

REF Beam On Line

A 200 million electron volt, negative hydrogen beam from the AGS linac was successfully transported through the newly constructed beam line to the Radiation Effects Facility (REF) on Wednesday, May 21, at 2:35 p.m. BNL scientists and Air Force contractors will use the REF to conduct radiation effects research. They plan to compile data to determine the radiation response of materials to high energy particles. The Defense Nuclear Agency, through the Air Force Weapons Laboratory, funded the newly completed, \$4.7 million facility, as part of the Strategic Defense Initiative Program.

According to Pierre Grand, who heads the Neutral Beam Division of the Department of Nuclear Energy, commissioning of the facility is proceeding, and it is expected that initial experiments will be carried out before the summer AGS shutdown. Pictured are several members of the Neutral Beam Division monitoring the computer screen for indication of the first successful beam. They are: (front, from left) Joe Curtiss, Ron Doherty; (back, from left) Tom Ward, Pierre Grand, Ron Lankshear, Norman Rohrig (S&EP), Walt Becker, Lew Snead and Andy Garsils.



Peter Horton

Mountaintop Lab Yields Acid Rain Data

Whiteface Mountain may be the place to go for great skiing, but for Tom Kelly, Environmental Chemistry Division, Department of Applied Science, it is the perfect place to study acid rain. Situated in the Adirondacks of northeastern New York State, it receives airborne pollutants from the industrial areas of the Midwestern U.S. and central Canada.

For the past two and a half years, Kelly has conducted a long-term project in which he measured the concentrations of chemicals in the air that can contribute to acid rain. By measuring air composition and taking meteorology into account, Kelly was able to document the concentrations and transport of acid rain-causing chemicals in the atmosphere. He has confirmed that pollutants like sulfur dioxide (SO₂) and resulting acids reach the Whiteface area from the Midwest.

Kelly explains that acid rain is an oversimplified term used to describe a complex set of chemical and physical processes that can convert industrial pollutants into acids and deposit them on the ground. Nitrogen oxides (NO, NO₂) from combustion and SO₂ from coal burning plants can be carried through the atmosphere for miles before they are converted by sunlight, ozone and hydrogen peroxide to form nitric and sulfuric acids. These acids are water soluble and can be transported to the earth's surface when it rains or snows. The Whiteface area is

particularly vulnerable to acid deposition because its soil has little capacity to neutralize acidity. There is evidence that acidic deposition from rain and snow can kill fish in lakes and damage forests.

Kelly has observed a strong relationship between the seasons of the year and concentrations of acids in the air, although the emissions of SO₂ and nitrogen oxides remain relatively constant throughout the year. Sulfuric acid in particles shows a very strong summertime maximum, whereas nitric acid is much more constant throughout the year.

High temperatures and more photochemical activity during the summer are probably responsible for the increased production of sulfuric acid. Kelly is not sure why the levels of other compounds do not increase in the summer. That the sulfuric and not the nitric acid concentrations show dependence on the season means that the chemistry of the formation and deposition of the various acids is different. Kelly says, "The findings indicate that more sophisticated control methods may be needed to combat the phenomena we know collectively as acid rain."

For his study Kelly measured the concentrations in air of various pollutants and acids that contribute to acid rain. To gather a complete set of data, he used detectors that measure gases and a filter system that traps airborne

particles for chemical analysis. Those detectors are located on a monitoring station at Whiteface's 4,867-foot summit. The station and an elevator through the upper 300 feet of the mountain were originally constructed by the WPA during the 1930's as a forest-fire lookout station.

At BNL, Kelly modified these gas-phase detectors to measure pollutants at concentrations of less than a part-

per-billion by volume in the air. Although such minute amounts of acid seem too small to cause much damage, Kelly explains, "Liquid water constitutes only about one part per million of a cloud. Since there is so little water in the clouds, the acid becomes concentrated in the small amounts of water that are there."

The Empire State Electric Energy
(Continued on page 2)



Mort Rosen

Tom Kelly stands next to air pollutant detectors and calibration equipment which he uses in his work.

For Your Information

Earlier this week, the press reported on environmental conditions at the Laboratory. The Bulletin asked Ecologist Jan Naidu, head of the Environmental Protection Section of the Safety & Environmental Protection Division, to address specific questions about this issue.

What is the "draft report" referred to in Newsday?

This is a comprehensive report of the extent of hazardous wastes on site, required by the Department of Energy of anyone who has had hazardous operations in the past. The Lab has been monitoring the environment since it began operations, and this subject has been covered many times before in our annual Environmental Monitoring Reports, which are sent to the DOE, state and local officials and are available to the public. To do this review, we went into old records, including the Army records of Camp Upton, we interviewed old timers as to their recollections and did a physical inspection of the site; in short, we went to great effort to get complete information about activities over the past 40 years. We have over 100 monitoring wells on site, and we are installing more in the region of the old landfill to get an even better determination of the extent and movement of groundwater pollution.

Press reports have mentioned a \$350,000 clean-up program. What is this program?

In 1984, we monitored ground water near the hazardous waste management area and found high levels of organic compounds. We notified Federal and state authorities and hired a consultant to delineate the extent of contamination in the groundwater. Based on his recommendations, we have gone ahead with an aquifer cleanup program. I think this is a good example of the Lab going ahead and dealing with an on-site problem before it can become an off-site problem. Organic contaminants in the ground water are already a widespread problem on Long Island, and we consider it our responsibility not to add to it.

What about radioactivity?

Yes, there is also some radioactivity, but organic compounds move much more quickly. Organic compounds approximate ground water movement (one foot per day) while strontium-90, for instance, moves at the speed of 1/500 foot per day. As well as moving slowly, radioactive material decays as it moves along and rainfall dilutes it. That is why we consider organic contamination of more concern than radioactivity.

Is the drinking water at the Lab affected?

As was said in a memo to all employees earlier this week the drinking water wells are regularly monitored. The drinking water available to employees is of excellent quality and meets all Federal, state and local standards.

How do current environmental regulations differ from earlier ones?

They are much tighter, particularly regarding surface water discharge, now that Long Island has been designated a sole source aquifer. As a policy decision the Lab has opted to apply drinking water standards, which are much more stringent, to all surface water discharges. For example, using strontium-90 again, the standard for surface water discharge is 300 picocuries per liter; the drinking water standard, which the Laboratory uses, is 8 picocuries per liter.

The Lab has designated safety coordinators for each department. What do they do?

They are the eyes and ears of each department on safety matters. There are seven safety representatives in S&EP, and the coordinators work closely with them. The reps cannot be everywhere at once, and the coordinators are invaluable in informing experimenters what they can and cannot do. They are another part of what we consider to be an extensive onsite monitoring system.

Setting Sail

Senior Physicist Robert Louttit is taking early retirement to do what many dream of doing — sail around the world.

He and his wife Anne, retiring from her job as a teacher, move permanently onto their boat next week. They will sail around the northeast region until September, then go south to the Chesapeake. They'll be in North Carolina by mid-October and head for the British Virgin Islands in November, then spend the next two years exploring the Caribbean. After that their plans get fuzzy, but they would like to go through the Panama Canal, head for the Galapagos Islands, then to Hawaii, and on to the South Pacific. And Louttit confesses to having already made contact with someone in South Africa on how to get around the Cape of Good Hope.

The Louttits' home on the water is a Tayana 37 (37 feet long on deck), which they have sailed since 1981. It's the latest in a line of boats that Louttit has had since he was a kid.

In fact, he can pinpoint the year when the idea was planted to go around the world. "It was the summer in which I became 14," he recalls. The year was 1944, and his father was commander of a Navy training school on Lake Champlain. Louttit refers to it as a "90-day wonder school," in which civilians were trained to be Naval officers in 90 days. "They had to have them fast!" he says.

As part of the training, the men learned to use boats of various kinds, all the way from small pulling boats to submarine chasers. Louttit got to know the officers of the boat dock and worked there 12 hours a day. By the end of the summer, he knew enough small boat handling and marlinespike seamanship to teach the trainees.

"I might have been a sea captain or something like that, except I couldn't quite see not having a normal family life," he says. "Physics was attractive, so I went on with a normal career."

He joined the Laboratory's Physics Department in 1958, after receiving his Ph.D. in physics from Washington University in St. Louis, Missouri. Those early days, working on the 20-inch bubble chamber, were the most fun, he says, because he did everything. "Certainly, there were technicians and other scientists, but I got my hands dirty all the time, and I love doing that." Next came the 80-inch bubble chamber and then the 7-foot chamber, but with each one, he stepped further away from the hardware as he took on more administrative duties. In 1971, he joined the Accelerator Department and was head of the Particle Detector Division until 1979. He then became deputy head of the Accelerator Division of CBA and, in 1982, took over the Cryogenic Division of High Energy Facilities (HEF).

In 1984, he became head of the Accelerator Development Branch within HEF, overseeing magnet research and development for two proposed particle accelerators, the Superconducting Super Collider (SSC) and the Relativistic Heavy Ion Collider. Just a few months ago, the first SSC full length prototype dipole magnet, fully assembled at BNL, was sent to Fermilab for insertion in its cryostat and testing.

Louttit's move onto a boat is, in a sense, a return to hands-on work. "Not only will I get to do everything — repair, maintain, redesign, rebuild and operate — but my wife and I will be the only ones doing it. I find that extremely appealing. You have to be self-sufficient. If you don't have that attitude, you don't belong out there."

The Louttits have been getting ready for this move from the time they bought their boat in 1981. Although already well-experienced both as racers and as cruisers, they first put the new boat through its paces in local



When Robert Louttit retires next week, he and his wife will move on board their 37-foot, cutter-rigged boat and set sail around the world.

waters, "trying to find out what would go wrong." In 1982, '83 and '84, they cruised Maine, sailing offshore south of Nantucket and outside of Cape Cod, and last year again stayed closer to home.

In terms of hardware, they've outfitted the boat with cruising aids like a wind and water-powered self-steering vane and an electric auto pilot. They don't have a refrigerator, which Louttit says is the biggest power drain on a boat. "Among cruisers, Americans are nearly the only ones who have refrigerators. I don't want to live that way." Instead, they will rely on an ice box with a capacity of 200 pounds of ice. At 10 pounds a day, they can go up to two weeks without buying more. He insists on music, though, and has a library of 250 tapes, mostly chamber music, with some folk and popular music for variety.

They've also done a lot of reading. "I've been reading about cruising for the last 25 years," says Louttit, who belongs to the Seven Seas Cruising Association, founded for the purpose of trading information among people who live on their boats and take cruises to distant places. Tips are shared on customs, immigration, health regulations, navigation difficulties and the like.

What's his advice for others who might want to follow in his wake? "Don't! I'd like to have it as clean of people as possible!" he says with a smile.

Actually, besides getting the boat ready, there are a couple of important details that he's had to work out. Money, for example. Primarily, he'll rely on having money wired from his bank in the States to a bank wherever he is. That typically takes 24 to 48 hours. His backup will be a credit card, with which he can cash personal checks.

His mail will be handled by a commercial mail forwarding service. They will sort through his mail, keep only what he has instructed them to, and send what they have each time he gives them a forwarding address.

Boat insurance was considered and rejected. Says Louttit, "Annual premiums would have been about 5-10 percent of the boat's value. And the requirements for insurance on offshore boats are ridiculous. For example, they specify a minimum size crew and that you carry an inflatable life raft. No insurance company would accept the unsinkable fiberglass dinghy we carry on board."

He says the rare instances of cruisers losing their boats out in the open ocean are due to hitting logs, whales, icebergs or containers fallen off ships. "I would do anything to save my boat," says Louttit. "The point is to have a lot of ideas in the back of your head and stay with the boat. Of course, it's fundamentally important to have



The Louttits, Robert and Anne.

a boat strong enough to resist such collisions in the first place." Both have done enough sailing in rough weather and enough studying that they don't expect to experience any surprises.

When they set sail next week, they will be saying goodbye to a mortgage, real estate taxes, cars, telephones, all the trappings of life we landlubbers are surrounded by. With time stretching out and the high seas beckoning, Louttit the sea captain has come back to his first love.

— Mona S. Rowe

Ground Breaking This Morning

A ground breaking ceremony will be held today for the Neutral Beam Test Facility (NBTF). The ceremony is scheduled to begin at 10:30 a.m. at the NBTF site, next to the newly constructed Radiation Effects Facility off Michelson Street. The NBTF will be the subject of a story in a later issue of the Bulletin.

Acid Rain

(Cont'd)

Research Corporation, a consortium of New York utilities including LILCO and ConEd, funded Kelly's study. Kelly headed a team that included BNL scientists in cooperation with the Atmospheric Sciences Research Center (ASRC) of SUNY Albany. On Whiteface, Kelly used the facilities of the ASRC. ASRC scientists Scott McLaren and Doug Wolfe were involved in day-to-day operations of the program. One of the purposes of Kelly's study was to provide complementary data to ongoing ASRC studies of cloud water and precipitation chemistry.

— Howard Rubin

Hospitality News

The next Hospitality Committee get-together will be on Tuesday, July 1, at 9:30 a.m. in the Brookhaven Center. A formal program will not be presented in order that we may spend the time meeting newcomers and visitors to the Laboratory and greeting old friends.

Wives of Laboratory employees and visitors are welcome. Coffee, tea and danish will be served. Please come and bring the children. Babysitting will be provided free of charge.

Arrivals & Departures

Arrivals

Robert P. Hoogsteden Plant Eng.
George T. Wright NSLS

Departures

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

Mary A. Hughes Accelerator
Emil A. Pluss Plant Eng.
Robert E. Schmidt Safeguards & Sec.

Flying High

Three cheers for the red, white, and blue! Next weekend when you fly your flag in celebration of July 4th, remember a few simple rules of etiquette. The rules governing the flag's use were first codified by the War Department in 1923 and revised during the Bicentennial.

Although the flag may be flown at any time during the day, tradition dictates that you should raise it at sunrise and lower it at sunset. In special locations like the White House and the Capitol, the flag flies continuously. At Fort McHenry National Monument in Baltimore, where the flag inspired Francis Scott Key to write the Star Spangled Banner, it also flies 24 hours a day. Flags flown at night are usually illuminated.

Whether flown from a flagpole or from a pole jutting from a building, the flag should be hung with the stars in the top left hand corner. No other flag may be flown above or on the same level as the American flag. Under no circumstances can the flag touch the ground or floor.

To fold the flag properly, first fold it lengthwise, bringing the striped half up over the blue field. Then repeat, with the blue field on the outside. Beginning at the lower right, make a series of triangular folds until the flag resembles a cocked hat with only the blue field visible.

The flag in its present state has 50 stars representing the states of the union, and thirteen stripes (7 red and 6 white) which symbolize the original 13 states. The latest version of the American flag was first flown twenty-six years ago on July 4, 1960.

Whether you raise the flag at sunrise or at a more leisurely hour of the morning, enjoy the two hundred-tenth anniversary of the Union and Old Glory fluttering in the July breeze.



Service Awards

The following employees received service awards during the month of June:

Thirty-Five Years
 Carl J. Klamut Applied Science
 Seymour J. Lindenbaum Physics
 Elinor F. Norton Chemistry
 Walter H. Tremel Applied Science
 Alfred P. Wolf Chemistry

Thirty Years
 Anthony J. Romano Nuclear Energy
 Richard Skelton AGS
 Eugene V. Weinstock Nuc. Energy

Twenty-Five Years
 Karl L. Abrams Applied Math
 Carl S. Advent Accel. Development
 Michael H. Brooks Reactor
 Leonard L. Chimienti AGS
 John J. Dabrowski Light Source
 Edward A. Frantz Physics
 Ernest Heppner AGS
 Fred Hohmann Fiscal
 Jadwiga Kycia Biology
 Anthony Natoli Jr. Applied Math
 Pat Taylor Applied Science

Twenty Years
 Richard J. Becker Chemistry
 George W. Cornish Jr. AGS
 Ella McLean Photo. & Gr. Arts
 Michele F. Montecalvo Jr. ... Sfgd/Sec
 Laurie T. Pollard Central Shops
 John S. Read Plant Eng.
 Stanley L. Ulc Physics
 Rudolf Zantopp S&EP

Ten Years
 Randy G. Abramowitz Light Source
 Lore M. Barbier Applied Science
 Michael F. Bonner Applied Science
 Cheryl R. Brown Staff Svcs.
 Patricia A. Cahill Safegrds. & Sec.
 Paul G. Falkowski Applied Science
 Tirre F. Farmer Plant Eng.
 Gina M. Flippen Medical
 G. Alanson Greene Nuclear Energy
 Marion V. Heimerle AGS
 Muriel Kolomick Applied Math
 Andy S. Kydes Applied Science
 William M. Morse Physics
 Doris Terry Nuclear Energy
 Mitchell D. Williams Accel. Dev.

BNL Swimming Pool

1986 Summer Schedule

Monday through Thursday
 11:00 a.m. to 1:30 p.m. employees only
 1:30 p.m. to 3:00 p.m. children's lessons
 3:00 p.m. to 9:30 p.m. employees/
 families/guests

Friday
 11:00 a.m. to 1:30 p.m. employees only
 1:30 p.m. to 3:00 p.m. children's lessons
 3:00 p.m. to 4:30 p.m. children's pool
 special
 4:30 p.m. to 9:30 p.m. employees/
 families/guests

Saturday & Sunday
 1:00 p.m. to 6:00 p.m. employees/
 families/guests

Daily Admissions
 \$1.25 ea. employee/family member
 1.75 ea. guest

Season Tickets: Present season extends
 through August 31, 1986.
 (Costs are not prorated)
 \$25.00 individual membership
 \$35.00 family membership (in same
 household)

Play Group For Children

Every Tuesday at 10 a.m., there is a play group for young children who live on site. The group gathers at the playground between apartments 5 and 7 in the apartment area. For more information, call Sue Mou, Ext. 3183.

BROOKHAVEN BULLETIN

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EAP News

Jannifer Hill, clinical psychologist and head of the Employee Assistance Program, has moved. She can now be found in Room 5-15 in Bldg. 490.

Astronomical Society

Because of the warm weather and the holiday schedule this month, two open observatory nights are planned: June 27 and July 11 (both Fridays). Objects of interest include several planets — especially Mars, which is at a favorable opposition — and the four-day old moon on the 11th.

Observation will begin around 8:30 p.m. on either night, and admission fees will be collected at the observatory. Those wishing to attend should call Bob Mills, Ext. 5043, or Rick Jackimowicz, Ext. 3803, during the afternoon of the scheduled date.

BNL Social Club

The first meeting of the new BNL Social Club will be held on Tuesday, July 8, at Berkner Hall, Room D, at 12:20 p.m. Stop by and see what activities are available. Ask questions, give suggestions and sign up. Dues are \$3 per person, \$5 per family membership. For more information, call Doris Terry, Ext. 2228.

Softball

Week of June 16
League I
 A-Team 10 - Six Pax 4
 Cool 'n Gang 15 - Moles 3
 Blue Jays 17 - Dirty Sox 6
League II
 AMD 12 - Phase II 5
 Binary Bombers 16 - Cutting Edge 6
 Lights Out 20 - Scram 19
 Magnuts 17 - Medical 2
League III
All games were double-headers
 Survivors 8 - Turkeys 4
 Survivors 15 - Turkeys 3
 Snakebites 16 - Who Cares 6
 Snakebites 17 - Who Cares 2
 Mole-Esters 18 - Farm Team 15
 Farm Team 23 - Mole-Esters 9
 Kidz-R-Us 10 - Source 4
 Kidz-R-Us 4 - Source 3
League IV
All games were double-headers
 No Feedback 10 - Mudville Sluggers 7
 No Feedback 21 - Mudville Sluggers 3
 Simply Awesome 20 - Spacekadets 8
 Simply Awesome 13 - Spacekadets 12
 Foul-Ups 24 - Who's On First 3
 Foul-Ups 10 - Who's On First 5
 Hit 'n Run 5 - Underalls 3
 Hit 'n Run 14 - Underalls 7

Cafeteria Menu

Week of June 30

Monday, June 30
 Cream of mushroom soup (cup) .65 (bowl) .85
 Baked chicken w/1 veg. (lite weight) 2.45
 B.B.Q spare ribs w/1 veg. 2.55
 Baked skinless chicken w/1 veg. (lite weight) 2.45
 Hot Deli: Pastrami (bread) 2.35 (roll) \$2.50

Tuesday, July 1
 Cream of chunky vegetable soup (cup) .65 (bowl) .85
 Turkey w/stuffing and 1 veg. 2.55
 Salisbury steak w/1 veg. 2.45
 Hot vegetable plate (lite weight) 2.25
 Hot Deli: Corned beef (bread) 2.35 (roll) \$2.50

Wednesday, July 2
 Chicken noodle soup (cup) .65 (bowl) .85
 Eggplant Parmesan w/1 veg. 2.55
 Fresh broiled fish (lite weight) 2.65
 Hot Deli: Roast beef (bread) 2.35 (roll) 2.50

Thursday, July 3
 Snack bar only

Friday, July 4
 Snack bar only

Speaking Out

Reporter: Marsha Belford
 Photographer: Peter Horton

Twenty-four of the 39 employees who attended the American Lung Association's Freedom From Smoking workshop quit smoking. Since "quit night," February 11, they have struggled with the craving for cigarettes, taken up new activities to avoid smoking and formed new identities as non-smokers. Workshop members met recently to discuss their progress and problems as non-smokers.

Another workshop will be offered this fall; to enroll, drop a note to Health Promotion Specialist Elaine Friedman, Bldg. 490.

Marie Hobson (DAS) — Believe it or not, I had chest pains from smoking — I would cough so hard my chest would hurt. I had smoked a carton a week, and I had my last cigarette at 8 p.m. on February 26, before quit night. I feel so much better — no more coughing or chest pains. I find it helps to stay away from people who smoke because I smell the smoke and crave a cigarette. It only takes one to start smoking again, but I remind myself that my health is more important.



Harry Ackerman (NSLS) — I decided to quit because of peer pressure — no one in the group I work in smoked besides me and they would get irritated with me when I did. If I had really put my mind to it, I could have quit alone, but quitting with other people was more fun — I wasn't the only one going through it. I quit on quit night, but in the beginning it was very hard because I would come home and my wife would be smoking. But I got her to quit as well.



Sue Norton (ADD) — My son was quite obnoxious to me about my smoking — he kept saying, "You ought to quit, it's making you sick." And he was right — I had developed a smoker's cough and shortness of breath. I had smoked a pack and a half for 15 years, and I was beginning to look like a statistic. I had put off quitting for years — I needed someone to tell me when I was going to quit, give me a date, so the course was helpful in that way. I quit on quit night, and I have not smoked since. Quitting was so awful, I do not want to put myself through it again. In the beginning, I had a very short temper and gained ten pounds, which I am working off. But I love being a non-smoker. In fact, I really don't have to carry a purse any more because it just housed my cigarettes.



Jutta Paparelli (Bio.) — I smoked a pack a day for nine years, and I was afraid of cancer and emphysema. When I'd smoke a cigarette, I'd ask myself, "Why am I doing this to myself?" Now that I don't smoke, I like not having the cotton taste in my mouth, and food tastes better. In the beginning, I was really tired, but now I'm back to normal. I've had three cigarettes since quit night. My husband smokes and he lights up after dinner — that's when I've cheated. I try to clear the table right away so I'm not tempted.



Ron Manning (Phys.) — I smoked for 20 years and I tried to quit 12 times before. Since the quit-smoking workshop was offered on site after work, it was convenient to try again. I feel healthier and more in control of my health. I have not quit 100% — I slip up when I am driving the car, but I feel that I will soon have that under control. If the course were given again and I had not yet completely stopped, I would take it again for reinforcement.



John Johnson (DAS) — I quit because it is nice not having cigarettes controlling my life. It was a drag being dependent and having to buy cigarettes all the time. I also knew my breathing was not as good as it should be because I was wheezing. I quit, but it is a constant struggle, which I lose sometimes — especially if I am up first in the morning or if I stay up late at night. I know when I get a craving, I have to modify my behavior, substitute something else instead of cigarettes as a way to cope.



Sharol Owens (S&SD) — I was sick and tired of smoking — after nine years, a pack and a half a day, it had become something I just didn't like doing anymore. I love being a non-smoker — I have detached myself from cigarettes. I'm doing great at it — I just keep my mind on other things, and the craving to smoke is half as much as it used to be. It is there when I have to wait — but I just take my mind off of it. I can't explain why the program helped me, but it just made me stop smoking.



Bill Cahill (NSLS) — I had just had a physical and I passed with flying colors, so I decided to quit while I was ahead. I had smoked for 30 years and quit five times before, but I am succeeding better this time because of the workshop — it is the best thing I ever spent \$10 on. When you quit alone, you stand alone, but when you quit with your co-workers, you have a built-in buddy system. I also got my wife to quit. One of the workshop's rules that I found very helpful is, "Don't say you are never going to smoke again, say you are not going to smoke today."



Tennis Fun Day

Tennis tournaments for men and women will take place tomorrow, June 28, starting at 9 a.m. Players who have not yet signed up may play if they show up at the courts by 9 a.m. Don't forget to bring a can of tennis balls.

Other employees should note that the tennis courts will be out of play most of the day on Saturday (or Sunday, the rain date).

All film badges will be changed tomorrow. Please place your badge in its assigned rack space before leaving work today.

Note to Diners

The Cafeteria will be open only from 9 a.m. until 2 p.m. on Thursday and Friday, July 3 and 4, due to the holiday.

The Center Club will be closed on Friday, July 4, reopening Sunday, July 6 at 5 p.m.

The vended food service in Bldg. 912 will be in operation continuously.

Notice

Because of the holidays on July 3 and 4, the Bulletin will not be published again until July 11. Classified ads for that issue must be submitted by Tuesday, July 1, at 4:30 p.m.

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 and/or appropriate bargaining unit, 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 Employment Manager, Ext. 2882.

THE VACANCY LISTED BELOW HAS BEEN EXEMPTED BY THE DIRECTOR'S OFFICE FROM THE CURRENT FREEZE ON OPEN REQUISITIONS.

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside applicants.

2453. ENGINEERING POSITION - Requires MS or PhD in mechanical engineering and relevant experience in high vacuum systems, large magnets, electromechanical devices, support structures, survey and alignment and rf cavities. Will function as Chief Mechanical Engineer for the Booster Project and be responsible for the design, construction and installation of mechanical components and systems. Accelerator Development Department. Reposting of Job #2447.

Autos & Auto Supplies

83 HONDA - CB1100F, Super sport, red, white & blue, limited edition, good cond., many extras, best offer. 298-4148, after 6 p.m.

73 CHEVY NOVA - V8, p/s, a/t, 4 new tires, new brakes and battery, just tuned, runs very well. \$475. Ext. 3370 or 751-2469.

78 FIREBIRD - p/s, p/b, a/c, am/fm cass., good cond., asking \$2,500. Ext. 2119 or 874-8786 after 6 p.m.

72 PONTIAC - 6 cyl., a/t, 115k mi., best offer; rims, 16" bud wheels for dual wheels. 225R-15 tires. Ken, 289-8212 eves.

81 CUTLASS SUPREME - 2 dr, V6, a/c, p/s, p/b, am/fm radio, w/w radial tires. \$4,300 or best offer. Ellie, Ext. 3395 or 325-1537 after 6 p.m.

81 HONDA XR185 - Enduno, excel. cond. \$350. Dick, Ext. 3499 or 589-9103.

83 PLYMOUTH RELIANT - a/t, 4 cyl, 4 dr, p/s, p/b, am radio, 10k mi., like new. \$4,500. 289-6028.

78 TOYOTA COROLLA - hatchback, good cond., 5-spd., excel. gas mileage, 66k mi. 935-5366 eves.

77 FORD GRANADA - 2 dr. sed., needs eng. work, body excel., best offer. 924-6348.

72 TRAIL KING - pop-up camper, v.g. cond., hard top, dinette, sink & stove, sleeps six. \$1,100. Mike Ext. 3476, 473-2863.

83 FORD ESCORT - 4 dr, a/c, p/s, a/t, am/fm stereo cass. \$3,600. Neil, Ext. 2023.

73 OPEL - good running cond., model station wagon cadet. \$100; 68 Road Runner (Super Bee), blue, just body, no eng. \$800. 924-0960.

79 FORD PICKUP - F150, 4x4, 300 cubic inch, \$2,500. Ext. 5295.

83 PLYMOUTH TURISMO - 29k mi., 2.2 l, 5-spd, sunroof, Shelby sports package, louvers, GT-tires, stereo, loaded, mint cond. Ext. 2368 or 928-6654.

1980 OMNI - 4 dr., a/t, new radiator, 76k mi., \$1,500.; shop manuals for Ford Pinto. 928-2803.

74 CORSAIRE - 11 1/2 ft. truck camper, hot water, shower, bathroom, holding tank, am/fm radio, awning good cond. 874-2961.

81 PONTIAC - station wagon, 38k mi., excel. cond., a/t, a/c, am/fm, orig. owner, garaged, rack, \$4,100. 365-8748, eves.

83 S10 BLAZER - V6, a/t, red, excel. cond., extras, \$7,500. 929-4437.

83 PULSAR - 4 dr. sedan, loaded, 5-spd, mint, book worth: \$4,800, neg. Ext. 2198 or 744-4662.

82 TOYOTA TERCEL - 5-spd, 4 dr., deluxe, am/fm cass., 53k mi., garaged, excel. cond., \$4,500, neg. Jag. Ext. 5080 or 751-1884.

80 CITATION - sports coupe II, new eng., new battery, new tires, a/c, p/s, p/b, m/t, stereo, 4 spkrs. extras \$2,250. Marv, Ext. 3440.

80 OLDSMOBILE OMEGA - 4 dr. sedan, 4 cyl. p/s, a/t, 85k mi., \$1,500. Randy, 751-2634 after 6 p.m.

84 HONDA PRELUDE - mint, blue, a/c, am/fm stereo cass., sunroof, 5 spd. \$7,900. 286-8814 after 6 p.m.

80 CITATION - 4 dr., 4 cyl. a/t, p/s, p/b, a/c, am/fm, 74 ki mi., v.g. cond., \$1,600. 751-4491.

76 GRANADA - p/s, p/b, a/c, am/fm, v.g. running cond., \$650 or best offer. 732-6131 after 4 p.m.

73 PLYMOUTH KUDA - new eng., trans., best offer. 928-7139.

72 CHEVY NOVA - 350 eng., V8, a/t, \$1,000. 473-8835.

73 VW BUG - a/t, 20k on new eng., rebilt. trans., v.g. cond., \$2,500; 73 VW SQUAREBACK, std., new muffler, alt. & batt., reliable, \$750, Ext. 4463 or 751-2422.

76 VW RABBIT - 2 dr, 43k mi., runs well, must sell, \$1,000. 282-2516 room N8, after 6 p.m.

78 TOYOTA SR5 - pickup, long bed, 5 spd., 64k mi., am/fm, cap, Michelin tires, \$2,000. John, Ext. 4120 or 929-8204.

73 BUICK ELECTRA - 4 dr., full-power, orig. owner, v.g. running cond. \$750; 71 VW Fastback, good running cond. \$500. Lou Pergola, Ext. 3499.

ROLL BAR - fits mini pickup, Mazda, Toyota, Courier, etc. 744-3709.

68 AMC REBEL - runs. Ext. 5012.

72 VOLVO - good cond., needs some work. \$700; 74 Toronado, rebuilt 455 engine, excel. running cond. \$850. 475-8440.

73 VW - Super Beetle, needs a starter. \$150. 286-0714.

73 FORD - full size Ranchwagon, seats 8, dependable trans., new battery. \$690. Jack, Ext. 4447 or 744-3919, eves.

61 HARLEY FLH - fatbobs, solo seat, runs great, extras. \$3,750. Mike, Ext. 2023 or 585-8809.

73 GMC VAN - needs a little body work. \$400. 732-8303.

71 NOVA - rally sport, p/s, p/b, 400-4 barrel, alum. manifold/headers, wide tires, rally wheels, 350 trans with Fairbank shift kit. Asking \$1,800. 286-3149 after 5:15 p.m.

84 CHRYSLER LeBARON - 4 dr., p/s, p/dr. lk., 6 spkrs, etr stereo/cass, p/ant., a/c, white/blue vel. int., 23k, mint. \$7,500. Ext. 5176.

74 AMC HORNET - a/c, p/s, p/b, am/fm cass., 2 new tires, 58k mi., dependable. \$500. Leslie, 878-0375 after 6 p.m.

80 BUICK RIVIERA - all pwr, V8, low mi., mint cond. Asking \$5,200. 589-6803.

TIRE - Peerless Point GR70-15, almost new. \$50. Ext. 2913.

78 CHEVY - C10 Van, 58k mi., 6 cyl., 3 spd. manual, \$2,500. Wait, Ext. 4028.

70 OLDS - Cutlass, good running cond. \$200. Ext. 4219.

86 FORD ESCORT "L" - new, take over payments, \$176/mo. Gene, Ext. 5293.

84 HONDA - 125 ATC, great shape, asking \$850. Dave, Ext. 4417, 929-3620.

CARRIER ROOF RACK - for Volks. \$10. Ken, Ext. 2705.

59 CHEVROLET WRECKER - mechanically sound, cosmetically unsound. \$350. 286-1829.

78 OLDSMOBILE - Custom Cruiser, 9 passenger, excel. body, replaced gas eng., new tires. Ext. 3129 or 3737.

84 TOWNE & COUNTRY CHRYSLER - wagon, fully equipped, mint cond., 32k mi. 477-2262 after 6 p.m.

71 DODGE MONACO - 4 dr., ht. 8 cyl., a/t, p/s, p/b, a/c, good cond., dependable. Asking \$975. Ray, 727-3608.

83 FORD ESCORT - 4 dr., p/s, a/c, a/t, am/fm stereo cass. \$3,700, neg. Neil, Ext. 2023.

78 TOYOTA CELICA - GT coupe, 5 spd., special black ed., sunroof, a/c, am/fm cass., excel. cond. \$3,000. Donna, Ext. 2085 or 277-7770, eves.

82 DATSUN SENTRA - 4 dr. hatchback, sunroof, a/t, p/s, p/b, a/c, am/fm radio, excel. cond. \$4,500. 728-6353.

69 VW - custom Hot Rod bug, needs work, \$600 or best offer. Fred, Ext. 7947, 4623 or 588-2268.

85 SUZUKI DS80 - off-road bike, new. Richie, Ext. 2175 or 734-7342.

76 WILDERNESS CAMPER - 18 ft., sleeps 6; 76 Wagoneer w/tow package, \$6,200. 585-3417, eves.

73 PEUGEOT - gas reb. eng., new exhaust system, sun roof, p/s, p/b, p/w, \$2,400. Ext. 6693 or 363-6787.

80 MERCURY ZEPHYR WAGON - 200 c.i., 73k mi., p/s, p/b, stereo, v.g. cond., \$2,300, avail. 7/10. Raul, Ext. 4331 or 924-1421.

79 FORD LTD WAGON - a/t, p/s, p/b, a/c, many new parts. 85k mi., excel. cond., \$2,200. Ext. 2245 or 289-5796.

81 DATSUN 510 - 4 dr hatchback, 5 spd., a/c, sunroof, perfect looking and running. \$3,500. Ext. 3896 or 475-0386.

POP-UP CAMPER - hard top, sleeps 6, stove & sink, \$600. John, Ext. 3675 or 924-3528.

80 PONTIAC LeMANS - 2 dr., 6 cyl., a/t, p/s, p/b, 65k mi., good cond., \$2,500. Ext. 2435 or 3035.

75 DUSTER - runs very well, needs repair of K-frame. \$400. Barbara 281-5563.

73 LTD - runs well, best offer; 70 PONTIAC TEMP-EST, runs well. \$200. Ext. 4597.

Boats & Marine Supplies

21' VENTURE - will consider sharing ownership. Bill, Ext. 2103 or 331-4768.

82 BOSTON WHALER - 12 1/2' inflatable boat, excel. cond. \$450. Dick, Ext. 3499 or 589-9103.

16' ALUMICRAFT - runabout, needs work, \$125. 289-8212.

21' SHARPIE - good work boat, \$400. 732-3707.

CATALINA - 27 sloop, 1976-77, 3 sails, inboard, cruise equipped, v.g. cond. Ext. 2144.

CANOE SAILING RIG - for 17' canoe. Ext. 4044.

21' 84 SUNRUNNER - 140 Merc I/O, 84 Easyload Shoreline trailer, power winch, 30 hrs on motor, full canvas. Asking \$13,000. Ext. 3536 or 399-6729.

78 JOHNSON - 140 h.p., many new parts, runs well. Asking \$1,000. 589-6803.

16' BAYLINER - Cuddy cabin, low hours, 85 hp engine, trailer, GC package, cover, garaged, extras. \$7,000, firm. 289-3360.

ANCHORS - galvanized, Danford, assorted sizes. Ken, Ext. 2705.

20' MAKO - 175 hp, winch, full canvas, many extras, like new \$10,500; MERCURY OUTBOARD - 4 hp \$250, 286-1829.

Miscellaneous

COLONIAL - sofa, chair, rocker, ottoman, pine frames, coffee table, three side tables, excel. \$950, Ext. 2529.

SOFA - set 6 pc. \$400; bunkbed, 9 pc., \$500; single bed, complete \$75; dresser w/mirror, \$60, recliner, \$75. 928-5737 after 6 p.m.

HAND PUSH MOWER - \$10; Hoover deluxe quick-broom, used once, \$20; good window fan, \$20. 878-6637.

3M DISKS - 5 1/4" ds/dd new, top quality, \$10/10 Jim, Ext. 3372.

HUTCH - solid cherry wood, glass doors, 5'/w, \$60; color TV, 15", Sony, triniton, \$100; UHF antenna and pole, \$20. 751-4491.

COLOR TV - Sharp 19", cable ready, excel., \$125. Ext. 4745 or 722-4076.

CONCERT TICKETS - Bob Dylan/Tom Petty, July 15, MSG, \$30/ea. Toni, Ext. 5257.

DOORS - combination storm-screen 32"x80" & 36"x80", good cond., all parts. 473-7667.

PUMP - 3/4 h.p., shallow well, Rapidayton, excel. cond., \$100. 325-0447 after 6 p.m.

SONY STEREO - component system, 55w/channel, receiver, cass., equalizer, turntable, 2 extra large Jensen spkrs. \$500. Rich, 281-1893.

BED - full size mattress, bedspring, frame, \$75; pull out couch w/queen size bed, \$275. 286-3865.

LIVING ROOM COUCH - & 2 chairs, moving, must sell by June 26. \$100, Carol, Ext. 7215 or 363-2268.

AIR CONDITIONER - 20,000 btu, window type. \$40; Enc. Britannica, w/bookcase, \$35. Ext. 4043 or 878-6676 after 6 p.m.

COAL STOVE - Sundaic Southport McK 512, 44,000 btu, auto, feed, heats 13,700 cu. ft.; Comb. alum. storm door screen, wood front door, weatherstrip with weatherstrip jambs, 1 1/2x36x6"8". 475-0509.

BOW/ARROW - Fred Bear whitetail compound, quiver sights, gloves, extras. \$100. Mike, Ext. 2023 or 585-8809.

RANGETOP - 4 burner, Hotpoint, 20"x20 1/2", \$50; Birch box cabinet for rangetop, \$50; 5 day packs, w/side pockets, \$6/ea. Jack, Ext. 4447 or 744-3919, eves.

ORGAN - electronic, upright, \$175; humidifier, \$45. Mary, 744-7242 after 4 p.m.

LARGE FREEZER - G.E. upright, white. \$100. 751-0923.

PRINTER STAND - computer new, \$15; two (8") disk drives w/supply, manual aligned, \$175. Rich, Ext. 4172.

ACOUSTICAL GUITAR - guild w/case, \$75; IBM electrical typewriter, model B, w/wide carriage, \$250. Susan, Ext. 4267.

VANITY - 36" white with pink and gray swirls plus pink marble top, brand new, never used. \$160. Joan, Ext. 2922 or 295-1588.

HUFFY - 8 h.p. electric start riding mower, \$75; Sanyo 555X computer and Panasonic 1091 printer, 256k, complete w/manuals and software. Bob, Ext. 4551.

AIR CONDITIONER - Sears energy saver, 5,000 btu. \$75; Moped, Jawa 100 miles, \$300. Ext. 4312.

CUSTOM ROD - Penn Internat'l 30, #50 rod blank. \$350; Fences, turkey wire, 1 roll (1x1x24"), chicken wire, 1 roll (1x1x72"). \$20 each. 286-1829.

COMPUTER - Tandy, 4 hp, dual disk drives, green screen plus software, \$500; disk drive, portable for model 100, plus lots of software, \$200. Tom, 736-6691.

SEWING MACHINE - Coleman stove, Coleman cooler (54). Ext. 3129.

BELL & HOWELL - super 8 movie camera w/power zoom, \$40. Sal, Ext. 2460 or 744-9822.

PEAR SHAPE DIAMOND RING - 14k yellow gold, .31 pt, white color stone, \$700. Mike, Ext. 2023 or 585-8809.

PULLMAN CONVERTIBLE - couch, folds out to double bed, \$10. Bill, Ext. 2906 or 929-6189.

TYPEWRITERS - assorted vintages, \$8/ea.; hand-operated meat slicer, all metal, \$10. Ext. 3486.

TOSHIBA - 19" color TV, used 9 months, electronic tuning, \$150. Raul, Ext. 4331 or 924-1421.

SOFA - excel. cond. Ext. 4192 or 751-7787.

LIVING ROOM CHAIRS - large pair, two sets slip-covers, perfect for den, excel. cond. 924-3821.

19" COLOR TV - brand-new, must sell. Ext. 2245 or 289-5796.

HOME COMPUTER - TI-99/4A with tape drive, mini memory, chess, assembler, manuals. \$60. Dezh, Ext. 5236 or 2287.

TYPEWRITER - Royal manual office type, \$20; GE stereo w/8 track & 2 spkrs, \$25. both excel. 751-1884.

COLOR TV - 20", like new, less than 1 year old, \$120. Ext. 2435 or 3035.

AQUARIUMS - 10 and 20 gallon tanks, stand, and accessories for sale. Ext. 5723 or 736-7236.

GOLF CLUBS - complete set, custom made Pedersons, plus bag. \$175. AT9-5583.

HIGH TOPS - size 9 1/2, white w/black strips, v.g. cond., best offer. 286-3742, eves., weekends.

FURNITURE - beautiful colonial walnut shelf, \$150; loveseat, \$60; folding bed, \$40; food processor, \$40. Rajiv, Ext. 5161 or 924-1460, eves.

HEDGE TRIMMER - Craftsman, electric, double-edge, like new, \$25; baby scale, like new. Frank, Ext. 3120.

CASTRO CONVERTIBLE - 8'; china closet, large walnut; pole lamp, three Italian globes, excel. \$50. Ext. 2529.

BEDROOM SET - 1949 light wood, double bed, dresser, large mirror, chest, nite table, mint. Ext. 2529.

BEDROOM SET - excel., dresser, mirror, double head/foot board, frame, night stand, chair, bench. 928-4068 after 4 p.m.

TRAVEL TRAILER - for rent, 24ft Wilderness, fully self contained, will tow to location, weekend, \$135; one week, \$250. Chris, Ext. 4028 or 399-3732, eves.

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 Rent

PINE HILLS - country club apts., 1 bdrm, sublease, pools, golf, tennis, \$520 mo. + util., security. Ext. 4666 or 878-6528.

SELDEN - studio apt., pvt. ent., l/r-b/r combo, eik, near trans. & stores, no pets, \$460 inc. utilities. 698-8514 after 5 p.m.

STONY BROOK - September, large 4 bdrm, 2 1/2 bath, center hall colonial, all appliances, pool, c/a, 2 car garage, near University and mall. \$1,500/mo. 349-0077, eves.

MASTIC BEACH - late summer, 4 bdrm Cape across the street from private beach, nice fenced yard. \$750/month. 349-0077, eves.

PORT JEFF. STA. - 2 bdrms, full bath, full kit., sep. ent., w/w, new, professional single or couple. \$600/mo. 928-3033.

AQUEBOGUE - 3 b/r ranch, fenced in backyard, town water, 20 min. to Lab, starting October 1, \$750/mo + util. 722-4644.

HILTON HEAD, S.C. - condo, tennis, beach, pool, golf, 2 bdrm., many extras, sleeps 6, - \$400/wk, \$200/4 days. 585-9149.

SHOREHAM - avail. Oct. 1 for 1 yr. SWR schools, beach rights. 3 bdrms, 2 baths, l/r, d/r, fam. rm., eik, basement, special rate for animal lover. 744-3744.

WADING RIVER - fully furnished 3 b/r house, newly refurbished, on pond, SWR schools, avail 9/86-6/87. Ext. 3822 or 929-6527.

VERMONT - vacation, 3 bdrm house, f/p, fully equipped, beautiful view, woodland, trails, alpine slide, summer theater, boating, etc., family oriented, avail. weekly, 732-6499 after 6 p.m.

PORT JEFF. - 2 rms to rent, kit, privileges, short walk to town. \$300 - \$325 plus. Ext. 7633.

STONY BROOK - 2 room apt., immaculate, sunny, priv. ent., near SUNY, non-smoker, single, references. \$500, inc. utilities. Ext. 2959, 751-0023.

WHITE MOUNTAINS, NH - lovely 3 bdrm, 2 bath, riverfront condo, cable TV, HBO, f/p, private deck, view, pool, tennis, clunhouse, jacuzzi, near all, area attractions, golf, weekly July-Aug. \$425. June and Sept. \$390. Phone 914-232-4039.

For Sale

SHOREHAM - spacious 4 bdrm, 2 1/2 bath, colonial, eik, l/r, d/r, fam. rm. w/fp, 2 car gar., full bsmt., 3/4 acre, garden, SWR sch. dis., \$195,000. 744-4594.