BROOKHAVEN BULLETIN

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BROOKHAVEN NATIONAL LABORATORY

Symposium To Honor Gen Shirane

With a 30-year career in neutron scattering that has spanned the entire period of high-flux reactors, BNL Senior Physicist Gen Shirane is unequivocally recognized as the world's leading expert in using neutron scattering to probe problems in solid state physics.

Shirane's contributions to the field

Gen Shirane

of neutron scattering and the influence that he has had on other scientists in this field will be major topics tomorrow, June 3, at the Symposium on Neutron Scattering, to be held in Shirane's honor on the occasion of his 65th birthday

The symposium, which is open to the public, will begin at 9 a.m. in the large seminar room in the Physics Department, Bldg. 510.

(Continued on page 2)

Tutorials Center on Technology Transfer

Detecting underground oil leaks from high-voltage cables using perfluorocarbon tracers was the subject of the second tutorial presented by BNL researchers on May 23 to twenty representatives of the nine utilities involved with BNL's new Utility Research & Development Center.

The use of perfluorocarbon tracer (PFT) gases to track such things as atmospheric dispersion of pollutants, to measure ventilation rates in buildings and to detect concealed explosives has been pioneered by chemical engineer Russell Dietz, Department of Applied Science (DAS).

Head of the Tracer Technology Center within DAS's Environmental Chemistry Division, Dietz has extended his tracer work to detect oil leaks from underground power-transmission cables — an application of great interest to the electric utility industry.

Buried under the streets in urban areas, one foot in diameter and up to 15 miles long, high-voltage cables are filled with oil as electrical insulation. From age and weathering, these cables can leak their oil — but, until now, the location of the leak could only be discovered by random and expensive excavation.

From their simulations of cable-oil leaks, Dietz and his staff, including Walter Loss, Gunnar Senum, Robert Goodrich and Edgar Cote, have concluded that PFT tagging can reveal otherwise invisible leaks to within five feet. At the tutorial, therefore, the electric utilities expressed interest in the transfer of this technology to industry for commercial development.

As part of BNL's effort to transfer technology developed at the Lab —

(Continued on page 2)

Gunnar Senum (left) and Robert Goodrich (right) demonstrate how oil leaking from underground power-transmission cables would be detected using perfluorocarbon tracer technology developed at Brookhaven. Witnessing the simulation are Dorry Tooker (fifth from left), BNL's Office of Technology & Research Applications, and some of the electric utility representatives at the May 23 tutorial offered by BNL's Utility Research & Development Center.

— Photos on this page by Roger Stoutenburgh.

From Russia, With Safety in Mind

Since the Chernobyl accident just over two years ago, the Soviet Union has been increasingly vigilant about the safety of its nuclear power plants. One sign of this vigilance is the U.S.S.R. State Committee on Supervision of Nuclear Power Safety (SCSNPS).

To learn more about research being done in this area in the U.S., the committee visited BNL in May. Their day here included discussions with Department of Nuclear Energy (DNE) staff on such nuclear power plant-related topics as severe accident phenomenology and risk, studies and applications of probabilistic risk assessment systems, performance indicators, extending plant life, using the plant analyzer developed in DNE to model mathematically the inner workings of a nuclear plant, and seismic and structural analysis.

At the group's last stop, the High Flux Beam Reactor, this photo was taken: (from left) , Kevin Kelly, U.S. State Department; Georgiy Kopchinskiy, Bureau of U.S.S.R. Council of Ministers; Gordon Fowler, Nuclear Regulatory Commission (NRC); Vadim Malyshev, Chairman, SCSNPS; Edward Shomaker, NRC; Tatyana Kitayeva, interpreter; Sy Baron, BNL's Associate Director for Applied Programs; Aleksandr Khamaza, SCSNPS; and Lev Slepnev, SCSNPS.

Takacs Shares FLC Award

Once again, a member of the BNL staff has received a Special Award for Excellence in Technology Transfer from the Federal Laboratory Consortium (FLC): Physicist Peter Takacs, Instrumentation Division, shared a 1989 award with Eugene Church, of the Army Armament RD&E Center in New Jersey.

Peter Takacs holds a mandrel used for replicating mirrors for x-ray telescopes. Based on measurements Takacs has made on this stainless steel cylinder, the mandrel's finish has been refined to an impressive smoothness — a smoothness that is reflected in the final mirrors.

At the presentation in Chicago in early May, Takacs and Church were cited, "For their creative achievement in attracting x-ray mirror manufacturers to use unique measurement facilities to improve their products and surpass foreign competitors in the market for high technology optical research instruments."

Precise and ultra-smooth mirrors are critical to experiments conducted at BNL's National Synchrotron Light Source (NSLS), as well as at the High Flux Beam Reactor (HFBR). However, explained Takacs, "In the early 1980's, most mirrors manufactured for research were not usable. There were no standards to help manufacturers make the mirrors to the synchrotron-user community's exacting requirements, which exceeded the current state-of-the-art, and there were no measuring techniques or instruments with which to begin the process that would lead to better mirrors."

To fill this gap, Takacs and Church adapted an instrument developed by the University of Arizona. As mirrors were delivered to NSLS or HRBR users, Takacs would measure them, then send a report to the manufacturer detailing any shortcomings. This feedback has had a positive effect. Said Takacs, who continues to provide this service at BNL, "I've seen a definite improvement. Manufacturers have actually changed their manufacturing methods."

The FLC, which encompasses more than 500 laboratories and research centers from 14 federal agencies, was established in 1974 to help provide assistance to the nation's public and private sectors in utilizing the vast technology resources developed through the efforts of the federal government. The Special Awards were created by FLC in 1984, to recognize individuals within federal laboratories who have done outstanding work in transferring technology. Since then, BNL employees have received six of these awards.

First Four-Time team safety Winners

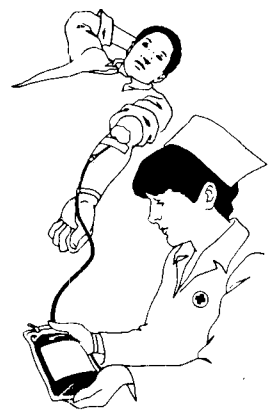
Roger Stoutenburgh

It's been 43 weeks between July 18, 1988, when the Team Safety Program began, and May 20, 1989, when three Plant Engineering (PE) teams became the first teams to safely complete their goals for the fourth time. The Grounds & Roads team, the Heavy Equipment Mechanic Operators team and the Steam Shop team have all gone the entire life of the program without incurring a lost-time injury.

The three teams reached their first goal — and were the first teams to do so — on September 12. They led the pack again on November 28 with their second win, and again on February 20 with their third. Each time they were feted with prizes and a luncheon. At their most recent luncheons, they were the first to receive the four-time winners' award of blue jackets bearing the Team Safety logo.

Here, Ollie Booker, a member of the Grounds & Roads team, is fitted with his jacket by Parke Rohrer, Associate Director for Management & Physical Plant. Joining them for the ceremony are (from left) Bruce Medaris, PE's Operations & Maintenance Manager; Jerry Bellows, Manager of the Department of Energy's Brookhaven Area Office; Gerald Kinne, Assistant Director for Reactor, Safety & Security; and Alfred Mahlmann, Manager of the Plant Engineering Division.

Circulate Your Blood



A three-day blood drive will be held at the Lab on June 20, 21 and 22 — so, blood donors should draw a rolled-up sleeve on their calendars for those days.

Two pledge cards are being sent to each employee so that friends or relatives may join the BNL campaign. Please sign up as soon as possible. If you need any more information, call Susan Foster, Blood Drive Chair, Ext. 2888, or contact the Blood Program Captain for your department or division (see list below):

Dept.	Bldg.	Captain	Ext.
ADD	1005	Patricia Webster	4628
	902A	Cynthia Fridrich	5459
	902A	Bill Carapezza	7145
AGS	911	Ed Schwaner	4846
AUI	134A	Elliott Levitt	2495
Bio.	463	Richard Sautkulis	3386
Chem.	555A	Nancy Sautkulis	4304
CCD	515	Bridget Ramos	7796
CSD	903	Al Campbell	2043
	462U	Christine King	7725
	462A	Frank Monroig	4986
	479	Ed Carley	3499
DAS	179A	Pat Taylor	2452
	526	Arlene Waltz	2537
	815	Betty Ivero	2208
	480	Corinne Messana	5415
	426	Maggie Marsch	3275
	475	Arlean VanSlyke	2387
	318	Judy Giordano	3051
	120	Lynanne Conroy	7918
	51	Flo O'Brien	2265
DCP	355	David Dale	4037
DNE	130	Maureen Raia	5312
	475B	Lydia Ryan	2380
	902C	Ginnie Diebel	4057
DO	134	Janet Sillas	2345
DOE	464	Claire Appleton	3438
Fisc.	134A	Karen Vogel	2456

Dept.	Bldg.	Captain	Ext.
Inst.	535B	Patrick Gilleeny	2836
Med.	490	Harry Ulyat	3450
MIS	459	Joan Barrow	3290
NSLS	510E	Lynn Kelly	2297
	725C	Judy Thompson	2145
OMC	490	Mickey Sacker	3671
PE	134C	John Castro	7671
	452	Pete Stelmaschuk	4669
	326	Ron Mulderig	3084
	422	Chris Frosina	3259
Pers.	185	Marsha Kipperman	2871
P&GA	197B	Phyllis D'Avanzo	2950
Phys.	901A	Sandy Asselta	4550
	510A	Liz Mogavero	3940
Reac.	750	Randi Vogt	4043
	703	Eilene Kelly	2399
	120	Julie Teuber	2513
S&SD	50	Mike Hurley	2238
	703	Maryann Reynolds	5241
S&EP	535A	Len Emma	3334
	599	Michael Carroll	2351
SMD	211	Mike Guacci	2976
SSD	179B	Joan Perullo	2549
TID	477A	Pat Campbell	3484
	477A	Harriet Martin	3487

Symposium (Cont'd)

Through the reminiscences and reports of many of Shirane's colleagues and collaborators, attendees will receive a rare and informative glimpse into the continuing career of an important physicist, in addition to discussions on some of the recent research in which Shirane is actively involved. Topics will range from the latest on high temperature superconductors to "Zen and the Art of Neutron Scattering."

After receiving a Doctor of Science degree in physics from the University of Tokyo in his native Japan in 1954, Shirane became a researcher at Pennsylvania State University. He moved to Westinghouse Research Laboratories, in 1957, also as a researcher. In 1963, he came to BNL, where he had spent the year 1956-57 while with Westinghouse.

It was during that year that Shirane became familiar with the Brookhaven Graphite Research Reactor, which provided the neutrons for much of his research until the advent of the Lab's High Flux Beam Reactor in 1965.

Shirane's work with both facilities has been based on the fact that the neutron can be diffracted, or scattered, by a solid. The way a neutron beam scatters off a sample in its path can reveal a lot about that substance's structural state, dynamical behavior and other properties.

Shirane began using neutron scattering to study phase transitions in ferroelectric materials, Through the years, he has used the technique to investigate such phenomena as the magnetic structure of solids, and the magnetic and structural properties of lower-dimensional systems.

Another unifying thread in his body of work has involved the study of the properties of superconductors; currently, he is making inroads in the understanding of the new high temperature superconductors.

Arrivals & Departures

Arrivals

Herman F. Graham .....MIS
Diane H. Greenberg ....Director's Ofc.
Glenn A. Jennings .....Director's Ofc.

Departures

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

Patricia C. Lebitski .....Physics
William E. Lebitski .....Sup. & Mat.
William G. McNaughton .....S&SD
Gordon E. Rackett .....AGS
Mary Sowiak .....Sup. & Mat.
Vincent Stanziani .....Accel. Dev.

Tutorials (Cont'd)

such as PFTs — to industry, and to make the Lab staff more aware that their work may have commercial application, BNL's Utility Research & Development Center was organized last December.

Operated out of Brookhaven's Office of Research & Technology Applications, which is headed by William Marcuse and staffed by Frank Salzano and Dorry Tooker, the utility center will periodically ask BNL researchers from various departments to present applicable technology to the electric industry through day-long tutorials.

"This is the Lab's first major technology-transfer outreach to a specific industry — and we expect to use the wisdom we will gain from this endeavor in offering our technology and assistance to other industries in the future," explains Sy Baron, BNL's Associate Director for Applied Programs, who initiated the utility center, working with Salzano and other BNL staff.

The utility center will provide information on Lab technology already developed for the U.S. Department of Energy and the Nuclear Regulatory Commission. As about $1.5 million of BNL work is funded by the electric utility industry, the utility center will also coordinate the cooperative technical interaction between Brookhaven researchers and their utility counterparts.

The utility center already has eight members: Baltimore Gas & Electric, Maryland; Consolidated Edison, New York; Empire State Electrical Energy Research Corporation; Long Island Lighting Company; New York Power Authority; Niagara Mohawk, New York; Orange & Rockland, New York; and Public Service Electric & Gas, New Jersey.

Each has paid $10,000 to participate in the BNL center, including tutorials and research reviews for utility applications. New York State Electric & Gas is expected to become the next new utility center member.

The lifetime extension of power plants was the topic of the first tutorial presented to another 20 utility representatives in early December by Robert Hall, head of the Engineering Technology Division of BNL's Department of Nuclear Energy, and his staff, including William Gunther and John Taylor.

The next offering will take place on June 20, when "The Electric Utility Company and the Cultural Forces It Faces" will be the subject of an all-day presentation for utility representatives.

— Marsha Belford

Smallest and Brightest: Light Source Data Book

Roger Stoutenburgh

At 3½ inches wide and 4½ inches high, it's the smallest BNL informal report ever published — and, with its sunny yellow cover, it's one of BNL's brightest.

Since form should follow function, its pocket size and brightness are appropriate, for it's the *Synchrotron Light Source Data Book*, BNL 42333 — a 91-page collection of useful formulae and data on most of the world's existing and planned synchrotron radiation sources.

As the data book's author, Associate Physicist James B. Murphy of the National Synchrotron Light Source, states in his foreword, the booklet was compiled for accelerator physicists "as a compendium of tools for the design of electron storage rings as synchrotron radiation sources."

Murphy hopes that the data book will serve as a pocket-sized reference to facilitate back-of-the-envelope-type calculations. — Marsha Belford

Stony Brook Events

The following events are coming up at the State University of New York at Stony Brook:

At the Staller Center for the Arts (call the Box Office, 632-7230, for ticket information), *will be the fourth annual Norstar Bank International Theater Festival, featuring* —

- **Circus Women** — All-women troupe of acrobats, aerialists, comediennes and musicians from Paris, in their first U.S. appearance, June 6-10, 8 p.m.
- ***Salt of the Earth*** — Play by John Godher, set in the Yorkshire coal fields, performed by the Hull Truck Theatre Company from England, June 13-17, 8 p.m.
- **Kutiyattam Dance Special** — a lyrical presentation of a traditional dance form from India, June 22-24, 8 p.m.

On the Tour Circuit

Throughout the year, the Tour Program run by the Public Affairs Office hosts groups of college students eager to learn about what's going on at BNL. Following a thank-you luncheon on May 16, some of these College Tour Volunteers gathered for this photo: (front, from left) Evelyn Ritter, Elaine Lowenstein (Tour Program), Sue Monteleone, Janet Tempel (Tour Program), Michiko Tanaka, Linda Di Pierro, Violet Bezler, Victor Gonzalez, Lucy Sanchez, Mulki Bhat; (middle, from left) Vinnie Lo Destro, Betty Pergan, Graham Smith, Betty Ivero, Peter Mendolia, Rosemary Cohen, Kathleen McIntyre, Arlene Clay, Garry Barnett, Gerhard Redelberger, Mark Walker, Ted Robinson; (back, from left) Gerry Van Derlaske, Victor Guiterrez, Audrey Bangle, Frances Scheffel, Jackie Larrie, Ron Clipperton, Dave Comstock, Andy Feldman, Janet Sillas, Don David, Nelson Tyler and Richard Seebeck.

Peter Horton

Tennis News

Tennis Fun Day

The BERA Tennis Committee is sponsoring a one-day tennis mixer event open to employees, their family members, and summer visitors. This Tennis Fun Day will be held on Saturday, June 17, at the tennis courts, from 9 a.m. sharp to noon. The rain date is Sunday, June 18.

Participants are asked to bring their own tennis balls. Refreshments will be provided, and prizes will be awarded.

In order to facilitate planning, participants are asked to sign up in advance at the BERA Sales Office or to call one of the following: Nick Combatti, Ext. 3389; Om Singh, Ext. 5332; or Neal Tempel, Ext. 3418.

Join us for this celebration of the outdoor tennis season.

Please note: Courts will be closed to all other play during the event.

Reminder: U.S. Open Bus Trip

Paid reservations are now being accepted in the BERA Sales Office for a second bus to the U.S. Open at Flushing Meadows on Tuesday, September 5. This second bus will be ordered only if a significant number of seats are sold by June 5. The $28 per person charge includes tickets for the day matches and round-trip bus transportation. Sign up now.

Hospitality News

The next Hospitality Committee get-together will be Tuesday, June 6, at 9:30 a.m., in the Brookhaven Center. There will not be a formal presentation; instead, the new chair and co-chair of the Hospitality Committee will be introduced to the group, and upcoming events and trips sponsored by the Committee will be discussed.

Spouses of Laboratory employees and guests are welcome. Please come and bring the children. Babysitting will be provided free of charge. Coffee, tea and danish, as well as juice and cookies for the children, will be provided.

Cooking Exchange

All those who have been members of the International Cooking Exchange within the last few years are invited to attend its International Dinner on Monday, June 19, at 6 p.m., in the Brookhaven Center, and to bring one of their favorite dishes. Baby-sitters will be available.

The Cooking Exchange needs to know if you are coming, and, if so, what you plan to bring. Please call Jan Rohrer, 821-1455, or Kazuko Kuno, Ext. 3222.

Outdoor Volleyball For the Summer

The outdoor volleyball courts are ready for use. Anyone interested in playing organized volleyball on these courts on Wednesday evenings should contact either Kathi Barkigia, Ext. 7667, or Carrie Grimshaw, Ext. 2073, with your suggestions as to the format of play. Please respond by Thursday, June 8.

Summer Program For Children

BERA's summer recreation program for children features swimming and tennis. The program is open to children of all Laboratory employees.

Swimming Classes

- **Program** — Each child will be scheduled for one lesson each week for a total of eight lessons. American Red Cross certificates will be awarded to children who qualify.
- **Time** — Monday through Friday, 2 to 3:30 p.m.
- **Fee** — $20 for each child upon registration; plus $1.50 daily admission fee or present season ticket.
- **Requirements** — For the safety of the children, a minimum height of 42 inches is required.
- **Registration** — Applications may be picked up at the Recreation Office in Personnel from 8:30 a.m. to 5 p.m.; the BERA Sales Office in Berkner Hall from 9 a.m. to 2 p.m.; or the swimming pool during scheduled hours. Mail or deliver applications with registration fees (checks payable to BERA) to the Recreation Office, Bldg. 185, no later than Friday, June 16.

Tennis Program

- **Activity** — Basic tennis instruction.
- **Time** — Monday through Thursday, 3 to 4 p.m.
- **Fee** — Although no fee or registration is required, children will provide their own rackets and balls, and they will be asked to pay a $2 entrance fee if they wish to play in the end-of-season tournament.

Software and Equipment Demo

An IBM personal computer fair featuring popular chemistry application packages will be held on Thursday, June 8, between 10 a.m. and 2 p.m. in Berkner Hall lobby. Representatives from such companies as Molecular Design, Beckman Systems, BBN Software and Digital Resources will be present to demonstrate the chemistry packages, as well as to distribute literature and answer questions. Representatives from IBM will also be on hand to demonstrate and speak about the various models of the IBM PS/2 line.

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

AACC Elections

In last week's Afro-American Culture Club (AACC) elections, Ralph Wilson was elected Vice President and Celeste Samuels became Recording Secretary. Congratulations to the winners and a special thank-you to the other candidates, Leon Lawrence and Pauline Dixon, for their participation.

BERA Bus Trip To Atlantic City

BERA plans to return to Atlantic City on Saturday, August 5, to Trump Castle on the Marina.

The bus will leave the Brookhaven Center at 11:30 a.m., and a second stop will be made at the Park & Ride Exit 63 on the LIE, if requested. The bus will return at approximately 1 a.m. This later departure has been scheduled because of requests to be in Atlantic City during evening shows.

The initial cost of the trip will be $20 per person, but the casino will return $15 in coins and a $5 deferred voucher to each person on the bus.

You may 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. No refunds will be made unless someone else wishes to purchase your ticket. A waiting list will also be kept.

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

Cafeteria Menu

Monday, June 5		
Soup: Clear watercress	(cup)	.75
	(bowl)	.95
Pinwheel steaks w/veg.		3.10
Beef goulash w/egg noodles		3.10
Lite-line: Cheese blintze w/fruit		2.85
Hot deli: Marinated chicken breast on croissant		3.10
Tuesday, June 6		
Soup: Kidney bean	(cup)	.75
	(bowl)	.95
Pizza		2.85
Chicken Kiev w/pot. or veg.		3.10
Lite-line: Buffet tuna salad		2.75
Hot deli: BBQ ham		2.85
Wednesday, June 7		
Soup: Onion Italienne	(cup)	.75
	(bowl)	95
Moussaka		3.10
Roast turkey and stuffing w/veg.		3.10
Lite-line: Asparagus and deviled egg salad		2.85
Hot deli: Open roast beef sandwich		2.85
Thursday, June 8		
Soup: Cream of spinach	(cup)	.75
	(bowl)	.95
Meat loaf w/pot. or veg.		3.10
Shrimp and chicken stir-fry		3.25
Lite-line: Broiled skinless chicken breast w/pot. or veg.		3.10
Hot deli: Swedish meatball hero		2.85
Friday, June 9		
Soup: Mussel bisque	(cup)	.75
	(bowl)	.95
Broiled whitefish w/pot. or veg.		3.10
Macaroni & cheese		3.10
Lite-line: Taco salad platter		2.85
Hot deli: Tuna or chicken melt on a croissant		2.85

Reports Available

The following reports are available to Laboratory staff and affiliates of DOE, AUI, and NRC. Others may purchase the report from the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, VA 22161. Staff members should call the designated contact.

BNL-52084
Contact: L. Thompson, Ext. 5068
Relativistic Jets and the Most Powerful Radio Sources in the Universe. Brookhaven Lecture #234. A. Bridle.

BNL-52123
Contact: A. Vanslyke, Ext. 2387
Hazard Characterization and Management of Tetramethyl Tin in the Production of Photovoltaic Cell Transparent Conductive Oxide Layers. P.D. Kalb et al.

BNL-52171
Contact: M. Heimerle, Ext. 4776
Synchronous Particle and Bucket Dynamics. J.M. Kats.

NUREG/CR-5266
BNL-NUREG-52175
Contact: A. Lopez, Ext. 5768
Examination of Two 3M Type 902F Static Eliminators. C. Czajkowski.

NUREG/CR-5324
BNL-NUREG-52188
Contact: J. Danko, Ext. 7125
Detecting Component Failure Potential Using Proportional Hazard Model. D.P. Gaver et al.

NUREG/CR-5325
BNL-NUREG-52189
Contact: J. Danko, Ext. 7125
A Multivariate Statistical Study on a Diversified Data Gathering System for Nuclear Power Plants. P. K. Samanta et al.

BNL-NCS-51771
First Edition, Supplement Four
Contact: M. Raia, Ext. 2902
Integral Charged Particle Nuclear Data Bibliography. Literature Scanned From April 11, 1987 through November 10, 1988. N.E. Holden and S. Ramavataram.

BNL-52125
Contact: G. Nubla, Ext. 2223
An Experimental Survey of the Factors That Affect Leaching From Low-Level Radioactive Waste Forms. Topical Report. D.R. Dougherty et al.

NUREG/CR-5124
BNL-NUREG-52141
Contact: D. Miesell, Ext. 4962
Interfacing Systems LOCA: Boiling Water Reactors. T-L. Chu et al.

BNL-52172
Contact: G. Searles, Ext. 4464
Free Energy of Formation of U_3O_7 in the Temperature Range 25 to 400°C. C. Pescatore.

BNL-52173
Contact: S. Zuhoski, Ext. 3359
Review of Atomization and Soot Formation for Advanced Residential Oil Burner Systems. C. R. Krishna et al.

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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.

4058. MATERIAL HANDLER - Supply and Materiel Division.

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside applicants.

4059. TECHNOLOGY TRANSFER POSITION - Requires a bachelor's degree in engineering or business, with an advanced degree preferred, and substantial industrial experience in technology transfer. Must have experience in taking technology that has been developed in either an industrial or research laboratory setting and transferring it to industry. Applications will be in fields such as biomedical, process industries, materials and/or instrumentation. Director's Office.

4060. PLUMBER A - (temporary) Requires substantial commercial/industrial experience. Will lay out, construct, install, repair and maintain water, sewage and gas systems, related facilities and auxiliary equipment. Plant Engineering Division.

Motor Vehicles & Supplies

89 TRAILER - enclosed, gal. frame, 4'w x 8'l x 4'h, mint cond., $850. Jim, Ext. 7971 or 286-1358.

88 TOYOTA SUPRA - loaded, under warranty, must sell. 736-7603.

88 TOYOTA COROLLA FX - 2-dr., h/b, 4-cyl., p/s, p/b, am/fm, 8k mi., excel. cond., asking $7,500. Tom, Ext. 3531 or 632-2245 eves.

87 MAZDA PICKUP B2000SE - 5-spd., bed liner, cap, am/fm, sliding window, black, excel. cond., $6,000. Gary, 821-3244.

86 IROC-Z28 - red/black, a/t, loaded, alarm, a/c, T-tops, louvers, tinted windows, cruise, low mileage, excel. cond., $10,900. Lisa, Ext. 2276.

86 CHEVY SPECTRUM - 5-spd., a/c, sunroof, new tires, tinted windows, 50k mi., excel. cond., $4,200. 821-3306 eves.

85 FIREBIRD - red, 38k mi., T-tops, a/c, alarm, cloth int., 5-spd., mint, must sell, $7,000 neg. Kevin, 735-7940 after 5 p.m.

85 CAMRY - turbo-diesel, a/t, a/c, p/s, p/b, am/fm stereo cass., cruise, mint, 60k mi., economical, $5,500. Ext. 4848.

84 TOYOTA - ¾-ton pickup, long bed, 2wd, a/c, 5-spd., liner, good work truck, 43k mi., $2,500. 878-6274.

84 VW VANAGON - a/c, p/s, p/b, a/t, velour seats, tinted windows, very clean, 100k mi., $6,995 neg. Ext. 2712 or 924-2570 eves.

84 FIREBIRD - V-6, a/c, a/t, wire wheels, louvers, garaged, 35k mi., excel. cond., $6,200. 467-7556.

84 HONDA AERO MOTOR SCOOTER - 125cc, 8k mi., red, new battery, reliable, extras, good cond. Vita, 277-0464 or Frank, Ext. 7519.

83 PONTIAC 2000SE - p/s, p/b, a/t, a/c, 78k mi., $3,800. Xuan, Ext. 3677.

83 YAMAHA VIRAGO MOTORCYCLE - 750cc, black, garaged, low mileage, extras, mint cond., $1,900 neg. Charles, Ext. 5211.

83 TOYOTA CELICA - 5-spd., a/c, new brakes, muffler, tires, clutch, excel. cond., asking $5,500. Danny, Ext. 4446 or 744-3027.

83 NISSAN SENTRA - hatchback, lt. blue, clean, 5-spd., avg. 35 mpg, am/fm stereo cass., asking $1,800. Sharon, Ext. 3995.

83 VW JETTA - a/t, a/c, p/b, fuel inj., am/fm stereo cass., 64k orig. mi., mint, $3,995; 80 Omni, a/t, p/s, p/b, $850. 585-6518, 8 a.m.-5 p.m.

83 MERCURY LYNX - a/t, a/c, p/s, p/b, mech. excel., $1,650. Harris, Ext. 4095 or 475-8504.

83 SUBARU GL - 4-dr., white, a/c, am/fm cass., 5-spd., sunroof, excel. cond. Jean, Ext. 2119 or 286-9121 eves or wknds.

82 SUBARU GL - 4-dr., very good cond., just inspected, silver, sunroof, am/fm cass., 5-spd., 104k mi., $1,500 neg. Joann, 472-6742.

82 KAWASAKI SPECTRE - 750cc, shaft drive, mint cond., garaged, 8k+ mi., new rear tire, asking $1,100. Henry, Ext. 4547 or 727-7227.

82 JEEP CJ-7 - p/s, plow w/lights, many extras, stereo, new shocks, brakes & front end, excel. cond. 821-1525.

81 PLYMOUTH TC3 - hatchback, 5-spd., very good cond., $900. Phil, 286-1348.

80 FORD F-250 - 35k mi. on motor, less than 36k mi. on transmission & transfer case, 1986 bed. 286-8706.

80 DATSUN 310 - 4-spd., many new parts, runs well, $995. Ext. 3206.

79 DODGE ASPEN - 91k mi., runs well, $850. 286-8706.

79 CHEVY CAPRICE - 305 V-8, a/t, p/s, p/b, a/c, air shocks, body good, runs well, $1,095. Ed, Ext. 3466.

79 BUICK REGAL - p/s, p/b, p/w, p/l, a/t, a/c, velour int., $1,500 neg.; Plymouth import spare, best offer. Joyce, 563-2889.

78 CAMARO RALLY SPORT - no rust, needs some engine work, $1,200. Richie, 878-1580 after 5 p.m.

78 DATSUN 280Z - 5-spd., am/fm, new exhaust, clutch, brakes, carpet & paint, like new in/out, must see, $3,100. Ext. 4757 or 543-7065.

77 LTD II - 4-dr., 8-cyl., great cond., $900. 286-0407.

76 CHEVROLET CAPRICE - good cond., 4-dr., 8-cyl., runs well, $900. Susanne, Ext. 3118.

74 FORD LTD - runs well, $150. Lonny, Ext. 5333.

73 POSTAL JEEP - 6-cyl., a/t, L.H.D., 2wd, runs well, $250 neg.; two 12:00X15 tires, $40 or best offer. John, 744-4386.

72 OPEL - station wagon, clean, good tires, runs well, make offer. 286-0517.

72 CHEVROLET C-10 - pickup, 4-spd., tool box, good engine, $500. 878-2040 after 6 p.m.

55 BELAIR - 2-dr., hardtop, very good cond., replaced motor rear, $4,500. 732-5950 after 5 p.m.

TIRES - 2, 145SR13, fair amount of tread remaining, $10/each or $15 both. 751-1884 eves.

ENGINE - 440 cu. in., w/trans., $350. Ext. 2543.

LUGGAGE CARRIER - auto rooftop, H.D., almost new, $15. 924-2726.

BUG DEFLECTOR - fits 80-86 Ford full-size pickups & Broncos, red, $15. Dan, Ext. 4987 eves, or 698-7322 days.

WHEEL - & w/w tire for Plymouth Reliant, $15. 878-0771.

AIR-FLOW BOX - for Nissan, brand-new; T-tops; orig. Datsun 280 trim ring; 4 tires; 2 black bucket seats, make offer. Janet, Ext. 2345 or 929-3910.

SUZUKI QUADRUNNER - many extras, low mileage, excel. cond. Ext. 3309.

SLIDE-ON CAMPER - 11½', full self-contained, heat, stove, oven, refrig., freezer, shower, $1,800. Rich, Ext. 4100 or 929-5872 after 6 p.m.

Boats & Marine Supplies

31' CORVETTE - traditional C&C design, keel, cb, cruising sloop, fully sound, excel. cond., asking $18,000. McGeary, Ext. 2053.

27' SPORTCRAFT - '73, repowered in '87, depth finder, cb, extras, $7,500 or best offer. John, Ext. 3174 or 821-9846.

25' CATALINA SAILBOAT - swim platform, keel, 10 h.p. Honda o/b, ready to go, $9,800. Frank, Ext. 4402.

22' CATALINA SAILBOAT - 3 sails, trailer & motor, good cond., asking $4,800. 929-8912.

17½' DIXIE BOAT - fiberglass, 50 h.p. Mercury o/b, new Caravan trailer, new canvas top, $5,100. A. Fort, Ext. 2114.

16' ALUMINUM BOAT - 25 h.p. Evinrude motor, galvanized trailer, extras, good cond., $1,375. 399-3127.

16' BAYLINER - '86, w/trailer, 85 h.p. Force o/b, 20 hours, marine radio, many extras, must see. 472-0430.

ACHILLES DINGHY - Deluxe Sport, '86, 4-person, 8 h.p. Evinrude, E-Z Loader trailer, 35 hours, mint, $1,600. Frank, Ext. 2482 or 732-0974.

Furnishings & Appliances

AIR CONDITIONER - Fedders, 5,000 Btu, good cond., $80; whole house fan, 24", $85. Nancy, Ext. 5274 or 281-2767.

WASHER - Crown Frigidaire, little use, $100 firm. 727-1789 eves.

AIR CONDITIONER - Westinghouse, 11,000 Btu, programmable start/stop, easy window mount, excel. cond., seldom used, $150. Ext. 2012.

HEADBOARDS - wicker, white, for twin bed frames, $30/both. 286-0517.

DINING ROOM SET - French Provincial, 3-piece w/5 chairs, $400; chandelier, $100. 585-1360.

PRINCESS DRESSER - antique, oak, original oval mirror, great cond., asking $500. Henry, Ext. 4547 or 727-7227.

OCTAGON TABLE - & 4 chairs, Ethan Allan, 2 leaves, hutch, dark oak, $850. 472-2301.

MIRRORS - wood frame, 22"x36", $20. 744-3792.

HUTCH - cherry wood, $150; dining room table w/6 chairs & china closet, $750. 924-0960.

SOFA & LOVE SEAT - early American, maple wood, peasant print cushions, good cond., must sell, $125. Vita, 277-0464 or Frank, Ext. 7519.

Tools, House & Garden

LAWNMOWER - Craftsman II, 3.5 h.p., 20" cut, rear bagger, cast-iron cylinder liner, 2 years old, $150 or best offer. Wick, 758-6773 eves.

SLIDE - s/s, no ladder, $25; Sears Craftsman lawnmower, 22" cut, self-drive, w/bag. $85; more. Dan, Ext. 4987 eves, or 698-7322 days.

GAS BARBEQUE GRILL - good cond., $40; 2 beautiful pine trees, you remove, make offer. Ext. 3309.

GENERATOR - Niagara Generac, 4,000 watt, never used, still in sealed carton, $400. 744-3792.

PUMPS - 2, shallow well, $50/each. 281-1540.

WATER PUMP - three-stage jet, flint & walling make, new GE 1½-h.p. motor, w/pressure tank, used 3 years. 821-3925.

Sports, Hobbies & Pets

POOL - 15' round Marathon, needs liner, $200. 281-1540

BICYCLE - Panasonic, 12-spd., $150, neg.; RC10, never used. $210, neg.; 30 gal. & 55 gal. tank, w/fish, $90 & $130 neg. 331-9792 eves.

POOL SAND FILTER - used two months, excel. cond., $100 firm. Doreen, Ext. 2456.

BICYCLE - 10-spd. Columbia, good cond., $40. 325-0389.

BICYCLE - girl's 20" w/training wheels, $25; Sanyo PC, 2FDD, 256k, CGA, SER/PAR, $400. 473-3604.

SURFBOARD - luggage rack w/locks for car roof with rain gutter. Russ, Ext. 2350.

BMX BIKE - 20" boy's Peugeot, $60; hot-water circulator, Grandos, 3-spd., used two seasons, $30. Walt, Ext. 7154.

DOGHOUSES - framed const., built solidly for your pet, CCA base, shingled roof, $75, $85, $95. Henry, Ext. 4547 or 727-7227.

BICYCLE - woman's 3-spd., $20. Susanne, Ext. 3118.

BICYCLE - 16", girl's, blue, very good cond., $25. 751-1884 eves.

CAMERA - 35mm Chinon-Bellami, pocket-size, w/flash, excel. cond., $100. Joann, 472-6742.

FISH TANK - 10 gal. w/hood light, wrought iron, 2 tank stand., $20. Dan, 698-7322, days or Ext. 4987 eves.

HOCKEY EQUIPMENT - CCM, pads, helmet, gloves bag, $400 or best offer; skis, 190 cm, Dynamic VR27 , more. Ext. 2914 or 286-3742.

COLLIES - great gorgeous females, puppy and young adults, sable/white, champ lines, priced right. 472-2301.

Audio, Video & Computers

COMPUTER - Commodore 64, 1041 disk drive, Sakata color monitor, Koala pad, joysticks, loads of software, $350. 744-4611 after 6 p.m.

CD PLAYER - portable w/carrying strap, headphones, a/c connector, rechargeable battery, 3 months old, $125. Ext. 4153 or 732-5829.

Miscellaneous

FLOWER CART - walnut, $20; doll's wicker rocker, $45; new Avon products, $1 each; formica table, $20; typewriter, $35. Tim, 744-2203.

Lost & Found

LOST - gold Christ-head medal, vicinity of Field #4 at BERA Recreational Park. Gerry, Ext. 3751 or Beeper 815.

Free

MAGAZINES - old copies of *Nuclear News, Physyis Today, Science '88, Science News, Scientific American, Discover,* etc. Ext. 2345.

COMPOST - you pick up, also sand. Pete, Ext. 3868 or 878-1225.

USED BUILDING MATERIALS - 4x10' wood thermopane window; misc. lumber, you haul. Ext. 2057 or 261-5735.

Yard Sale

WADING RIVER - multi-family, June 3, 10 a.m.-4 p.m., June 4, 10 a.m.-3 p.m., Farm Road South.

Wanted

HOUSEMATE - to share 3-bdrm. house in Coram, 20 min. to Lab, $300/mo. + ⅓ util., avail. June 1. 928-8379.

LAWNMOWERS - old, used, any condition. Dan, Day, 698-7322 or Ext. 4987 eves.

MOTORCYCLES - bent or broken, any age or cond. Kevin, 281-8031.

READER - to tape-record electronics articles for blind person, all equipment provided, $4/hr. 929-6830.

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 HAMLET - rent a room, share a house w/2 other professionals, roomy, on a wooded lot, convenient to Lab, $350/mo. all inclusive. Randy, Ext. 3835.

CORAM - Tanglewood Hills, 4-bdrm. ranch, 2 baths, 2-car gar., fenced ⅓ acre, 5 appli., 2 mo. security, refs., $900/mo. + util. 928-7154 eves.

EASTPORT - 1-room studio apt. in private home, 20 min. from Lab., $475/mo. all included, immed. availability, no pets. 325-0976.

E. SETAUKET - 4-bdrm. Colonial, 2½ baths, eik, l/r, d/r, fam rm., f/p, screened porch, fin. bsmt., 2-car garage, GHWH, avail. 8/1/89, 2-month sec. Shiue, Ext. 4395/3372 or 751-8224.

PORT JEFFERSON - Harbor Hills, furnished 3-bdrm. house, 3 baths, private beach, nonsmokers, $1,200/mo. + security, 9/1/89-9/1/90. 473-3604.

RIDGE - new apt., ground floor, pvt. ent., appliances, w/w, eik, l/r, bdrm., bath, cable, storage, 5 min. to Lab., $625 includes util. 924-0577 after 6 p.m.

ROCKY POINT - new 1-bdrm. apt., full bath, l/r, eik, priv. ent., walk to beach, nonsmoker, no pets, $600/all. 744-6386.

SHIRLEY - 1-bdrm. apt., eik, l/r w/fp, bath, priv. ent., 10 min. to Lab, working couple or single, $650/mo. 399-1699 eves.

SMITHTOWN - large 3-bdrm. ranch, 3 baths, eik, l/r, d/r, fam. rm., f/p, excel. neighborhood, 2 mo. sec., avail. 7/1, 689-9869 after 6 or weekend.

YAPHANK - Colonial Woods/Whispering Pines, 3-bdrm. condo, 2 baths, gar., bsmt., a/c, w/w, 5 appl., pool, tennis, clubhouse, avail. 6/1, no pets, $1,000. 473-1732 eves.

For Sale

BELLPORT - 3-bdrm. ranch, l/r, d/r, eik, den w/ f/p, 2 baths, gar., full basmt., excel. neighborhood, asking $187,000 neg. 286-3446.

BLUE POINT - 3-bdrm. Cape, 2 baths, kit., dining area, l/r, TV room, full bsmt., gar., 1 acre on dead end, vinyl siding, near school, church and beach. Joe, 363-6595.

CALVERTON - ranch, eik, d/r area, partly furn., 24'x24' garage & deck, ½ acre, fenced, Exit 71, LIE, 20 min. to Lab, $122,500. 727-7515.

CORAM - 9-rm. Colonial, cul-de-sac, 4-bdrm., 2½ baths, fam. rm., f/p, eik, d/r, l/r, mud rm., i/g pool & lawn sprinkler, 2-car garage, extras, $195,000. Ext. 2303 or 732-3902 after 5 p.m.

CORAM - Tanglewood Hills, 4-bdrm., 2-bath, California ranch, cathedral l/r, 2-car garage, gas heat, fenced ⅓ acre, professionally painted, $130,000. 928-7154 eves.

E. SETAUKET - 4-bdrm. Colonial, l/r, d/r, fam. rm. f/p, eik, 1½-bath, full bsmt., 2-car gar., a/g pool, 0.42 acre, 3 Village School. Chen, Ext. 2958 or 473-6429.

HOLBROOK - 3-bdrm. townhouse/condo, 5 appl., w/w, 1½ baths, tennis courts, swimming pool, clubhouse, balcony & fenced-in patio, 15-20 min. to BNL, $129,000. Ext. 2873 or 472-3236.

LAKE PANAMOKA - 3-bdrm. ranch, 2 baths, w/w, fenced yard, detached gar., ½ deeded lake rights, $115,000. 929-3620.

MANOR PARK - 4-5 bdrm. high ranch, 1½-bath, l/r, d/r, fam. rm., part. finished bsmt., garage, ½ acre, South Manor SD, 5 min. from Lab, new roof & heat, $155,000. Roger, Ext. 3578 or 395-1969.

NORTH SHIRLEY - 9-room Colonial, 4-bdrm., 1½ baths, 1-car gar., ½ bsmt., eik, f/p, d/r, l/r, fam. rm., on ½ acre. 924-0960 after 5 p.m.

PORT JEFF STA. - 0.37 acre, 2½-yr.-old Colonial, 3 bdrms., l/r, d/r, eik, 1½ baths, laundry rm., gar., vinyl siding, fenced, underground sprinklers, gas utilities, sewers, $169,000. 331-8459.

ROCKY POINT - 3-bdrm. ranch, 100'x100' lot, eik w/skylight, Andersen windows, half bsmt., large fenced yard, SCWA water, under 5 yrs. old, mint cond., all appl., beach rights. 821-3925.

ROCKY POINT - 2 story, alum. siding, ¼ acre, 2-3 bdrm., eik & den, 12'x18' l/r, 1½ baths, new kitchen cabinets, carpets, drapes, w/d, OHWH, city water, low taxes, $117,000. 744-3792.

ROSLYN - 1-bdrm. corner, sunny, fully renovated co-op apt., Roslyn SD. Ext. 3924 or 484-3897 eves. and weekend.

SETAUKET - N. 25A, contemporized Cape on 1/3+ acre, 4 bdrms., country kitch. w/skylight, 2 baths, refinished hardwood flrs., new carpet & roof, playroom, $221,000. P. Vincent, 689-8675.

STONY BROOK - near University & beach, 4 bdrms., 3½ baths, l/r, d/r, fam. rm., mint cond., excel. school district, 2-car garage. Ext. 4635 or 751-2860 eves.

YAPHANK - Whispering Pines, 3-bdrm. townhouse, 2 baths, bsmt., garage, f/p, patio, 1 mi. from Lab, $130's. 924-2726.

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.*

RUG SHAMPOOING - very reasonable, Lab discount. 924-6019, leave message.

ROOFER - repairs, new roofs and reroofs, free estimates, licensed, insured, guaranteed Lab discounts. 732-4679.

CATERING - any size party, any occasion, certified by Suffolk Cty. Heath Services. 821-3762.

MARINE MECHANIC - OMC, Merc., Volvo, outdrives, all inboards, boat cleaning, waxing. Ted, 928-1445.

YARD CARE - lawn maintenance, trimming, yard clean-up, Wading River, Baithing Hollow & Shoreham. 929-8876 after 6 p.m.

WORD PROCESSING - professional, accurate, fast, 8 years' secretarial experience, IBM PC Wordstar letter quality. 928-7571 after 6 p.m.

TYPING - done at home on an IBM PC, over 10 years' exp. JoAnn, 286-3604.

LAWNMOWER - and small engine repair, reasonable rates, fast service. Dan, Ext. 4987 eves., or 698-7322 dayss.

COURIER SERVICE - will bring child to appointments, take pet for services, etc., refs. supplied. 281-7844.

PARTY TENTS FOR RENT - we set up & take down. Fred Kuehl, 588-2268.

GENERAL CONTRACTOR - carpenter, extensions, dormers, gar. conversions, bsmts., decks, kitchens, licensed, free estimates. Jim, 698-2501.

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

AIR CONDITIONING - residential, commercial, licensed and insured, professional work. Mark, 395-3485.

PAINTING - power washing, refs., reasonable. Pete, 475-8406.

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

SHEETROCKING - and spackling, free estimate. Kevin, 563-9855.

ROTOTILLING - Troybilt, custom work, lawns and gardens, Bob, 732-9517.

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

PLUMBING - remodeling, repairs, excel. work, best prices. 399-0880.

ROTOTILLING - no job too small or large, free estimates. Jack, 878-2477.

BABYSITTING - responsible teenager, loves children, lots of experience. 878-6580.

LAMAZE CLASSES - certified childbirth educator, Port Jeff home, 6 couples max., pregnancy, labor, delivery, infant care. Susan, 331-5182.

BAKING - fancy, all-butter recipe cookies for birthdays, showers, parties, gifts, baked at your request only. Susan, 929-3251.

BUSINESS/REAL ESTATE ANALYSIS - computerized business & real estate analysis, loan prequalification. 399-1868.

In Appreciation

On behalf of my wife, son and myself, I wish to thank the many people at BNL for their kind expressions of sympathy over the death of my daughter, Nicole. — Bill Foyt

Thanks to my friends & co-workers for your concern and thoughtfulness at the recent loss of my mother. — Alfred Campbell

Ads left out of this issue due to lack of space need not be resubmitted to appear in the next issue.