BROOKHAVEN BULLETIN
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BROOKHAVEN NATIONAL LABORATORY

What's Under The Ice?

This winter, Mother Nature has been very considerate of energy-conscious home owners on Long Island. But it hasn't been a good winter for George Hendrey and a team of scientists who study acid rain in the Adirondacks. Winter sampling in upstate New York, is an integral part of their research, and they need temperatures cold enough to freeze lakes and snowfalls heavy enough to accommodate snowmobiles and cross country skis.

They were supposed to do field work in December, but the lakes were not frozen. They tried again in January, but there wasn't enough snow. Finally, all the conditions were right in February. Hendrey, Lee Conway, Helen Quinby, Emmett Soffey, and Joe Tokos went up for four days of field work.

Hendrey is head of the Land and Freshwater Environmental Sciences Group in DEE. Under grants from New York State and the Electric Power Research Institute, they are studying effects of acid rain on the environment. The group's research is divided between land and water studies.

Winter sampling of lakes is just part of a year-round water sampling program. Actually, the lakes are sampled regularly through the year by a rotating staff of BNL employees who are assigned to a field laboratory at Racquette Lake, New York, about an hour and a half drive away from Lake Placid. The laboratory is a permanent facility shared with other institutions that also study acid rain.

According to Hendrey, a frozen lake presents a special condition. During winter intensives, as these field trips are called, a much larger BNL crew goes up there to do a lot of work that is not done routinely. In fact, the BNL people are joined by scientists from Cornell, Dartmouth, Rensselaer Polytech, U. of Virginia and the U.S. Geological Survey. They sample not only lakes, but also vegetation, snow pack, soil and ground water in the surrounding watersheds.

Hendrey's group is trying to find out what makes a good lake go bad and what are the consequences of lake acidification.

Lakes become acid because of acid precipitation, which includes rain, fog, dew and snow. It is caused by air pollution containing sulfuric and nitric acids, pollution coming mainly from power and industrial plants burning coal and oil.

Acidity is measured by the pH scale, which ranges from pH 1 (very acid) to pH 14 (very alkaline). Since the scale is logarithmic, every number is ten times greater or smaller than adjacent numbers. (For example, pH 5 is ten times more acid than pH 6). Normal rain or snow has a pH of 5.6. In the northeast U.S., the average pH of precipitation is about 4.2 to 4.0, which is the same acidity as beer.

As lakes are acidified, they begin to lose species of plants, invertebrates and fish. In lakes with pH levels of from 5.2 to 4.8, fish are usually eliminated. Half of the high elevation lakes in the Adirondacks have no fish because they have become too acidic.

Emmett Soffey, BNL, and Rob Edwards, U. of Virginia, prepare to use a probe for measuring lake temperature, pH, conductivity and oxygen concentration. When this picture was taken, the ice cover on the lake was very thin. Exposure suits and life vests protect them from an unexpected dunking.

The BNL scientists are comparing three lakes and their surrounding watersheds. The lakes were chosen for their varying levels of acidity. Panther Lake is neutral, pH 7.0; Sagamore is moderately acid, pH 5.5; and Woods is very acid, pH 4.9. These three were also picked because they receive little or no human traffic, roads are within a half mile, and access is controlled.

When a lake is frozen over, the lower water in the lake (hypolimnion) behaves like water in a big bottle covered by a lid. Biological and chemical processes occuring in the lake are trapped by the ice cover, making winter an ideal time to study lake metabolism.

To do their winter sampling, the BNL scientists get to the lakes by snowmobile, towing their sampling equipment in trailers. Some use cross country skis to get in. Out on the lakes, they drill holes through the ice and lower various instruments that take samples of water, phytoplankton and sediment. Analyses are done back at the field laboratory.

(Continued on page 2)

Setting Up A New Network

It will be another year before 3500 new beige, touch-tone telephones start appearing on desks around the Laboratory. In the meantime, there is a lot to be done both underground and inside 176 BNL buildings.

Preparatory work is now under way in anticipation of an in-service cutover date of April 1981 from the Bell Centrex I system to a new General Telephone and Electronics System (GTE).

Coordinating the installation, and responsible for coding the data base and programming the new machine is John J. Fahey, GTE Project Engineer. Fahey has been on site for about six months.

During this time, he and BNL Telecommunications Coordinator Jim Vance have made a survey of the number of instruments currently in use, and the calling capability of each. According to Fahey, the kinds of service needed in each department under the new system will be determined by how the phones will be utilized. GTE customer service advisors will assist BNL personnel in determining the proper telephone instrument for each location.

The GTE system being installed at Brookhaven is an expanded version of a GTD 4600 digital business service module. It will be able to handle 3500 lines immediately, is wired to handle 5000 lines on demand, and can expand to 7500 lines if that becomes necessary. At present, Brookhaven has a little over 3000 lines.

In addition to Fahey, a foreman and 16 installers from GTE are on site. They have started replacing interior cable in buildings such as 475 and 134, the Center, the Guest House, and summer houses. As the buildings are recabled, the GTE installation staff will meet each department administrator to explain just how they will replace interior cable. " We will try to do it," says Fahey, "so that there will be minimum interruption in your day's routine."

In another few months, an additional crew will come to BNL to replace the outside cables. All the cables will be underground and, as the crew will be using existing duct work for the most part, Fahey says there should be minimum digging and consequently little disruption of the site. The underground cable system will lead to the building which will house the computer control of the switch and the interconnect with the Bell system. (See box). The target date for completion of this building is August 15.

As with the current system, not every phone will have the full "treatment." But for those which do, many new features will be possible. These include transferring calls to another extension without the services of an operator, and conference calls involving up to 11 people. "You can do amazing things with just a single line instrument," say Fahey.

To acquaint employees with these features and to show them how to achieve maximum use of their phones, GTE trainers will come on site about four months in advance of the cutover and will remain as needed after the event.

Doug Humphrey

John Fahey

Phone Finds Home

The new structure which will house the GTE system's control equipment will actually be an addition to the gymnasium. It will be located on the north side of the building, and, except for some minor disruption during the construction period, will not affect the gym's interior.

The decision to build a new structure was not an uncomplicated one. At one point, it appeared that the switch would have to be installed inside the gym, in the area where the physical activities rooms are located. This prompted a spate of protests from exercisers and weight lifters who feared being dispossessed. Happily for them, this option has been discarded for both fiscal and physical reasons.

Originally, the Lab had planned on locating the new system's switch in the building which now contains the Bell controls. But the plan had to be abandoned because that building is not fireproof. Three existing buildings did meet the fireproof requirement. One was eliminated because the dimensions were unsuitable; another would have required extraordinary expenses to move existing equipment. That left only the north end of the gym, where the physical activity rooms are located.

This area met all the specifications, and renovation costs were within reasonable limits. It was planned to use the concrete ceiling of the new switch room as the floor for a new physical activity room.

As planning progressed, however, it became evident that the auxiliary equipment for the switch would take up more room than originally presumed, and that there would not be enough space above the switch room to house an activity room.

So it was back to the starting gate. Originally it had seemed that a new building would be far more expensive than the renovation of existing space. But considering the extensive (and expensive) alterations which were becoming necessary, it now appeared that new construction might cost no more than renovation of the gym.

The numbers did, in fact, come out to show that costs would be approximately the same for either renovation or new construction. And so the decision has been made to leave the exercise and weight rooms as is, and build an addition to the gym to house the GTE switch – a solution acceptable to all.

Service Awards

The following employees will receive service awards during the month of March, 1980.

Thirty Years

Harry Palevsky.....Physics

Twenty-Five Years

William Bornstein.....Energy & Env.
Joseph Forrest.....Energy & Env.
Robert B. Gottschalk.....Accelerator

Twenty Years

William E. Adams.....Accelerator
Antone B. Chituk, Jr.....Medical
Ronald L. Clipperton.....Accelerator
Peter T. Fallon.....Energy & Env.
Christian H. Harbach.....Accelerator
Walter L. Hensel.....Accelerator
Russell F. Lowell.....Accelerator
Kenneth E. Robins.....Accelerator
Gaylord N. Wall.....S & E.P.
William L. Wyche.....Plant Engrg.

Ten Years

Gerard Tanguay.....Accelerator

Arrivals & Departures

Arrivals

Dwight C. Brown.....Personnel
Roderich J. Engelmann.....Accelerator
David E. Gough.....Accelerator
David D. Hansen.....Energy & Env.
William F. Hempfling.....Personnel
Hwei-Lin Hong.....Energy & Env.
Richard M. Lopez.....Plant Engrg.
Nabil A. Morcos.....Nuclear Energy
John H. Poole.....Accelerator
Koki Sato.....Biology
Michael J. Tannenbaum.....Accelerator
James E. Wegrzyn.....Energy & Env.

Departures

David W. Campbell.....Ph. & Gr. Arts
Haresh B. Goradia.....Nuclear Energy
Vesselin T. Kovachev.....Accelerator

Library Dedicated To Chernick

Jack Chernick was Head of the Reactor Physics Division at the time of his death in 1971. Well-known for his pioneer work in reactor physics, Mr. Chernick was one of the inventors of the High Flux Beam Research Reactor. In 1973, the Division's library was named the Jack Chernick Memorial Library. Through the years, the library has evolved into a larger collection on reactor physics, reactor safety, nuclear technology and nuclear waste management. Last week, it was officially dedicated in its new quarters in Building 130 as the Jack Chernick Nuclear Safety Library. Attending the ceremony were (left to right) Melvin Levine, Associate Chairman of the Department of Nuclear Energy; Mr. Chernick's widow, Norma; Herbert Kouts, Chairman of DNE; and Warren Winsche, Deputy Director.

—photo by Rosen

Lost Equipment

About February 15, 1980, a shipment from Hinds International, Inc., was delivered to an incorrect location. The missing item is a calcium fluoride dichroism stress place modulator with associated power supply, and was supposed to be delivered to Building 426.

Anyone having knowledge of this carton weighing roughly 12 pounds, please contact Robert Hannel, Ext. 2309.

Acid Rain

(Cont'd)

Water samples yield data on chlorophyll concentration, dissolved inorganic carbon, dissolved organic carbon, total particulate matter, organic matter, calcium, magnesium, aluminum, sulfate, nitrate, nitrite, ammonium, and iron. Phytoplankton biomass is also measured. And sediment samples are analyzed for carbon and chlorophyll content. As Hendrey says, however, it's one thing to collect data. It's another to take that data, interpret the numbers, and draw conclusions. For example, the study is finding that several sources of acids contribute to lake acidification. Acids produced in soils of the watersheds play a much larger role than anticipated. This was found by doing a materials balance, in which, like balancing a household budget, all the inputs and outputs are accounted for.

The study has also shown that numbers of species of phytoplankton decrease as acidity increases. And Woods Lake, the most acidic of the three, now has no fish, when formerly it was a good fishing lake.

This is only the second year of sampling. As the program continues, the group will eventually be able to see patterns in how the lakes are changing, and they will be able to build an integrated view of how the watersheds and lakes handle acid and are affected by acid.

Their long range plan is to develop information that may be used by state and federal regulatory agencies to set reasonable air quality standards that will protect environmental values.

Last winter, the BNL team had a single winter intensive in the Adirondacks. This winter, they plan on a total of three winter intensives. So with some cooperation from Mother Nature, they will make the trip again, this month and next, and probably for several winters to come.

Retraining For Women Graduates

Women graduates in chemistry, physics, mathematics and biology, who are not currently working in the fields for which they are trained, can be helped toward a new career in materials sciences and engineering. The State University of New York at Stony Brook, with the support of the National Science Foundation, will again offer a one year program which enables participants to acquire up-to-date skills now in demand in U.S. industry, and will provide sufficient background to enable them to re-enter graduate school for materials sciences and engineering studies.

The program, called WISE (Wo-in Science and Engineering) will begin in the school year 1980/81. Out of a group of 20 participants in the first program, half have obtained engineering positions, and half elected to pursue graduate studies.

For further information and application forms, contact Prof. P.J. Herley, or Prof. F.F.Y. Wang, Dept. of Materials Science and Engineering, College of Engineering and Applied Sciences, State University of New York, Stony Brook, N.Y. 11794, or call them at 246-6754, 246-5980.

Postal Note

Here is one way you can save the Lab some money. Avoid mailing items weighing 2 ounces or less, **third class**, in an envelope 9"x12" or 9½"x 12½". You will save the Laboratory mailroom a surcharge of 7¢ per envelope.

The correct way to mail such items, according to U.S. Postal Service regulations, is in an envelope no bigger than 6⅛" in height, 11½" in length, and ¼" in thickness. You can get 6"x9" manilla envelopes, which meet the size requirements, from Supply and Materiel, stock number S-32210. If you mail a lot of reprints, just fold them in half to fit.

Of course, if the item you are mailing third class weighs more than 2 ounces, you can use the larger envelopes without a surcharge.

TASHI In Concert

The instrumental ensemble TASHI will perform at Berkner Hall on Tuesday, March 18 at 8:30 p.m. This will be the final concert in a series sponsored by BERA.

Since its New York debut in 1973, TASHI (Tibetan for good fortune) has become one of today's most popular ensembles. In its BNL program, TASHI members clarinetist Richard Stoltzman, violinist Ida Kavafian and cellist Fred Sherry will be joined by guest artists Theodore Arm, violin, and Ik-Hwan Bae, viola.

Their program will include Stravinsky's Concertino for String Quartet, Mozart's Quintet in A for Clarinet and String Quartet, and From Opera No. 2 for Clarinet and String Quartet by McKinley. Their performance of the Mozart Clarinet Quintet is widely acclaimed and has been recorded by RCA.

TASHI made its New York debut in 1973. Since then, the group has been hailed for its unusual programs and remarkable performances throughout North and South America, Europe and the Far East.

Tickets are $5 general admission, $3 for students and senior citizens, and $2 for those under 18.

Los Alamos Reunion

The "35th Anniversary of Los Alamos" will be held at Los Alamos on June 13, 14 and 15. Oldtimers are welcome and they are urged to let the Reunion Committee know if they are interested in attending. Write to Reunion, P.O. Box 78, Los Alamos, New Mexico 87544.

NYC Train Trip

The Hospitality Committee is planning a group railroad trip to the city on Wednesday, March 19. Departure will be at 7:55 a.m. from the Patchogue LIRR station. Round-trip fare for adults is $2.45, children under six years ride free.

Reserve a ticket by sending your fare through the U.S. mail to P.O. Box 322, Upton, New York 11973, no later than **Thursday,** March 13. Make checks payable to "Brookhaven National Laboratory." Your tickets will be given to you on the train. Refunds will be made only if cancellations are received by the Friday preceding the scheduled trip.

Selected Reading

Nature 283 (5746), January 31, 1980
Scientific exchanges must serve science, not the Soviet government. 415

New Sci. 85 (1195), February 1980
Petrol engines feel the pinch. T. Curtis. 560-3

Oceans 13 (1), January-February 1980
Prizewinners of the 1979 photographic competition. 45-53

Science 207 (4433), February 22, 1980
Assault on research secrets at Pentagon. W.J. Broad. 849-51

Science 80 1 (3), March/April 1980
Indoor air pollution. M. Gold. 30+
The Yellowstone Bulge. A.L. Hammond. 68-73

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Letters To The Editor

To The Editor:

The BERA Leap Year Dance, held in Berkner Hall last Friday night, was a tremendous success. Nearly 700 tickets were sold, and the festival mood of the evening will not easily mesh with future Cafeteria lunch times in the minds of the hundreds who attended. It was a great gathering of the Laboratory community. At mid-evening, guests pushed into the auditorium for a wonderful revue presented by the BERA Theater Group.

The Leap Year Dance could not have been produced so smoothly and so successfully without a mammoth team organization by the BERA Activities for weeks preceding, and this is the main point of this letter – to thank the many, many BERA members who put their backs behind the effort. We don't wish to play the ticklish game of naming people or Activities who lead the list. Let us say: all assistance was well noted, fully appreciated, and is generously applauded. BERA truly proved itself to be an employees' association.

Sincerely,
Members of the BERA Board:
M.L. Stoeckel (Dance Chairman)
C.A. Beckner
D.J. David
G.S. Levine
P.E. Oster
E.G. Williams

To the Editor:

We wish to thank Dr. Walter Kato for arranging the program for the dedication of the Jack Chernick Memorial Library. We also thank the speakers, Dr. Winsche, Dr. Levine, Dr. Kouts, Dr. Goldhaber, Dr. Williams and the Librarian, Mrs. Helen Todosow. We appreciate them sharing their memories of Jack with us and the guests who attended. We are very proud and grateful.

Mrs. Jack Chernick and Family

Cafeteria Menu

Week Ending March 14, 1980

Monday, March 10		
Tomato vegetable soup	(cup)	.35
	(bowl)	.45
Cheese omelet & 1 veg.		1.30
Spaghetti & meatballs w/garlic bread		1.40
Hot Deli – Pastrami	(on bread)	1.40
	(on roll)	1.50
Tuesday, March 11		
French onion soup	(cup)	.35
	(bowl)	.45
Macaroni & cheese & 1 veg.		1.30
Meatloaf & hot German potato salad		1.45
Hot Deli – Corned beef	(on bread)	1.40
	(on roll)	1.50
Wednesday, March 12		
Pepper pot soup w/spaetzle	(cup)	.45
	(bowl)	.55
Mexican goulash		1.40
Southern fried chicken w/corn fritter		1.40
Hot Deli – Veal pattie & peppers hero		1.35
Thursday, March 13		
Chicken noodle soup	(cup)	.35
	(bowl)	.45
Pork & cabbage crisp		1.45
Eggplant parmigiana w/meat sauce		1.30
Hot Deli – Baked Virginia ham	(on bread)	1.40
	(on roll)	1.50
Friday, March 14		
Manhattan clam chowder	(cup)	.45
	(bowl)	.55
Fish fillet cheese melt & 1 veg.		1.45
Beef hash & 1 veg.		1.40
Hot Deli – Sandwich steak	(on bread)	1.45
	(on roll)	1.55

Dennis Klein — John Brennan — Michael Losquadro — Rosalie Piccione

Mort Rosen

BERA Board Election

John (Jack) Brennan, Facilities Engineer, Plant Engineering. Jack presently participates in softball, football and running. In the past he was secretary of the Runners' Club, treasurer of the Football League, captain of a softball team, and a member of a basketball team. Jack was also a reporter for the Football, Basketball and Softball Leagues.

Dennis Klein, Technical Supervisor, Accelerator (NSLS). Dennis has been very active in bowling, volleyball, softball (Chairman of the Leagues for one year), and the Theater Group.

Michael Losquadro, Technical Supervisor, Applied Mathematics. Mike was Chairman of the Theater Group for one year, and has been active in the Dance Club and Special Events. He has also participated in softball, basketball, volleyball, football and golf.

Rosalie Piccione, Administrative Assistant, Contracts and Procurement. Rosalie has been a bowler and softball player. She has been very active as a member of the Special Events Committee and was recently selected chairman of the activity.

Voting to elect two of the above four candidates to serve on the BERA Executive Board will begin on Monday, March 24 and continue through Friday, March 28. Those eligible to vote include all employees of BNL, AUI, DOE, and other permanent on-site employers (Saga Foods, Bankers Trust, Physical Review, etc.). Voting stations will be set up at the cafeteria and bank (schedule to be announced).

Absentee ballots, for employees who will not be on site during voting week because of business trips or other reasons, will be accepted by sending a signed memo with candidate selections to the BERA Board President Gerald Levine, Building 535. Memos must be received no later than noon on Friday, March 28, to be valid.

Handball Club

Do you want outdoor exercise? Are you bored with jogging? Join us for handball. We play every day on a sheltered, solar heated court. For information, call Sy, Ext. 3600 or Gerrald, Ext. 4082.

Motorcycle Club

Our monthly meeting will be on Monday, March 10, at 5:15 p.m. in the Recreation Building. It's time to get bikes out of winter storage, so we need to make plans for the club's tune-up session in April.

Bowling

Blue & Gold League

The Oh No's lead the pack with Betty Roche rolling a 201 while there is a 5 way race for second place. Sue Perri bowled a 182/181, Dru Hanrahan 158 and Lil Cahill 152. Walt Milian back to his old tricks with a 209.

Green League

Going into the first position round of the second half, we find the Old Timers II in first as they took 7 from the Old Timers. R. Webster had a 225. The Blue Jays took 7 from the Light Source with H. Marshall bowling a 208 and R. Wiseman a 220. The Pinball Wizards took 11 from Isa Team. The Sparks took 11 from the Sandbaggers with G. Spira bowling a 201 and B. Sick a 210. The Trouble Shooters took the Phoubars for 8.

Purple & White League

The Flounders won 7 from the Good Times increasing their lead by 3 for first place. The Sick Six are in second. Bob Brown had high games of 223/207/167-597 series, Joyce Pinelli 203. Other good games were bowled by Ed Sperry 215, Ken Riker 207, Ben Belligan 205, Gene Hassell 203, Jim Griffin 202, Pat Manzella 183, Kathy Griffin 182, Gerrie Riker 180.

The following are the winners of last week's Scotch Doubles:

1st Place – Bill Sells & Debbie Antonio
2nd Place – Nate Carter & Susan Berner
3rd Place – Ray & Lynn Tice
4th Place – Peter & Lori Bonti
5th Place – Jim & Lorraine Petro
6th Place – Sebastian Dimaiuta & M. Lamb

Pink League

High game for the night goes to Marge Stoeckel with a 190 and high series to Helen Keeley with a 181/166/170-517. Renie Rosati had games of 182/164 and Ginny Walker came through with a 174. The Pinsplitters are in first by 6 points.

Red League

The Strangers (3047) pins) won 8-3 over the Designers. T. Romano (212) grossed 703, J. Walker 642, D. Hayslip 608, R. Meier, Jr. 603, J. Ferrero 602. The Freon Loaders won 7-4 over the 76'ers. T. Rudolf had a 641 gross, J. Connelly a 210 game, F. Powers 634 gross and J. Morris a 200 game. The Old Timers II won 7-4 over the Old Timers. Walt Reams bowled a 247. The Sparks took 11 from the Sandbaggers and the Pinball Wizards won 11-0 over Isa team.

Cooking Exchange

Yookoso Nippon-Ryori E. We welcome you to come and sample the delicacies of Japanese cooking. Sushi, Shabu-Shabu, Sunomono and several other dishes will be demonstrated on Wednesday, March 12.

We meet from 12:30 to 2:30 at the Recreation Building. A charge of $1.00 will be collected and babysitting will be provided at 25¢ per child.

For further information call Ruth Fernow, 928-8465 or Wendy Green, 878-8952.

Bicycling

The schedule for March includes one AYH ride on Sunday, March 30. The SBRA (Suffolk Bicycle Riders Association) will meet at Sunken Meadow State Park at 10 a.m. for an intermediate, 40 mile ride, with rendezvous at Sagamore Hill for lunch. Additional SBRA rides are:

March 9, Manorville Tour. Meet at the Gateway Diner, ½ mile south LIE exit 70 at 9 a.m.; 15 slow miles.

March 16 meet at Wildwood State Park at 9 a.m. for an intermediate 30 mile ride to Jamesport.

March 23 meet at Carl Hart's Bike Shop, Middle Island Shopping Center at 8 a.m. Advanced 50 mile ride to Shinnecock Canal.

For additional info or transportation from the Rocky Point area contact Bob Monaghan 744-5098, evenings.

Volleyball

Mixed League

Standings – February 25, 1980

A:	No Names	6-0
	Nuts & Bolts	5-1
	High Society	4-2
	Deegenerates	3-3
	Family Affair	0-6
	Thrints	0-6
B:	Nads	5-1
	Diamonds	4-2
	Leftovers	3-3
	Monday Night	3-3
	Le Mufs	2-4
	Underalls	1-5

ON STAGE TOMORROW

Bill Love, as Snoopy, will be just one of the Peanuts Gang appearing on stage tomorrow in "You're A Good Man Charlie Brown." Two performances on March 8 – at 2 p.m. and 8 p.m. The matinee is almost sold out, so check with Liz Russell on Ext. 3940 before you make the trip. However, tickets will be available at the door for the evening performance. The troupe will also appear on March 14 and 15 at 8 p.m. Tickets are $3 for adults, $2 for senior citizens and students under 18, and $1 for children under 12.

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.

The determination of the best-qualified candidate for available positions will be based upon education, experience and other job-related criteria. Such factors will be evaluated and measured against the demonstrable requirements of the available vacancy, as well as the Laboratory's Affirmative Action objectives.

The Laboratory is committed to a policy of Equal Opportunity in its selection and placement of personnel. Its objective is equality of opportunity in employment, training, and promotion without regard to race, color, religion, national origin, sex, age or handicap.

Each week, the Personnel Office lists new personnel placement requisitions. The purpose of these listings is, first, to provide open placement information on all nonscientific staff positions; second, to give employees an opportunity to request consideration for themselves through Personnel; and, finally, for general recruiting purposes. Because of the priority preference policy stated above, each listing does not necessarily represent an opportunity for all candidates. As a guide to readers, the listings are grouped according to the anticipated area of recruitment, as indicated below. Except when operational needs require otherwise, positions will remain open for one week following publication date.

For further information regarding a placement listing, contact the Personnel Placement Supervisor, Ext. 2882.

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

1282. PROGRAMMER -Requires experience in high level FORTRAN, preferably in a real-time distributed control system application. One year appointment, half-time or more. Physics Department/National Synchrotron Light Source Project.

1283. TECHNICAL POSITION (Mechanical) - Requires experience with acid cleaning or electro plating to clean ultra-high vacuum components, with secondary duties as general vacuum technician. AAS degree desirable. Physics Department/National Synchrotron Light Source Project.

1284. TECHNICAL POSITION - Requires AAS or equivalent in chemical or mechanical technology. Experience with glove box operations and radionuclide handling in material science and/or health physics research projects is highly desirable. Will provide support to professional staff of the low level waste management group. Responsibilities include specimen preparation, sampling, analysis by liquid scintillation counting, data reduction, and maintenance/improvement of test facilities. Department of Nuclear Energy.

1285. MEDICAL ASSOCIATE (part-time, six-month position) - Requires BS or equivalent in biology, organic chemistry or biochemistry. Ability to handle small animals, perform standard laboratory procedures, and accurately record experimental data is essential. Will function as research assistant for scientific team studying tumor uptake of radiopharmaceuticals. Medical Department.

Autos & Auto Supplies

68 CHEVY NOVA - 302 eng, std shift. Asking $350. Ext. 4589, 331-1765 after 6.

69 VW BUG - semi-auto, running. $400 or best offer. 472-1714.

73 CHEVELLE - 2 dr, 307 c.i., a/t, p/s, new w/w tires, snows. $795. Linda, Ext. 7572, 288-2355 after 6.

71 FORD LTD - at, ps/pb, 94,000 mi, runs well, $200; 72 Chrysler Sta Wgn - a/t, ps/pb, good cond, 52,000 mi, $900. Alan, Ext. 7684, 427-9425.

3 SPD TRUCK TRANS - 1962 Chevy. John, Ext. 4976, 744-4386.

TIRES - 4 ply H78-15 Goodyear custom pwr cushion, 6-lug Chevy truck rims, all almost new. 928-6944.

77 FORD PICKUP - 6 cyl, a/t, p/b, AM/FM, a/c, cap, bunks, C/B, ice box, air shocks, dual fuel tanks, porta/potty. Asking $5500. 281-2186.

78 DODGE VAN - 6 cyl, a/t, p/s, insulated, carpeted, radials, 15,000 mi, orig owner. $5300. Rick, Ext. 4437.

73 DODGE VAN - 318 auto, all windows, no rust, stock inside, excel cond. $2300. Joe, Ext. 7961, 727-7626.

72 CHEVY CUSTOM PICKUP - 307 c.i., 3 spd, 8' bed, tonneau cover, super immac inside & out, body & paint perf. $2500. Fred, Ext. 4095.

77 VEGA - 51,000 mi, AM/FM stereo tape deck, 29 mpg, orig owner, like new. Asking $3000. Grace, Ext. 2529.

66 PONTIAC CATALINA - needs muff, some rust, reliable transp. Tony, Ext. 2920, 751-3014 eves.

74 CHEVY C-10 SUBURBAN - std 350-V8, excel cond, 59K mi. $3000. McKenna, Ext. 3050, JU 1-1509.

77 CADILLAC COUPE DE VILLE - fully loaded, excel cond, pwr sunroof, many extras. Gary, 589-3506.

71 VW BUG - 4 spd, 13,000 mi on rebuilt eng, AM/FM stereo & tape, 26 mpg, lt blue. $1175. Ext. 4572, 669-0549.

78 DODGE OMNI- 4 dr, std, hatchback, p/s, delux int, woodgrain ext. $4200. 979-3396.

77 GRAND PRIX - 301 c.i. eng, ps/pb, p/w, a/t, AM/FM/cas, excel cond. $3950. Chris, 475-5266.

70 MONTE CARLO - ps/pb, a/t, new tires, excel body, 350-V8. 727-0753 after 6.

PONTIAC LEMANS - a/c, a/t, AM/FM, reg gas, high mi, console. Make offer. Y. Parker, 979-8178 after 7.

SNOW PLOW - compl hardware, Fisher 7½' plow, pwr angle. $575. 588-5833.

79 DODGE VAN - 6 cyl, std shift. 281-5498.

71 TOYOTA COROLLA - 74 eng, good running, 25 mpg. $950. 744-5811 after 4.

TIRES - (4) Armstrong Tru Track, brand new, labels still on them, 12-16.5, $275; 71 Dodge pickup truck - 47,000 mi, 6 cyl, good gas mi. $950. Rich or Bob, 475-2075.

55 CHEVY NOMAD WGN - candy apple red, show car. Hank, Ext. 3848.

WIRE WHEELS - (2) for MGB w/1 mounted new radial tire, $45; also canvas cockpit cover. Bill or John, 286-0894 after 6.

70 HONDA - 450cc, excel cond, needs batt, many extras, 9500 mi. $750. 924-3936 after 6.

78 HORIZON - 4 dr, std, hatchback top cond. $4000. L. Green, Ext. 2944, 473-2764.

TIRES - 4-bias ply, used 900 mi, P155/800-13. $40. 929-8317 after 5.

70 VOLVO - grn, 4 cyl, 4 spd, 2 dr, new radials & brakes, excel cond. Best offer. Ext. 2437, 924-7909.

78 VW RABBIT - like new, transferrable warranty, 2-dr, stereo, Polyglycoat, must see. Negotiable. Ext. 2916, 331-2298.

77 KZ-400 - crash & sissy bars, luggage rack, blue, 2 helmets, very well maintained. $1250. Bill, Ext. 7611.

74 DODGE PICKUP - a/c, ps/pb, dual batt & dual tanks. $2900. Walter, 732-1913.

67 DODGE CART - new batt & alt, old but gives excel mpg. Ext. 3612/3009.

73 OLDS VISTA CRUISER WGN - a/t, ps/pb, 78,000 mi, very clean, excel running. $1450. C. Horn, 289-7383.

72 CHEVY STA WGN - V8, 17 mpg, good cond, 2 new tires, new brakes. $700. Ed, Ext. 7949.

76 CHEVETTE - AM/FM, orange, good gas mi, good running cond, new brakes. Carol, 878-2335.

AM RADIO - $10; AM/FM radio, $15. Ext. 3284, 744-5652 after 5.

69 FORD PICKUP FOR PARTS - body shot, good eng, trans, rubber, radiator, batt, new reg & alt. $200. Ext. 7500.

75 HONDA CB500T - 3000 mi, extras, excel cond. $1050. 286-8939 after 5.

78 CONCORD STA WGN - 6 cyl, a/t, p/s, 35,000 mi, SB radials, excel cond. $3800. Pat, Ext. 2064, 734-5226.

1975 FORD GRAN TORINO WGN - p/s, p/b, a/c, 10 psgr, good cond. $1300. Bill, Ext. 3499.

1969 BUICK SKYLARK - needs work. $150. H. Floege, 727-9621.

1974 J20 PICK UP - 4 w/d V8 auto ps/pb, new tires. $2950. 585-8809 eves.

Boats & Marine Supplies

1978 MARQUIS - 19' Bow Rider V-hull, 85 hp Johnson, full canvas, galvanized trailer, elec pwr wench, winter cover, compass, excel cond. $5000. 981-5993 after 6.

22' NORTH AMERICAN - w/trailer & much electronics, twin engs 115 hp ea. 821-1525.

20' O'DAY SAILBOAT - 1978, fully equipped, 3 sails, compass, lots of extras. Asking $6800. 289-0925.

Miscellaneous

SNOW PLOW - Fisher power angle 7½', compl hardware. $625. 588-5833.

GE WASHER - heavy duty, 2 speed, 2 cycle, 5 temp., like new. $125. Lucy or Tom, 924-8742.

DBL RUNNER SKATES - 2 pr size 13, $2 ea; rm vaporizer, 2½ at, $5; 96 qt Thermos ice chest, new, $30; sissy bar, new cond, $30. Ext. 4051, 286-3377 after 5.

WALKING/JOGGING MACHINE - Sears Delux, w/timer & mileage meter. Cost $219, asking $100. Audrey, Ext. 3489, 727-4303 after 6.

SUEDE COAT - full length, size 38-40. Cost $300 new, selling for $75. W. Keith, Ext. 2825, 286-2739.

30" HOTPOINT RANGE - works, could use new elements. $20. Dan, Ext. 2012, 924-4749.

KITCHEN SET - 3'x5' table & 2 matching benches, table top needs refinishing. 281-0360.

LAWNMOWER - 24" rotary, self-propelled, 4hp, excel cond. John, Ext. 7995, 473-7030.

(4) TICKETS - Westbury Music Fair, Paul Anka, 8th row, April 19, 1980 at 6:30 p.m. Paid $64, asking $64. Ext. 4615.

FRANKLIN STOVE - Model 261-ST, grate, screen, like new, used 1 season. $100. Bill, JU1-5726.

FRANKLIN STOVE - w/grate, screen & stove pipe, good cond. $100. J. Skora, Ext. 2819, 744-9677.

BLK HOCKEY SKATES - sizes 2, 3, 4, 5, 4 pr boy's, insulated, waterproof; shank boots, size 7; Frye boots, size 9½, $10. 289-1754.

WET SUIT - sm, $30; 26x1.75 bike tire, $2. 286-3934.

SM OFFICE DESK - & chair, excel cond, reasonable price; contemp browntone loveseat, immac. 234-5835.

MED DIN RM - Amer Martansville, pecan, oval table, 6 chairs, triple breakfront. $1000/negotiable. Eileen, Ext. 3217.

SCOOTER MIRROR - $2; wig holders, 50¢ ea; tour-a-bed, $9; baby bouncer, $6. Sue, Ext. 4207.

STOVE - GE 30" elec, gold, window, door, excel

STEREO - compl AM/FM, 8 trk, phono & spkrs. $60. Vinnie, 473-7906.

RIFLE - .22 cal auto loading w/4× scope. $75. John, Ext. 3354.

BOWLING BALLS - approx 12-14 lbs, $4 & $6; hair dryer, $5; mandolin strings, 50¢. Susan, Ext. 4267.

FREE TO GOOD HOME - Husky/mix pups, 7wks old, male/female, blue eyes, beautiful. 751-7140.

ORGAN - Estee three cord, 26 keys, 1 foot pedal, 1 bench, good. $150. Chuck, Ext. 4095.

UTILITY SINK - cast iron, high back, $10; 17" Zenith b/w TV, old but works, $10. Ext. 2497, 281-2767 eves.

BOY'S ICE SKATES - 2 pr, size 3, used twice. $8 ea. Tony, Ext. 2958.

BOXER PUPS - blk brindle, brindle & fawn, flashy, excel blood lines, cropped & docked. 265-1072.

19 PANASONIC COLOR TV - excel cond (2nd set). $170. Ext. 3544.

HEADPHONES - Pioneer SE-205, $12; Dynaco PAT-4 preamp, 1 yr old, $70. Ext. 3612.

AM/FM/CB - combo car antenna; house scanner antenna w/cable, $12 ea; CB car slide-in floor mount, $7. 286-0795.

BIC 80 TURNTABLE - wood base, dust cover, cartridge. $100. Dennis, Ext. 3050, 654-2076.

SKI BINDINGS - Tyrolia Jr. $25. Frank, Ext. 3898.

MATES BEDS - all wood, rolled drawers, fruitwood finish. $100 ea. 654-2304 after 6.

HOOVER UPRIGHT VAC - w/att; 3' baseboard elec heater; both like new cond, reasonable. Charlie, Ext. 4201.

MAN'S RANCH COAT - size 42, ladies' ranch coat, size 12, $15 ea; man's cashmere overcoat, size 42, $50, cost $125; ladies' slacks, size 14, $5 ea. Porcaro, 732-7134.

PORTABLE HUMIDIFIER - Sears model, 8 gal cap, roto belt. $30. 363-6845.

JET PUMP MOTOR - f/deep well, Franklin ¾ hp-115/230V, rebuilt, like new, guaranteed. 924-3236.

KODAK EK4 CAMERA - w/case, good cond. $25. Terri, Ext. 2484, 289-3684 after 5:30.

.22 CAL GROSSMAN - target pistol CO_2. $25. John, Ext. 4680.

BIKE - boy's Europa 10, good cond, $60; skis, Fischer downhill, 185cc, bindings, $75. Mary, 286-2267.

JR. MISSES RAINCOATS - sizes 11 & 12; boy's 3-pc suit, size 12; all in new cond. 473-4612.

SCIENTIFIC AMERICAN - 1967-1976 incl. Ext. 4240, 286-0295.

FRANKLIN STOVE - cast, excel wood, coal, w/screen, boot full size. $85/best offer. 722-4821.

ANDERSON WINDOW - 23x49 w/screen & frame; ent door 3'x6'x8" w/frame & saddle, louvered glass insert. Ron, Ext. 4082.

LHASA APSO PUPPIES - AKC, shots, wormed, 9 wks old. 698-3546.

FREE - Samoyed AKC papers, male, 1½ yrs, friendly, very active, housebroken, loves children. Sue, Ext. 7669, 744-7679.

FLUORESCENTS - w/2-20W tubes, $3.50 ea; ¼ hp motor w/wire wheel, $8; orbita., recip sander, $15. Ext. 4087.

MIRROR - beveled edge, 36"x48", $20; chair bed, converts to single bed, $25; GE rotisserie broiler, $15. Jack, Ext. 4087.

6 PC MED BEDRM - 2 night tables, headboard, trip dresser, mirror, upright dresser, very good cond. $225. J. Bush, Ext. 3284, 736-2728.

WASHER & DRYER - heavy duty, $300; Jennair grill, $100; bar stools, directors style, $30. 473-0475.

SEWING MACHINE - no frills w/case, good working cond. $30. Miriam, 924-3528.

FULL CRIB -$20; other baby items; student desk, $10; alum storm door w/screens. Ronnie, Ext. 2980, 289-0532 after 6.

2 FISH TANKS - 100 gal. $40; 55 gal, $35. H. Floege, Ext. 3356.

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

MASTIC BEACH - 3 bedrm ranch, corner lot, roofed patio, pleasant loc near water. Low 30's. 281-7531.

CALVERTON - 3 bedrm ranch, L/R, D/R, kit, fin bsmt. $35,000. Ext. 2022, 727-9058.

MEDFORD - 3 bedrm, 2 yr old ranch, L/R, F/R, D/R, eik, 2 baths, full bsmt, all appl, OHW, $1650 taxes. Asking $45,000. Ext. 2901, 286-9315, 475-0796.

SHOREHAM - prime loc N of 25A, 4 bedrm ranch, DR/LR w/fp, country kit, den, ent hall, 2 baths, lg deck, 5 appl, 2-car gar, ½ acre, beach rts, must sell. $59,900. Ext. 3462, 744-8449.

BROOKHAVEN HAMLET - 3 bedrm custom ranch on ½ acre, bsmt, a/c, w/w, landscaped, many flowers. $50's. 286-3934.

MEDFORD - close to LIE, mother/daughter, all newly remodeled on ¾ acre incl buildable lot, upstairs 3 bedrms, DR/LR w/fp & w/w downstairs, eik, 1 bedrm, L/R, sep elec & heat. $53,000. 475-2769 after 5.

PORT JEFFERSON - 4 bedrm colonial, 2½ baths, eik, part fin bsmt, gas heat, fp, beach rights, ½ acre. Mid 60's. Ext. 4674, 473-5331 eves.

CORAM - 3 bedrm ranch, 4/10 acre fenced, patio, att gar, all appl, carpeting, 15 min to Lab, gas heat, $1500 taxes, high balance – 7% assumable VA mtg, owner. $39,900. Ext. 2251, 331-2234.

MASTIC BEACH - 4 bedrms, D/R, eik, encl porch, near stores, schools & water, Farmers Home 8% mtg, low taxes, 160'x100' prop. Ext. 3284, 281-0360.

SHOREHAM - 4 bedrm colonial, 2½ baths, eik, L/R, D/R, eik, s/s, 2-car gar, 1 acre landscaped. $54,900. Ext. 3040, 744-2821.

WADING RIVER - mobile home 12x60 Valiant Golden Knight, 2 bedrms, 1½ baths, a/c, washing machine, shed. $10,400. 929-4454.

BELLPORT - south, prime loc, old-fashioned charm, 9-rm, 2-story colonial, oak & tile fp, D/R, duplex den, 4-5 bedrms, 3 baths, 2-car gar, gas heat, .6 acre. $55,000. Anne, Ext. 3404, 286-3764.

ONE ACRE - over 100x400 wooded, 5 min from Lab, ideal for horse lovers. 924-3236.

SHOREHAM - 4 bedrms, LR/DR, eik, 2 baths, all gas, ½ acre, stockade fenced back yard, S/WR Sch Dist, 10% assumable mtg. $43,000. Ext. 4391, 744-2444.

CENTEREACH - immac hi-ranch, 4 bedrms, 1½ baths, eik, den, living room, a/c, appliances, gas heat, wood stove, low taxes, many extras. $39,500. 698-8009.

For Rent

MASTIC BEACH - 3 bedrms, fenced yard, lg eik, s/s, L/R, w/fp, att gar. $375/mo + util. John, 281-1311.

BELLPORT - 2 bedrm house, L/R, w/att gar, screened in porch, bsmt. $275 + util. Ext. 3069, 286-1974.

MANORVILLE - brand new apt, kit, LR/bedrm combo, prvt ent, bath, min from Lab, avail March 15–April 1. $230 incl util. Ext. 2115, 878-4716.

Wanted

MOTORCYCLE - dirt, 125-250cc, preferably Yamaha IT175 or Suzuki PE175. Mike, 929-6177.

GM CHILD LOVE SEAT - reasonable, have 1, have twins, need 1. Jeanne, Ext. 2364, 281-6776.

TRAINS, TOYS - also wind-up top, prices collector. Al, Ext. 7772, 751-8462 after 6.

EGGS - from the L'Eggs pantyhose, for a class project. Pam, Ext. 4237, 581-7656.

1 BEDRM APT - for working single, needed in June, Lab vicinity, reasonable. Chris, Ext. 2972.

CLEANING WOMAN - reliable, experienced, thorough worker. 475-8658 after 6:30.

MILITARY WEAPONS - uniforms, medals, etc., US or foreign. Betty, Ext. 2937.

WHEELS - 1 pr, carriage or stroller type, to make school book buggy for handicapped person. Ext. 3712.

SHOP OR REPAIR MANUAL - for 1977 MG Midget. Ext. 2437.

TRAINS - Lionel, any "O" gauge or "O27" gauge cars, track & equip. Frank, Ext. 3120.

ON-SITE BABY SITTER - for infant, M-F, 8:30 to 5:00. Non-smoker, please. M. Rowe, Ext. 2345, 878-9384, evenings.

MUSICIANS - for Eastern Suffolk Community Orchestra, Paul Rudolf, Director, rehearsals in Riverhead, Thursdays 7:30-9:30. Concert in May. J. Wall, Ext. 2912.

Car Pools

PORT JEFFERSON - join or form car pool. Jim, Ext. 3501, 928-6491.

MATTITUCK - join existing car pool as 4th or 5th driver. Bill Stars, Ext. 4278, 298-9648 eves.

SAG HARBOR AREA - 0730-1600 workday. Bob, Ext. 4028, 725-1495.

STRATHMORE/STONY BROOK - join or form car pool. 751-7787 after 7 p.m.

E. ISLIP AREA - start or join existing car pool, 8:00-4:30 shift. Little John, Ext. 2819.

BELLPORT AREA - join or form car pool, part-time, 4 or 5 day wk, hrs flexible. G. Diebel, Ext. 4486.

Lost & Found

LOST - payroll in cash, last Friday Feb. 22. If somebody found, please call Ext. 2534.

Services

STOVE INSTALLATION - airtight wood & coal; brick work; clean chimneys & stoves. 878-2410.

SPECIAL GROUP RATE - openings in Consumer's Report subscription group. $8.75. Alyce, Ext. 2902.

FIREWOOD - all hardwood, will custom cut. ⅔ cord $100; full cord $139. Ken, 924-3756.

FOR ADOPTION - Siberian Husky mix, tan & white, 9 wks old, paper trained, all shots, very healthy & lovable. Barbara, 281-7404.

MOTORCYCLE REPAIR & ACCESS - expert work done access for street & dirt. Ext. 2311.

CHILD CARE - my children in school full time, have lots of love & attn to care for yours in my home in Shoreham, lunch, snack, fenced yard. Carol, 821-9547.

TAXES PREPARED - by experienced professional, reasonable rates. Bob, 475-3981 eves.

IGOLOCHKOY CLASSES - for information call 289-7658.

TAXES - prepared by tax consultant, your home or mine, reasonable. John, 732-2472.

FIREOOD - ash, ½ cord/$50; pine, 1 cord/$50, negotiable. 751-2867.

Ads left out of this issue due to lack of space need not be re-submitted to appear in next week's issue. Please note