, 588-0910.

WOK - use with gas or electric burner, rack and utensils incl., \$10. 929-3566.

B.M.X. - Mongoose, racing parts, zap pads, excel. cond. Neal, 286-2435.

BABY BOY CLOTHING - 0-2 toddler, many never worn, summer and winter plus accessories. 467-1090.

WALL OVEN - Tappan, stainless door, enamel interior, old but usable, \$40; you pick up. Oster, Ext. 3876.

Classified Ad Policy

Deadline is 4:30 p.m. Friday for publication Friday of the following week.

- The Brookhaven Bulletin's classified section may be used only by active and retired Laboratory employees.
- All items for sale or rent must be the advertiser's property.
- Ads for material acquired for resale in association with a full or part-time business cannot be accepted.
- Ads for the sale or trade of firearms will not be accepted.

- Ads not carried because of space restrictions will be held for publication in the next issue.
- Ads are run only once and must be resubmitted if they are to be repeated. One ad per person per week.
- Property for sale or rent cannot be accepted on this form. Special Real Estate Ad Forms are available at the office of the Brookhaven Bulletin, Building 134.

- For Sale: Autos & Auto Supplies For Sale: Miscellaneous Wanted Lost & Found
 For Sale: Boats & Marine Supplies For Sale: Car Pools Free

Please print your ad below in 15 words or less using one word per block. Include name and phone number to call.

Note: The following must be completed for your ad to appear.

NAME (Please Print)

Employee's Signature Life No. Ext.

Send to: Brookhaven Bulletin, Building 134 (Ext. 2345)

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