BROOKHAVEN BULLETIN
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BROOKHAVEN NATIONAL LABORATORY

BNL, Industry Partnership Unveils First CQS Magnet for RHIC

The "heart" of the Relativistic Heavy Ion Collider (RHIC) began beating on the afternoon of January 26, as its first corrector-quadrupole-sextupole (CQS) magnet assembly was unveiled in the collider tunnel.

The pulse of excitement reverberated throughout the crowd of U.S. Department of Energy (DOE), BNL and industry representatives that watched as Laboratory Director Nicholas Samios removed the tarp covering the three-meter-long magnet. Each of the 420 CQS assemblies to be used in RHIC will result from close teamwork among many Laboratory groups and private industries.

Out of this collaboration, said RHIC Project Head Satoshi Ozaki, comes a CQS magnet assembly that will help make RHIC a world-class facility for nuclear physics when it comes on line at the turn of the century. "This is a joyous occasion, and one more milestone in the building of RHIC," Ozaki remarked at the ceremony.

Cherri Langenfeld, Manager of DOE's Chicago Operations Office, also lauded the effort. "On behalf of the Department of Energy, I want to congratulate you on the progress made and especially on the impressive laboratory-industry partnership," she said. "This is what the future of science in this country has to be about — the production of facilities at the lowest possible cost with the greatest contribution to the United States."

Roger Stoutenburgh

To the applause of assembled BNLers and representatives of the U.S. Department of Energy (DOE) and industry, the first CQS magnet in the tunnel of the Relativistic Heavy Ion Collider (RHIC) was unveiled on Thursday, January 26. Standing near the tunnel wall are: (foreground, from left, under sign) Satoshi Ozaki, RHIC Project Head; Cherri Langenfeld, Manager of DOE Chicago Operations Office; Laboratory Director Nicholas Samios; and Dennis Kovar, DOE Nuclear Physics Division.

Focus on Focusing

The first CQS will soon be moved to its position among the dozens of superconducting dipole magnets already positioned on stands in the RHIC tunnel. While the dipoles will bend beams of heavy ions as they travel at relativistic speeds around the 3.8-kilometer ring, the CQS assemblies are needed to focus the beams.

"In any optical system, the key element is the lens, and how good the lens is and how well aligned it is makes a difference," Ozaki said. "Here, the element corresponding to the lens is the CQS magnet. It is the heart of the accelerator and controls the optics of the beam while it is going through the ring. It also contains the element that tells us precisely where the beam is."

Ozaki credited the RHIC Magnet and Collider Ring Divisions, led by Art Greene and John Sondericker, respectively, for their CQS work. Former Magnet Division Heads Erich Willen and Horst Foelsche are also recognized for spurring the project in its early days.

As they are transferred from the Magnet Division to the Collider Ring Division, pairs of CQS assemblies will take up their places alternating with pairs of dipoles, in the end creating parallel paths for RHIC's two counter-rotating beams.

At six points around the ring, the beams will collide, producing phenomena that are expected to include quark gluon plasma — the hot, dense soup of fundamental quark and gluon particles, loosed from their usual atomic bonds, that is believed to have existed immediately after the Big Bang.

Dennis Kovar, representing DOE's Nuclear Physics Division, noted that, at the recent Quark Matter '95 conference, "The enthusiasm for physics to be done with RHIC was obvious and contagious." He compared RHIC's scientific mission to a marriage, combining nuclear and high-energy physics. "Get us to the church on time!" he jokingly challenged the crowd.

A Many-Part Invention

Besides forming one-420th of RHIC's heart, each CQS conceals beneath its uniform beige exterior a complex anatomy of its own. There are a total of 80 different CQS styles, each built in accordance with the requirements of a specific ring position.

All of these varieties are to be built in the Magnet Division's CQS Production Line in Bldgs. 902 and 905. There, under CQS Production Engineer Steve Mulhall, the components are assembled, welded into cold masses and inserted into a cryostat shell at a rate that will reach one each day.

The two-area, fifteen-station assembly line was developed and implemented in an effort coordinated by Eugene Kelly, with each station using machinery designed, assembled and installed by Magnet Division employees. The Central Shops Division (CSD) fabricated the tooling and components.

More than 30 technicians, led by Ray Ceruti, Tom Dilgen, Dean Ince and Edward Weigand, are working to maintain the production flow. CQS assemblies also have a large amount of complex electric wiring, whose design and implementation were coordinated by George Ganetis.

Magnets, made by industry or in-house, make up much of each CQS. For example, Northrop Grumman Corporation is building quadrupole magnets at its Bethpage plant. Said Rob Silverstein, Northrop Grumman's general manager of Electronics and Readiness Support Systems, "We work with many customers, but the partnership we have with the Lab is one of the most cohesive we've ever seen."

Like each of the RHIC dipoles, each Grumman CQS quadrupole contains very high quality superconducting niobium-titanium cable made by Oxford Superconducting Technology of Carteret, New Jersey. Oxford has delivered 1.8 million feet of 30-strand cable for RHIC, said its president, James Worth.

Other magnet elements to be incorporated into CQS assemblies are sextupoles or, for some units, trim quadrupoles made by Everson Electric Company of Bethlehem, Pennsylvania. Some later units will include special components prepared by the Collider Ring Division's Cryogenic Group.

Also included in each CQS will be a corrector magnet built in the Magnet Division under the direction of Alan Morgillo. These compensate for sys-

(continued on page 2)

Coming Up

Senior Biophysicist John Sutherland will deliver the 303rd Brookhaven Lecture on Wednesday, February 15. His talk on "Is the Sky Falling? — Measuring Ultraviolet Radiation Damage of DNA" will begin at 4 p.m. in Berkner Hall.

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The next BERA concert will feature outstanding music students from the State University of New York (SUNY) at Stony Brook. It will be held on Wednesday, February 15, in Berkner Hall at 8 p.m. A $6 donation is suggested.

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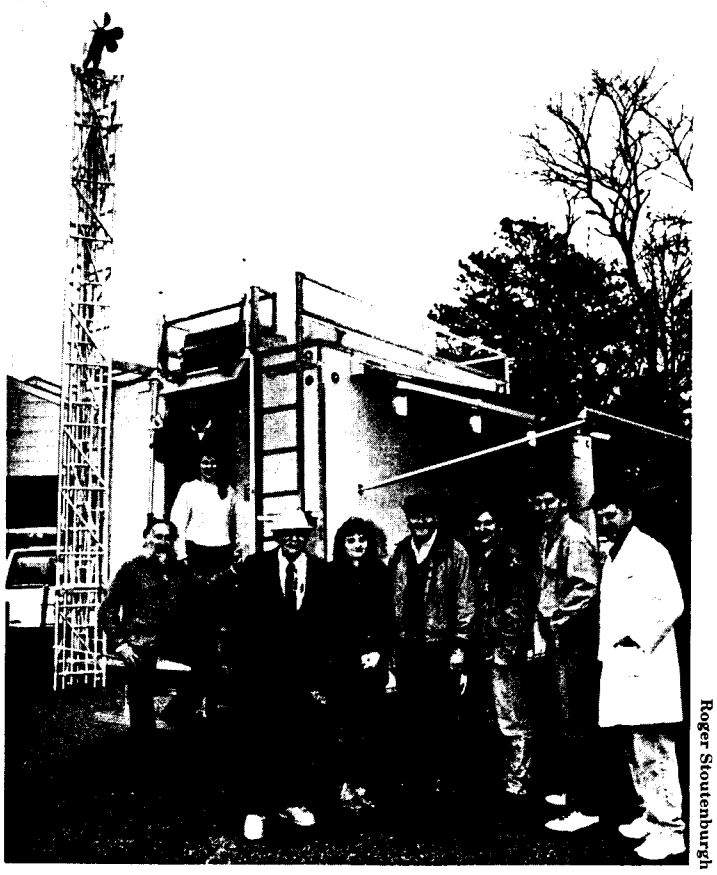
Dusa McDuff, Professor of Mathematics at SUNY Stony Brook and a Fellow of the Royal Society of London, will deliver a Brookhaven Women in Science seminar on Thursday, February 16. Her talk on "The Geometry of Classical Physics" will begin at 11 a.m. in Room B, Berkner Hall. To attend the luncheon at 12:30 p.m. in Room A, call Harriet Martin, Ext. 3484.

RAP Team Hits the Road in New Van

On December 7, while other BNLers were busy *wrapping* presents for the holidays, these Radiological Assistance Program (RAP) team members were *RAPping* their way to New Hampshire, to an exercise involving the Seabrook nuclear power plant. Some traveled aboard the team's new mobile laboratory specially equipped to respond to incidents involving radiation. Once there, RAP field team members from BNL and Argonne National Laboratory assisted New Hampshire nuclear officials in the Federal Emergency Management Agency's two-day, full-scale simulation of a reactor accident — the same function they would perform during a real event. Using radios and instruments carried in the van, some team members monitored environmental radiation levels and took field samples. Meanwhile, in New Hampshire's emergency center, RAP team leader Steve Centore, U.S. Department of Energy (DOE) Brookhaven Area Office, led other team members in using computers on board the mobile lab. They projected the flow of the hypothetical radiation plume and its possible impact on the public "ingestion pathway" — milk, water and food — after the "accident." RAP team captain Alan Kuehner (left), Safety & Environmental Protection (SEP) Division, explained that the van's instruments, generators, computers and 55-foot telescoping meteorological and communications tower make it useful in nearly any size radiation incident. Other RAP team members include: (in van) Richard Reciniello, SEP; Angela Keebler, Argonne RAP team; (front, from left) Andy Hull, SEP; Deborah Niemenski, DOE at Princeton Plasma Physics Laboratory; Jim Davis, SEP; Jon Merkel, SEP; Jim Byrnes, Argonne; and Centore.



Roger Stoutenburgh

Upton's NWS Radar Data Now Official

Without ceremony or fanfare, the weather data collected by the Doppler weather-surveillance radar at the Upton Weather Forecast Office of the National Weather Service (NWS) became the official data as of January 26, when the WSR-88D radar device was considered officially commissioned.

The Upton Weather Forecast Office provides forecasts for Long Island, New York City and northern New Jersey. Its severe-storm warning services, however, extend over 20 counties, including northern New Jersey, southeastern New York and southern Connecticut.

As part of its modernization, the NWS moved its New York forecast office from New York City to a new facility on the Lab's site in October 1993, after erecting the Doppler radar and a new forecast office, Bldg. NWS-1, at 175 Brookhaven Avenue. Though the Upton radar began operating last June, the radar data from the New York City were still the official data until January 26.

While personnel training and radar commissioning were ongoing at the Upton site, "The radar was considered to be in experimental mode," explains Michael Wyllie, the Meteorologist in Charge of the NSW's Upton Office, which is staffed by 29 meteorologists and support staff working three shifts a day, seven days a week. "Now that our radar data is official, the New York City radar will eventually be decommissioned."

The Doppler weather radar at Brookhaven is part of an integrated network of 118 other new facilities nationwide, and, when the modernization of the NWS is completed by next year, the network will include 195 such Doppler radar facilities across the 50 states and Puerto Rico.

The WSR-88D weather radar provides information about reflectivity, air velocity, rainfall accumulation, etc., with more accuracy, precision and speed than previous radar. So, use of the Doppler and other new technology will enable forecasters to give improved, long-range forecasts and provide more advanced and specific warnings of life- and property-threatening weather, including short-lived and often catastrophic events such as downbursts, flash floods and tornadoes.

In addition to installing the radar at the Lab, the NWS has established an automated surface-observing system at the Brookhaven Airport. Updating its data every minute, this system provides temperature, atmospheric pressure, wind speed and direction, cloud cover and other information to the Upton Weather Forecast Office, as well as to the airport's control tower.

Another open house will be held at the Upton Weather Forecast Office in the spring. Watch for a notice in a future Bulletin. — Marsha Belford

CQS Magnet (cont'd)

tematic and random errors in other magnets and they are being built by a team of 12 technicians in a two-part process that includes coil-winding and assembly in Bldg. 197 and magnet assembly and wiring in Bldg. 905.

John Escallier, Andrew Marone and William Themann upgraded machines originally intended to wire circuit boards in order to wire the coils, while the assembly-area efforts of such employees as Rick Jackimowicz, Bill McKeon and Larry Welcome are also credited with making this in-house magnet possible.

Every CQS will also have a beam-position monitor designed, built and largely fabricated at BNL. RHIC Beam Instrumentation Section Head Tom Shea called the monitors the "eyes" of RHIC's sensory system — each one will send a signal to the "nerve center" of RHIC's control system when the beam passes by it. These signals will be gathered to show where the beam is at any given time.

The beam-position monitors were designed by Peter Cameron of the Beam Instrumentation Section and Manuel Grau of the Collider Ring Division's Design Section, and prototypes were built by Beam Instrumentation's Bob Sikora. Using many components made with great precision by CSD, and an advanced cryogenic feed-through manufactured by Kaman Instrumentation, the monitors are being assembled in the Beam Instrumentation Section.

From Assembly to the Ring

Once the components are combined to become CQS assemblies, the Survey Group headed by Frank Karl subjects them to an innovative "quality control" test: A light beam is passed through the assembly to assure that everything is correctly aligned and, also, that the beam-position monitor reads the position correctly. This technique is the result of a collaboration among Magnet, Beam Instrumentation, Survey and Accelerator Physics personnel.

In the next step, begun January 20, the CQS assemblies go to the Collider Ring Division's Installation Section, headed by Gary McIntyre. His team, which currently includes Richard Anderson, John Romeo, Ray Savino and Carl Skrezec, will install the magnets on their stands and connect them to their neighboring dipoles. Flanges must be welded, superconducting cable spliced and vacuum bellows and cryogenic lines connected — 864 times over.

The first 144 interconnects, as these connections are called, are expected to be completed by June of 1996, bringing together all the magnets in the first RHIC sextant, or one-sixth of the ring.

Shortly thereafter, a test beam will be generated in the Alternating Gradient Synchrotron, sent through the RHIC injector line, and passed through the sextant to test the workings of the dipoles, CQSs, beam-position monitors and other equipment. And, by September 1998, the installation of the entire RHIC ring is scheduled to be completed. — Kara Villamil

Note to Employees:

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

Quit Smoking

For all those who wish to keep their New Year's resolution to kick the habit, the American Cancer Society's stop-smoking workshop will once again be held on site. Starting February 9, four lunchtime sessions will be held on Thursdays, noon to 1 p.m.

The program combines relaxation exercises with behavior-modification techniques and is open to all employees. The fee is $10 per person, but no fee will be charged to previous participants. For more information and to register, call Health Promotion Specialist Mary Wood, Ext. 5923.

In Memoriam

Joachim (Joe) Fischer, a senior physicist in the Instrumentation Division, died on Thursday, January 19, following a short battle with cancer. He was 75 years old.

"Joe was a unique individual who persisted quietly in solving every problem he approached, and his persistence usually resulted in a device essential to an important experiment," said Veljko Radeka, Head of Instrumentation. "In this way, he contributed significantly to BNL's reputation in the field of nuclear instruments and methods, and his productivity kept increasing over the decades. His sensitivity to the plight of other human beings and his ready willingness to help were other sides of his personality, which also make us miss him."

Roger Stoutenburgh

Joe Fischer

Born in the then Free City of Danzig on January 19, 1920, Fischer earned his B.S. in electrical engineering from the Illinois Institute of Technology in 1950. Before taking his Ph.D. in nuclear physics from the University of Geneva in 1960, Fischer worked with Enrico Fermi, and John and Leona Marshall, while serving as a senior electrical engineer at the Fermi Institute for Nuclear Studies at the University of Chicago, 1950-57.

Encouraged to come to the Laboratory by the late William Higinbotham, Fischer joined the then Instrumentation & Health Physics Department on February 1, 1960, as an associate electrical engineer. He was promoted to an associate physicist by that April and named a physicist in July 1964. Granted tenure in July 1967, Fischer became a senior physicist in July 1968.

In his early years at the Lab, Fischer concentrated on developing detectors called spark chambers, which consist of parallel metal plates or wires in an inert gas. When a charged particle passes through this chamber, it leaves an ionized trail in the gas; by applying an electric field to the plates or wires, sparks form along the particle trail and can then be photographed.

Fischer became known for his digitized wire spark chambers, which combined detector technology with electronics to enable automated data acquisition, and improve spatial and angular resolution. Developed with Physics Department and university collaborators, Fischer's chambers were used at BNL's Cosmotron, its successor, the Alternating Gradient Synchrotron (AGS), and in many experiments at accelerators worldwide.

In the mid-60s, Fischer worked on developing multiwire proportional chambers — particularly the gas mixtures used in these devices. His contributions were acknowledged by Georges Charpak, who received the 1993 Nobel Prize in physics for his work on particle detectors.

In the early 70s, Fischer worked on what he called hybrid chambers, which combined the fast resolving time of a multiwire proportional chamber with the event selectivity and spatial resolution of the spark chamber. The hybrid chamber was the first "multistep" chamber, the principle of which underlay the later development of similar devices at other labs.

In the mid-1970s, he collaborated with Heinrich Walenta, now of the University of Siegen, on drift chambers. These also consist of parallel wires strung across a volume of gas in an electric field, but can measure the time it takes for electrons released along the ionized trail of a charged particle to drift toward a wire.

Fischer's multiwire proportional chambers were used in experiments at the AGS and later adapted for two-dimensional imaging detectors for structural biology studies at the High Flux Beam Reactor. In the early 1980s, he worked with colleagues in Instrumentation to extend this technology for use in detectors at structural biology and materials science beam lines at the National Synchrotron Light Source (NSLS).

By the mid-1980s, Fischer became interested in the research on advanced accelerators at BNL's Center for Accelerator Physics (CAP). As part of the investigation into new electron sources for future accelerators at CAP's Accelerator Test Facility, he focused on photoemission, the emission of electrons by materials when light falls on their surfaces.

Working with Triveni Srinivasan-Rao, also of Instrumentation, Fischer explored different photocathode materials and configurations, using a laser to increase the number of electrons per unit area emitted from those photocathodes' surfaces. In fact, Fischer and Srinivasan-Rao hold the record for the highest electric current density from a photocathode with a large surface area. They continued to work on improving the yield of electrons per photon. In addition, he participated in the design of the electronic control system for the cluster klystron project, also at CAP.

"Around the time he would otherwise be expected to retire, Joe changed direction completely, bringing his early expertise in high-voltage techniques to this new project," explains Srinivasan-Rao. "It gave him a new lease on life, enabling him to be very active and productive during his last ten years."

Adds Neil Schaknowski, Instrumentation, "Though he was usually in the midst of two or three things, he always made time for anyone with a problem, helping to find the solution."

"Throughout his career, Joe kept himself in the background, carrying out his research and letting his results speak for themselves," concludes Graham Smith, Instrumentation. "He was a resource of expertise and encouragement that this division and the Laboratory will miss."

Joachim Fischer was a life member of the Institute of Electrical & Electronic Engineers and a member of the American Physical Society. He served on the BNL Council three times. He is survived by his wife Natalie Fischer; his son Daniel, who is a physicist with the National Institute of Standards & Technology stationed at the NSLS; three grandchildren; two sisters and one brother. — Marsha Belford

Arrivals & Departures

Arrivals

Jurgen Holfort ..... App. Scienc

Departures

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

Rouyan Chen ..... Chemistry
Harold B. Rice ..... Reactor
Ji Sun ..... Chemistry
Frederick K. Unz ..... RHIC
Anthony A. Yonkers ..... RHIC

BWIS Meeting: Women's Coordinator

Victoria McLane, who is the Lab's Women's Coordinator, will speak about "Women's Programs at BNL," at the next Brookhaven Women in Science (BWIS) meeting, on Wednesday, February 8, from noon to 1 p.m., in Room B, Berkner Hall.

The position of Women's Program Coordinator (WPC) was established in 1975 to ensure that the Laboratory develops policies and programs that respond to the needs of its women employees. McLane became WPC in May 1993, on a part-time basis while continuing her responsiblities as a senior physics associate in the Department of Advanced Technology.

McLane will discuss the U.S. Department of Energy's Review of Laboratory Programs for Women, both past and present, including the next one, to be held at BNL in 1996. She will also talk about plans to observe Women's History Month at BNL in March, on-site child care, mentoring programs and other topics. And, she will review the activities of the Women's Program Advisory Committee and introduce any members present.

All are invited; please bring your lunch.

Roger Stoutenburgh

Singing Out About Freedom!

A chorus of tiny voices singing about freedom, equality and the life of Martin Luther King Jr. rose from the little Red School House in the apartment area last month, when these four- and five-year-olds at the Child Development Center presented a play for their parents to mark King's birthday. In preparing for the play, the children learned facts and songs about King and his dream of racial harmony, peace and understanding — lessons that are also appropriate for this month's celebration of Black History Month.

BERA Nominating Committee Named

The BERA Executive Board has selected the following people to serve on the 1995 BERA Nominating Committee. All are either BERA activity chairpersons or active BERA participants. The committee is charged with nominating a slate of four candidates to run for the 1995 BERA Board elections, scheduled for the first week of April:

Name	Dept.	Bldg.	Ext.
Joe D'Ambra	RHIC	902A	3764
Debbie Botts	DCP	355	7218
Biays Bowerman	DAT	830	2946
Terry Buck	DCP	355	5475
Charles Gardner	AGS	911A	4662
Daryl Kaurin	DAT	703M	7892
Terri Lacker	Reac.	750	2112
Lois Marascia	DO	460	3315
Om Singh	NSLS	725B	5332
Terry Sullivan	DAT	830	2840
Maria Yanez	DO	902C	3341

Any employee who wishes to propose a nominee should contact one of the Nominating Committee members before Friday, February 17, but please make certain that the person being proposed will agree to accept the nomination if selected by the committee.

Pick a Teacher

The DOE Teacher Research Associates (TRAC) Program allows outstanding science, mathematics and technology secondary-school teachers to participate in BNL's research programs during the summer at no cost to the sponsoring department. Teachers apply to participate in TRAC at BNL in three ways: through a national selection process, a local process for Long Islanders, and a BNL-New York University program for New York City teachers.

The local contingent will follow the same eight-week schedule as the national teachers, arriving on June 26, and departing on August 18. The New York City teachers will arrive on July 10 and depart on August 18.

National teachers were selected in December. Applications from local and New York City candidates may be reviewed at the Science Education Center, Bldg. 438, through Friday, February 10. Contact Nina Leonhardt, Ext. 5963, for more information.

Rifle & Pistol Club

The Rifle & Pistol Club holds its meetings on the second Wednesday of the month, so the next one is at noon on Wednesday, February 8, in Room 202, Bldg. 911B. Anyone interested in club activities may call Otto Jacobi, Ext. 3471.

Basketball

Games of January 26

Mustangs 62		Scram 40	
Wayne Cummings	24	Doug Wallace	16
Lars Furenlid	14	Al Boerner	8
Greg Mack	8	John Duggan	5
Jerry Cook	5	Jim Rank	5
Steve Springston	3	Victor Cassella	2
Charlie Edwards	2	Steve Nappi	2
Bill Gunter	2	Tim Powers	2
Jamie Sims	2		
Hal Van Deroef	2		

Three-point shots: Boerner (2), Rank, Wallace (2)

Magic 73		Deep Six 54	
Troy Mayo	26	Derrick Parker	12
Mitch Williams	9	Tracey Fountaine	10
Carlos Victoria	8	Neil Tyler	10
Fred Maier	7	Calvin Butts	8
Terry Buck	6	Brian Hobson	6
Ray Jackson	5	Charles Bennett	4
Pat Browne	4	Angelo Bosco	2
Ed Gregory	4	Jim Garrison	2
Al Langhorn	2		
Dennis Ryan	2		

Three-point shots: Fountaine, Hobson, Mayo, Parker, Williams (2)

Runaways 73		Air America 51	
Chris Ingoglia	27	Doug Aichroth	20
Jerry Gaeta	14	Kevin Woodson	9
Jim Desmond	9	Jeremy Middleton	8
Ron Mayo	8	Tom Snow	6
Pete Ratzke	6	Lou Lalor	5
Neil Donahue	5	Ed Taylor	2
Gerry Shepherd	2	Alex Ratti	1
Bob Wells	2		

Three-point shots: Desmond, Gaeta, Ingoglia (4)

Country/Western Dance

On Friday, February 17, from 7 to 11 p.m., the BERA Country/Western Dance Club will sponsor a dance at the Brookhaven Center. The club's instructors, Joel & Elise, will be playing favorite line and couples' dance music, and they will offer instruction throughout the evening. Snacks will be provided, and there will be a cash bar. At $6 per person, tickets are available from: Ginny Morante, Ext. 3555; Lois Marascia, Ext. 3315; and Carmen Falkenbach, Ext. 2663.

Hospitality

Barbara McGrath of BNL's Biology Department will speak about Lyme disease at the next Hospitality Committee get-together, on Tuesday, February 7, at 9:30 a.m., in the lounge of the Recreation Building in the apartment area. Visitors from other states and countries who may not be familiar with Lyme disease should find this presentation informative. Spouses of Lab employees and guests are welcome. Bring the children, but also bring along a toy or two. Coffee, tea and pastry will be provided.

Medical Plan Deadline Near

Eligible employees working 20 or more hours per week are reminded that they may change their membership in any of the Laboratory's medical plans through next Friday, February 10. Coverage changes will be effective March 1, 1995, through February 29, 1996.

The medical plans available to eligible employees are the AUI Medical Plan administered by CIGNA and three health maintenance organizations (HMOs): ChoiceCare, Health Insurance Plan of Greater New York (HIP) and US Healthcare.

Representatives from the HMOs will be at Berkner Hall on Wednesday, February 8, from 11 a.m. to 2 p.m. to answer questions about their plans and provide literature, including lists of participating physicians and facilities. Questions about the AUI Medical Plan administered by CIGNA can be answered by Muriel Pfeiffer, Bldg. 185, Ext. 2877.

Employees who do not want to change their coverage at this time do not have to do anything for it continue, unless they are in the Blue Cross/ Blue Shield Healthnet Plan. Blue Cross/ Blue Shield will discontinue its Healthnet Plan effective March 1, so employees enrolled in this plan must select another medical plan and complete new enrollment forms for medical coverage.

Employees who want to join an HMO, change from one HMO to another, or change from an HMO to the AUI Medical Plan must contact Muriel Pfeiffer, Ext. 2877, for the required forms, which must be returned by February 10 to Bldg. 185.

Bowling

Red and Green League

K. Koebel 269/226/675 scratch series, J. LaBounty 259/218/647 scratch, R. Larsen 255/202/639 scratch, E. Larsen 244/601 scratch, E. Sperry III 236/201, R. Mulderig Jr. 225/217/215/657 scratch, E. Sperry IV 224/203/605 scratch, R. Eggert 218/216/ 213/647 scratch, J. Griffin 216/215/204/ 635 scratch, R. Raynis 212/212/609 scratch, A. Warkentien 235, R. Wiseman 211, R. Prwivo 211, A. Pinelli 201, A. Liotta 200.

Purple and White League

E. Sperry IV 226/222/611 scratch series, R. Picinich 257, P. Wynkoop 222, J. Sheehan 201, E. Sperry III 199/194, S. DiMaiuta 199, L. Farmer 183/182/178, J. McCarthy 188/181, M. Reynolds 189/170, D. Botts 189, A. Wynkoop 183, M. DiMaiuta 179, M. Haller 173.

Scotch Doubles

Enjoy a day of fun at the Scotch Doubles Tournament, to be held on Sunday, February 26, at 1:30 p.m. sharp, at Port Jeff Bowl. The cost of $24 per couple includes bowling, prizes and buffet. The tournament is open to BNL employees and their immediate family members.

Applications are available at the BERA Sales Office, Berkner Hall, weekdays, 9 a.m. to 1:30 p.m. Deadline for applications is Friday, February 24. If you need a partner or have any questions, contact Ray Raynis, Ext. 3536, or Andy Warkentien, Ext. 2765.

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

Cafeteria Menu

Monday, February 6	
Soup: Autumn harvest	.90/1.20
A la Carte: Steak w/black bean chili	3.95
Lite: Ham & mushroom crepes	3.85
Deli: Leg of lamb w/garlic	3.20
Grill: Eggplant parmesan	3.30
Tuesday, February 7	
Soup: Vegetable rice	.90/1.20
A la Carte: Turkey parmesan	3.65
Lite: Curried shrimp & rice stir-fry	3.85
Deli: BBQ brisket of beef	3.20
Grill: Grilled turkey steak	3.30
Wednesday, February 8	
Soup: Beef barley	.90/1.20
Lite Display Cooking: Sautéed pasta	4.75
Deli: Pork roast w/rum-lime glaze	3.20
Grill: French dip au jus	3.30
Thursday, February 9	
Soup: Chicken gumbo	.90/1.20
A la Carte: Shepherd's pie	3.85
Lite: Vegetable lasagna	2.95
Deli: Turkey w/apple-mustard	3.20
Grill: Tuna nicoise	3.30
Friday, February 10	
Soup: Tomato & pinto bean	.90/1.20
A la Carte: Chicken w/peach relish	3.75
Lite: Shrimp & mushroom quiche	3.95
Deli: Pastrami w/peppered dijonnaise	3.20
Grill: Tex-Mex taco bar	3.30

BROOKHAVEN BULLETIN

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Volleyball

Standings as of January 31

Open League		League 1	
GTEAM	35-13	Koopas	32-16
The Men and Me	34-14	Rude Dogs	30-15
Farside	27-21	Network News	30-18
The Roofing Co.	19-26	Underdogs	15-30
Bud Men	2-43	Safe Sets	10-38
League 2		**League 3**	
Fossils	30-9	Silver Bullets	33-6
Safe Sets II	25-14	Take Five	31-8
Mon. Night Live	24-15	Upton-Ups	24-15
Net Wits	22-17	High Volley'em	23-15
Nuts & Bolts	19-20	DO-DAT	17-22
Spiked Punch	15-24	For Play	14-25
Jolly Vollies	15-24	Harlem Knights	7-32
Night Court	6-33	Bonnie's Bombers	6-32

Be Social

The BNL Ballroom, Latin & Swing Dance Club will hold two informal socials this month: the first on Saturday, February 11, and the second on Valentine's Day, Tuesday, February 14. Both will be held at 8 p.m. in the North Ballroom of the Brookhaven Center. All are invited to quickstep, Viennese waltz, samba and swing the night away. The suggested contribution of $1 per person will be used for the club's music fund. For more information, contact John Millener, Ext. 3853.

Classified Advertisements

Placement Notices

The Laboratory's placement policy is to select the best-qualified candidate for an available position. Consideration is given to candidates in the following order: (1) present employees within the department/division and/or appropriate bargaining unit, with preference for those within the immediate work group; (2) present employees within the Laboratory; and (3) outside applicants. In keeping with the Affirmative Action plan, selections are made without regard to age, race, color, religion, national origin, sex, handicap or veteran status.

Each week, the Personnel Division lists new placement notices. The purpose of these listings is, first, to give employees an opportunity to request consideration for themselves through Personnel, and second, for general recruiting under open recruitment. Because of the priority policy stated above, each listing does not necessarily represent an opportunity for all people.

Except when operational needs require otherwise, positions will be open for one week after publication.

For more information, contact the Employment Manager, Ext. 2882, or call the JOBLINE, Ext. 7744 (282-7744), for a complete listing of all openings.

SCIENTIFIC RECRUITMENT - Doctorate normally required. Candidates may apply directly to the department representative named.

SCIENTISTS AND POSTDOCTORAL RESEARCH ASSOCIATES - Trained in experimental particle physics, to join a research group whose activities currently include rare kaon decay and exotic particle searches at the AGS, the DO experiment at Fermilab, and detector R&D, with emphasis on calorimetry and muon systems for the ATLAS detector at the LHC. Contact: Michael Murtagh, Physics Department.

LABORATORY RECRUITMENT - Opportunities for Laboratory employees.

DD 2996. SECRETARIAL/ADMINISTRATIVE POSITION - Requires an AAS in secretarial science or equivalent, experience in the medical secretarial field, thorough knowledge of medical terminology and medical records maintenance, and excellent secretarial skills. Additional requirements include excellent communication and organization skills and WordPerfect experience. Will provide support for clinical effort associated with the Boron Neutron Capture Therapy (BNCT) program. Will be responsible for extensive patient contact and handling confidential information. Medical Department.

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside candidates.

LS 0466. MASTER WELDERS - (term appointments) Responsibilities will include working on various materials from prints, sketches or verbal instructions. Will set up and weld, cut, braze, pour lead, metal spray, and perform similar or related operations using ingenuity in problem solving. Performs layout, preparation, setup, measurement, assembly and installation of equipment as required. Central Shops Division.

Motor Vehicles & Supplies

94 FORD TAURUS - V-6, ABS, dual air bags, keyless remote, all power, cruise, take over 2 yr. lease. Mike, Ext. 5385.

93 OLDS CUTLASS - Special Edition, all power, 21k mi., ABS, red/red int., $12,500. Rod, Ext. 3243.

93 GEO TRACKER 4x4 - conv., p/b, p/s, ac, am/fm cass., 18k mi., ask. $10,500. John, Ext. 7313 or 395-5922.

91 MERCURY SABLE - white, p/l, p/w, air bag, cruise, ac, am/fm cass., V-6, 56k mi., excel. cond., $7,500. Ed, Ext. 4846 or 363-6940.

91 GEO METRO - blue, 2-dr., 5-spd., 61k mi., am/fm cass., 50+ mpg, runs well, $3,495. Joe, Ext. 2898.

90 NISSAN PICKUP - a/t, p/s, p/b, cap, 50k mi., $8,000 neg. 286-4773, leave message.

90 FORD SUPER CAB XLE 350 - 15 pass., all power, new tires, captain's chairs, $9,200; '88 Mercury Sable LS s/w, all power, $5,800. Ext. 5919 or 292-1099.

89 CHEVY CORSICA - 4-dr., 4-cyl., ac, a/t, high mi., $2,200. 363-4279.

88 CHRYSLER LE BARON - p/w, p/l, a/t, cruise, leather, turbo, mint, $2,500 firm. Mike, Ext. 2499.

88 JEEP GRAND WAGONEER - 78k mi., new paint, no rust or dents, tow pkg., asking $8,900. Ext. 2417.

87 ISUZU TROOPER II - 135k mi., many extras, runs well, asking $3,000. John, Ext. 7313 or 395-5922.

86 JEEP COMANCHE TRUCK - 4wd, w/cap, 130k mi., good cond., $2,500. Mike, Ext. 4061 or 475-8406.

86 OLDSMOBILE DELTA 88 ROYALE - loaded, full power, well maint., 91k orig. mi., clean, burgundy, runs well, $2,800 neg. Mark, Ext. 2494.

86 NISSAN PULSAR NX - 5-spd., p/s, p/b, ac, sunroof, new tint, 70k mi. Mike, 744-8910.

85 TOYOTA SR5 - 2nd owner, well maint., excel. cond., must see, $2,495 neg. Donna, 924-9282.

84 PONTIAC PHOENIX - V-6, p/s, p/w, p/b, a/t, 60k mi., 2nd owner, good cond., ask. $1,600 or best offer. Wang, Ext. 4353/5934.

72 MONTE CARLO - new paint, 58k orig. mi., hood & ignition lock, 350 eng., looks great, runs well, $2,800. Claudia, Ext. 3467.

DODGE RAM CHARGER - 4wd, new tires, exhaust & alternator, runs well, insp., beach permit, $2,500. John, 395-5620.

SERVICE MANUAL - '84 Honda Civic, 1.3/1.5, $2. Jack, 744-3919.

CORSAIR CAMPING TRAILER - 18', sleeps 6-8, stove w/oven, 30-gal. water tank w/elec. pump, hot/cold water, more, ask. $1,000. Jim, Ext. 7912 or 286-4823.

FACTORY MANUAL - '79 Chevy for Camaro, Malibu, Monte Carlo, Nova; wire diagram manual, $25 both. Mike, Ext. 4688.

BUMPERS - new, front & rear, '95 Chevy van, $100 ea. firm; trailer hitches, class III, class I, $20 ea.; radio w/speakers, $40. Don, Ext. 7237 or 744-2921 after 5:30 p.m.

SIDE BOARDS - aluminum, for Chevy S10 Blazer, excel. cond., $50. 289-8105.

RACE ENGINE - 302 Ford. Rich, 929-8514.

SERVICE MANUAL - '90 Mazda 626 and MX-6, $20. Anita, Ext. 5054.

TIRES - 1, P215/70R14, Firestone, excel., $25; 2, P225/75R14, Goodyear, brand-new, orig. $175, now $40 ea. 698-9274.

Boats & Marine Supplies

21½' PURSUIT - 1991, deep V cuddy, 150-h.p. Yamaha, 140 hrs., o/b, loaded, '93 E-Z trailer, full canvas, mint cond., $18,000. Lloyd, 587-7876.

17' GRUMMAN CANOE - $290; sail, mast, rudder, outboards, $240; boat cushions, $30; child's paddles, $20; life jackets, $5. Jack, 744-2919.

OUTBOARD - 1990, 25-h.p. Mariner, long shaft, trade for short shaft, 25-h.p. to 40 h.p., 1989 or newer or $900. Chuck, 821-1525.

BOAT TRAILER - small, up to 14', dinghy, duck boat, Sunfish, etc., $125. Gary, Ext. 3751 or 589-5490.

Furnishings & Appliances

BED - single frame/mattress, desk chairs, table, iron, ironing board, lamps, radio alarm, electric vacuum, etc., best offer. Ext. 5704 or 399-7309.

COFFEE TABLE - v.g. cond., $60; chrome & glass end tables, $60 pr. 929-3235.

DINING ROOM SET - china hutch & matching birch table, 2 leaves, pads, 4 chairs incl., like new, must sell, best offer. Bob, Ext. 3509 or 289-9533.

FURNITURE - bdrm., dining room, den, breakfront, Med., Early Am., country Fr., Bennington pine, all v.g. cond., reas. Jeanne, 696-7669.

LIVING ROOM - couch, 2 chairs, coffee table, end table, Colonial, mint., $350. Lou, Ext. 4688 or 928-7042.

MICROWAVE OVEN - Kenmore, clean, $50. Bob, 924-9662.

BEDROOM - modular, Formica, 10-piece incl. loft bed, tan woodgrain, fits 9'x10' room, orig. $4,000, asking $1,500. Ext. 3492 or 734-2593.

CHAIRS - Ethan Allen, solid cherry, bow-back, 4 side, orig. $199/ea., now $125/ea., 2 arm, orig. $249/ea., now $175/ea. Eric, Ext. 5875.

CROCKPOT - Rival, 5-quart, slow cooker, w/removable stoneware, brand-new, sealed carton, $25. Joe, Ext. 2898.

DESK - approx. 3'x2', white, drafting table, w/2 black drawers, like new, asking $30. Kristin, Ext. 3082.

DRYER - Whirlpool, portable elec., 110V/10 A, $35. Ext. 3061 or 751-0265 eves.

ETAGERE - rattan, 6'x6', glass shelves, $200. 325-1907.

FIREPLACE - prefab., w/smokestack & cap, excel. cond., $250. Winsche, 286-0517.

FREEZER - upright, 18 cu. ft.; washing machine, Sears, $75/ea. like new. Ext. 4090.

FREEZER - 18 cu. ft., upright, white, w/key door lock, excel. cond., $65. Ext. 3061 or 751-0265 eves.

KITCHEN TABLE - 36"x48", w/two 12" leaves, chairs, $79. Jack, 744-3919.

RUG - zebra skin, Spiegel, excel. cond., orig. $1,000, sell for $290. Ext. 3078.

RUG - brownish, braided, oval, 9'x12', plus runner & 3 smaller rugs, $50. Biays, Ext. 2946.

STOVE - Hotpoint, elec. range, 1½ years old, $250; twin bed foundation, $20; track lighting, 12', $40, 9', $25. John, Ext. 4482 or 821-4280.

STOVE FAN - light almond, $20; full headboard & footboard, w/slats, all oak, $75; vanity, oak, 32", w/clamshell sink & faucet, excel. cond., $75. 289-8105.

TABLE - console, 52"x26"x17", w/2 matching upholstered benches, dark wood, $200. Mike, 929-4716.

TABLES - end, coffee table, oval, dark walnut, like new, $100; wrought-iron patio set, 4 swivel chairs, table w/Formica top, indoor, $200. Marty, Ext. 2214.

TABLES - l/r end tables, chrome & glass, $60/pair; Lane coffee table, excel. cond., $60. 929-3235.

VACUUM CLEANER - Electrolux; humidifier; rocking horse; love seat; sofa, $85; glass table & 4 chairs, $150. Kathy, 744-2203.

WASHING MACHINE - apt.-size, large load capacity, like new, portable hookup, almond, on wheels, neg. Angela, Ext. 5166.

Tools, House & Garden

DEHUMIDIFIER - Sears, lg., new humidistat, $55; path lighting kit, Sears, low-volt, 6-light, new, $40; answering mach., dual cass., $40. Leonard, Ext. 2004.

DOORS - 1 pine, 4-panel, 2'6"x6'8", 3 Lauan 2'6"x6'8", 3 2'0"x6'8", all 1⅜", stained. Mike, 929-4716.

FIREWOOD - hardwood, split, seasoned, $60 for half cord. Tom, Ext. 4507 or 878-1060.

FIREWOOD - seasoned hardwood, split, delivered, $115/cord, $60/half cord. Glenn, 924-2035.

HOT-WATER HEATER - 80 gallons, Rheem, elec., 5 yrs. old, excel. cond., like new, $150. Ext. 2672.

RADIATORS - cast-iron sectional radiators, various widths, $50/ea. Steve, Ext. 4414.

STORM DOOR - standard size, cross-buck, white, insulated glass, screen, excel. cond., all hardware, $75 or best offer. Denise, Ext. 5873 or 878-1303.

TIRE MACHINE - needs little maint., $175. Ron, Ext. 2214.

Sports, Hobbies & Pets

BASKETBALL BACKBOARD - $40. Jack, 744-3919.

BIKES - girl's, 2, $25/ea., women's, $15; skates, $5; Fisher Price kitchen w/acces., $45. Rod, 751-7023.

BOWLING SHOES - women's Striker, bone color, size 8, like new, orig. box, $10. Edith Kelly, 744-3069.

CAMERA - Asahi Pentex Spotmatic, like new, $75 neg. Kristin, Ext. 3082.

DOG CAGE - like new, indoor, 2'x3'x2', best offer. 286-3585 after 5 p.m.

ICE SKATES - men's, figure, 10½, black, used twice, $15. 765-1075.

MAGAZINES - box of *Sport & Sports Illustrated*. Ext. 2004.

SKI BOOTS - men's, Technica, size 10, like new cond., $75. 281-5060.

SKI JACKETS - men's, Roffe, red, large; Pacific Trail, red/navy, medium; Woolrich, black/red, medium; excel., $20/ea. 473-6546.

SPORTS CARDS - assorted, hockey, football, baseball, basketball, reasonable prices, Matt, 751-7023.

TELESCOPE - Celestron C-8, various eyepieces, Geo mount, carry case, tools, etc., excel. cond., asking $750. Phil, Ext. 2080 or 473-1067.

TREADMILL - 8-mph extended stride, incline, programmable, heart rate mon., time/calories burned, new, $400. Danielle, Ext. 3070.

WEIGHT EQUIPMENT - Peck Deck, cable, crossover, spider, lat, monster bench, extras. $1,000. 467-1343.

Audio, Video & Computer

COMPUTER - Commodore 128, Magnavox color mon., 1571 disk drive, printer, software, best offer. Sue, Ext. 3492.

COMPUTER - 486 DX50, EISA board, 20MB RAM, 210MB HD, 15" mon., tower case, fully equipped, excel. cond., $1,400. Ext. 2610 or 924-5272.

CD PLAYER - portable, Panasonic SL-S170, headphones, ac adapter, programmable, XBS-bass filter, barely used, list $159, now $90. Varduj, Ext. 7718.

PRINTER - 24-pin dot matrix, Panasonic KX-P2123, hardly used, $175. Witkover, Ext. 4607 or 368-0452.

SOUND BOARD - 8-bit, Sound Blaster, in box, $30; software, Kios Work 2, Knowledge Adventure Dinosaurs, 3½" discs, $30/ea. Joe, Ext. 4259.

SPEAKERS - JBL-XPL200, active crossover, bi-amp, MTX stands, excel. cond., low hrs., orig. cartons, orig. $3,900, asking $1,600. Ken, Ext. 2935.

SPEAKERS - 2, dark wood, 32"H, reasonable. Mike, 929-4716.

Miscellaneous

BABY'S ITEMS - playpen, infant's car seat & carrier, jolly jumper, seat walker, like new. 928-3189.

BABY'S ITEMS - Fisher Price swing, v.g. cond., $25; portable baby crib, v.g. cond., $25. O. Booker, Ext. 3082.

NATIONAL GEOGRAPHIC MAGAZINES - best offer; exercise bike, no frills, $25. 878-0835.

TOYS - and wooden puzzles for ages 1-3; clock-radio, excel. cond., $5; coffee maker, $5. 821-6856.

AIRLINE - AA, voucher for $200, domestic/international travel, $175. Ext. 5080.

COLLECTIBLES - authentic copy of 1919 contract to sell Babe Ruth to the Yankees, make offer. O. Booker, Ext. 3082 or 727-5912.

JACKETS - 2 shearling, women's M, light beige, ¾ length, one Eddie Bauer, excel., must sell. Ext. 3078.

PENDANT - 14K heart, w/pave-set diamonds, orig. $200, sell for $100; bracelet, onyx hearts w/14K links, $40. Theresa, Ext. 2907.

PLAYPLEN - Portacrib, w/foam mattress, $15. Ext. 2004.

RING - diamond engagement, almost 1 ct. pear shape, 20 side stones, appraised at $3,000, sell for $1,500 neg. John, 395-5922.

RING - diamond engagement, 0.93 ct., w/2 tapered diamond baguettes, appraised at $5,000, asking $2,700. Mike, Ext. 4293.

RING - diamond engagement, 14k gold, round, 0.74 diamond, g-h color, vs clarity, orig. $3,500, make offer. Beth, Ext. 4120.

STROLLER - Graco, $25; port. playpen, $20; Graco high chair, $30; infant swing, $20. Donna, 821-3739.

WEDDING GOWN - size 6-8, elegant. Ext. 5881 or 924-9435.

WINE - 1985 Robert Mondavi Cab. Sauv., properly stored, ready to drink, make offer. Ext. 2499.

Free

FIREWOOD - will help load stacked-up trees, much hardwood, some pine, all seasoned, bring saw. Frank, 234-0538.

SAND FILTER TANK - for swimming pool, stainless steel, 2' dia., no plastic parts. Ralph, Ext. 2180.

23' THUNDERBIRD - fg hulll in excel. cond., cuddy cabin, no motor or trailer, you haul. 281-1832 eves.

Lost & Found

LOST - gold pierced earring, hanging garnets w/hummingbirds, sentimental value. Denise, Ext. 5873.

FOUND - Parker pen, gold top, black barrel, on Brookhaven Ave. Bill, Ext. 2878.

FOUND - charm, "No. 1 Mom." Ext. 3802.

Car Pools

LIE EXIT 36 - fourth needed. John, Ext. 5181.

Wanted

AIR COMPRESSOR - 3½ h.p. min.; pick-up truck, cheap. Rich, Ext. 2943.

BABY-SITTER - one or two nights per week, 6-11 p.m., for 4 to 7 yr.-olds in my home. Ofra, 821-6856.

BANDSAW - metal-cutting. Frank, Ext. 5120 or 369-5815.

CHILD-CARE - after school, in my Mastic Beach home, 2 children, ages 7 & 10, experienced, own transp. 281-2463.

DRAWING TABLE - all wood, Anco. 38"x48" w/parallel edge, if possible. Frank, Ext. 3120.

FOOTBALL CARDS - Drew Bledsoe '93-'94 football card, any brand, willing to pay a reasonable price. Matt, 751-7023.

GUITAR - for use w/young children for science program at BNL Science Museum. Ext. 5461.

HOUSE TO RENT - 3-4 bdrm., gar., within 10 miles of Lab, furn. w/appl. Joshi, Ext. 3847 or 281-1077 eves.

KILN - nonworking, cheap, want to modify for charcoal firing. Ralph, Ext. 2180.

NERF OR STEP BARS - for '79 Ford Bronco. Dennis, Ext. 3696.

PARTS - VW Beetle, T-top for '80s Camaro & Monte Carlo. Rich, 929-8514.

OUTBOARD MOTOR - 7-12 h.p. w/battery charger, long shaft, for sailboat. Ext. 3061 or 751-0265 eves.

REFRIGERATOR - clean, for on-site use, prefer approx. 11-15 cu. ft., will pick up, cheap or free. Ed, Ext. 4447.

SKIERS - to ski Windham 2/8, 2/22, send $42 for bus & lift to Augie Hoffmann, Bldg. 510C.

WET SAW - for cutting tile and brick; hard top for 1988 Jeep Wrangler. Ext. 2831.

WHITEWATER RAFTERS - for trip Sept. 23-25, Gauley River, WV. Ext. 3492 or 4514.

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.*

ARCHITECTURAL DRAFTING SERVICES - house plans, alterations. Rich, 929-8514.

BABY-SITTING - experienced 12-yr.-old, Shoreham-Wading River area, very good w/young children. Kate, 929-5945.

BRICKWORK - masonry, patios, walks, swimming pools, retaining walls, landscaping ties, Belgium block, 25 yrs. exp., Lab disc. Tony, 698-9274.

CATERING - D.L.C., no affair too small, homemade specialties, call for menu, Lab special, free delivery, stands & sternos incl. Dave, 696-1927.

CERAMIC TILE - installations, bath, kit., foyers, fp, countertops, quality work. Patrick, 471-7853.

CHILD CARE - mature, responsible mother will care for your child along w/2 yr. old daughter, ages 2-5 pref., Wading River. Mary, 929-8613.

CHILD CARE - by licensed, loving mother, impeccable refs. from BNL employees. Robin, 345-0298.

COMPUTERS - installation, repairs, tutoring, reasonable prices, all done in your home. Steve, 698-5260.

DJ/MC - party & dance music from 40s-90s, all occasions, music & entertainment personalized for your affair, BNL refs. Lou, 698-8210.

ELECTRICIAN - new and old work, reasonable rates, Port Jefferson-3 Village area, licensed and insured. Tim, 331-4683.

ELECTRICIAN - outlets, lighting, switches, service upgrades, repairs, lic./ins. Steve, 758-7002.

FINANCIAL REVIEW - of your life insurance and annuity program for future pension maximization and tax savings. Rich, 744-4816.

HOME IMPROVEMENTS - carpentry, complete service, roofing, siding, windows, doors, decks, oak flooring, bsmts., lic. & insured. Joe, 399-0828.

HOME IMPROVEMENTS - carpentry, drywall, spackling, painting, plumbing, ceramic tile, electrical, free estimates, Lab disc. Don, 744-2921 after 5:30 p.m.

HOME IMPROVEMENTS - carpentry, extensions, decks, dormers, sheds, repairs. Steve, Ext. 2259.

HOUSE CLEANING - houses, apartments, condos, offices, dependable & reliable. 924-8741.

HOUSE CLEANING - neat, reliable, no job too big or small. Nancy, 447-1635 after 6 p.m.

IRONWORK/WELDING - wrought iron railings, window and door guards, all types of repairs incl. snow plows and equipment. Tony, 298-1932.

JEWELER - special orders, repairs, honest, affordable, no job too large or small. Kelly, 821-5239.

LAND CLEARING - trees, stumps, brush removed, topsoil graded and raked w/450 loader, $70/hr. Tom Muller, 878-1060.

LAWN MOWERS - tractors and snow blowers repaired, reas. rates, have trailer, will travel. Don, 698-7322.

LOCKSMITH - sales & service, 10% Lab discount, keys cut during lunch. Pete, 399-2813 after 5 p.m.

PAINTING - int./ext. stains, powerwash, drywall installation, taping, spackle, doors, windows installation, int. trim work, reasonable. Scott, 325-0706.

PAINTING - int./ext., tape, spackle, Sheetrock, wallpaper, stain, urethane, powerwash, refs., insured. James, 399-4912.

PICKUP TRUCK & DRIVER - for hire, small to medium jobs, reasonable, exp., local only. 821-4407.

PLUMBING & HEATING - alterations & repair work by retired BNL employee. Jim Morris, 472-1205.

SHEETROCKING & SPACKLING - free estimate. Kevin, 567-6621.

SKIN CARE & MAKEUP CONSULTANT - nail care, facials, men's line, body care, free first-time facial, cosmetic gift baskets. Barbara Jean, 929-3235.

TAX PREPARATION - by experienced professional, reasonable fees. 744-4535.

TAXES - prepared by tax consultant, your home or mine, reasonable, serving Lab people for almost 20 yrs. John, 732-2472.

TRAINING - personal computer applications, DOS and Windows-based, from accounting to word processing. Gina, 929-3649.

TREE WORK - 281-2746.

TUTOR - certified teacher, any subject or grade, basic or college algebra, $25/hr., your house or mine. Danielle, 369-0904.

TUTORING - special education, K-12, elementary education and social studies. Donna, 821-3739.

TYPING SERVICES - term papers, resumes, letters, pick up, drop off, fast. Willie or Cathryn, 821-7327.

VIDEOGRAPHER - capture those precious moments on video, will tape weddings, parties, all occasions. Larry, 281-7240.

WORD PROCESSING - resumes, term papers, reports, editing, proofreading, correspondence. Janice Lamb, 444-6052.

WREATHS - wine cork and grapevine, different sizes/styles avail., from $20 & up. Lois, 929-4753 eves.

Farewell Gatherings

RETIREMENT PARTY - for Barbara Fitzgerald, 3/23, 6-10 p.m., Meadow Club, Port Jefferson, open invitation, call for details by 2/15. Pat, Ext. 3438.

In Appreciation

My sincere thanks to my friends and colleagues who sent me get-well messages after my recent accident.
— Ahovi Kponou

The Brookhaven Bulletin is printed on paper containing at least 50 percent recycled materials, with 10 percent post-consumer waste.