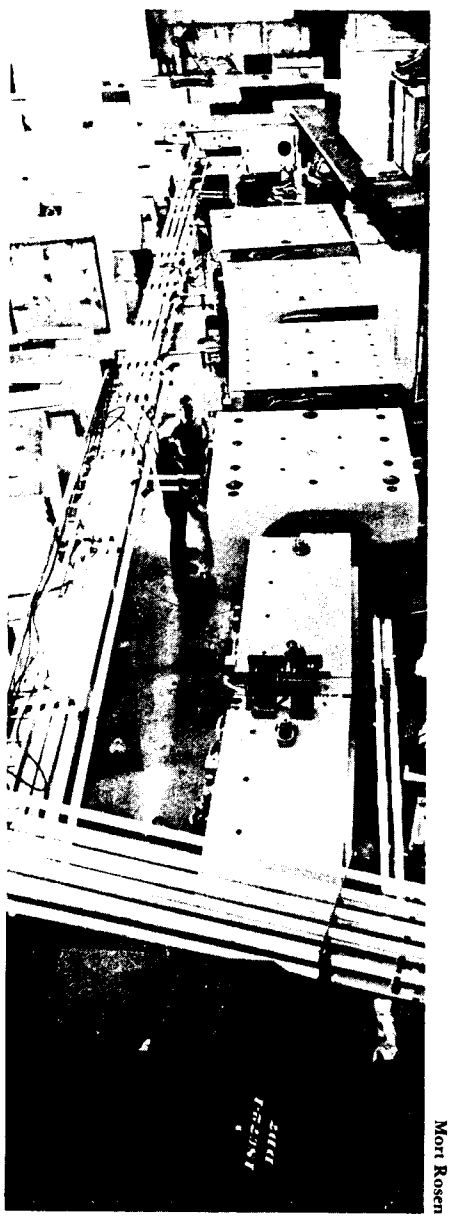
BROOKHAVEN BULLETIN
Vol. 36 - No. 12 March 26, 1982
BROOKHAVEN NATIONAL LABORATORY

D-Day At The D-Line


Mort Rosen

Looking downstream at the D-line.

A fourth slow-extracted proton beam line began operating at the East Experimental Area of the AGS last Thursday, March 18. Beam was confirmed in the D-line at 8:30 p.m.

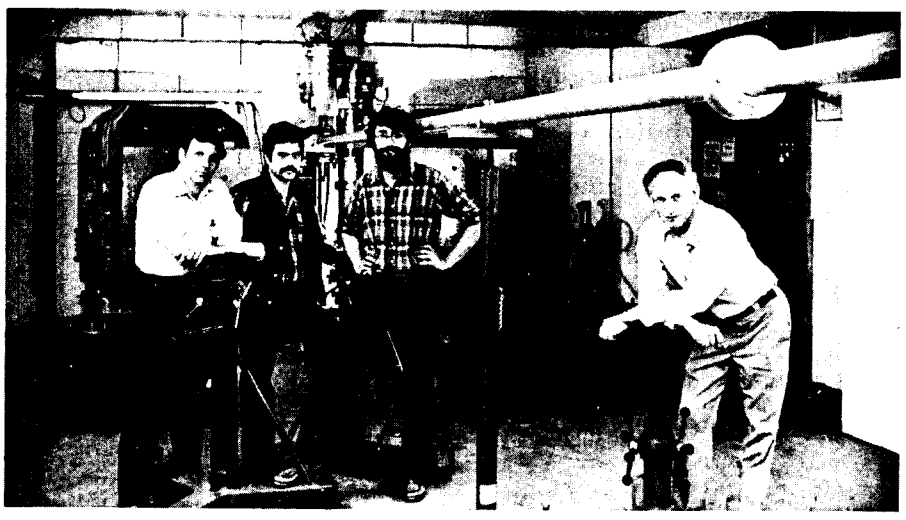
Design of the D-line started about two years ago, shortly after the installation of the switchyard system now used in the East Experimental Area to split the proton beam as it comes out of the AGS ring. The new switchyard was designed to intercept and split the beam more cleanly than the old system had. "During its installation," said Gerry Bunce, deputy division head of the AGS Experimental Planning & Support (EP&S) Division, "room was left to insert an electrostatic splitter and septum magnets to create a fourth beam line called D. The old system allowed only a three-way split of the beam. The switchyard provided a very efficient four-way split. This made it possible to consider building another beam line with another large experimental area."

The only space available in which to build the D-line was between the existing A-line and the AGS ring. Although it would be the ideal location for a direct proton experiment, this would position the beam line so close to the AGS ring that the beam would have to have an initial bend of 21°. Ordinarily, a bend such as this would require powerful magnets and a lot of costly power. To avoid a large power bill, the magnets were shimmed. This brought the size of the aperture down from six inches to 1-$^1/_2$ inches, for a $^3/_4$ inch beam size. As a result, the entire beam line uses half a megawatt of power. This made the D-line not only technically feasible but also fairly economical.

The team responsible for design and construction included physicist Hugh Brown; project engineers Ralph L. Brown, Charles Pearson and Al Pendzick; division electrical engineer Andy Soukas; and designer Bob Marascia. Construction of the 456-foot line in one year required the dedicated efforts of a large part of the EP&S Division, with considerable help from the AGS Division and the support of four rigging crews under forman Nick Cipolla and lead men Stan Carde, Jim Grubber, Ed Miezianka, Dick Morris and Jim Nekerman.

As of last spring the beam could be split and tested. The next step was downstream construction to bring the beam to the experimental area. Now, with actual construction completed, the D-line goes straight to Experiment 748, which Bunce calls, "a precursor to actually circulating polarized protons in the AGS." Circulating polarized protons is the next major improvement planned at AGS and is expected to begin in late 1983. The data obtained in these early stages of Experiment 748 will be used in the polarimeter which is now under construction about halfway down the D-line and which will monitor the polarized proton beam in the AGS. (See accompanying story for more about Experiment 748.)

Two other experiments will start collecting data from the D-line in about one year. These will utilize a muon beam that will be created by colliding the D-line's proton beam with a stationary beryllium target.


Doug Humphrey

Looking upstream from the future polarimeter target at the D-line are (from left) Bob Marascia, Charles Pearson, Gerry Bunce and Hugh Brown.

Exp. 748 First On New Line

Those who use the scientfic method know that all hypotheses must be tested and proved to be true before they can be considered fact. Though all previous evidence may point to the truth of an assumption, when the test is performed, the hypothesis may prove false. How can this be? What does it mean?

These are the kinds of questions that confronted Alan Krisch and his experimental team when the results of experiments they conducted at the Zero Gradient Synchrotron (ZGS) at Argonne National Laboratory seemed to contradict basic, long-held assumptions about the polarization of fundamental particles. These are the kinds of questions they will address in experiments which have just begun at Brookhaven's Alternating Gradient Synchrotron (AGS).

Krisch, a physics professor at the University of Michigan, explains polarization by saying, "All the fundamental particles of matter - the proton, the neutron and the electron -seem to be spinning perpetually. The particles can spin in either of two directions. When two spinning particles collide, the outcome is strongly influenced by how they are spinning. The polarization measures how many particles are spinning in each direction."

Until about 1975, almost all high energy physicists assumed that the influence of spin should decline as the energy of the collision increases. This belief, says Krisch, was based on a simple idea: as a collision becomes more violent, the spin energy - which is a constant value - will become an ever smaller fraction of the total energy. Thus, at high enough energies, spin would have no effect on the outcome of collisions.

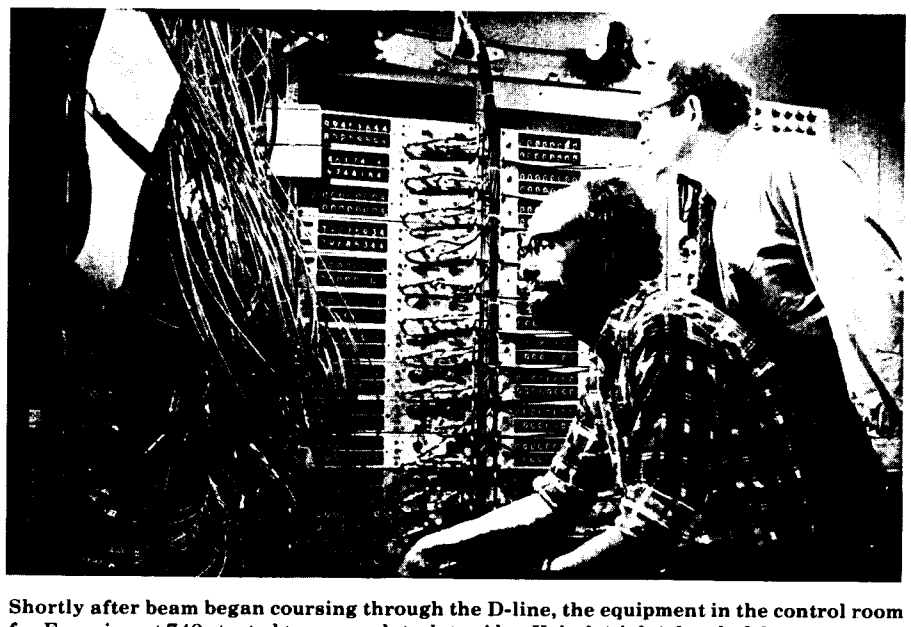
One way to test this hypothesis, Krisch realized, would be by bombarding a target of polarized protons with a beam of similarly polarized protons. In 1972, he began developing and utilizing a polarized proton beam to conduct experiments at Argonne's ZGS which could provide energies up to 12 GeV.

As results came in, they suggested that - contrary to the popular belief -spin became more important as collisions became more violent. "It was at the maximum ZGS energy that the spin effects started to get very important," Krisch says, "and that was a clear sign that we were on to something exciting." To understand these unexpected forces, he needed a polarized proton beam that could reach higher energies. So Krisch and his team came to BNL where the AGS can accelerate ordinary protons to energies as high as 30 GeV.

Working with the AGS staff, it became clear around 1978 that, with some sophisticated modifications, polarized protons could be accelerated in the AGS to energies of about 26 GeV. The results of Krisch's earlier experiments had raised questions that physicists can only answer with polarized protons, so adapting the AGS in this way will provide a unique instrument that will benefit the entire high energy physics community. In fact, Experiment 748, which became operational last week with the commissioning of the new D-line extracted beam is a major step in the AGS polarized beam program. In this experiment, the University of Michigan team is collaborating with the Universities of Miami and Copenhagen, as well as scientists from Argonne and BNL. The Brookhaven team includes physicists Gordon Danby, Y.Y. Lee and Larry Ratner.

In the 1-$^1/_2$ years before polarized protons begin to circulate in the AGS, the ordinary "unpolarized" AGS protons will bombard Experiment 748's polarized proton target, which is a very elegant cryogenic device operating at 0.5° K. This experiment will

(Continued on page 3)


Doug Humphrey

Shortly after beam began coursing through the D-line, the equipment in the control room for Experiment 748 started to accumulate data. Alan Krisch (right), head of the experimental team from the University of Michigan, and Donald Crabb, senior research associate at the university, were on hand to observe the initial results.

Magnet Milestone For ISABELLE

In an initial test performed last Monday, March 22, superconducting cable magnet LM-7 reached a magnetic field of 52.6 kilogauss (KG) at a temperature of 4.5°K, before quenching.

In subsequent tests at 4.5°K, LM-7 leveled off at fields of about 54 KG. The magnet is still in the dewar where tests at the ISABELLE maximum operating temperature of 3.8°K are now in progress. The magnets have not always been tested in the order in which they were built. Thus, LM-7 is actually the sixth full-size, large aperture magnet to be tested, with all attaining a field higher than 50 KG with no training.

Last November, after the first full length magnet had been tested, the Magnet Division established a deadline of the end of March, 1982, for the successful testing of six full-scale prototype magnets. This goal has now been attained comfortably ahead of schedule, with each new magnet repeating or surpassing the excellent performance of its predecessor.

And Now For The Big Finish!

Alexander Richardson started doing it to improve his hand/eye coordination. Bill Sherry just enjoys doing something most people don't do. And Sam Panno says it gives him a sense of accomplishment. These three BNL employees are all describing their common talent — juggling.

According to "Physics of Juggling," an article in the January/February issue of Science 82, juggling occurs "only when the number of objects being tossed in the air is greater than the number of body contact points being used to throw and catch them." There are several people at the Lab who can manage this feat.

Sam Panno (DNE) recalls that his juggling career began about one year ago when he and J.P. Houchins (Biology) discovered some discarded tennis balls, which appear to be the most common juggling object. After Houchins demonstrated his skill, Panno followed his lead, "doing it a lot at first just to get it down." Along the way he found that oranges are easier to handle than tennis balls. He also developed several techniques, including one where his head occasionally substitutes for one hand and his "big finish," in which he catches one ball behind his back.

On occasion, Chris Saitta (Photography & Graphic Arts) can juggle four objects. Most BNL jugglers throw in a *cascade*, a pattern where objects are exchanged back and forth from both hands. Saitta does it in a *shower*, which Science 82 calls "a less complex but more difficult basic pattern with the first hand doing all the throws while the second catches and quickly passes back to the first... the circular pattern of cartoon character fame." Saitta first began to juggle by showering objects against a wall as part of a child's game. She doesn't remember having to practice very much. "I discovered that I knew how to do it," she says, adding with a laugh, "I was born with this talent." She has also perfected it to the point where she can grab objects overhand and roll them up and down her arms.

Anne Baittinger (Public Relations) tosses three square bean bags. "I like the idea of having a secret skill — 'amaze your friends' and so forth," she says, adding, "Unfortunately I'm pretty klutzy, so I've never gotten good enough to amaze anybody except my mother."

Baittinger started on a set of bean bags borrowed from Warren Winsche (Directors Office). After receiving them as a gift, Winsche had taken up the challenge. He and Baittinger agree that juggling requires a surprising amount of energy. "It's better than jogging," says Winsche, "It takes up less space and you need less specific equipment."

Bill Sherry (Budget Office), who has been juggling for about two years, started to learn using four objects. But he quickly realized that "you have to learn to do three first!" Having become an accomplished juggler, Sherry praises the sport for developing concentration and aiding relaxation. "If I have a problem, I start juggling," he says. "Concentrating on juggling takes the problem off my mind." Sherry is another who usually juggles tennis balls, but he points out that, "It doesn't really matter. If you can juggle one thing, you can juggle anything."

Alex Richardson (MIS) has proved this by juggling basketballs. Richardson, who started juggling in high school to improve his coordination for basketball and who still juggles now and then, says, "It's like riding a bicycle. You may be rusty, but you can pick it up again real fast." Summing up his talents, which include juggling behind his back, Richardson says modestly, "I'm not bad." But fellow-juggler Bill Sherry says, "He's got a lot of flair."

Flair may be the pinnacle towards which every juggler aims. In their first attempts to defy gravity, most would-be jugglers are all thumbs and falling objects. But, according to those interviewed, that state is easily overcome — with the right combination of perseverance, juggling objects and instruction. For anyone interested in pursuing this sport, here are two routes we have heard about:

Juggling For The Complete Klutz — The revised edition of this book is $3.50 postpaid and can be ordered from Klutz Press, Box 2992, Stanford, CA 94305. The same company also offers juggling bags at $1.50 each postpaid.

Juggle Bug Inc. — Located at 23004 197th Place West, Edmonds, WA 98020, this company offers a complete line of juggling equipment, including instructional booklets. Write to them for their catalogue and price sheet.

—Anita Cohen

Chris Saitta

Bill Sherry

Alex Richardson

Sam Panno

Anne Baittinger

—Photos this page by Humphrey

BROOKHAVEN BULLETIN

Published weekly
for the employees of
BROOKHAVEN NATIONAL LABORATORY

BERNICE PETERSEN, Editor
MONA S. ROWE, Assistant Editor
ANITA COHEN, Reporter

35 BROOKHAVEN AVE., UPTON, N.Y. 11973
Telephone (516)282-2345

Exp. 748

(Continued)

provide data that will study fundamental spin forces in violent collisions and which will later be used to monitor the polarization of the AGS beam. When the polarized beam exists, and Experiment 748 researchers can focus the AGS polarized beam on their polarized target, they will be able to pursue their main physics interest - trying to understand how the inner structure of the proton is affected by the spin state of the proton.

If the results continue the trend uncovered in the past, Krisch says, "It will be very hard to make them consistent with the popular quark model." This model hypothesizes that every proton consists of three small spinning entities called quarks. But, Krisch says, "These polarization experiments suggest that the internal constituents of the proton have spin properties that are quite different from the properties predicted by the quark hypothesis. These differences are not easily reconciled."

That these experiments go counter to current theory does not perturb Krisch. "I have always regarded science as basically an exploratory field," he says. "When everybody tells you that nothing will be found, and then something *is* there, it's kind of fun. That's how science should work; we should learn about nature by experimenting."

— Anita Cohen

ANS Meeting

The Long Island Section of the American Nuclear Society will have a dinner meeting on Monday, March 29 at the Bavarian Inn on Smithtown Road in Lake Ronkonkoma. The speaker for the evening will be Leon Kaufman, Director of the Radiological Imaging Laboratory, University of California, San Francisco. Dr. Kaufman will speak on "The Use of Nuclear Radiations in Medical Diagnostics." His presentation will cover the use of high purity germanium detectors and nuclear magnetic residence imaging.

The cocktail hour will begin at 6 p.m., with a buffet dinner at 7 p.m., followed by the program. Reservations can be made by calling Dianna Seaman or Marian McGrann at 929-6774. Long Island Section members are $9 per person; non-members are $10 per person.

PSI News

By the beginning of May, committees from BNL and the Queen Anne Chapter of Professional Secretaries International hope to complete the installation of the Upton Chapter of PSI. Anyone who meets the April 2 deadline for registration will be insured charter membership in the Upton Chapter. To register, send a completed membership application along with a dues payment to Pat Towey, Bldg. 120 (Ext. 3445). Dues are $46 and checks should be made payable to "Queen Anne Chapter, PSI."

NYC Train Trip

The Hospitality Committee is planning a group railroad trip to New York City on Wednesday, April 7. Departure will be at 7:55 a.m. from the Patchogue LIRR station. Round-trip for adults is $3.50; 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, April 1.** Please make checks payable to "Brookhaven National Laboratory," and put the date of the trip, your BNL life number and your telephone number on the check. Your tickets will be given to you on the train. Refunds will be made only if cancellations are received by the Monday morning preceding the trip.

Camera Club

The next meeting of the Camera Club will be on Wednesday, March 31, at 5:30 p.m. in the Recreation Building.

Elections will be first on the agenda, followed by a portrait lighting demonstration.

Guests and prospective members are welcome. Anybody interested in modeling and obtaining portraits of themselves should contact Lew Jacobson, Ext. 5193.

Cafeteria Menu

Week Ending April 2, 1982

Monday, March 29		
Mulligatawny soup	(cup)	.55
	(bowl)	.65
Country fried steak & 1 veg		1.85
Pork & cabbage crisp on toasted Chinese noodles		1.70
Hot Deli: Sausage & pepper hero		1.85
Tuesday, March 30		
Chicken noodle soup	(cup)	.55
	(bowl)	.65
BBQ chicken quarter & 1 veg.		1.75
Beef stroganoff over poppy seed noodles		1.85
Hot Deli: Knockwurst & sauerkraut on rye		1.80
Wednesday, March 31		
Navy bean soup	(cup)	.55
	(bowl)	.65
Western-style chili over rice		1.75
Top round of beef & 1 veg.		1.85
Hot Deli: 8-foot hero		.85/in.
Thursday, April 1		
Minestrone soup	(cup)	.55
	(bowl)	.65
Spaghetti special, "All you can eat," served w/garlic bread		1.70
Ham steak w/raisin sauce & 1 veg.		1.75
Hot Deli: Monte Cristo		1.80
Friday, April 2		
Manhattan clam chowder	(cup)	.60
	(bowl)	.70
Macaroni & cheese & 1 veg.		1.70
Breaded fish fillet & 1 veg.		1.75
Hot Deli: Cooked corned beef	(on bread)	1.75
	(roll)	1.85

Softball

Final Reminder: Rosters must be sent to Charlie Bohnenblusch or your league representative by April 2. Team fees are due and payable to Ken Asselta by May 3.

Individuals who are not already on a team and are interested in playing softball should call Sharon Smith, Ext. 3995. We are expecially in need of women to play for the Mixed Leagues.

Concert Reminder

Pianist Boris Bloch will be the last artist to perform in this season's BERA Concert Series. His program will be given on Thursday, April 1 at 8:30 p.m. in Berkner Hall. Tickets, available at the door, are $7 adults, $4 students and senior citizens and $3 for those under 18.

Sandi Lane

Jim Roesler

BERA Board Election Winners

Sandra Lane and James Roesler were voted winners of the 1982 BERA Board election held last week. On May 1, they will replace outgoing Board members Don David and Pat Oster, and join incumbent members Dennis Klein, Rosalie Piccione, Janet Sillas, and Nelson Tyler.

The Board would like to thank all those who contributed to the success of the election — the nominating committee for its selection of an outstanding slate of candidates; the four candidates for agreeing to accept the nominations; and, of course, the voters for taking the time to cast their ballots.

The Board would also like to remind all on-site employees that Board members are elected by you to act as **your** BERA representatives. You are encouraged to talk to them about any suggestions or complaints you may have relating to recreation activities.

Bowling

Pink League

HIgh games were bowled by D. Johnson 176/200/188, C. Beckner 169, F. Briening 168, K. McNally 162, R. Rosati 160.

White League

The Portsiders remain in first after position night. Good games were rolled by K. Conkling 201, M. Scheidet 196, P. Manzella 197, S. Smith 187/207/161-555 scratch, P. Fuchs 177, D. Adams 209/184/234-627 scratch, K. Asselta 208, J. Griffin 246, B. Belligan 209, M. Belligan converted the 5/7 split.

Red & White League

R. Barberich bowled games of 234/222 for a 634 scratch, H. Arnesen 240/213, J. Morris 235, J. Petro 212/209, J. Bohenek 208, R. Jones 207, G. Spira 205, J. Ferrante 204, R. Larsen 204, R. Helmig 203, G. Meinken 202.

Purple League

P. Bonti bowled a 214, K. Riker 201/225 for a 595 scratch, J. Sheehan 198, J. Connelly 201, W. Milian 216, A. Pinelli 211, B. Benson 194, M. Connelly 191/202.

L.I. Industrial Tournament

R. Larsen had games of 214/204/612 scratch, K. Riker 217, R. Jones 212, M. Iaroci 204.

Tele-C.U.E.

Vegetable gardening, lawn and ground covers, trees and shrubs, fruit trees and small fruits, household pests, flowers — your specific question about any of these subjects is probably answered in a Tele-C.U.E. message.

Tele-C.U.E. is a service offered by the Cooperative Extension Association of Suffolk County, in cooperation with the County of Suffolk. Over 246 different messages are currently devoted to home agriculture. To obtain a brochure listing the entire Tele-C.U.E. message repertoire and instructions on how to use the system, call 727-7850.

Mountain Club

The March meeting will be held at 5:30 p.m., Thursday, April 1, in the North Room at the Brookhaven Center. All are invited to come and plan spring trips such as white water canoeing, camping, picnics, backpacking, and hikes.

On The Aisle

Last Friday saw the opening of the BERA Theater Group's latest offering, "The Play's The Thing," a three-act comedy written by Ferenc Molnar and adapted by P.G. Wodehouse. A delightfully funny, satirical farce set in a castle on the Italian Riviera, it will please and entertain you.

One should always "send a telegram," says dramatist Sandor Turai, played superbly by Neil Baggett. Sandor is faced with the problem of unscrambling the mess created by his unexpected appearance at the castle with Albert Adam, his composer nephew, and Mansky, a collaborator.

The nephew's fiancee, a guest at the castle, is about to star in the threesome's latest production. Sandi Lane is delightful as the idolized love caught, to say the least, in a very compromising situation.

Kurt Fuchel, as Turai's collaborator Mansky, aptly portrays the worried playwright as the future of his play is threatened by the nephew's promise to destroy his music and himself. The nephew, Albert, is played by Peter Irving, who is a new and most talented addition to the Theater Group.

As Almady, famous actor and father of four, Bill Love is at his best. He turns in a hilarious performance as he portrays a man who, caught in a very sour situation, must swallowhis pride to rescue his reputation.

Bob Kinsey plays the butler, a fellow filled with the frustrations (and sometimes the rewards) of being treated as though he were completely invisible. Bob's performance is marvelously entertaining.

We also welcome Tony Fainberg back to the BNL stage as Mell, the castle owner's nervous, overworked, and perhaps somewhat bent, secretary. He plays this small part with his usual energy and fine style.

Director Connie Fuchel has assembled and molded a fine cast for this production. The set is welldesigned and technical effects go off without a hitch. Judging by the audience response, as well as my own, everyone had a good time. Don't miss it!

Final performances are tonight and tomorrow night at 8:30 p.m. in Berkner Hall. Tickets are $3 for adults; $2 for senior citizens and students under 18.

— Gary Smith

Volleyball

Mixed League Standings

A Division	
Mixed UPs	12-3
Teddybares	12-3
Dinkers	11-4
High Society	10-8
Nuts and Bolts	5-10
Las Bolas	1-11
Leftovers	0-21
B Division	
TNT	11-4
Semi Tough	10-5
Puff and Stuff	9-6
Big Boopers	7-8
KMA	6-9
Quirks	2-13

Congratulations to TNT as winners of the 4th quarter in the B Division. TNT will play Puff and Stuff to determine winner of second half. On March 29 (barring any inclement weather), TNT and Puff and Stuff will play a make-up game and this will determine the winner of the second quarter.

Arrivals & Departures

Arrivals

Eshagh Anavim ..... Nuclear Energy
Martha L.S. Peng ..... Mgt. Info. Systems
Ursula Sonnewald ..... Chemistry

Departures

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

Yashuhiko Fujii ..... Physics
Eva M. Grace ..... Energy & Env.
Egon Nemec ..... Plant Engrg.

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.

The vacancies listed below have been exempted by the Director's Office from the current freeze on open requisitions.

LABORATORY RECRUITMENT: Opportunities for present Laboratory employees.

1670. SECRETARIAL POSITION - Requires excellent secretarial and communication skills. Experience with word processing equipment, or the willingness to learn, is essential. Individual will join secretarial staff group and primarily be responsible for the typing of technical documents and reports. Department of Nuclear Energy.

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

1671. INDUSTRIAL HYGIENIST POSITION - Requires MS in industrial hygiene or equivalent field certification by the American Board of Industrial Hygiene and a minimum of eight years experience (at least four in an industrial setting). Individual will function as Deputy Group Leader for operational industrial hygiene. Responsible for management of industrial hygiene staff primarily involved in providing assistance and consultation to the Laboratory. Safety & Environmental Protection Division.

1672. COMPUTER OPERATIONS POSITION - Requires AAS degree in data processing; completion of computer operations training program or equivalent experience to assist in the operation of a Hewlett Packard 3000 computer. Shift work. Management Information Systems Division.

1673. HEALTH PHYSICS TRAINER - Requires a BS in science or engineering discipline and at least three years health physics experience at a power plant. Practical knowledge of tasks performed by health physics technicians is also required. Demonstrated ability to evaluate training needs and design and implement training programs desirable. Individual will conduct job skills analysis for health physics technicians at nuclear power plants. Safety & Environmental Protection Division.

Autos & Auto Supplies

78 HONDA - 400cc, well maint., 6000 orig. mi., some extras, must see, $1,000. Ext. 2926.

68 VW BUG - recond. eng., new clutch, new paint, very clean, must be seen, $1,875. 281-2431.

71 DODGE DART - new brakes, new exhaust, 6 cyl., good mpg, excel. transportation, good cond., $900. Debbie, Ext. 2896.

79 KAWASAKI - KZ400, new shocks, chain, sprockets, K-81 tires, 60-65 mpg, luggage rack, sissy bar, $1,100. Mike, Ext. 5206.

72 FORD PICKUP - R&H standard w/cap, no rust, $1,200. Ext. 4255 or 585-6269.

74 FIAT-128 STATION WAGON - many new parts, undercarriage cracked, $395. Peter, Ext. 2744 or 928-2469.

TIRES & RIMS - (4) P215, for Ford, priced to sell. Joe, Ext. 4255 or 289-1831.

70 TOYOTA - rebuilt head, runs well, good body, also second car, good for parts, $650 for both. Ken or Leroy, Ext. 4581 or 286-1615.

80 SUZUKI - GS1000L shaft drive, luggage rack, many extras, warranty, $3,100. Ext. 7745 or 981-9474.

75 OLDS CUTLASS SUPREME - Sport Coupe, auto, 260 V8, stereo cassette, powder blue, clean, $2,500. Ext. 3381 or 286-1024.

77 YAMAHA - 360cc, elect. start, excel. cond., extras, $700. John, Ext. 4145 or 929-8204 after 5 p.m.

72 DODGE DART - Swinger, for parts. 399-0864.

CHEVY RIMS - (2), 8 hole, sz. 8.75x16, w/tires, for pickup, $30. 585-8395.

79 HONDA HAWK MOTORCYCLE - 400cc, new cond., $1,495. 588-0805 eves.

CAMPER PICKUP - 11', sleeps 4-6, stove, oven, refrig., shower. Dave, Ext. 3365.

TIRES - L78x15, brand new, Goodyear, w/w, mounted & balanced, $70. 567-5947.

73 PLYMOUTH FURY - excel. cond., only 70K orig. mi., $650. Ravi, Ext. 4331 (lunchtime) or 924-6835 eves.

74 MONTE CARLO - p/s, p/b, a/c, am/fm stereo, radials, swivel bucket seats, runs excel., $1,000. Ext. 3427.

73 VW BUS - am/fm, auto, very clean, runs very well, $2,500. Ext. 7699 or 821-1435.

71 CHEVY SPORT VAN - no frills, 6 cyl., man. trans., 130K mi., windows around. Tom, Ext. 7115.

78 TRANSAM - excel cond., 6.6 LT. T/A eng., 4 spd., new brakes, gold EDT., beige int., low mi., $5,500. Roy, Ext. 4664 or 744-8779.

FRONT BRAKE DRUMS & SHOES - set, for Pinto, brand new, $45. Ext. 2957.

70 MERCURY MONTEGO - clean inside, new timing chain, battery, runs good, $400. Lauri, 744-8404.

POP-TOP CAMPER - sleeps 6, has built-in storage lockers, canvas for 8'x10' attached room, solid door, new tires, $450. 473-2473.

DIRECTORY - trailer life, rec. vehic., for 1982, in unopened carton, $10.

John S., Ext. 3406.

72 DATSUN - 240Z, auto, a/c, am/fm, louvers, spoke wheels, low mi., excel. $2,900. Mark, 475-5524.

68 OLDSMOBILE 88 - 8 cyl., 4 dr., sedan, runs well, $500. Jeanne, Ext. 2364 days or 281-6776 eves.

72 CHEVY WAGON - Kingswood, seats 9, v.g. mech. & running cond., good ext. & int., $600. 698-6437 eves.

76 FIAT 128 - excel. running cond., 2 dr., $1,200. Ext. 3762 or 928-3014.

77 HONDA MOTORCYCLE - Super Sport, 750cc, clean, runs excel., extras. Jim, Ext. 4095.

72 VW - Fastback, blown motor, $150; 67 VW Squareback motor & transaxle, $200. 281-3613 after 6 p.m.

70 FORD - Maverick, 6 cyl., a/t, clean, dependable, new tires, battery, exhaust, etc., $700. Ext. 4921 or 929-6177.

73 GMC - 4 w/d, 8' bed, p/s, a/t, new paint, 350 C.I., $2,800 firm. Bill, 567-9710 days or 589-2976 eves.

72 VALIANT - 6 cyl., 4 dr., p/s, a/c, a/t, high mi., some rust, runs good, $500. Gerry, Ext. 4841.

73 CUTLASS - 8 cyl., a/t, a/c, p/s, p/b, reg. gas, reliable, $500. 661-5180.

81 FORD PICKUP - F-350, 1 ton, 400 cu. in., a/t, a/c, am/fm, tape deck, factory, 4 w/d, lock-in hubs, 2 tanks, fiberglass cap, 20,000 mi., mint cond., $11,500. 878-0480 after 5:30 p.m.

65 PLYMOUTH VALIANT - good running cond., body good, asking $450. 924-5192 eves.

75 VW BEETLE - 4 sp., 64K mi., radials, am/fm cassette, good cond., $2,100. Dan, Ext. 4403 or 281-7347.

70 AMC REBEL - std., 4 dr., dependable, clean, excel. tires, best offer over $300. Ext. 4341 or 475-4005.

79 KAWASAKI - KZ400, new shocks, chain, etc., 60-65 mpg., access. incl., make offer. Mike, Ext. 5206.

69 FORD - 46 Ocuin engine & trans. Ext. 4539.

77 CHINOOK - micro-mini motorhome on Toyota chassis. Fully equipped, sleeps 4, 55,000 mi., 18-20 mpg., excel. cond., $7,500. S. Wingard, Ext. 7205.

72 VW - Squareback sedan, a/t, excel. running cond., $1,200. Sy, 289-8182.

BMX DIRT BIKE - used 3 times, new $180, asking $125. Ext. 3457 or 698-5701 after 6 p.m.

UTILITY TRAILER - good frame, leaf springs, front axle, needs box & hitch, $45. Tom, Ext. 4084 or 878-1060.

76 MERCURY MONARCH - Ghia, 6 cyl., a/t, p/s, p/b, a/c, am/fm, good gas milage. $2,200. Ext. 2456 or 878-4152.

Boats & Marine Supplies

75 EVINRUDE ENGINE - outboard, 50 HP, good shape, $500. Tom, Ext. 7916

16' FISHERMAN'S BOAT - open alum., 40 HP Evinrude outboard & MFG trailer to fit, $995. 924-6751 eves.

12' FIBERGLASS BOAT - 10 HP, motor good, trailer, $800. Brian, Ext. 2059.

18' SIGNA BOWRIDER - 115 HP Johnson, O.B. 160 hrs., Galv. Cox trailer, all 1974, extras, excel., $3,000. 273-3808 after 6 p.m.

80 CRUISER - 20' Beachcomber, 150 HP Johnson, Power Trim/Tilt, Cuddy Cabin, Porti-Potti, compass, horn, windshield wipers, bilge pumps, full canvas, E-Z Loader Trailer - 4900 lb. capacity, elec. double cable winch, immaculate. 981-5993.

OUTBOARD MOTORS - 9.5 HP Envinrude, $250; 3.5 HP Sears, $75; low hrs. 878-4240.

23' ALLMAND - fiberglass 150 HP Mercury I/O, Cuddy Cabin w/trailer, $3,300. 475-2679 eves.

DIXIE MODEL 172 - 16' Mod. V Bow Rider, 65 amp. hr. battery & case, navy top, 65 HP Mercury w/Power Tilt, (2) 6 gal. tanks, Cox f/r/spare & power winch. Like new, asking $4,295. 929-4522.

WIND SURFER - 12'6" fiberglass, compl. $625. Dinos, Ext. 4666 or 477-1783.

PRAM - 8 ft., plywood, fiberglassed bottom, $100. Ext. 2434.

Free

POOL - above ground, you take out. Ext. 3492.

Yard Sales

GARAGE SALE - two-family, Saturday, March 27, 9 to 5, 788 E. Bartlett, Middle Island. 924-4054.

Miscellaneous

RANGE HOOD - G.E., 30", ducted w/ducting, never used, $49. John, 281-8021.

ROTARY GAS LAWN MOWER - Fairlane, 20", 3 HP, B&S motor, excel. cond., $75. Ext. 4702 or 928-7769 after 5:30 p.m.

OIL BURNER HEAD - good working cond., $10. Ext. 4702.

TRANSITE PEGBOARD PANELS - 4'x8'x", cost $48 ea., asking $18 ea. 286-1522 eves only.

BEDDING - 2 sets, 4-pieces, Delux Shifman twin sz., good cond., $60/set. 475-8658 after 6:30 p.m.

MINIBIKE FRAMES & WHEELS - no engines, sale or trade for go cart frame w/wheels. Bob, Ext. 4672 or 929-4753.

PRINCE TENNIS RACKETS - new, grip sizes 4 & 4, $40/ea. Carole, Ext. 3362 or 924-4097.

BLANK BASF CASSETTES - prof. series and metal, reasonable. Ext. 2521 or 928-8379 eves.

CRYSTALS - for scanners, mail-ins, $5/ea.; scanner, 10 chan., high/low bands charger, ant., case, $160; Bearcat Scanner, 4 chan., new, H/L bands, $150. Paul, Ext. 4665 or 727-4859.

FREEZER - Imperial, excel. cond., paid $650, asking $325. Ext. 7125 or 475-1706 after 5:30 p.m.

MANUAL TYPEWRITER - Olympia, heavy duty office model-SG4, excel. cond., $85. 581-6432.

PEWTER CANDLE STICK HOLDERS - new, $15. Ext. 3431 or 744-9677.

ELECTRIC COMPACT DRYER - 10 lbs., 220, 21" wide, 3 cycles, perm. press, window vent, good cond. 399-4243.

STEARNS & FOSTER BED - single, daybed sz., mattress & box spring, $30. 475-8440.

GARDEN TOOLS - mower, $60; wheelbarrow, $8; spreader, $15; garden hoses; barbecue, $5; high riser mattress & bed cover, $70; humidifier window fans. 928-4926.

ATARI VIDEO GAME - like new, $110. Cumming, Ext. 4347.

SB-400 TRANSMITTER - with or w/out rf speech processor, good DX record, excel. cond. Kuper, Ext. 3311.

MEN'S RIEKER SKI BOOTS - black, sz. 9, w/boot tree, very good cond., $15. Pat, Ext. 2452.

FISH TANKS - 20 gal., 15 gal., 10 gal., w/all acc., plus many extras, asking $100 for all. John, 732-5071.

HOME/SHOP VACUUM - Craftsman, wet/dry pickup, w/casters, Sears Best, $65. Pete, 399-2813.

ROCK MAPLE BED - bureau; (2) single beds; lamps; 19' cu. ft. freezer, all must go. 929-8642.

STOVE - white petite, Godin, coal or wood, w/stove pipe, & metal bestos chimney kit, $600. John, Ext. 3082 or 727-9197.

TAPE DECK - stereo cassette w/Dolby NR & metal tape capability, 10 mos. old, perf. cond., $75. 732-5829.

3-PIECE SECTIONAL - 2 hanging lamps, 1 tile coffee table, $100. Bud, Ext. 3083 or 878-1915.

CAR RACING SET - Aurora, AFX GT (plus) cars, new pwr. transformer, extra tracks & cars, hardly used, like new. Mark, 744-8063 days.

KEROSENE HEATER - Valor, 9000 BTU, needs wick, $25. Ext. 2434.

BICYCLES - men's, 3 sp., $30; women's, 3 sp., $30; Estey organ w/bench, $125. 878-4240.

SNOW BLOWER - for Economy or Power-King Tractor, 48", best offer. 286-0904 after 5 p.m.

LAWNMOWER - J.C. Penney 3 HP, 22" wide cut, 8 yrs. old, $30; tub enclosure, glass, 5', $30. Bill, Ext. 3355 or 472-4684 after 6:30 p.m.

GENERATOR - Briggs eng. w/auto. idle control, 3500 watt, 115V, cast iron, $500. 924-6996.

4-BURNER COUNTER TOP - & oven, sink, G.E., elec., avocado, $150 takes all. Ext. 2964.

BARBER CHAIR - 1940's, porcelain, great conversation piece, $150; elec. barber pole light, $120. Mike, 669-9482.

PLAYPEN - $10; coffee table, $10; VW hubcaps, $5; Mexican pottery, $20/all; motorcycle helmets, $10 ea.; 10 sp. bike, $75; wooden cabinet, $15; kitchen chairs; toaster, $3; (2) bar stools, $ ea. 924-4054.

FURNITURE - contemp., good cond., liv. rm. couch, 2 chairs. Franz, 744-3235.

FREEZER - 20 cu. ft., $200; girl's bike, $45. Paul, Ext. 4156.

SEWING MACHINE - best Kenmore, fully equipped, instruction book, mint cond., buttonhole attachment, 30 decorative stitches. Ext. 4254 or 727-0941 after 5 p.m.

FIREPLACE - free standing w/screens, brand new, sacrifice $75. Ext. 4702 or 928-7769 after 5:30.

LAWN SPREADER - drop type, $10. Joe, Ext. 4139.

MICOWAVE OVEN - 981-1692.

WASHING MACHINE - Sears portable, heavy duty, $200; luggage, 2 pcs., $10 ea.; contemp. desk, antique chair, $75; antique brass floor lamp, $50; oven, Toastmaster, broil/bake, $20; Hamilton Beach steam/dry iron, $10. 878-8933.

BEDSPREAD - new, red, quilted for double bed. Ext. 3453 or 736-3674.

CIRCULAR SAW - 7 in., $15; contemp. swivel chair, $25; antique Fruitwood china cabinet, $500. 924-4685.

TRESSEL BENCHES - (2) 2" thick dark stained wood, approx. 5 ft. long, good cond., $30. 281-0360 after 6 p.m.

CHAIR - w/ottoman, high back, tufted, Mediterranean style, wine color, excel. cond., $60. 744-2404.

MOTORCYCLE JACKET - new, black vinyl, x-large, $15; wool C.P.O. coat, 46-48, $5. 289-8212.

CAMERA - Minolta SRT 102, 35 mm, 50 mm, 1:17 lens, shutter 0-1000, good cond., $150. 281-0360 after 6 p.m.

WET SUIT - practically new, large, new $90, best offer over $50; model maker's band saw, great shape, must see, make offer. Bob or Carol, 289-3917.

SKI PANTS - men's stretch, 33-34, dk. blue, brand new, never worn. Orig. $150, asking $85. Ext. 4727.

DISH WASHER - Sears, built-in, 10 yrs. old, working when removed, $25. Gerry, Ext. 4841.

SPECTROSCOPE - Edmunds STAR, 5 prism, 3 cyl., lens sys. yields 1 NM resolution, not for solar or lunar work, $195. 567-9064.

POOL - 18'x4' with all equipment. 929-6692

FORMICA TABLE - w/4 chairs, 59"x35", very sturdy, good cond., $55; portable typewriter, $25; highchair, $7; fir & spruce trees, you dig, 2/$7. 727-1617.

MOUTON LAMB JACKET - brown, fits szs. 12-16, good cond., $75. 475-0144 after 6:00 p.m.

3 PC. STEREO PHONOGRAPH - Realistic (Claminette-12), excel. cond., costs $70 new, asking $30. 929-8105.

TUMBLING BARRELS - machine & 2 rubber lined barrels, 110 volt, $150. Fred, Ext. 4407.

PIONEER RECEIVER - 650, 35 watt/channel, like new, $160. Bob, Ext. 4758 or 862-6109.

UPRIGHT FREEZER - approx. sz. 6'x3', Jordan Co., works fine, $100. 924-6751 eves.

GUITAR - Fender Stratocaster, L/H Model, natural finish, AM PEG VT-22, 100 watt, both mint, $600. 981-0011.

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

DELAWARE COUNTY - 4 rm. cottage, 10 acres, wooded area, stream, 8'x38' deck. 744-4087.

CENTER MORICHES - 4 bdrm., 100 yr. old Victorian, 1 acre landscaped plot, great location, low 50's. Ext. 7672, 878-4383 or 878-9639.

MASTIC - 3 bdrm. ranch, f/r, patio, full basement, low taxes, 10 min. from Lab., $36,000. Ext. 7672, 878-4383 or 878-9639.

POCONO'S - vacation campsite, with E/W/S, 1 hr. from NYC, lake, pool, clubhouse, price negotiable, will hold mort. Owner, 928-0066.

MIDDLE ISLAND - 3 bdrm. ranch, 2 full baths, l/r, eik, den, basement, covered patio, excel, many extras. 924-6354.

LAKE PANAMOKA - 3 bdrm., high ranch, eik, l/r, d/r, garage, quiet neighborhood, low taxes, assumable, one block to beach. 924-4054.

MIDDLE ISLAND - beautiful 3 bdrm. colonial on 2.8 wooded acres, eik, den, f/p, s/s, w/w, 2 baths, apt. in basement, kennel, pond, private & lush. 924-4054.

MASTIC BEACH - 4 bdrm. cape, d/r, eik, large l/r, gas hot water & cooking, 160x100 prop., low taxes, shed & full porch, near stores & bay, 8% Farmers mort., $28,000. 281-0360 after 6 p.m.

N. PATCHOGUE - high ranch, l/r, d/r, kitchen, 3 bdrms., 1½ baths, large paneled family rm., garage, util. rm., prime area, walk to schools, assumable 6% mort., low taxes, $39,000. Owner, 929-6984.

For Rent

SETAUKET - studio apt., near SUNY, pvt. ent., w/w carpeting, fireplace, security deposit required, avail. April 1, $300/mo. pays all. Ext. 2521.

CENTER MORICHES - 2 bdrm. house w/basement, nice area, avail. 6/1/82, $325/mo. plus util. & security. 878-8933. WADING RIVER - April thru

June, house on cliff w/panoramic view of L.I. Sound, $325/mo. Ext. 2440 or 744-5707.

ROOMS - partly furnished, share kitchen, l/r, bath, quiet & wooded, 5 min. to Lab, $250/mo. 924-4054.

PORT JEFF VILLAGE - studio apt., pvt. ent., pvt. bath, avail. April 15. Unfurn. $225, furn. $250 incl. util. 473-7739.

E. SETAUKET - high ranch, 7 rms., 3 bdrms., f/r, garage, 3 baths, 2 mi. N. Shore beaches, 3 mi. SUNY, 3 mos. (June-August). Ext. 2620 or 751-6765.

Car Pools

PATCHOGUE VIA E. PATCHOGUE - on time, opening for paying rider. Alyce, Ext. 2902.

THREE VILLAGE - fourth driver wanted for regular hours pool. Ext. 2984 or 7784.

HUNTINGTON STATION - seeking riders. Have Rabbit, will accommodate 2 others. Joe, Ext. 4259.

Lost and Found

LOST - keys, vicinity of Bldg. 460, March 20. Carol, Ext. 3325.

Wanted

APARTMENT - 2 bdrm. for (2) professional women, Port Jefferson village area. Joy, 265-4347.

UPHOLSTERER - needed for autos, some buckets and some bench type. Bob, 281-2192.

OLD MASON JARS - pints and/or quarts. Ext. 3284.

TRAINS - Lionel, American Flyer, access., any cond. brings good price; king sz. brass headboard. Carole, Ext. 3362 or 924-4097 eves.

HIGH SCHOOL YEARBOOKS - any year, Westhampton, Eastport, Hampton Bays, Southampton, reasonable. Jack Phillips, Ext. 4060 or 653-4924.

EXERCISE BICYCLE - w/tension knob, reasonable. Susan, Ext. 4267.

WINDOW SCREENS - old style wood frame, approx. 28"x48", 8/ea. Dan, Ext. 3282.

CAMPBELLS SOUP LABELS - send to F. Chandler, Bldg. T89 (for St. Mary School, East Islip).

AMBITIOUS PERSON - 6-8 hrs./wk., $200-$300/mo. 698-5861 after 7:30 p.m.

HOUSEMATE - 2 b/r condo, Holtsville, 5 appl., $225 incl. all util. Female please. Ext. 3199 or 475-6622 eves.

AMOROUS MALE DUCK - for 3 females in waiting. John, Ext. 3675.

CAMPER - 16 ft. max., good cond., self-contained; Studebaker, 1955-62 Commander or Hawk, good cond. 585-3417.

HOUSE TO RENT - 1-3 months this summer, by visiting scientist & family. 928-3653.

WHEELS - 13x5-6", 4x4" bolt circle from Datsun, Toyota, Corvair; radial tires, 155x12. Dave, Ext. 5211.

TOYOTA COROLLA - body, 1972-1976, good cond., reasonably priced. Rich, Ext. 4636.

VENDORS - flea market, Newfield, H.S., Selden, April 18, 1982.. If interested call 732-7591 or 698-2349.

MODEL - for camera club portrait lighting demonstration. Wed., March 31. Lew Jacobsen, Ext. 5193.

BOY'S SUIT - or blazer, navy blue, size 12, good cond. Ext. 2082.

SOCCER PLAYER - w/exper. over 30 for local established team. George, Ext. 3354 or 878-9239.

TRAINS - Lionel, any "0" gauge or "027" gauge cars, track and equip. Frank, Ext. 3120.

Services

Services are listed as a courtesy to BNL employees. They are neither screened nor recommended by the ***Bulletin.***

CONSUMER REPORTS - subscription group has openings, special rate, $10.50/yr. Alyce, Ext. 2902.

CLOCK REPAIR - Father Time is looking for business. Ext. 4311.

JOIN GROUP TO ATLANTIC CITY - May 15th, departing 6:30 p.m. Cathy, Ext. 4093 or 732-6262.

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

INCOME TAXES - prepared by professional accountant, very reasonable rates. Bob, 286-5829 eves/weekends.

PROF. INCOME TAX SERVICE - by exper. preparer, IRS enrolled, on-site preparation. Jack, Ext. 7942 or 864-2236.

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