BROOKHAVEN BULLETIN
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BROOKHAVEN NATIONAL LABORATORY

Science Facts Meet Science Fiction

On the morning of Friday, March 31, the well-known and honored science fiction writer Frederik Pohl (right) stopped by BNL for a tour of some of the Lab's most intriguing scientific machines: the Alternating Gradient Synchrotron, the National Synchrotron Light Source (NSLS) and the Tandem Van de Graaff accelerator. He was in the area to be guest of honor at I-CON VIII, the three-day conference at the State University of New York at Stony Brook that was called the East Coast's largest convention of science fiction, fact and fantasy. At BNL, Pohl paused for a few moments to visit with Brookhaven scientists who were also guests at the I-CON meeting: (from left) David Welch, Department of Applied Science; James Powell, Department of Nuclear Energy (DNE); and Gerry Morgan, Accelerator Development Department. Other BNL participants were Andrew Hull, Safety & Environmental Protection Division; Walter Kato, DNE; James Murphy, NSLS, and William Thomlinson, NSLS.

—photo by Roger Stoutenburgh

Cold Fusion Is Hot Topic

Have university scientists actually achieved "cold" nuclear fusion in a simple electrolytic cell? When the Bulletin went to press, data from two BNL experiments begun last week were still inconclusive — they neither confirm nor disprove earlier claims of this achievement.

These claims, first made by scientists from the University of Utah and the University of Southampton in England and later by another team of researchers from Brigham Young University in Utah, have generated world-wide debate, coupled with intense news media interest.

If the findings are correct, they open the way to a revolutionary, if disarmingly simple, method of nuclear fusion at room temperature. This is in contrast to the extremely high temperatures normally associated with fusion research.

Hence, researchers at a number of institutions, including Brookhaven, have plunged into experiments of their own, trying to duplicate what was reported on earlier.

One of the BNL experiments begun last week is being done by Stephen Feldberg and James Reilly, both in the Department of Applied Science (DAS). The other involves Hugh Isaacs, Harold Wiesmann and Alison Davenport, all in DAS, and Kelvin Lynn, of DAS and the Physics Department.

Both BNL teams are gearing up to carry on their experiments with a more sensitive detector at Yale University. As the results of these experiments become available, they will be reported in the Bulletin.

Patent Awarded

U.S. Patent No. 4,755,344 has been granted to **Lewis Friedman** and **Robert Beuhler**, both of the Chemistry Department, for their invention of a method and apparatus for producing large cluster ions, which can contain hydrogen or deuterium, or other specialized isotopes.

A "cluster ion" in this context means a group of atoms or molecules, which range in number from several tens of particles to several hundred thousand and carry one or more units of electrical charge.

Since the cluster ions from the new method are charged, they can be conventionally accelerated for investigations of electronic and nuclear energy exchanges in condensed matter. They also can be useful in preparing and doping, or altering, material for semiconductors and solid state devices.

Other applications, which involve isotopic hydrogen cluster ions, include generating beams for producing and fueling fusion energy. Cluster ions containing mixtures of lithium or boron may also be used in fusion systems.

To create cluster ions using this new method, a source containing gas is cooled to about its boiling point and held at a relatively high pressure. An electrode is placed so that at least part of the gas can be ionized in the source prior to its expansion through a nozzle. A mixture of gas, ions and electrons made as the gas ionizes, this plasma is then expanded through the nozzle into a region kept at low pressure. The clusters form around the ions in the expanding gas.

These clusters tend to be larger than those produced by previous methods, and, because they are charged at the time they form, they are more strongly bound and less subject to re-evaporation than neutral clusters. Also, they are all singly charged, resulting in an improved, narrower cluster mass-to-charge distribution.

The source design offers another advantage — it eliminates contact between the ion plasma and any surfaces containing electro-negative elements. This minimizes the formation of impurities, which can destroy the efficiency of the ion source.

A useful result of the large number of electrons and negative ions in the plasma source is the relatively large yield of negative cluster ions. Previous methods, which used electron impact ionization, produced mostly positive cluster ions.

Mini-Semester — Maxi-Learning Experience

Students from both the City College of New York (CCNY) and Brooklyn Technical High School (BTHS) came to BNL the last week in March to participate in a mini-semester with a physics focus. The Affirmative Action Office arranged the program to provide the students with firsthand knowledge of the Lab's scientific and technical pursuits.

The students pictured at left, below, were the thirteenth group of CCNY freshmen to spend a mini-semester at BNL. Highlights of their four days here included discussions about the Multiparticle Spectrometer at the Alternating Gradient Synchrotron (AGS) and topics in both solid state and high energy physics.

They were also introduced to the National Synchrotron Light Source and received an overview of occupation and environmental health efforts at BNL. The students had a Plant Engineering site maintenance tour and visited the AGS and Accelerator Development Departments.

The students pictured at right, below, were the first to represent BTHS in a mini-semester at Brookhaven. They spent a full week at the Lab and, with their extra day, focused on such subjects as the Power Transmission Project, the magnet factory in Bldg. 902, the Tandem Van de Graaff accelerator, the High Flux Beam Reactor, the Central Scientific Computing Facility, the Positron Emission Tomography facility and the acid rain project in the Department of Applied Science.

Peter Horton

Peter Horton

Special Event For Secretaries' Day

Susan Fenner, Education Director and Professional Development Manager of Professional Secretaries International (PSI), will speak about "Changing Concepts and the Workforce of the Future," on Secretaries' Day, Wednesday, April 26. The program is cosponsored by the Upton Chapter of PSI and the Personnel Division.

Fenner will discuss economic and organizational changes, and how they are expected to impact on the role and functions of secretaries. She will also talk about the changing workforce and the implications of emerging definitions, values and changing demographics for employers and workers.

To minimize impact on department and division workloads, the program will be repeated in morning and afternoon sessions: 9 to 11 a.m. and 1 to 3 p.m. Secretaries and administrative personnel may attend one of the sessions, provided they have approval well in advance from their supervisors to assure appropriate department and division scheduling.

Lunchtime exhibits and vendor displays will also be available to employees between sessions. Copies of the program agenda are available from Mary White, Ext. 7994.

Suggestions of Savings

A number of employees recently received awards for suggestions submitted to the Employee Suggestion Program (ESP). If you are an employee with a bright idea for enhancing Lab safety or for cost-saving practices in areas outside your own job responsibilities, why not enter your suggestion on a special form provided by the ESP, Personnel, Bldg. 185? An original brain wave may win ten percent of the estimated savings to BNL, up to a maximum of $10,000.

Taking Stock Of Stock Catalogs

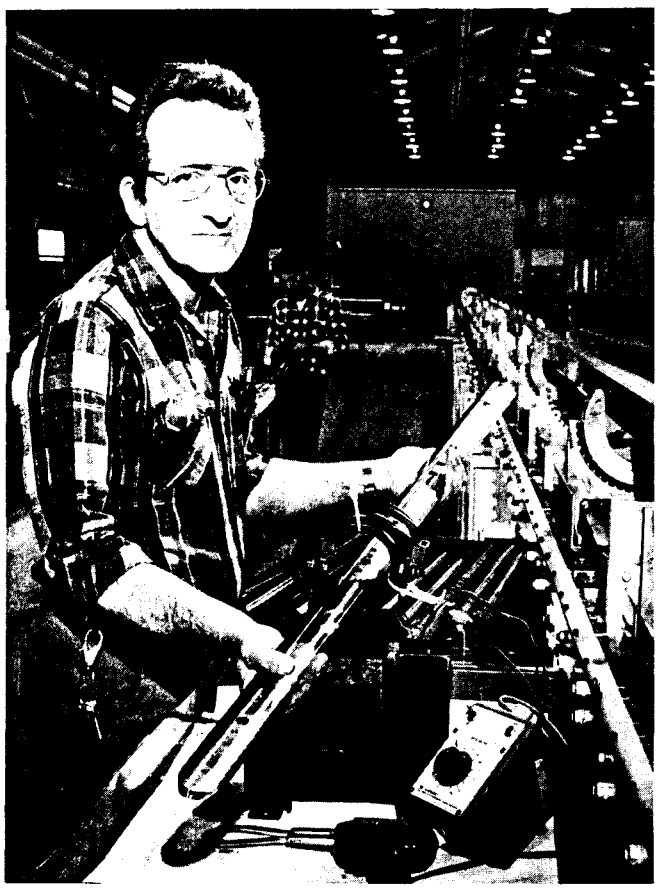
Peter Yamin, a physicist at the Alternating Gradient Synchrotron, thought that too many BNL stock catalogs were being sent to employees who did not use them. So he suggested that the Supply and Materiel Division review their distribution list. A survey showed that 381 fewer catalogs were needed, saving the Lab $2,500. This cost-conscious idea won Yamin an award of $250 from the Employee Suggestion Program (ESP).

Battery Case Dismissed, Winner Gets Prize

The wire-wrap tool that Henry Ashby is using above is battery-powered. In the past, replacement batteries came from stock in a new case, like the three-piece assembly shown at right. Since the case doesn't fail, why not stock just the battery alone, reducing the price of the unit and saving the Lab about $600 a year? For this suggestion, Ashby, a technical specialist in the Alternating Gradient Synchrotron (AGS) Department, won $60 from the Employee Suggestion Program (ESP).

Another recent prizewinning suggestion came from Linwood Johnson, a chauffeur in the Staff Services Division, who won $30 from ESP for his idea of using Telephone SPIN Calling Cards. These eliminate the need for collect calls to the Lab, but can be used for only one telephone exchange. Issued through the Computing and Communications Division with approval of the user's department or division head, the cards are expected to save about $300 annually.

Arthur Scholtz, a technical specialist in the AGS, was awarded $25 by ESP for suggesting that the string on gas cylinder tags be replaced with wire. Wire will not weather from outdoor exposure or be cut when the metal cylinder caps are screwed on. In addition to preventing loss of tags, this will be helpful in cylinder identification, thus enhancing safety at the Lab.



Photos on this page by Roger Stoutenburgh.

Magnets Without Splinters

William Sandhoff Jr., a technical project supervisor in the Accelerator Development Department, earned $200 from the Employee Suggestion Program (ESP) for his idea to demagnetize the tooling used to wind magnet coils. Sandhoff works in Bldg. 924, where the coils for the proposed national Superconducting Super Collider (SSC) and BNL's proposed Relativistic Heavy Ion Collider (RHIC) are wound.

Mandrels, centerposts, blade assemblies and other coil-winding tooling are machined within BNL's Central Shops Division. In the process of being hardened, ground and drilled, however, the tooling becomes magnetized, attracting metal splinters.

If these splinters are wound along with the coil into SSC or RHIC magnets, they could cause electrical shorts. Thus, the use of Sandhoff's suggestion has reduced the possibility. Sandhoff is pictured here demagnetizing a centerpost.

Pick a Student

Students' applications for the 1989 fall Science and Engineering Research Semester (SERS) are now available for review throuh the Office of Educational Programs (OEP). SERS students spend 16 weeks at BNL, involved in a research project with a staff advisor, at no cost to the advisor's department. The students are either juniors or seniors in college or recent graduates. The fall semester will begin on August 28 and end on December 15.

Those interested in reviewing the SERS applications should contact their departmental student placement coordinators or Karl Swyler, OEP, Ext. 7171. Offers must be coordinated within departments, and departmental responses are due on Friday, April 14.

Society Notes

American Nuclear Society

Richard Starostecki, Deputy Assistant Secretary in the U.S. Department of Energy, will discuss "Safety Issues at DOE Nuclear Facilities," at the next meeting of the Long Island Section, on Wednesday, April 12. He will speak at 8 p.m., at the Bavarian Inn in Lake Ronkonkoma, following cocktails, a buffet dinner and an introduction by Herbert Kouts, Senior Physicist in BNL's Department of Nuclear Energy. For more information or to make reservations, call Lydia Ryan, Ext. 2380, by Monday, April 10.

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American Society Of Mechanical Engineers

Peter Huber, mechanical engineer, lawyer and author, will discuss liability and engineering, at the next meeting of the Long Island Section on Monday, April 17. He will speak at 8 p.m. at Antun's Old Country Manor in Hicksville, following cocktails and a buffet dinner. For more information or to make reservations, contact Ann Tucker, 575-5156, or Chris Goggin, Ext. 3615.

Down on the Farm

Tomorrow is opening day for the Suffolk County Farm & Education Center in Yaphank. The public is welcome to tour themselves about the Farm for free, seven days a week, from 9 a.m. to 3 p.m., through mid-November

Arrivals & Departures

Arrivals

Donna M. Daugirdas ..... P&GA
Paul A. Lang ..... Reactor
Peter A. LaSalla ..... S&SD
James E. Leskowicz ..... AGS
William G. McNaughton ..... S&SD
Charles F. Scott ..... Plant Eng.
Hal E. Van Deroef ..... Accel. Dev.

Departures

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

Richard T. Adams ..... Reactor
Edward Andersen ..... Plant Eng.
Andrew P. Cendrowski ..... DAS
Elaine Friedman ..... Medical
Thomas Holmquist ..... Reactor
Richard Lehmann ..... AGS
Hanspeter Michel ..... Biology
William S. Webster ..... Staff Serv.
Robert C. Zigrosser ..... Plant Eng.

Software Demo

Design-View, a mechanical design and engineering software package, will be demonstrated in the CCD seminar room, Bldg. 515, on Thursday, April 13, from 10 a.m. to 12 p.m. Design-View allows the user to sketch components and their relationships, and to assign values and equations to create engineering models. For more information, contact Chris Neuberger, Ext. 4160.

team safety

With the Team Safety program, a quiet week is a good week, and all was quiet on the field last week. All the teams are successfully moving toward their next goals — no errors, no upsets!

Next week will be a big one in Room B with ten teams sitting down to dine on Marriott's finest. The rumor is that Parke and the commissioner are on a diet starting next week.

Keep up the safe work!

Nursery School

The Upton Nursery School is enrolling three-and four-year-old children for the 1989-90 school year. The cooperative preschool offers three-hour classes three days a week in the Recreation Building on site. The school is open to families of BNL employees and their relatives. For more information, call Karen Indusi, 473-6550.

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The Upton Nursery School has an open part-time teaching position, beginning September 1989. Send resume and references to P.O. Box 324, Upton, NY 11973. For more information, call Anneka Krienen, 744-2937, or Biays Bowerman, 281-2463.

Note to Employees:

Attendance at lectures, meetings and other special programs held during normal working hours is subject to supervisory concurrence.

Stretch Classes Being Offered

The Aerobic Dance Club has announced a session of stretch classes led by Pat Campbell, to begin on Monday, April 10.

Stretch classes involve a choreographed program of exercises that concentrate on stretching and strengthening various muscle groups. A mat is recommended for floor exercises.

Classes will be held on the third floor of the Collider Center, Bldg. 1005S, from 5:15 to 6:15 p.m. The special eight-week session will cost $24 dollars, payable at the first class.

For more information, call Bill Leonhardt, Ext. 2378; Elinor Norton, Ext. 4355; or Janet Sillas, Ext. 2345.

Golf Meeting

Reminder: The BERA Golf Association will hold an organizational meeting today — Friday, April 7 — at 5:15 p.m., in the lounge of the Recreation Building.

Basketball

Games of March 23

First Game

Knicks 52		Longshots 49	
W. Cummings	18	R. Bersak	17
F. Thompson	8	G. Mack	13
L. Walcott	8	T. Mayo	10
M. Lawrence	7	J. Winger	4
G. Thompson	4	B. Rowley	3
B. Turner	4	S. Springston	2
T. Mendez	2		
T. McGill	1		

Three-point shots: Cummings, Rowley, Walcott (2)

Second Game

Penetrators 64		Celtics 50	
R. Tonkin	18	C. Edwards	15
T. Abbott	13	P. Browne	14
T. Comstock	12	J. Gaeta	14
C. Jones	8	N. Schowski	4
R. Tatum	8	M. Barrett	3
R. Garappolo	5		

Three-point shots: Comstock (2), Gaeta (2)

Third Game

Runaways 72		Light Source 68	
P. Johnson	25	P. Doll	27
J. Desmond	12	P. Ratzke	16
R. Moran	12	M. Fulkerson	11
S. Gilbert	9	J. Garrison	9
B. Doty	8	R. Church	5
G. Shepherd	6		

Three-point shots: Church, Garrison (3), Johnson, Moran (2)

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Games of March 30

First Game

Longshots 44		Penetrators 40	
S. Alonzo	14	R. Garappolo	11
G. Mack	12	R. Tatum	8
T. Mayo	10	T. Comstock	6
S. Springston	5	R. Tonklin	6
J. Winger	3	C. Jones	4
		G. Smith	3
		T. Abbott	2

Three-point shots: Garappolo

Second Game

Knicks 82		Light Source 58	
W. Cummings	20	P. Doll	19
L. Walcott	17	J. Garrison	10
B. Turner	16	M. Fulkerson	9
F. Thompson	13	E. Hobson	9
G. Thompson	10	R. Church	7
T. Mendez	4	P. Ratzke	4
T. McGill	2		

Three-point shots: Cummings, Doll, Garrison (2), Walcott (3)

Third Game

Runaways 66		Celtics 60	
P. Johnson	24	M. Colon	18
R. Moran	15	P. Browne	15
J. Desmond	14	J. Gaeta	14
S. Gilbert	6	D. Hoggard	11
G. Shepherd	6	N. Schowski	2
A. Stillman	1		

Three-point shots: Browne, Moran (3)

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Rifle & Pistol Club

The Rifle and Pistol Club will hold a very important meeting on Wednesday, April 12, at noon, in Bldg. 911B, Room 202. Please take the time to attend. For more information, call Otto Jacobi, Ext. 3471.

Volleyball

Standings — Week of March 27

League I		League II	
Upfagrabs	50-10	Fossils	47-13
Dinkers	42-18	Set Ups	45-15
Xrayted	36-24	Krush	43-17
Cannonballs	31-29	Nuts & Bolts	36-24
Phoubars	16-44	Ziegfield Vollies	23-37
Netminders	5-55	Slammers	20-40
		Chunga's Revenge	13-47
		Upton-Ups	13-47

League III
1st round playoffs
Frazzled defeated Renegades, 2-0
MISfits defeated Good Timers, 2-0
Printouts defeated Spikes, 2-0
High Volley'em defeated Sourcerers, 2-0

Open League
1st round playoffs
Dig Your Lips defeated Vollies, 2-0

Cafeteria Menu

Week of April 10

Monday, April 10		
Soup: Lentil	(cup)	.75
	(bowl)	.95
Salmon & seafood pasta		3.10
Meatballs in brown gravy over noodles		3.10
Lite-line: Salad plate		2.25
Hot deli: Ham		2.85
Tuesday, April 11		
Soup: Garden vegetable	(cup)	.75
	(bowl)	.95
Pepper steak over rice		3.10
Cheese blintze w/veg.		3.10
Lite-line: Broiled turkey w/veg.		3.00
Hot deli: Corned beef		2.85
Wednesday, April 12		
Soup: Cream of broccoli	(cup)	.75
	(bowl)	.95
Apricot lemon chicken w/veg.		3.10
Manicotti w/sauce & garlic bread		3.10
Lite-line: Broiled chicken w/veg.		3.00
Hot deli: Knockwurst & sauerkraut		2.85
Thursday, April 13		
Soup: Cream of tomato	(cup)	.75
	(bowl)	.95
Roast beef w/brown gravy & veg.		3.10
Macaroni & cheese w/veg.		3.10
Lite-line: Roast beef au jus w/veg.		3.10
Hot deli: Fish on roll		2.85
Friday, April 14		
Soup: Seafood chowder	(cup)	.75
	(bowl)	.95
Cod buena vista & veg.		3.10
Lamb curry over rice		3.10
Lite-line: Broiled cod w/veg.		3.00
Hot deli: Pastrami		2.85

And the Winners Are . . .

Roger Stoutenburgh

Meet the new members of the Executive Board of the Brookhaven Employees Recreation Association (BERA): Michelle Cummings, Management Information Systems Division, and Rick Backofen, Photography & Graphic Arts Division. Elected to four-year terms in elections held during the week of March 27, they will join the BERA Board in May. They will bring the number of Board members from six to eight, an increase that BERA members approved last February. The other six Executive Board members are: Skelly Frei, Reactor Division; Lawrence Musso, Safeguards & Security Division; BERA Board President Rosalie Piccione, Division of Contracts & Procurement; Jean Ramirez, Department of Nuclear Energy; Sharon Smith, Physics Department; and Doris Terry, Department of Nuclear Energy.

BERA Bus Trip To Atlantic City

BERA is planning a return trip to Atlantic City on Saturday, May 20 — this time to Trump Castle on the Marina.

The initial cost will be $22.50 per person, but the casino will return $17.50 in coins and a $5 deferred voucher to each person on the bus.

The bus will leave the Brookhaven Center at 9 a.m. and return approximately 10:30 p.m. A second stop will be made at the Park and Ride at Exit 63 of the LIE, if requested.

Sign up immediately! Paid reservations will be taken on a first-come, first-served basis at the BERA Sales Office in Berkner Hall, from 9 a.m. to 2 p.m., Monday to Friday. No refunds will be made unless someone else wishes to purchase your ticket, so a waiting list will be kept.

For more information, call Louisa Barone, Ext. 3347, M. Kay Dellimore, Ext. 2873, or Rosalie Piccione, Ext. 3160.

Art Bus to Brooklyn

Anyone wanting to take a bus to Brooklyn to see cherry blossoms, tulips and the new greenhouses at the Botanical Gardens — and exhibitions of Georgia O'Keefe paintings, aspects of current American sculpture, African art and sketches of Hollywood costumes at the nearby Brooklyn Museum, should contact Liz Seubert, Ext. 2346, immediately. One bus is already full, but there is a growing waiting list for a second bus — only 25 more tickets must be sold.

The trip, sponsored by the Art Committee, will be on Saturday, April 29. The bus will cost $15; museum entry, $4; and a voluntary contribution may be given to the Botanical Gardens. The bus will leave from the parking lot opposite Berkner Hall at 9 a.m. and leave Brooklyn at 3:30 p.m.

Bowling

White League

Andy Warkentien had a 223/201/600 scratch series.

Purple League

John McCarthy bowled a 210, Marsha Kipperman 201/201, Paul Callegari 201, Ben Belligan 200, Jeanne Penoyar 186.

Red/Green League

N. Combatti had a 252, W. Powell 222, K. Asselta 211, J. Connelly 211, E. Meier 210, F. Griswold 207, R. Mulderig 206, L. Jacobson 200.

Attuned to Balloons

Roger Stoutenburgh

The helium-filled balloons bringing smiles to the faces of Rie and Yuka Amemiya are among those now on sale at the BERA Sales Office in Berkner Hall. Each balloon greeting costs $1.50, tax included, and can be purchased any weekday from 10 a.m. to 2 p.m. Rie, 4½, and Yuka, just over 2 years old, are standing in front of the "Lollipop House" that serves as a school-bus stop in the apartment area. That's where the girls live with their parents Taiko Amemiya and Yoskiyuki Amemiya, a visiting physicist from Japan who is spending a year doing research at the National Synchrotron Light Source.

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.

LABORATORY RECRUITMENT - Opportunities for Laboratory employees only. **(See page 4)**

4013 LAMP CLEANER - Plant Engineering Division

4014 PLANT ELECTRONICS SPECIALISTS - (2) Under minimum supervision, performs a variety of skilled technical functions associated with the fabrication, maintenance, repair, troubleshooting or modification of electronic equipment associated with plant systems. Requires a working knowledge and application of practical principles in electronics, with particular emphasis on microprocessors and digital electronics and their application in the power conditioning and control environments. (Reposting of Job #4007) Plant Engineering Division.

4015 SECRETARIAL POSITION - Requires AAS in secretarial science or equivalent and a thorough knowledge of Laboratory policies and procedures. Will perform complex secretarial duties for Division Head and associated staff, including preparation of technical reports, letters and correspondence. Previous word-processing experience and excellent communication skills are required. Department of Nuclear Energy.

4016 SECRETARIAL POSITION - (Part-time) Requires AAS in secretarial science or equivalent and a thorough knowledge of Laboratory policies and procedures. Will assist in the Office of Educational Programs. Responsibilities will include arranging appointments; organizing various student programs, typing processing vouchers, ILRs and purchase orders; and arranging travel and housing. Previous IBM PC experience desired. Director's Office.

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside applicants.

4017 LIBRARIAN - (Reference Section) Requires an MLS or equivalent experience and a BS, preferably in science. Must have a demonstrated ability to search science-related data bases and excellent communication skills. Will work as a member of a reference team. Technical Information Division.

4018 REFRIGERATION AND A/C ENGINEER - Requires substantial experience troubleshooting, repairing, installing and operating commercial and industrial air-conditioning and refrigeration equipment, including steam absorption, centrifugal and helical screw refrigeration machines. Successful completion of refrigeration and A/C apprenticeship program or related course work is highly desirable. Must be available to work shifts as required. Plant Engineering Division.

4019 CLERK-TYPIST POSITION - Requires accurate typing skills and data-entry experience. Additional duties will include filing and records maintenance. Supply & Materiel Division.

Motor Vehicles & Supplies

88 DIRT BIKE - KX 125, many new parts, extras included, must try, excel. cond., asking $1,600. Bob/Lois, 4672/4904 or 929-4753 eves.

88 TOYOTA SUPRA - 14k mi., loaded, a/c, p/s, p/b, p/w, tilt, cruise, alarm, 5-spd., am/fm cass., plus more, $18,800. Steve, 736-7603.

87 MAZDA 626 - 5-spd., 33k mi., a/c, am/fm cass., excel. cond. Ext. 3123 or 283-4948.

86 HONDA CIVIC SI - h/b, 5-spd., 50k mi., clean in & out, asking $5,000. Chris, Ext. 2022 or 395-6112.

85 CADILLAC - beige, beautiful cond., high long-distance mileage, computerized, extras, $6,250. Ext. 7108.

85 CHEVY CHEVETTE - 54k mi., mint, $2,400. Maria, Ext. 2439.

85 T-BIRD - loaded, well maintained, excel. cond., E. Harris, Ext. 4095 or 475-8504 after 5 p.m.

84 HONDA GOLDWING INTERSTATE - $5,000; parts for Mercury, 4 & 6 cyl.; rear end for 1979-86 Mustang/Capri, $100. Bart, Ext. 3457 or 924-6761.

84 NISSAN STANZA - h/b, 5-dr., a/t, a/c, p/s, p/b, sunroof, cruise, am/fm stereo, new muffler, tires, excel. cond., $4,000 neg. S. Spark, Ext. 4111.

82 BUICK CENTURY LIMITED - full power, a/t, a/c, $3,000. 269-9510 after 7 p.m.

82 HONDA CIVIC - h/b, 5-spd., am/fm, 61k mi., excel. cond., $3,300. Ext. 3699.

82 TOYOTA PICKUP - diesel, fiberglass cap, am/fm radio, excel. cond., asking under $3,000. Mel. Ext. 3349 or 727-2347.

81 HONDA CIVIC - h/b, 2-dr., 5-spd., 100k mi., runs well, $1,100. Cleve, Ext. 7234.

81 SUBARU GL WAGON - 4wd, luggage rack, stereo, a/c, good cond., $1,500. Ext. 2528.

80 MONTE CARLO - V-6, 2-dr., a/t, p/s, p/b, a/c, needs motor, $325. Ext. 2498 or 472-9349.

80 OLDSMOBILE CUTLASS - diesel, 4-dr., body good cond., $1,500 or best offer. R. Cohen, Ext. 5069 or 4853.

80 OLDS CUTLASS SUPREME - new engine, $800. Ext. 4757 or 864-1798.

79 BLAZER - 5" lift kit, p/w, p/l, new engine & a/t w/10k, Mick Thompson tires, 35x14.5 (3k), brakes, exhaust, qtr. panels. Pete, 821-9547.

79 FIAT - parts, new top. John, Ext. 3147 or 924-1038.

78 FIREBIRD - 4-spd., T-top, blue, 65k mi., garaged, new tires & clutch, excel. cond., runs well, $4,000. 744-2404.

77 FORD GRANADA - 4-dr., 80k mi., runs well, body good, $500. Ext. 3622 or 744-2905.

77 PLYMOUTH VOLARE - 6-cyl., 4-dr., new brakes & battery, runs well, $700. Ext. 2313 or 878-2928 after 5:30 p.m.

76 PORSCHE 911S - Targa, gold, tan leather, 5-spd., a/c, Blaupunkt, oil cooler, 15k mi. on rebuilt, 96k mi. total, $11,500. Kathy, Ext. 7537.

75 BUICK SKYLARK - 75k mi., good station car, $300. Rick, Ext. 3803.

75 CADILLAC - 2-dr., running cond., both doors need work, $175. Lou, Ext. 2050.

75 DATSUN B-210 - good for station car or parts, $150. Dave, 929-4522 eves.

73 CROSSROADS TRAVEL TRAILER - 21', sleeps 6, tandem axle, complete hitch, $4,250. Ron, Ext. 4429 or 929-8182.

72 FORD MUSTANG - runs, needs front-end work, great for parts or collector's item, $350. Nick, Ext. 2000.

71 CHEVROLET VAN MINI MOTORHOME - 315, V-8, 115k mi., sleeps 6, complete clean in & out, asking $4,000. Ron, Ext. 2467.

70 MERCURY MONTEREY - a/t, a/c, p/s, p/b, runs well, new battery, good tires, needs brakes, $200. Ed, Ext. 3499 or 821-0063 eves.

70 PLYMOUTH VALIANT - 6-cyl., s/t, 93k mi., new brakes, trans., clutch, $300. 924-4967 after 6 p.m.

67 BRONCO - complete, new drivetrain, $3,500; factory cap for '81 Ford pickup, asking $400. 474-5715.

67 YAMAHA MOTORCYCLE - 180cc, 2-cycle, street bike, oil injection, new battery, $150. Dan, Ext. 4987 or 698-7322.

MOPED - Garrelli, blue, runs well, good cond., $200. Nancy, 281-4673.

STARCRAFT CAMPER - 11½', slide-on, self-contained, shower, refrig., freezer, heat, stove, oven, $1,850. Ext. 4100 or 929-5872 after 6 p.m.

TOW - dolly, 14" wheels, 3,000 lb., lite-bar, Buddy hubs; wire wheel covers, 4, 14", Firebird, w/locks, $75. Tallon, Ext. 4847 or 473-3987.

TIRE - new, 721 Firestone, 235/75R15, Eldo rim, $75 neg. Ernie, 588-4987.

TIRE - C78-14, new, recap mud & snow, $8. Mike, Ext. 2214.

TIRES - two 13" snow, Goodyear; two 13" Firestone, $30. 929-4967 after 6 p.m.

TIRES - Firestone 721, S/B radials, 205x75x15, w/w, good cond., $15 ea. or 4/$50. Harry, Ext. 4504.

TIRES & WHEELS - 4 from Chevy S-10 pickup, P195/75R14 M+S, like new, silver w/new hub caps, $100 for entire set. Tom. Ext. 4084 or 878-1060.

FORD RIMS - 15x6, fits vans or pickups, 5 lug, 4/$20. Rick, Ext. 3803.

67 CHEVY 427 ENGINE - 4-bolt main, 30 oversize, 475-9452 after 5:30 p.m.

Boats & Marine Supplies

28' MORGAN - 1970, keel/centerboard, extensive equipment list, excel. cond., $16,500. Campbell, Ext. 4168.

28' UHLRICKSON - w/cabin, enclosed bridge, new motor 8/88, many extras, it's a steal at $20,000 neg. Tom, 874-3169.

26' PEARSON - 1978, 5 sails, Loran, radio, $10,000. Ben, Ext. 4299.

25' LANCER SLOOP - 1977, new Genoa 150, new Evinrude 9.9 h.p., elec. start, must sell. 289-8693.

25' CHRIS CRAFT - 1980, inboard, FWC, full head, shower, hot water, shore power, $15,000. Bill, Ext. 2807 or 281-0557.

21½' BAYLINER - 1985, cuddy cabin, 130 h.p. OMC, low hrs., depth gauge, ship-to-shore, $7,500. 654-0670.

12' CANOE - Old Town Pack, 400-lb. capacity, $200. Bob, Ext. 4044.

OUTBOARD MOTOR - 1985, Mercury, 90 h.p., w/controls & cables, 5 mos. left on warranty, excel. cond., $2,100. Ken, Ext. 2214.

Furnishings & Appliances

BEDROOM SET - Ethan Allan, white, single-size, 7 pieces, excel. cond., asking, $900. 286-1213 eves. & wknds.

COFFEE TABLE - & end tables, wood & glass, excel. cond., $125. Scott, Ext. 3354.

CROCKPOT - $20; 36" walnut lamp, $18; walnut night table, $30; jeans, $1; shirts, $1. Tim, 744-2203.

DINETTE SET - cherry mohagany table w/leaf & pads, 4 chairs, buffet, $125. 399-4996.

SHOWER DOORS - sliding glass doors, $25. Peter, Ext. 7687.

DRESSER - w/mirror, mahogany & maple. 689-7326.

RECLINING CHAIR - vinyl, good cond., $50; Kenwood receiver, 10 W, channel, $25 neg. Steve, Ext. 7862.

REFRIGERATOR - 2-dr., 24 cu. ft., good cond., $100. Penny, Ext. 2625 or 467-8297 eves.

SOFA & LOVESEAT - early American, good cond., must sell, $125 for both. Frank, Ext. 7519 or Vita, 277-0464.

WASHER & DRYER - portable, Whirlpool, excel. cond., $300. 369-1065 after 6 p.m.

Tools, House & Garden

COAL STOVE - Surdiac, Southport model, 38k Btu rated, heats 11k cu. ft., includes accessories, best offer. Joe, Ext. 5139.

FIREWOOD - seasoned oak, full cord, $130 delivered. 732-2849.

FLOWERS - $9.50/flat; vegetables, $.90/pack; large selection, hanging baskets, $9; azaleas, $7.50. Ray, 727-6818 after 3:30 p.m.

LAWN MOWER - Lawn Boy, $50; Craftsman mower, $50. Ext. 4220.

LAWN MOWERS - Lawn Boy Deluxe, 21" cut, self-drive, mulcher, $200; Sears Craftsman, 22" cut, self-drive w/bag, $85. Dan, Ext. 4987 or 698-7322.

TOPSOIL - fine screened, $19 per yd., delivered, also sand & gravel delivered. 924-9427.

TUNE-UP CENTER - Snap-on, 3 meters, $250; brake bleeder, $125; 20-ton hydraulic jack, air assisted, $250. 474-5715.

YEWS - American Arborvitaes, up to 4 ft., $4 per ft. John, 744-5867.

AZALEAS - full grown. 689-9234.

Sports, Hobbies & Pets

BICYCLE - girl's, 10-spd., 24", very good cond., $45. Ext. 2616 or 751-5868.

DIVING BOARD - 10', $75; stainless steel pool ladder, $40. 269-9510 after 7 p.m.

DRYSUIT - Poseidon, man's large, like new, asking $500. 474-5715.

GUITAR - Fender, jazz bass, excel. cond. Ext. 5827 or 286-1113.

KAYAKS - low volume Slalom, w/paddle & spray-skirt, $220; surfkayak, $2; wetsuit, X-small, great cond., $80; 2 surfboards, $25 ea. Nancy, 281-4673.

LENS - 100-300mm Tokina zoom, F5.6 Nikon mount, new cond., $90. 929-4326.

ORGAN - Wurlizer, electric, double keyboard, rhythm & instrument attachment, $1,100. Frank, 281-9523.

NINTENDO GAMES - used, some w/box, mint cond., Luke, 744-4611.

PIANO - Lester Betsy Ross spinet, light wood, w/bench, good cond., $700. Tony, Ext. 3658/3637 or 929-4903.

PING-PONG TABLE - excel. cond., $90. Scott, Ext. 3354.

Audio, Video & Computers

AUDIO TAPES - 8-track, w/2 rotating storage racks, $15. Tony, Ext. 2050.

COMPUTER - Aquarius, 17k complete system, printer, data, recorder, file & fin form, games, like new, $90. Ernie, 588-4987.

SPEAKERS - 2-way, 6" woofer, custom-built, American cherry wood, $100/pr. Bart, Ext. 3457 or 924-6761.

Miscellaneous

CRAFT ITEMS - country hats, wreaths, baskets, butterflies, hoops, covered photo albums, more for Mother's Day. Lois/Karen, Ext. 4904 or 3513.

FRANCS - French & Swiss, small amount left over from trip. Morris, Ext. 4192.

TRAVELING SUITCASE - 7"x18"x26", leatherette, $15. Tian Z., Ext. 7000.

Free

BOOKS - paperback copy of Stephen King's *The Tommyknockers*; hardcover copy of King's *It*. Kitty, Ext. 3422.

CABINETS - complete kitchen, brown wood, fair condition, you pick up. Dick, Ext. 2911.

GORDON SETTER - to good home only, 6-yr-old female. Bill, Ext. 4428.

Car Pools

ELWOOD/E. NORTHPORT/COMMACK - driver needed for on-time car pool. Paul, Ext. 4156.

Real Estate

Real Estate advertised for sale or rent is available without regard for the race, color, creed, sex or national origin of the applicant.

For Rent

BROOKHAVEN - furn. 3-bdrm. house, eik, l/r, d/r, den, 2½ baths, screened porch, w/d, dw, one-acre lot, avail. mid-Aug. for 1 year, $1,000/mo. + 1 mo. sec., refs. Eugene, Ext. 2943, 286-0263 eves.

EAST MORICHES - 2-bdrm. apt., ground floor of Victorian house, one block to school, 3 blocks to bay, public dock, $680/mo. + util. Mona, Ext. 5056, Michael, Ext. 2081 or 878-9384 eves.

FARMINGVILLE - new studio, 1 block LIE, ground floor, w/w, l/r, eik, sleeping loft, bath, basic cable, priv. ent., part. furnished. $475 all, 1 mo. sec. Bill, Ext. 4988, 698-4882.

HOLBROOK - large 3-room apt., skylights, priv. ent., non-smoker, no pets or children, immed. occup., $750/mo. incl. util. 588-7744.

MILLER PLACE - 2 bdrms., kit., l/r, full bath, non-smoker, no pets or children, , $800/mo. all., sec. 732-9324.

WADING RIVER - 1-bdrm. apt., eik, full bath, large l/r, priv. ent., 1 block to LI Sound, 10 min to Lab, $575/mo. incl. util. 929-3419 after 6 p.m.

WESTHAMPTON BEACH/SPEONK - 2-bdrm. apt., 1½ baths, 5 appliances, 8 mos. old, immed. occupancy, $850/mo. + util., 1 mo. sec. Rich, Ext. 4834.

NEW ORLEANS, LA - time share for rent in New Orleans "Jazz Week", April 28-May 5, sleeps 4 adults, $140/night. 543-7065.

HILTON HEAD, SC - 2-bdrm. condo, sleeps 6, beach, pool, tennis, golf, Apr.-Sept. $425/wk. Guy, Ext. 3147 or 585-9149.

CAROLINA BEACH, NC - ocean vacation, 1-bdrm. condo, w/terrace, furnished, sleeps 4, pool, W/D, cable, ocean view, weekly, monthly, 289-1831.

For Sale

CORAM - 9-rm. Colonial, 4 bdrms., 2½ baths, family rm., f/p, eik, d/r, l/r, cul-de-sac, in-ground pool, sprinklers, 2-car garage, mud room, $195,000. Ext. 2303 or 732-3902 after 5 p.m.

EAST SETAUKET - 4-bdrm. Colonial, 2½ baths, eik, l/r, d/r, family rm., f/p, wood floors, screened porch, 2-car gar., 0.52 acre, new vinyl siding, gazebo. Shiue, Ext. 4395/3372 or 751-8224.

MATTITUCK - 4-bdrm. Gambrel, 2 baths, formal d/r, eik, lr/ f/p, deck, enclosed breezeway, 2-car gar., playroom, on cul-de-sac. 298-5383.

NORTH SHIRLEY - ½-acre lot, 75'x265', Manorville school and fire district, 5 min. from Lab., nice area , $50,000. Jim, Ext. 2305.

PORT JEFFERSON STATION - 5-bdrm. contemporary high-ranch, M/D, 3 baths, 2 kitchens, garage, vinyl siding, fenced yard, ¾ acre, mint, $174,990. 331-1523 eves.

RIDGE - 3-bdrm. Colonial, low assumable mortgage, 8 min. from Lab., large fenced yard, oversized rooms. Mike, Ext. 7865.

ROCKY POINT - 3-bdrm. high-ranch, l/r, d/r, large eik, 2 full baths, deck, 2-car garage w/electric doors, ca/c, f/p, more, ½ acre, $168,000. Kochman, 744-1057.

SETAUKET - 3-bdrm. L-ranch, cul-de-sac, 2 baths, eik, l/r, d/r, rec. rm., wood floors, patio, full bsmt., attic, 2-car gar., ca/c, ½ acre, mint, 3V schools, $220,000. Ext. 5265 or 584-8339 after 6 p.m.

SETAUKET - N of 25A, 4-bdrm. Colonial, 2½ baths, eik, l/r, d/r, den, fin. bsmt., ¾ acre. 751-5667 eves.

SHOREHAM - 4 bdrm., 2 baths, l/r, d/r, eik, fam. room., f/p, BBQ pit, oak floors, garage, deeded beach rights. 744-2947 eves.

SHOREHAM - 4-bdrm. Colonial, 2½ baths, fenced ½ acre, 2-car garage, bsmt., energy efficient, low taxes, Shoreham-Wading River schools, 15 min. to Lab, $175,000. Barbara, 744-0960.

WADING RIVER - 3-bdrm. Cape, ½+ acre, 2 baths, den, d/r, l/r, fam. room w/fp, full fin. bsmt., SWR schools, $230,000. 929-6748 after 3 p.m.

WADING RIVER - 3-bdrm. ranch, eik, l/r, solar, ¾ acre, low taxes, circular drive, walk to beach, excel. cond., $130,000. Kathy, 929-3207.

WESTHAMPTON BEACH/SPEONK - Hampton Villas, 2-bdrm. townhouse, 1½ baths, ca/c, swimming pool, 5 appliances, $149,500. Rich, Ext. 4834 or 588-0507.

DELAWARE CITY, NY - 5.38 acres w/stream on private road, electric nearby, deeded rights on Charlotte Creek, excel. hunt, fishing, low taxes, possible owner finance. 281-4871 eves.

HOLIDAY, FL - Sandpiper, 3 bdrms., 2 baths, 1½-car garage, corner lot, sprinklers, cathedral ceilings, clubhouse facilities, w/time share in Maderia Beach, $75,900 firm. 474-5715.

MADERIA BEACH, FL - one-week time share, Commodore Beach Club, on Gulf, sleeps 4 adults, must sell, asking $5,000. 474-5715.

PALM COAST, FL - ¾ acre lot, 80'x125', 5 mi. to Atlantic Ocean, 24 mi. N. of Daytona Beach, water drainage & sewage util. in, $11,995 or $1,995 and assume. Thomas Nolan, Ext. 5265.

Wanted

BABYSITTER - on-site at lunchtime, once or twice a week for 3-yr-old and 1-yr-old for 1 hour. Neil, Ext. 4261.

BOOK - copy of T. Sturgeon's *Some of Your Blood*. Kitty, Ext. 3422.

CARPENTER - experienced in kitchen countertop installation, Lily, Ext. 2973.

ENLARGER - Beseler 45mx or comparable model; VCR, either VHS or BETA, inexpensive. Paul, Ext. 7697 or 689-2829 eves.

GOLF BAG - lightweight; Karman Ghia w/good body, not necessarily running. Liz, Ext. 2346.

HOUSE OR CABIN IN ADIRONDAKS - to rent for 1-2 weeks in June or July, preferably on water, 3-5 bdrms., Ext. 4261.

HOUSEMATE - to share house in Stony Brook, professionals as housemates, $339 + util. Jim, Ext. 2183.

LAWN MOWERS - used, complete. Dan, Ext. 4987 or 698-7322.

TRACK MACHINE - Nordic, in good cond. 878-4243 after 5 p.m.

WORKOUT PARTNER - start at 5:15, 4 times weekly, equipment in basement, location Wm. Floyd & LIE. 281-4799.

Services

Services are listed in the first ***Bulletin*** of every month as a courtesy to BNL employees. They are neither screened nor recommended by the ***Bulletin***. Services forms are available in the ***Bulletin*** lobby, Bldg. 134.

BOAT CLEANING - wash & wax interior and exterior, bottom painting, glass or wood. Joe, Ext. 4052.

AUTOMATIC LAWN SPRINKLERS - free estimates and appraisals, installations and repairs, spring start-up services available. Lou, 928-7042.

BRICKWORK - patios, walks, swimming pools, retaining walls, landscaping ties, Belgian block, 20 yrs. exp., Lab discount. Tony, 698-9274.

CHILDBIRTH CLASSES - and refresher class, Lamaze, taught in my home, ASPO certified, R.N. Cindy, 929-4993.

CHILD CARE - available Mon. through Fri. Barbara, 878-4285.

CLEANUPS - lawn maintenance, sod and seeded lawns, North Shore. Randall, 821-1042.

COMPUTER REPAIR - Commodore 64, 128, 1541, 1571, D.D. fast, reasonable, reliable, free estimate. Henry, 399-6947.

EXERCISE - summer is just around the corner, if you want to look fit and trim. Joann, 472-6742.

GENERAL CONTRACTOR - carpenter, extensions, garage conversions, basements, decks, kitchens, licensed, free estimates. Salvato, Ext. 2957.

GOURMET DINNER PARTY SPECIALIST - gourmet cooking for home, office or boat, catering to discerning palates. Nancy, 331-1372.

HOME IMPROVEMENTS - extensions, renovations, decks, windows/skylights, all general contracting, licensed & insured. Brian, 744-3068.

HOME IMPROVEMENTS - extensions, dormers, garage & basement conversions, roofing, siding, replacement windows. John, 475-6981.

LAND CLEARING - using excel. rake on JD 450 track loader, $60/hr. w/operator. Tom, Ext. 4084 or 878-1060.

MARINE MECHANIC - inboard & outboard, service & installations, summerize, outdrive, water pumps, OMG & Merc. Ted, 928-1445.

PAINTING - professional interior/exterior, neat & reliable. Gene, 878-2357.

PAINTER - interior/exterior, commercial/residential, free estimate, reasonable rates, senior citizen discounts. Ron, 585-1486.

PARTY TENTS FOR RENT - we set up & take down. Fred Kuehl, Ext. 7947/792 or 588-2268.

PHOTOGRAPHY/VIDEO WEDDINGS - In Fokus Photographers. Ripp Bowman, 286-8594.

PLUMBING/HEATING - repairs and installations from leaky faucets to complete heating and central air conditioning systems. Lou, 654-3654.

ROTOTILLING - small to midsize gardens, free estimate. Paul, 924-8143 after 6 p.m.

SHEETROCKING & SPACKLING - free estimate. Kevin, 563-9855.

TAX PREPARATION & CONSULTING - lowest prices. Ext. 4555 or 821-2395.

TAXES - prepared by top consultant, your home or mine, reasonable, doing Lab people over 14 years. John, 732-2472.

TAX RETURNS - professionally prepared. Maurice, Ext. 2487 or 928-6930.

TAXES - tax returns professionally prepared, your home. Ken, 929-6744 eves.

TREE SERVICE - removal, trimming & topping; experienced, free estimates. Ken, 289-8212 eves.

TYPIST AVAILABLE - to do your extra typing, professional, accurate, fast results, 8 years' secretarial experience. Ext. 4931 or 928-7571 after 6 p.m.

WORD PROCESSING - manuscripts, resumes, letters, quality work, fast, reasonable rates, 13 years experience. 924-2012 after 6 p.m.

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