BROOKHAVEN BULLETIN
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BROOKHAVEN NATIONAL LABORATORY

Infrared Light at NSLS — the Best and the Brightest

The infrared beam at the National Synchrotron Light Source (NSLS) is 100 to 1,000 times brighter than the best conventional source of infrared (IR) light in the world.

So it was learned from the first spectrum taken at beam line U-4 IR on the vacuum ultraviolet (VUV) ring last November 18. The plot was obtained by Physicist Gwyn Williams and Physics Associate Carol Hirschmugl, NSLS; Guest Scientific Associate Yves Chabal, AT&T Bell Labs; Guest Scientist Fritz Hoffmann, Exxon Research and Engineering Company; and Guest Scientist Dieter Moeller, Fairleigh Dickinson University.

IR light is electromagnetic radiation having wavelengths of one micron, which is a little longer than visible light, to a few millimeters. Light in the IR region of the spectrum is useful for studying the electronic and vibrational structure of matter.

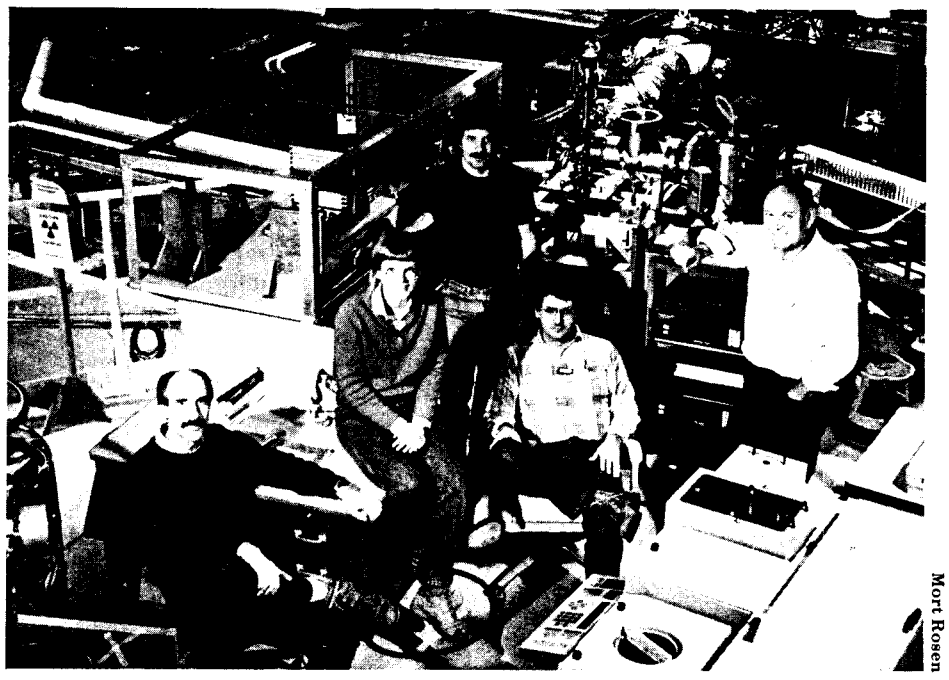
Through experiments that measure the amount of IR light absorbed by a sample, scientists can probe materials with lower energy light than available from other VUV and x-ray beam lines. The extreme brightness of the NSLS' IR beam will permit previously impossible experiments to be performed.

At present, U-4 IR is the only synchrotron beam line optimized for infrared radiation and dedicated as a user facility. Until the VUV ring became the source of the world's brightest IR radiation, scientists were limited to using low luminance IR lamps and lasers of limited tunability and range.

This spectrum confirmed Williams's theoretical calculations predicting the IR beam's brightness, on which basis the beam line was built as part of the NSLS Phase II expansion. NSLS Project Engineer Mark Shleifer engineered the beam line, and Physicist Peter Takacs, Instrumentation, designed its optics.

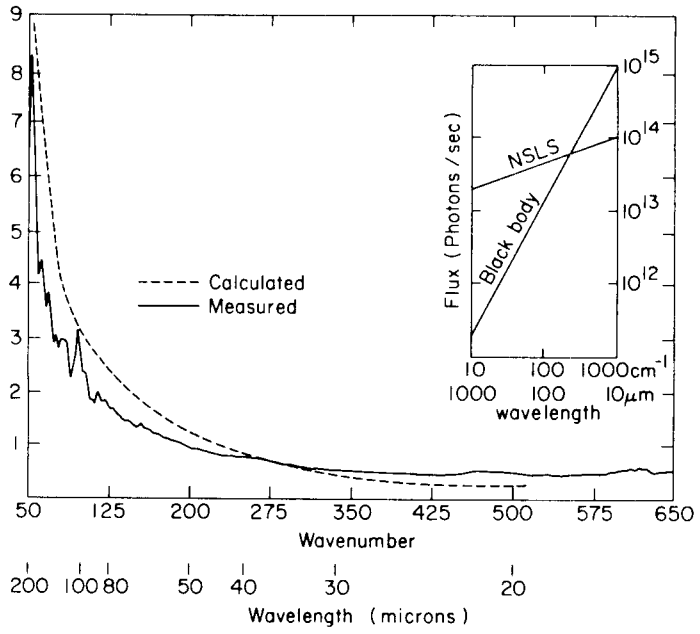
In addition to being the best and brightest source of IR, the beam line is equipped with the best available instrumentation, including a rapid-scan vacuum Michelson interferometer and a liquid-helium cooled detector. After the beam is calibrated, U-4 IR should be available for general experimental use later in the year.

In one of the first experiments, Williams will use the IR beam line to study catalysis at the surface of a metal. Metals are used to accelerate the rates of many chemical reactions. However, it is not yet understood how the metallic surfaces work as catalysts. Information obtained at U-4 IR about the vibration structure of catalysts will complement electronic structural data obtained at the other beam lines. — Marsha Belford



Mort Rosen

(above) Before the infrared beam line at the National Synchrotron Light Source are (from left) Gwyn Williams, Carol Hirschmugl, (standing) Technical Specialist Richard Greene, (seated) Senior Technical Specialist Dennis Carlson and Mark Shleifer.



(left) The solid curve shows the ratio between the number of photons per second of infrared (IR) light from beam line U-4 at the National Synchrotron Light Source (NSLS) and the IR photon flux from a conventional source. This spectrum confirms the calculated predictions, indicated by the dashed curve. From this spectrum, it was calculated that the brightness of the IR beam at the NSLS is 500 to 5,000 times brighter than a 1,000 kelvins black-body source, a conventional IR source to which it was compared. The inset shows a calculation of the expected flux from the IR beam and a black-body source.

Training Promotes Safe Removal of Asbestos

To ensure that the Lab fulfilled a new state law ahead of time, a University of Kansas asbestos training program was held at BNL last December 14-17. The law in New York State, effective January 1 of this year, specifies that all contractors, workers and supervisors involved with asbestos removal are required to have special "asbestos abatement" certification.

"At BNL, asbestos can be encountered when removing and replacing insulation from utility pipes," said Christopher Johnson, a Staff Engineer in the Plant Engineering (PE) Division, who organized the training program with Robert Terwilliger, PE Manager of Quality Assurance, Training and Safety.

Johnson explained, "To handle this incidental asbestos removal, insulation workers will soon be classified in a new BNL job category, and some participants were being prepared in advance." Also attending the program were supervisors of these workers, others concerned with supervising the on-site work of outside contractors, and industrial hygienists from the Safety & Environmental Protection Division.

"Because asbestos is unsafe and removal is so expensive, it's important to get it right the first time," said Johnson. "The certified training program gives the best methods."

— Liz Seubert

Peter Horton

Participating in the Asbestos Removal Training Program were (standing, from left): Frederick Squires, Kevin Kobus, Hugh Rhodus and Gary Connell, all from Plant Engineering (PE) Division; Doan Hanson, Safety & Environmental Protection (S&EP) Division; James Morris and Anthony Sturcken, PE; (seated, from left): William Slavinsky, PE; Joseph O'Conor, S&EP; Henry Lewis and John Connelly, PE; Patricia Williams, S&EP; John Bura, PE. Not pictured: Christopher Johnson, PE.

Peter Horton

A University of Kansas instructor demonstrates how to mount a glove bag around an insulated pipe. The bag contains tools and has armholes so that workers can remove the insulation without touching it — and no asbestos reaches them or the atmosphere.

Call for Applications For BWIS Scholarship

Brookhaven Women In Science (BWIS) is now accepting applications for the Renate W. Chasman Scholarship for Women. The scholarship was established in 1986 to encourage Long Island women, whose education was interrupted, to continue their formal studies in the sciences, engineering or mathematics. It honors the memory of Renate W. Chasman, a noted physicist and accelerator theorist at BNL, who died in 1977.

The scholarship winner will receive a one-time award of $1,000, to be presented in August. Candidates must be U.S. citizens or resident aliens who live in Nassau or Suffolk County. They must be currently enrolled in or have applied for a degree-granting program at an accredited institution. Their program of study for 1988-89 must be at the junior or senior undergraduate level or first year graduate level, to be pursued on a half-time or greater basis.

The award will be made directly to the recipient, who will be expected to complete at least two consecutive school terms in good academic standing. An independent Scholarship Selection Committee, made up of three representatives from Long Island industry and colleges, will choose the winner.

The application deadline is June 1. For forms and further information, call Ext. 3336, or write to: Chasman Scholarship Fund, P.O. Box 183, Upton, NY 11973.

BNL's Man in the Marshall Islands

Check the map — go northwest of Australia, southeast of Japan and southwest of Hawaii. Way out among the trade winds of the Pacific, you'll find the Marshall Islands. Trace the route back to BNL, and you'll realize how far Marshall Islander Helmer Emos, the Medical Department's Senior Research Services Assistant for the Marshall Islands Medical Program, had to travel to attend three weeks of specialized computer training last November and December.

Emos's computer training included one BNL course on DOS, and two off-site courses — on Wordperfect and Lotus 1-2-3. His new computer skills will improve efficiency in the Medical Department's health care of radiation-exposed Marshallese.

The health of the Marshall Islanders has been of special concern to BNL since 1957. At that time, the U.S. government requested that the Lab take care of detecting and treating any disease that may have resulted from radiation exposure. The exposure occurred when a wind shear caused fallout from a 1954 nuclear test at Bikini to be accidently deposited on inhabited islands to the east, irradiating 253 Marshall Islanders and about 50 Americans and Japanese in the area. The exposed people had to be evacuated.

The Utirik islanders were returned to their homes after about three months, and the Rongelap population after three years. In the ensuing period, they have faced medical problems such as thyroid nodules, including thyroid cancer.

Emos himself was not one of the affected Marshallese. He found his present job after participating in a 1980 BNL medical survey, when he was recruited from Ebeye Hospital to work for the Lab. First, he was sent to Honolulu for a six-month concentrated program in all phases of laboratory science. On his return to the Marshall Islands, he became a valued member of the BNL team.

Said Hematologist William Adams, who heads the BNL program, "We have been very pleased that Helmer joined us, not only for practical lab matters, but in the vital, intangible aspects of our work. He can reassure the Islanders about the health care program, and also give us insights into their concerns. He is doing a terrific job."

Emos's job includes doing clinical laboratory testing locally, as physicians order, or sending the samples to BNL or Hawaiian laboratories for analysis. He also accompanies patients who need treatment abroad. This, in fact, was how Emos first visited BNL, in 1982 and 1983, when he escorted patients here for medical tests before they went to Cleveland for thyroid surgery.

At present, BNL conducts two visits yearly to watch over the health of the Islanders. The core team from the Medical Department — Adams, William Scott and Peter Heotis — is joined on their arrival in the Islands by a retired team member, Marshallese nurse Jenuk Kabua, and, of course, Emos.

Emos is glad to have had this recent computer training. "It will be more efficient," he said. "We are getting better equipment all the time. Many of the patients can be tested better now in BNL's visits, and they do not always have to go all the way to Hawaii to find out whether they need treatment."

Said Adams, "Our computerized system means that all the medical records of the Islanders we see can be taken around on a disk in one's pocket, which is a great advantage in establishing continuity of care for patients. Since 1986, we have been trying to share our computerized medical record program with Marshallese health organizations. With his recent training, Helmer may be able to help these organizations should they wish to adopt a similar program."

Mort Rosen

Helmer Emos

Though the health problems of the Marshallese are of so much concern, Emos recognizes that they are not the only legacy from the 1954 accident. The disruption of their lives and the growing influence of the West is overshadowing the Islanders' traditional way of life. Skills such as fishing and navigation are disappearing.

Emos spoke of the gradual erosion of the Marshall Islanders' culture. For example, a visitor might come across a simple gadget — a zigzag arrangement of movable wooden strips, highlighted with small shells, that appears to be some sort of ornament.

But forty years ago, Emos explained, "This was in daily use — a stick chart for navigation. The wooden strips, made from the roots of the pandanus tree, or from new shoots of coconut palms, show the wave patterns near Rongelap atoll, and the shells mark the highest waves. By the way the waves hit the side of the boat, the navigators knew their exact position."

The Marshall Islanders are trying to preserve some of their customs in a folk museum, and they are asking the older citizens to record their traditions. "But many of the traditional ways are secret and only told to the children of the family who practiced that skill," explained Emos. "People are very uncomfortable in breaking this silence. They would be breaking the tradition they are trying to keep."

— Liz Seubert

Inside Info

Mark Barton, a Senior Scientist on a one-year leave of absence from the National Synchrotron Light Source, has been selected by the Institute of Electrical and Electronic Engineers to become a Fellow of the Institute, effective January 1. Barton was chosen for his fundamental contributions to the development of high energy particle accelerators.

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BNL's 40th anniversary publication, *The First Forty Years*, edited by **Mona Rowe**, Public Affairs, has received a Distinguished Technical Communication award, the highest possible, from the New York Chapter of the Society of Technical Communications. The Brookhaven Bulletin has also been honored with an award of Excellence, an STC second place award.

Peter Thieberger, Senior Physicist in the Physics Department, has been awarded a $150 Space Act Tech Brief Award by the National Aeronautics and Space Administration (NASA). As indicated on the certificate of recognition from NASA, Thieberger received the award: "For the creative development of a technical innovation which has been proposed for publication as a NASA Tech Brief entitled, 'SEU Modeling Verification NMOS Depletion-Mode-Load SRAMS.'" SEU stands for "single event upset," which refers to the way computer chips commit errors when hit with cosmic rays, on land or in space. As heavy ions can be used to simulate the action of cosmic rays, Thieberger, along with the staff of the Tandem Van de Graaff Accelerator, has developed techniques with which NASA and other agencies can study this phenomenon by bombarding computer chips with the Tandem's heavy ion beam.

DAS Celebrates Service Anniversaries

Mort Rosen

In December, Bernard Manowitz (bottom, right), Chairman of the Department of Applied Science, hosted a reception for members of the Department who recently observed BNL anniversaries. The celebrants pictured above are: (standing, from left) Ralph Jones, Rich Tulipano, Paul Levy, Paul Moskowitz, Jack Fajer, Steve Feldberg, Bob Wilson, George Hendrey and John Nagy; (seated, from left) Louise Hanson, Gene Premuzic, Doug Hill, Morris Beller, Bob Smol, Dan Leahy and Manowitz. Absent from the picture are: Stu Bookless, Andy Cendrowski, Marie Hobson, Arnold Moodenbaugh, Lenny Newman and Stan Pollack.

Those Nice Round Life Numbers: 18700

This is the third in a series of articles welcoming new employees who have been issued nice round BNL life numbers — those divisible by 100.

When Philip Pietraski was issued life number 18700 last November 30, it was his first day as a Principal Technician at the National Synchrotron Light Source (NSLS) — his first job after being graduated from college.

Last October, Pietraski earned his B.S. degree in electrical engineering technology after three years at DeVry Technical Institute, Woodbridge, New Jersey. While he was in school, however, Pietraski was not unemployed: He worked part-time as a lead technician for a cable TV company, supervising the repair of TV converters — "the part of the system in a subscriber's home," he explains.

"One of my professors at DeVry teaches a class at the Lab on digital electronics, and he suggested to me that Brookhaven might be a good place to work," says Pietraski. BNL Personnel recruited him at school, and, after almost two months on the job, Pietraski is happy with his choice. "My work is very diverse, so I'm not doing the same thing all the time — and that is exactly the kind of job that I was looking for."

Working as part of a team with Ed Meier in the NSLS Electrical Systems and Operations Section, Pietraski designs, builds and repairs whatever electronic devices come his way from the different groups in his section, as well as different NSLS sections.

So far, Pietraski has built three projects: an amplifer, an x-ray beam position controller and a power supply trigger. At present, he is repairing power supplies, and then will design the new control system for the NSLS' linac radio frequency modulators. Says Pietraski, "I do whatever is needed, and I like that."

Mort Rosen

Philip Pietraski

Originally from Morgan, New Jersey, Pietraski is living in Cavendish House while looking for an apartment close to the Lab. He bowls once a week with the Source II team of the men's bowling league, maintaining a 165 average.

"I'd like to further my education, get a master's," Pietraski adds, "so in September, I'll take advantage of the tuition reimbursement program to go back to school — either in electronics or physics, I haven't decided yet."

— Marsha Belford

In Stormy Weather:
Dial 282-INFO

To Your Health

Update on Multiple Sclerosis

Patricia Coyle, a physician in the Department of Neurology, School of Medicine, State University of New York at Stony Brook, will give an update on multiple sclerosis at the next Health Promotion Seminar. The seminar will be held on Thursday, January 28, from noon to 1 p.m. in Berkner Hall, Room B.

Health Resource Collection

You need your eyes examined: Should you see an optometrist or an ophthalmologist? Consult *Take Care of Yourself: The Consumer's Guide to Medical Care.* Your spouse was diagnosed as having diabetes and isn't sure what to eat. Check out the *Handbook of Diabetes Nutritional Management.* Your doctor gave your parent a new prescription, but no information about the drug. Look it up in *The People's Pharmacy.*

These three books are first in a Health Resource collection, sponsored by the Health Promotion Program and now available at the Research Library, Bldg. 477. The special collection also includes a videotape *About Alcohol.*

To find the Health Resource collection, ask a librarian at the Circulation Desk, Ext. 3483. All books and tapes may be checked out for one month, and more titles will be added in the future.

Speakers Bureau

Robert Miltenberger (S&EP), Bellport High School science class, "Environmental Radiation," June 1.

Karl Swyler (DNE), Island Trees Elementary School, "What a Scientist Does at BNL," June 5.

William Marcuse (DO), LIFT Forum for Technology, "Technology Transfer," June 11.

Janet Tempel (DO), Smithtown Rotary Club, "BNL Tours," August 19.

Meyer Steinberg (DAS), MIT Nuclear Engineering Department, "Future Concepts for Nuclear Power"; MIT Chemistry Department, "Clean Carbon and Gaseous Fuels from Coal," September 28.

Meyer Steinberg (DAS), University of California at Berkeley, "Future Concepts for Nuclear Power," October 12.

Janet Tempel (DO), Rotary Club of Middle Island, "BNL Tour Program," October 19.

R. C. Anderson (DO Ret.), Rocky Point Lions Club, "BNL's 40th Anniversary," October 20.

James Brower (S&EP), Career Awareness Day at Harborfield High School, "Careers in Science at BNL," October 27.

Myron Strongin (Phys.) & **Roger Tanner** (DAS), Center Moriches High School science teachers, "What's New in Science at BNL?", November 3.

Jan Naidu (S&EP), Leisure Knoll Senior Citizens, "BNL and the Environment," November 4.

Gus Prince (DNE), Suffolk County Community College Step Program, "The Making of a Scientist," November 7.

Patricia Bender (PE), Suffolk County Girl Scouts Career Day, "Careers in the Electrical Industry," November 14.

Eena-Mai Franz (DNE) & **Sharon Spark** (AMD), Career Day at Half Hollow Hills High School East, "Careers in Chemistry and Computers," November 18.

Eleanor Grist (Bio.) & **Avril Woodhead** (Bio./Res.Lib.), 23rd Annual Science Fair at Shelter Island, Science Fair Judges, December 4.

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BERA Board Appoints Committee

The BERA Executive Board announces the appointment of nominating committee members for the 1988 BERA Election. The function of the committee is to select a slate of candidates for the annual election, which will take place during the week of March 21 through 25. Members include:

	Ext.
Ken Asselta	5110
Rick Backofen	2907
Kathy Barkigia	4509
Roseann Callister	3173
Marilyn Gibbons	3475
John Guthy	4411
Jim Roessler	5051
Joan Slavinsky	2910
George Walczyk	4243

Any employee who wishes to propose a name for nomination may contact a member of the nominating committee by Monday, February 8. Please make certain the person being proposed will agree to accept the nomination if selected by the committee.

Arrivals & Departures

Anette H. Meier ..... S&EP
Jeffrey L. Snead ..... S&EP

Departures

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

Reed R. Corderman ..... DAS
Melvin M. Levine ..... DNE

Cooking Exchange

Judith van Asselt will demonstrate Dutch cookery at the next meeting of the International Cooking Exchange on Wednesday, January 27, from 12:30 p.m. to 2:30 p.m. Seasonal ingredients will be featured, so, if you are looking for new ways to prepare winter vegetables and other winter foods, do plan to come to this meeting. You may find some new recipes that are economical, warming and delicious to enliven your family meals during the next couple of months of winter.

There is a charge of $2 per adult, which helps defray the costs of the ingredients. Babysitting is provided at 50¢ per child, and all Brookhaven employees and family members may attend.

Cafeteria Menu

Week of January 25

Monday, January 25

Pork & cabbage soup	(cup)	.75
	(bowl)	.95
Meatballs stroganoff over rice		2.95
Chicken patty Parmigiana w/garlic toast		2.95
Hot deli: Monte Cristo		2.95

Tuesday, January 26

Navy bean soup	(cup)	.75
	(bowl)	.95
Roast top round of beef w/1 veg.		3.05
Deluxe pizza	(slice)	1.35
Hot deli: French-style ham & cheese		2.75

Wednesday, January 27

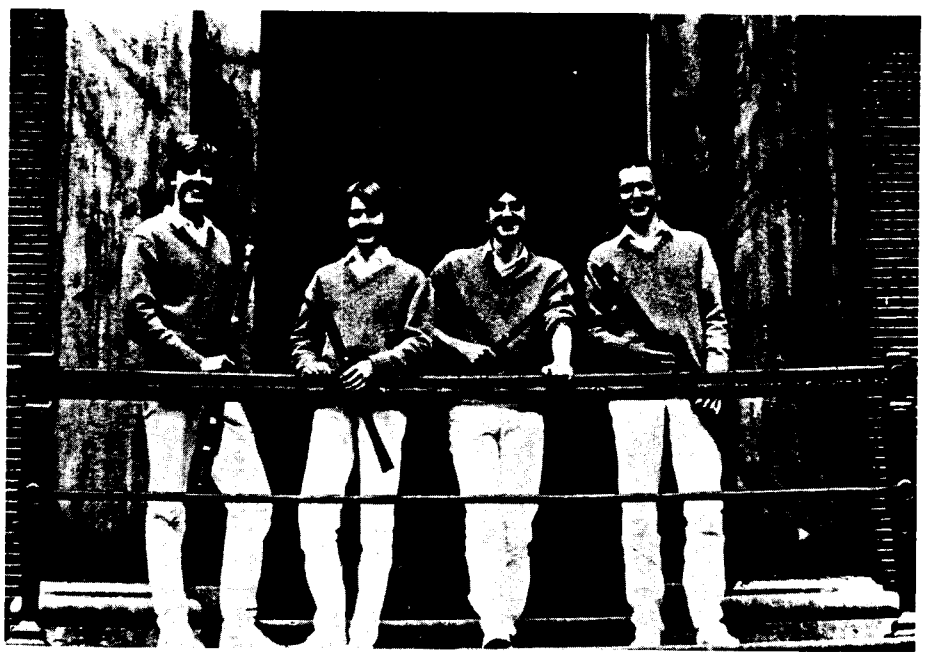
Vegetable beef soup	(cup)	.75
	(bowl)	.95
Veal scaloppini w/1 veg.		2.95
Meat turnovers w/1 veg.		2.95
Hot deli: Pastrami	(bread)	2.75
	(roll)	2.85
	(hero)	2.95

Thursday, January 28

Beef barley soup	(cup)	.75
	(bowl)	.95
Hunan chicken w/1 veg.		2.95
Baked manicotti w/garlic toast		2.85
Hot deli: Roast turkey	(bread)	2.75
	(roll)	2.85
	(hero)	2.95

Friday, January 29

Seafood gumbo	(cup)	.75
	(bowl)	.95
Baked barbequed spareribs w/1 veg.		3.05
Macaroni & cheese w/1 veg.		2.85
Hot deli: Corned beef	(bread)	2.75
	(roll)	2.85
	(hero)	2.95



The Amsterdam Loeki Stardust Quartet

Recorder Ensemble to Play Berkner

The Amsterdam Loeki Stardust Quartet, a recorder ensemble, will perform in Berkner Hall, on Tuesday, January 26, beginning at 8:30 p.m.

The Amsterdam Loeki Stardust Quartet was formed in 1978, while the members were students at the Sweelinck Conservatory in the Netherlands. Their fresh, unconventional approach to recorder playing explores and extends the instrument's range, with music from the Renaissance to present-day pop. Their whimsical name derives from a Dutch TV jingle, "Loeki de Leeuw" (Loeki the Lion), which became their theme tune.

The program for their Berkner concert reflects the ensemble's diversity. Selections range from Antonio Vivaldi's *Concerto in D Major* to a piece called *On the Trail of the Pink Panther,* by Henry Mancini. Works by J.S. Bach, Joseph Bodin de Boismortier, William Byrd, Girolamo Frescobaldi, Frans Geysen, Ryohei Hirose and Thomas Tallis will also be performed.

In 1981, the quartet received acclaim for their controversial, prize-winning performance at the Flanders Festival in Bruges, when their unorthodox rendering of a 16th-century piece — described by one critic as "brilliant, wayward and naughty" — cost them the first prize (which was not awarded).

Since then, the ensemble has broadcast on radio and television, and toured extensively throughout Europe. Their performance at the Boston Early Music Festival this past spring was the highlight of the festival, and the quartet's reputation is quickly spreading in this country.

The ensemble travels with 36 recorders, made for them by the finest craftsmen in Denmark, Japan, Holland and Germany. In length, these instruments range from the Great Bass, over six feet long, to the Sopranino, not quite eight inches. In style, they represent two distinct families: With their cylindrical bores and plain looks, Renaissance recorders produce rich tones, especially in the lower registers; the ornate Baroque recorders have conical bores and produce a more intimate and flexible sound.

Concert tickets can be purchased at the door the night of the performance. Prices are $9, general admission; $6, students and those over age 65; $5, those under 18.

Gospel at Berkner on February 6

In celebration of Black History Month, the Afro-American Culture Club will present its 7th Annual Gospel Extravaganza on Saturday, February 6, at 7 p.m., in Berkner Hall.

This year's Extravaganza will feature four choirs: the Central Jersey Community Choir; the Young Adult Choir, Somerset, New Jersey; the Jenkins Brothers, Somerset, New Jersey; and the Channel of Blessings, Freeport, New York.

Tickets to the Extravaganza are $8 for adults when purchased in advance, $10 at the door; tickets for children under 12 are $5 in advance, $7 at the door. For more information contact April Donegain, Ext. 2459; Mary Durham, Ext. 7143; Frances Ligon, Ext. 3709; Bruce Penn, Ext. 7213; or Public Affairs, Ext. 2345.

IBEW Meeting

Local 2230, IBEW, will hold its regular monthly meeting on Monday, January 25, at 6 p.m., in the Knights of Columbus Hall, Railroad Avenue, Patchogue. On the agenda will be regular business, committee reports and the president's report.

Equipment Demo

Silicon Graphics Inc. and Polygen Corporation will demonstrate computer systems on Tuesday, January 26, from 10 a.m. to 3 p.m., in Berkner Hall. Featured will be visual computing on superworkstations for the scientific community, systems for computer-aided chemistry and new technology trends in computer-aided molecular modeling.

Quilting Classes

The Hospitality Committee will sponsor three, 2-hour quilting classes for spouses of BNL employees and guests. These classes will be held from 7 to 9 p.m. on Thursday evenings, January 28, February 4 and February 11, in the lounge of the Recreation Building in the apartment area on site.

Linda McKnight, who will teach the classes, has requested that each participant bring the following items to each class: pencil, ruler, sharp scissors, needles, thread (preferably quilting thread) and fabric. If you do not have any fabric, you may purchase some from McKnight at the class.

The class is limited to 16 people: therefore, if you are interested in participating, please register by calling Milica Stevanovic, Ext. 3009.

Aviation Club

Larry Leipuner and Doug Sweely will conduct a ground school for the instrument written test. The classes will be held at BNL for three hours a week for 15 weeks. A preliminary meeting will be held Monday, February 1, at noon, in the Berkner Hall lobby. There is no fee; however, interested parties will be required to purchase a text and supplies. Please call Sweely, Ext. 4237, to register.

Bowling

Red/Green League

E. Meier rolled a 228, R. Mulderig 221, R. Jones 213, H. Marshall 212, M. Guacci 211, J. Mayeski 206, K. Asselta 205/202, T. Prach 205/200, W. Kristiansen 204/201, E. Gill 201/200.

Purple League

Ed Meier bowled a 222, Ed MacDougall 201, Sharon Smith 197. Just For Fun are the first half winners.

Swim Coast-to-Coast

Attention landlubbing lap swimmers: You can swim across America, about 3,000 miles overland from sea to shining sea. Join the Swim Club's "Coast-to-Coast Swim" and stroke your way city-by-city: to New York, 65 miles; then to Cleveland, about 500 miles; on to Chicago, 850 miles total; next to Des Moines, 1,200 miles; to Denver, 1,850 miles; Salt Lake City, 2,300 miles; and finally into San Francisco.

Last year, during the Swim & Stay Fit program, which was the first charted swim sponsored by the Swim Club, over 75 BNL lap swimmers stroked over 3,000 miles. Do it again and swim coast-to-coast.

You can swim alone, as part of the group or both — all you have to do is swim in quarter-mile or 14-length increments. Whenever you swim, log your mileage on the chart behind the lifeguard's desk next to the U.S. map — every quarter-mile leg helps BNL lap swimmers on the journey across country. In addition, you can post your individual mileage on the wall charts by the locker rooms — and see to what city you can swim.

As the group reaches different cities along the way, progress will be marked on the wall map. When individual swimmers reach city milestones, they will be awarded certificates, which can be picked up at the lifeguards' desk. For more information, contact Peter Heotis, Ext. 2304.

Basketball

First Game

Penetrators - 53		Celtics - 49	
T. Comstock	24	P. Browne	12
J. Cyr	8	C. Edwards	10
R. Garappolo	8	M. Fulkerson	9
R. Domenech	5	P. Ratzke	7
T. Abbott	4	N. Schaknowski	6
G. Smith	4	M. Colon	2
		A. Ratti	2
		R. Mease	1
		O. Aliefendioglu	0
		J. Gaeta	0

Three-Point Shots: Comstock (2), Domenech

Second Game

Knicks - 70		Holly wood - 55	
Q. Harrison	25	E. Meier	18
M. Lawrence	13	G. Mack	16
W. Cummings	9	K. Hester	6
L. Walcott	7	D. Nordstrum	5
M. Williams	6	B. Turner	4
L. Lawrence	4	B. Gunther	2
T. Mendez	4	J. Ripka	2
S. Anderson	2	E. Taylor	2

Three-Point Shots: Harrison, Meier (2), Nordstrum, Williams (2)

Third Game

Runaways - 65		Longshots - 49	
T. James	18	J. Garrison	10
S. Gilbert	15	T. Mayo	9
J. Desmond	14	F. Thompson	9
R. Moran	9	J. Wells	8
R. Jackson	4	M. Tardd	6
P. Johnson	3	S. Springston	4
A. Stillman	2	B. Rowley	3
G. Dunmore	0		

Three-Point Shots: Gilbert, James (2), Rowley

Local Users Group

The next meeting of the Upton Local Users Group will be held on Wednesday, January 27, at 11 a.m., in Room B, Berkner Hall. The topics will include: CSCF VAX Cluster Upgrade Task Force, current status of the CDC 830, and PC and hardware maintenance at BNL. Time will be available for questions and answers after each presentation. All computer users are welcome to attend. For additional information, please call Zohreh Parsa, Ext. 4748.

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.

2775. SECRETARIAL POSITION - Requires AAS degree in secretarial science or equivalent experience and a broad-based knowledge of Laboratory policies and procedures. Excellent secretarial and communication skills essential. Under general supervision, will be responsible for technical manuscripts, correspondence and travel arrangements. NBI word processing experience desired. Safety and Environmental Protection Division.

2776. REFRIGERATION & AIR CONDITIONING ENGINEER - Group leader. Plant Engineering Division.

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside applicants.

2777. DRAFTING POSITION - Requires an AAS degree in drafting or the equivalent, with an advanced working knowledge of electrical drafting procedures. Will perform non-routine drafting tasks which require the application of most of the standardized drawing techniques. Familiarization with Autocad or P-CAD helpful. National Synchrotron Light Source Department. (Reposting of Job #2732.)

Motor Vehicles & Supplies

SNOW TIRES - 14", on GM wheels, $40; other tires available. Ken, 289-8212.

77 HONDA ACCORD - a/t, a/c, runs well, new brakes, exhaust, good tires, excel. in/out. 758-5592 eves.

81 CHEVY CHEVETTE - new brakes, exhaust, clutch, no rust, am/fm cass., sunroof. Mark, Ext. 4132 or 924-4328.

75 DODGE COLT - red, runs well, new brakes, great transportation, best offer. Ext. 4006.

80 CHEVY CITATION - 4 cyl., a/t, no rust, good tires, needs engine, best offer. Dave, Ext. 4561.

71 VW BUG — reconditioned cylinder heads, new Weber carb. & assorted studs, $100/all. Fred, Ext. 4407 or 4435.

80 CITATION - new tires, battery, radiator, good cond. in/out, no rust, sacrifice, $500. 475-0084 after 6 p.m.

TIRES - polyglass, 4 ply, G78-14, $30/pr. 363-7032.

81 PLYMOUTH TC3 HORIZON - 4 speed, new tires, good gas mileage, $800. Ext. 2446 or 924-1911 eves.

73 MALIBU WAGON - V8, a/t, a/c, $450. 744-9677.

CHEVY ENGINE - & trans., 350, 78k mi., $325. Albie, Ext. 4446 or 363-5051.

72 PONTIAC VENTURA - 2 dr., V8, p/s, p/b, a/t, radials, Pioneer alum. headers, $1,000. 261-5030.

STEREO EQUALIZER - & automobile stereo power booster, good cond., $10. Ext. 4153 or 732-5829.

76 GRANADA - blue & white, p/s, p/b, a/c, new exhaust, low mi. tires, am/fm/cass. radio, runs well, $400. Roger, 874-8646.

76 JEEP CJ-7 RENEGADE - a/t, p/s, new soft top, many new parts, runs well, $2,600. Ext. 4142 or 345-3915 eves.

82 MUSTANG GT - new eng., trans., brakes, sunroof, asking $6,900; 81 Mustang, a/c, p/w, TRX wheels, asking $1,300. Ext. 4188 or 363-5170.

86 NISSAN PULSAR NX - two-tone, a/t, a/c, sunroof, low mi., immaculate, garaged, $8,200. Bert, Ext. 2050.

82 DATSUN 200SX - 5 speed, a/c, SL pkg., 99k mi., excel. cond., asking $2,800. John, Ext. 7770 or 4480.

85 CORVETTE - red, charcoal int., 18k mi., garaged, fully loaded, mint cond., $19,000. Mel, Ext. 4100 or 653-8966.

78 CONCORD - 4 dr., a/t, p/s, low mi., am/fm cass., 6 cyl., good cond., $950. Ext. 4638 or 281-0360 eves.

82 NISSAN STANZA - 4 dr. hatchback, a/t, a/c, am/fm stereo, new cab. brakes, battery, tires, mint cond., asking $2,800. Ext. 2349 or 3070 eves.

86 CAMARO - red w/black int., V6, 44k mi., loaded, $600; Kenwood stereo system, $7,500. John, 727-3673.

72 CADILLAC SEDAN - very clean in & out, $995. John, Ext. 4988 after 4 p.m.

Boats & Marine Supplies

22' SEAFARER SAILBOAT - 1974, 3 sails, Volvo O/B, full keel, asking $4,000. Fred, Ext. 4407, 4435 or 499-1214.

TRAILER - tandem axle, for 19' to 21' boat, $150. Ext. 7593.

36' CROCKER KETCH - classic, built 1938, refastened 1975, centerboard, Westerbeke diesel, rebuilt 1976, $22,500. 286-3675.

Miscellaneous

DEN/LIVING ROOM FURNITURE - pine frame, plaid, sofa, loveseat, rocker, ottoman, entourage, excel. cond. Jack, Ext. 2907 or 928-3545.

MATTRESS & BOXSPRING - full-size, 3 mo. old, like new, orig. $180, asking $50. 736-7699.

COUCH - & loveseat, beige w/delicate print, modern; beige recliner; modern bdrm. set, call for price & complete description. 727-0578 eves.

BIKE - 10 speed, front rim bent, rest in great cond., $25 firm. Billy, 286-0243 after 4 p.m.

WASHER - Kenmore, very good cond., $195; gas range, old model, good working cond., you move, $30. John, Ext. 2710 or 331-7350.

HUMIDIFIER - Edison, wood grain console, 4 gal., $35; kitchen set, table w/leaf, 4 chairs, $35. Tony, 698-9274.

BABY CARRIAGE - Perego, very good cond., $60; playpen, $25. Torsten, Ext. 3817 or 878-1210.

HEATING ELEMENT - 4500 watt, for electric water heater, unused, $4. Ext. 5400 or 878-6098.

FUR JACKET - mouton lamb, size 14, excel. cond., $65. 475-1826 after 6 p.m.

Send a Love Note To Your Valentine

Is there a special message you'd like to send to your valentine next month? If you can keep it short and sweet, you can have your Valentine's Day message printed in the Bulletin on February 12. Send your 15- to 20-word "love note" to the Bulletin, Bldg. 134, by Wednesday, February 3, on an ordinary Bulletin classified ad form, marked "Valentine's Day." You must sign your name and include your life number and extension, but your name will not be printed unless it is clearly part of the message. Copy must be deemed tasteful, and all "love notes" will be accepted at the Bulletin's discretion. Only one message per employee, please.

PRINTER'S TYPE CASES - $7/ea.; Acme foot stapler, $75; 10x15 C&P printing press, $150. 929-6646.

CITRUS FRUIT - delicious grapefruit, $9; oranges, $10 per box, benefit BAFFA. Mary A. Kelley, Ext. 4230.

SOFTWARE - Pop-up calendar/alarm clock for IBM, $10; IBM electric typewriter, $150. Susan, Ext. 4267.

MET OPERA TICKETS - 2, Wed., March 30, Massenet's *Werther*, dress circle, $40/ea. 286-3675.

KEROSENE HEATER - 9400 Btu, w/5 gallon can of fuel, good cond., $65; screens & windows, 14 each, good cond., $50. Ext. 3794.

TV STAND - black, metal, 19" high, adjustable width, 4 wheels, $15. Joe, Ext. 2898.

SNOW THROWER - Toro power shovel, excel. cond., $50. Ext. 4153 or 732-5829.

FM STEREO TUNER - Sony 6120, many inputs & outputs, works well, $25. Gar, Ext. 4387.

MILLING MACHINE - Clausing, vertical, ½" cap., access., $650; lathe, hand screw type, 5C collet, old, $300, both 3-phase. Bill, Ext. 4988 or 4987.

FIREPLACE - free standing, black, open front, w/screen, $75. Bert, Ext. 2050.

BUNK BEDS - all wood, w/new mattresses & boxsprings, excel. cond., $150; matching dresser, $50; vertical blinds, $50. 744-5801.

COUCH - & loveseat, chair, matching black/green plaid, $250; 6'x6' open-back bookcase, $100. Sue, 289-7218.

MATTRESS - boxspring & frame, twin size, excel cond., $125. Steve, Ext. 7862 or 924-7054 eves.

DRUM SET - excellent for beginner, $100. 363-7032.

SEWER HAND-SNAKE - $30; ratchet pipe threader, 1 unit converts threads, new, $60; 6 qt. pressure cooker, $10. 878-6637.

SKI BOOTS - woman's size 6-7, Heierling, excel. cond., $45. Ext. 4449 or 751-8403 after 6 p.m.

THULE CAR RAILS - 50", model 1061, brand-new, never opened, $70. Ext. 2024 or 744-8386.

IBM/PC - w/20 MBHO, 2-360K FD, 8087, 2.25 MB RAM, mono monitor, also IBM CGA card. Ext. 2521 or 924-2134 eves.

CONVERTIBLE COUCH - small, like new, orig. $275, sell for $75. Ext. 4144 or 472-1518.

Free

KITTENS - two, 8 wks., female, long hair, multicolor. Ed, Ext. 4249.

AM/FM TUNER - & 8-track, old but not antique, free to first caller, Gar, Ext. 4387.

PUPPIES - 6 males, 3 females, all black, mother is golden retriever, father is unknown, ready Jan. 22. Ext. 4638 or 281-0360.

Car Pools

STONY BROOK VAN - needs riders, call for details. Sid, Ext. 4125 or Paul, Ext. 2476.

MORICHES - want to join car pool. Dick Hahn, Ext. 4337 or 874-2380.

Lost & Found

LOST - ring, gold nugget, 3 diamond chips, around Medical Dept. Ext. 3593.

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

MIDDLE ISLAND - Artist Lake condo, 1st floor apt., tennis, pool, w/d, d/w, ww carpet, $600/mo. incl. heat + 1 mo. sec. 924-0001 after 6 p.m.

STONY BROOK - 4 bdrm., large eik, d/r, l/r, 3 baths, non-smoker, no pets, $1,100 + util.; room w/priv. bath, use of kitchen, non-smoker. Ext. 3705 or 862-7998.

RIDGE - 3 bdrm. house, 5 min. to Lab, $900 + util. George, Ext. 2615.

N. SHIRLEY - brand new 2 room apt., priv. ent., ww carpet, cable, no pets, non-smoker, 1 person, 5 min. to Lab, $450/util. incl. Ext. 4512.

N. SHIRLEY - 1 bdrm. apt., fully carpeted, mature working couple or single working person preferred, no pets, non-smoker, $550/util. incl. 924-6877.

BROOKHAVEN HAMLET - room in 4 bdrm. house, share w/2 professionals, 2 baths, spacious, ¾ wooded acre, $350/incl. all. Randy, Ext. 3835 or 286-4028.

RIDGE - 3 bdrm. L-ranch, full bsmt., garage, ⅓ acre, coal stove, fenced yard, gas stove & dryer, 4 mi. to BNL, $1,000/mo. Vanie, 727-5745 days or 727-5771 eves.

CENTER MORICHES - 3 bdrm., l/r w/fp, kitchen, sunroom, beautiful view of bay, boat ramp, $900/mo. Ext. 5277.

MILLER PLACE - 2 rm. apt., kitchen, l/r & bdrm. combo, full bath, priv. ent., sec. & ref. required, $415/mo. incl. util. 744-2821.

MASTIC BEACH - large studio apt., new appliances & bath, all util. & cable incl., $400/mo. + sec. 281-0670 after 6 p.m.

MILLER PLACE - 2 bdrm. house, furn., fp, walk to beach & store, $975/mo. 473-3349.

SHIRLEY - new 1 bdrm. apt., ww, new appliances, mature working woman, non-smoker preferred, $575/incl. all. 281-1840 after 4 p.m.

HILTON HEAD, SC - 2 bdrm. condo, sleeps 6, tennis, golf, pool, beach, winter rates, $250/wk. 585-9149.

CATSKILLS - 3 bdrm. chalet w/sleeping loft, fully furn., great skiing, near Hunter & Windham Mtns. Kay, Ext. 4501, or Bea, Ext. 3642.

For Sale

HILTON HEAD, SC - 3 bdrm. condo, sleeps 8, 2 baths, washer/dryer, wet bar, 6 tennis courts, whirlpool, 3 swimming pools, golf, ocean view, asking $89,000. will rent. 929-8912.

MANORVILLE - 1 acre, 175x230, all wooded, off Eastport Manor Rd., $77,000. Ext. 4986.

MILLER PLACE - north of 25A, 3 bdrm. custom ranch, entertainment area, l/r, family rm., custom f/p, 24'x26', 2 car garage, finished bsmt., much more. Ext. 3353 or 473-5786.

ROCKLEDGE, FL - block & stucco, 2 bdrm., 2 baths, d/r, kitchen, l/r, family rm., 12x25 combination porch, excel. location, $64,500. 305-631-2840.

SETAUKET - north of 25A, hilltop setting, private, 3 bdrm. ranch, 2 baths, open l/r, f/p in den, 2 car garage, patio, beautiful landscaping, asking $242,000. Ext. 7560 or 689-7494.

EAST YAPHANK/N. SHIRLEY - 4 bdrm. Colonial, one acre, 1½ bath, eik, formal d/r, l/r, den w/coal stove, landscaped, fenced, full bsmt., garage, pool w/deck, $160,000. 281-1972 or 281-6627.

Wanted

INFANTS - 3 mo. old for Ph.D. study of infant memory, involves pleasant play task in your home. Ext. 3372.

TRAINS - Lionel, American Flyer, accessories, any cond. brings good price. Carole, Ext. 7100 or 924-4097 eves.

SKIERS - to ski Whiteface Mt., Lake Placid, March 11-13. Bea, Ext. 3642.

LOVING HOME - for adorable, healthy, 5 mo. old kitten, litter box trained, all shots, affectionate. Cris, 758-4919.

KARATE UNIFORMS - men's sizes small & medium. Pete, Ext. 2465.

SOFTWARE - for Apple IIC. Awanish, Ext. 3988 or 395-4713.

PLAYPEN - good cond. Ext. 4843 or 485-0532.

CHILD SITTER - long but flexible hrs., good salary, my home. 661-9995 days or 698-1749 eves.

14" RIMS - two, for 1986 Ford Ranger pickup. Marty, Ext. 3843.

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