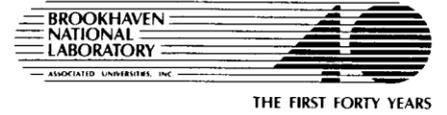


## AUI/BNL 40th Anniversary Celebration: Meet the Speakers



One of the highlights of the 40th Anniversary Celebration that BNL and AUI will host next week is the anniversary symposium, at which six distinguished scientists will speak. They will survey developments in their fields: Those that have taken place over the past 40 years and those that might be anticipated during the next 40 years . . . and beyond. The fifty-minute talks will take place in Berkner Hall, on Thursday and Friday, September 10 and 11.

**Robert J. Birgeneau** will speak on "Diffraction, Disorder and Dimensionality," September 10, 4:10 p.m.



Robert Birgeneau's contributions to condensed matter physics have been increasingly recognized: This year alone, he became Head of Solid State, Atomic and Plasma Physics at the Massachusetts Institute of Technology, where he has been the Cecil and Ida Green Professor of Physics since 1982; he was named a Fellow of the American Academy of Arts and Sciences; and he received the Oliver E. Buckley Prize of the American Physical Society for his use of neutron and x-ray scattering experiments to determine the phases and phase transitions of low dimensional systems.

Birgeneau has performed most of the neutron scattering work at Brookhaven's High Flux Beam Reactor, where he has been an guest experimenter since 1968. Currently on the Editorial Board of Physical Review B, he received his Ph.D. from Yale University in 1966.

**Sheldon L. Glashow** will discuss "New Physics at Accessible Energies," September 11, 10:30 a.m.



Sheldon Glashow shared the 1979 Nobel Prize in physics with Steven Weinberg and Abdus Salam for his contributions toward the formulation of the electroweak theory, the particle physics model describing the electromagnetic and weak forces as a single manifestation of the same electroweak force.

A born and bred New Yorker, Glashow was educated at the Bronx High School of Science, Cornell University and Harvard University. After several years in Europe and California, he joined the Harvard faculty in 1966, where he is now Higgins Professor of Physics. A consultant at Brookhaven since 1967, he now serves as President of the National Center for Excellence in Education. He is the author of over two hundred technical and popular papers and of the book, *A Charmed Life*, which is soon to be published.

**Tsung-Dao Lee** will address "Symmetry Principles and Particle Physics," September 10, 3:00 p.m.

T.D. Lee shared the 1957 Nobel Prize in physics with C.N. Yang, for the revolutionary proposal of the non-conservation of parity, which the two theorists worked on together in the summer of 1956, while they were at Brookhaven as visiting scientists.

Today, Lee is the Enrico Fermi Professor of Physics at Columbia University. With the exception of two terms at the Institute for Advanced Study at Princeton University (1951-53, 1960-63), he has been on the Columbia faculty since receiving his Ph.D from the University of Chicago in 1950.

As one of the world's leading theoretical physicists, his research has spanned the whole range of the subject, from the grand scales of astrophysics to the microscopic world of elementary particles. In recent years, Lee has done much to facilitate cultural contacts with his native China and to bring students from there to the U.S.



**Frederic M. Richards** will talk about "Approaches Through Physics, Chemistry and Biology to the Problem of Protein Folding," September 10, 9:30 a.m.

Since 1948, Frederic Richards has researched the structure and function of proteins. In 1955, he made the surprising discovery that the single chain enzyme ribonuclease could be reconstituted to full activity from two separable, inactive pieces. In 1967, in collaboration with H.W. Wyckoff, he determined the tertiary structure of this modified enzyme. Most recently, Richards has been using NMR spectroscopy to pursue experimental approaches to protein dynamics.

He received the Kai Linderstrom-Lang Award in Protein Chemistry in 1978 and the Pfizer-Paul Lewis Award in Enzyme Chemistry in 1965. Richards has been Chairman of the Department of Molecular Biophysics and Biochemistry at Yale University, President of both the Biophysical Society and the American Society of Biological Chemists, and Director of the Jane Coffin Childs Fund for Medical Research.



**Henry Taube** will discuss "Understanding Electron Transfer in Chemical Reactions: Brookhaven Contributions," September 10, 10:50 a.m.

Henry Taube was awarded the 1983 Nobel Prize in chemistry for his studies of the mechanisms of electron transfer reactions, particularly of metal complexes. Taube has also received almost 30 other honors and awards for his contributions to the field of inorganic chemistry.

Since earning his Ph.D. at the University of California, Berkeley, in 1940, Taube's research has taken him to Cornell University, the University of Chicago and Stanford University, where he has been a Professor since 1962 and served twice as Chairman of the Department of Chemistry.

Currently, Taube's research interests include: new aquo ions; activation of molecular nitrogen and oxygen; charge transfer as affecting properties, including the reactivity of ligands; mixed-valence molecules; mechanisms of atom and electron transfer reactions; and the chemistry of ruthenium and osmium.



**Robert R. Wilson** will address "Accelerators: The Past Is Prologue?," September 11, 9:15 a.m.



For his contributions to physics and to particle accelerator design and construction, Robert Wilson received the 1984 Enrico Fermi Award, the highest scientific award given by the U.S. Department of Energy.

Wilson led the efforts that culminated in the establishment of Fermi National Accelerator Laboratory (Fermilab), in 1967, and he served as its first Director until 1978. He also initiated the Energy Doubler-Saver, which made possible the Tevatron at Fermilab, now the world's highest energy particle accelerator.

Wilson began his career with a Ph.D. from the University of California, Berkeley, in 1940, and he has pursued his physics at Los Alamos National Laboratory, Fermilab, the University of Chicago, Columbia University and Cornell University, where he has been Professor Emeritus of Physics since 1982.

### Also on the Agenda:

Thursday, September 10, 1:30 p.m. — Dedication of the Alternating Gradient Synchrotron Complex to Leland J. Haworth (Main Entry, Building 911).

Friday, September 11, noon — Ground-Breaking Ceremony — AGS Accumulator-Booster (AGS Booster Site).

## Symposium Focuses on Soft X-Ray Microscopy

There are many methods for imaging biological cells, but, as yet, no method provides extremely high-resolution images while cells are in water, their natural environment. However, one technique offers promise: soft x-ray microscopy.

This technique, which uses x-ray light such as that provided by the National Synchrotron Light Source (NSLS), was the subject of the second International Symposium on X-Ray Microscopy, held at BNL. The program, which drew about 100 participants from France, Great Britain,

Japan, the People's Republic of China, West Germany and the United States, began Monday, August 31, and ends today.

X-ray microscopy incorporates many areas, such as instrumentation, microscopy, biology and physics. Unfortunately, x-ray microscopy has no journal dedicated to it, so information is scattered in many sources. "This field is so multidisciplinary that sometimes it's a problem," said NSLS Associate Physicist Harvey Rarback, who organized the conference with NSLS Consultant Janos Kirz, of the

State University of New York (SUNY) at Stony Brook. Rarback and Kirz have built x-ray microscopes at the NSLS.

To promote better communication, the symposium combined the usual formal seminars and poster sessions with informal meetings, including a clambake at Smith Point Park. "We had a Wednesday evening session with a free-form format, where the builders of the instruments talked with the builders of the next generation of synchrotron radiation machines," said Rarback. "They dis-

cussed what the new machines can and should deliver."

Soft x-ray microscopy takes many forms: Some machines scan the sample, producing two dimensional images, while others may produce holograms or probe for individual elements.

Whatever the method, x-ray microscopy uses long wavelength x-rays, or soft x-rays, to image biological specimens. Soft x-rays have little interaction with water molecules, but are absorbed by carbon, the primary (Continued on page 2)

## BNL's Fabulous Forty

This is one in a series of interviews with employees who observe their 40th service anniversaries during 1987, BNL's 40th anniversary year.

Not only is Senior Chemist Julius Hastings one of the five co-holders of the patent on the High Flux Beam Reactor (HFBR), but he also had the first experiments operating at both the Brookhaven Graphite Research Reactor (BGRR) and HFBR.

"I think that the concept of BNL as a place where one builds large machines for scientific investigation, like the reactors, has proved itself, not only in this country, but everywhere it has been applied," says Hastings.

For two years after World War II, Hastings worked for the Monsanto Chemical Company, Dayton, Ohio. However, he explains, "I felt like returning to the East, as I'm originally from New York City."

Born in New York, Hastings received his A.B. in Chemistry from University College, New York University, in 1940. During World War II, he worked on the Manhattan Project at Cornell University, which granted him a Ph.D. in Physical Chemistry in 1945.

After being hired as a scientist in the Chemistry Department, Hastings was assigned BNL life number 1301 and began work on September 8, 1947. At the time, he recalls, the Chemistry Department was located in the back of Bldg. 459, which now holds Management Information Systems.

"We didn't have any laboratories at first," he remembers. The first Chemistry buildings containing laboratories "were a series of one-story, concrete block buildings on Rochester Street, later connected by a corridor. They served until the new Chemistry building was built in 1966."

The facility that Hastings was most interested in seeing built was the BGRR. "I have always been interested in using scattering techniques to understand the structure of materials," he explains, "and neutrons produced by nuclear reactors are ideal for many scattering experiments. But when I first came, the graphite reactor wasn't going, so I had to think of other things to do."

So he and the late Oliver Schaeffer built a mass spectrometer and used it for a series of successful experiments, including one that had been suggested by Maurice Goldhaber, to measure the age of the elements.

When the BGRR became operational on August 22, 1950, "Lester Corliss and I had the first experiment in operation there, just as we later had the first experiment at the HFBR," recalls Hastings.

Their BGRR experiment used neutrons to probe the structure of ferrites. Says Hastings, "Our studies were the



Julius Hastings

first ones giving direct evidence for the correctness of the theory explaining the magnetic behavior of ferrites." Until Corliss retired in October 1985, "Lester and I always worked together, and that was a very good arrangement."

Despite the successes at the BGRR, Hastings explains, "It became evident that there was a need to replace it, for a number of interesting scientific problems were beyond its capabilities." Its major limitation was that its neutron flux, the measure of the neutron intensity, was too low.

"So, with the encouragement of Leland Haworth [BNL Director, 1948-61] studies for a new reactor were begun in 1956 by a great team of people — the late Jack Chernick, Joe Hendrie, Irving Kaplan of MIT and others," recalls Hastings.

"The place jumped with enthusiasm, drive and new ideas and activity on this project," he continues. "I can remember spending lunchtimes talking about what we could do to really get us a new kind of reactor that would set the pattern for the next decade or so."

"Out of it came the HFBR, and the concept of the HFBR was a novel one," adds Hastings. The HFBR design was selected for the new reactor in 1958 because it permitted the greatest flux of slow neutrons to occur outside the reactor core, where they could be extracted for experimentation, rather than inside the core, as is the case with most reactors.

On June 13, 1961, Hastings, along with Jack Chernick, Joseph Hendrie, Kenneth Down and Herbert Kouts, was presented with a \$25 honorarium for signing the patent application on

the HFBR for the Atomic Energy Commission. Construction on the reactor began that fall, and, on October 31, 1965, the reactor achieved a self-sustained chain reaction.

Hastings is still using the HFBR today, utilizing its neutrons to understand magnetic materials. For the last decade or so, he has been investigating what happens in magnetic systems when they make the transition from a disordered to an ordered state.

"This problem has challenged people for just over 100 years," he mentions, "and our findings are applicable to other systems that make what are called second order phase transitions."

"The most exciting thing I am doing now is looking into the visualization of convection patterns that arise in liquid helium when it is subjected to a temperature gradient," adds Hastings. Working with colleagues here and at Duke University, he is using liquid helium to explore a phenomenon that was first noticed in whale oil at the turn of the century.

When whale oil, liquid helium or any fluid in a container is heated on the bottom, a temperature gradient is established between the heated bottom and the top free surface. At a certain temperature, a distinct convection pattern arises. This is due to a balance in the movement of the less dense, hotter fluid, which rises from the bottom to the top, and of the denser, cooler fluid, which falls from the top to the bottom.

While the patterns can be seen in whale oil contained in glass, "I can't see the patterns when I do this experiment with liquid helium," complains Hastings, "but we are testing a scheme

for visualizing these patterns using neutrons."

There are two isotopes of helium (He), and the less common one, <sup>3</sup>He, absorbs more neutrons than the other. So when Hastings adds a small amount of <sup>3</sup>He, it follows the convection pattern as the gradient is established, acting as a tracer. When neutrons are sent through the fluid containing <sup>3</sup>He, the difference in absorption by <sup>3</sup>He permits Hastings to see the convection pattern when he compares it to the neutron transmission of the undoped fluid.

"Convection is involved in a number of problems from engineering, meteorology, physics, fluid mechanics and applied math," explains Hastings, "so in understanding convection in liquid helium, one can add to the understanding of convection in the earth's atmosphere, for example. In addition, there are some intrinsic questions inherent in liquid helium that are worth answering in and of themselves."

While Hastings will officially retire at the end of this year, "I intend still to come to the Laboratory and follow my normal behavior and continue my usual work habits," he says.

During his first 30 years at the Lab, Hastings took no more than 30 days of vacation; once retired, he is considering longer vacations with his wife Celia to cross the country, searching for rare, native wildflowers and birds. The second of their three sons, Jerome, is a Physicist at the National Synchrotron Light Source Department.

"I have been very lucky," Julius Hastings admits, "because I was able to participate in a golden age of science at Brookhaven."

— Marsha Belford



Comparing notes during the International Symposium on X-Ray Microscopy are: (from left) Janos Kirz, Consultant to the National Synchrotron Light Source (NSLS) and a physicist at the State University of New York at Stony Brook; Harvey Rarback, Associate Physicist at the NSLS; Malcolm Howells, Lawrence Berkeley Laboratory; and David Sayre, IBM.

### X-Ray Microscopy (Cont'd)

component of proteins and fats. Because water does not cloud the picture, samples can be viewed wet, much closer to their natural state than other microscopy techniques allow.

In contrast, samples prepared for electron microscopy, either transmission or scanning, must be dried and stained with heavy atoms. This treatment can distort structures or produce artifacts.

Soft x-ray microscopy promises resolution down to 100 angstroms, but as yet such resolution has not been achieved.

Speaking about the x-ray microscope that he is building with Kirz, Rarback said, "Our aim is to develop a user-friendly instrument with high resolution that can look at unmodified cells, perhaps even living cells. We would like to have an instrument like the STEM [BNL's Scanning Transmission Electron Microscope], which is set up so that biologists can come

here and use it easily."

The present Phase II upgrade of the NSLS will provide Rarback and Kirz with a much needed boost in beam intensity for their scanning x-ray microscope.

Rarback believes sample scanning time can be cut from as long as three hours to one minute.

"When I look at x-ray microscopy, I compare it to electron microscopy [EM]. EM was invented in the 30's, in Germany, and it took on more than 20 years before biologists really started using it as a tool in the laboratory," said Rarback. "Soft x-ray microscopy is where electron microscopy was in the 40's."

The International X-Ray Symposium was sponsored by the NSLS Department; the National Science Foundation; the Physics Department, SUNY at Stony Brook; and the Center for X-Ray Optics, Lawrence Berkeley Laboratory.

— Ric Lewit

## Arrivals & Departures

### Arrivals

Joseph I. Braverman.....DNE  
James H. Brownell.....Physics  
Benjamin J. Buchalter.....Physics  
Suat Yusuf B. Gursev.....NSLS  
Mitchell C. Nelson.....Chemistry  
Frederick J. Northrup.....Chemistry  
John S. Ricci Jr.....Director's Ofc.  
Nora D. Volkow.....Medical  
James. F. Wishart.....Chemistry  
Gregory Yarwood.....DAS

### Departures

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

Raymond W. Boucher.....Medical  
Walter C. Breck.....NSLS  
Pierrick M. Hanlet.....Physics  
Eugen Johe.....Central Shops  
Garfield Langhorn.....Central Shops  
Richard W. Leigh.....DAS  
Michael P. McKenna.....Reactor  
Jean Potvin.....Physics  
John J. Reany.....AGS  
Gilbert T. Rowe.....DAS  
James A. Salvato.....Central Shops  
Tsun K. Sham.....Chemistry  
Mei-Ling Shek.....Physics  
Kenneth W. Swezey.....Sup. & Mat'l  
James M. Vaughn.....DAS

## Coming Up

The first of the five concerts scheduled for the 1987-88 BERA Concert Series will be held on Thursday, September 17, at 8:30 p.m., in Berkner Hall. Featured will be young American pianist Roger Press, who, in a preview of his New York City debut recital, will perform works by Rachmaninoff, Chopin, Prokofiev and Franck.

## Addled Addresses

- Brookhaven National Lab or Current Resident
- Lynac Brookhaven Laboratories c/o Wm. Floyd Pkwy. Brookhaven, NY 11719
- Rt. 7 National Laboratories Uptown, Long Island, NY
- Mr. Brook National
- Brook Heaven National Lab

## Biotechnology and the Human Genome

The U.S. Department of Energy (DOE) has taken responsibility for planning and funding the Human Genome Initiative, or the effort to map and sequence an entire human's worth of DNA. All the genetic information about a person, including the genes carrying hereditary diseases and those genes involved in cancer formation, is included in the genome.

To explain and amplify details of the Initiative, DOE is sponsoring a workshop for science writers, Monday through Wednesday, September 14-16, at BNL. The program, "Biotechnology and the Human Genome: Innovation and Impacts," will be held in Berkner Hall.

A broad range of topics associated with the Initiative will be discussed in understandable terms.

Speakers and their seminar titles will be:

- Monday**  
 8:00 p.m. **Richard Setlow**, BNL  
 Welcome and Opening Remarks  
 8:15 p.m. **Jack McConnell**, Johnson & Johnson  
 "Where Are We Going? How Do We Get There?"
- Tuesday**  
 8:30 a.m. **Charles DeLisi**, DOE  
 "Overview of Human Genome Research."  
 9:15 a.m. **Charles Cantor**, Columbia University  
 "Mapping the Genome."  
 10:30 a.m. **Walter Gilbert**, Harvard University  
 "Human Genome Sequencing."  
 11:15 a.m. **Anthony Carrano**, Lawrence Livermore National Laboratory  
 "The National Gene Library Project."  
 1:00 p.m. **Christian Burks**, Los Alamos National Laboratory  
 "GENBANK Data Base."  
 1:45 p.m. **Martin Karplus**, Harvard University  
 "Proteins: Dynamics and Function."  
 3:00 p.m. **Anthony Kossiakoff**, Genentech, Inc.  
 "The Use of Neutrons to Show How Proteins Work."  
 3:45 p.m. **Robert Sweet**, BNL  
 "Synchrotron Radiation: A Probe for Biomedical Research."  
 8:00 p.m. Round Table Forum: "The Human Genome Initiative: Issues and Impacts."  
**Benjamin Barnhart**, DOE, Moderator  
**Francisco Ayala**, University of California,  
**Mark Bitensky**, Los Alamos National Laboratory  
**James Cassatt**, National Institute of General Medical Sciences  
**Walter Gilbert**, Harvard University  
**Thomas Murray**, Case Western Reserve University
- Wednesday**  
 8:30 a.m. **George Trainor**, E.I. Dupont de Nemours & Co.  
 "Sequencing Technology."  
 9:15 a.m. **Akiyoshi Wada**, University of Tokyo  
 "Robotics as Applied to the Biotechnology of Gene Sequencing."  
 10:30 a.m. **Joseph Wall** and **James Hainfeld**, BNL  
 "High Resolution Electron Microscopy For Structure and Mapping."  
 11:15 a.m. **Theodore Friedmann**, University of California, San Diego  
 "Applications and Implications of Genome Related Biotechnology."  
 12:00 p.m. **Charles DeLisi**, DOE  
 Closing Remarks  
 For more information, contact Avril Woodhead, Ext. 3395 or 3482.

## Nursery School

The Upton Nursery School is now accepting applications from Lab employees who wish to enroll their three- and four-year-old children for the 1987-88 school year. For more information, call Mary Pat Takacs, 727-3218, or Marietta Veligdan, 874-3447.

## Aerobic Dance

It's September — time to think about getting back to classes, with the Aerobic Dance Club (ADC). Instructor Pat Campbell will lead the classes on the ADC's fall program:

- **Stretch** — Classes involve a choreographed program of exercises that concentrate on stretching and strengthening various muscle groups.
- **Aerobic Dance** — Classes emphasize cardiovascular improvement through vigorous, choreographed exercise.

Classes in aerobic dance will be held on Tuesdays and Thursdays, while stretch classes will be held on Mondays. All classes run from 5:15 to 6:15 p.m. Participants may take any or all of these classes.

The fee for each ten-week session (M, T or Th) is \$30, payable at registration, which will precede the first classes and be held on the third floor of the Collider Center, Bldg. 1005S, as follows:

- **Stretch** — Monday, September 14.
- **Aerobic Dance** — Tuesday, September 15, and Thursday, September 17.

For more information, call Bill Leonhardt, Ext. 2378; Elinor Norton, Ext. 3455; or Janet Sillas, Ext. 2345.

## Cooking Exchange

The Cooking Exchange begins its season on Wednesday, September 9, at 12:30 p.m., in the Recreation Bldg., located in the apartment area. The first meeting will feature Japanese cookery. Kazuko Hamagaki, Takako Inagaki, Fumiko Mitsuda and Masane Shigekawa will demonstrate the cooking of Japanese specialties, including norimaki, teriyaki and mizuyokam (a Japanese desert).

Planned for the next months are demonstrations of international vegetarian cookery, Indian cookery and, in December, cooking for the holidays. Also ahead is an American Thanksgiving menu with an international flavor. In December, the Cooking Exchange will also sponsor a holiday cocktail party, at which members can show off their recipes for dips, spreads, canapes and other party foods.

Meetings are held from 12:30 to 2:30 p.m. on alternate Wednesdays. Before each meeting, an announcement is published in the Bulletin. Admission of \$2 per meeting includes samples of foods prepared, coffee or tea, and copies of the recipes. Babysitting is provided at 50¢ per child.

For more information, contact one of the following Committee members: Ana Bagan, Ext. 3110; Sharon Hall, Ext. 3032; Kazuko Hamagaki, Ext. 3089; Takako Inagaki, Ext. 3112; Meda Long, Ext. 3027; Fumiko Mitsuda, Ext. 3016; Masane Shigekawa, Ext. 3177; Milica Stevanovic, Ext. 3009; Jean Tsang, Ext. 3031; and Lisa Vaknin, Ext. 3187, who is Cooking Exchange treasurer.

## Tennis Champs



Shown at center court are two sets of champions from the recently concluded BERA Tennis Tournament. Eena-Mai Franz (left) and Christine Saitta (right) took the women's doubles title, defeating the team of Gail Williams and Marie Susa. In men's doubles, Andy Kevey (second from left) and Om Singh (third from left) took top honors by besting Paul Blacher and Peter DeToll. Singh was also a finalist in men's singles, but was defeated by Tom Koetzle (not shown). Likewise, Saitta faced Mary Lou Abata (not shown) in the women's singles final, and Abata was the victor. In the mixed doubles contest, Abata and Kevey defeated Franz and Singh.

## Volleyball

The first Volleyball League captains' meeting will be held on Wednesday, September 16, at noon, in the Hamilton Seminar Room of Bldg. 555, Chemistry. Election of officers will take place at that time. If you plan to enter a team, a representative must attend the meeting and submit a preliminary roster. Roster sheets will be sent to last year's captains. To form new teams, contact Jean Ramirez, Ext. 2119.

## Lock Your Locker

Don't leave jewelry and money in an unattended locker in the gym or pool. If you bring valuables with you, bring a lock too, and lock your locker.

## Cafeteria Menu

### Week of September 7

<b>Monday, September 7</b>	
Labor Day: snack bar service only 9 a.m. to 2 p.m.	
<b>Tuesday, September 8</b>	
Beef barley soup	(cup) .75 (bowl) .95
Turkey & dressing w/1 veg.	2.85
Salisbury steak w/1 veg.	2.75
Shrimp salad cold plate (lite-weight)	2.25
Hot deli: Roast beef	(bread) 2.55 (roll) 2.65 (hero) 2.75
<b>Wednesday, September 9</b>	
Split pea soup	(cup) .75 (bowl) .95
Spaghetti & meatballs w/garlic bread	2.85
Baked fish, tomato, green pepper & onions w/1 veg	2.95
Fruit & cottage cheese plate (lite-weight)	2.25
Hot Deli: Chicken nuggets	2.75
<b>Thursday, September 10</b>	
Beef noodle soup	(cup) .75 (bowl) .95
New England boiled dinner	2.85
Sweet & sour pork	2.85
Fruit & yogurt plate w/1 veg. (lite-weight)	2.25
Hot deli: Grilled cheese & bacon	2.45
<b>Friday, September 11</b>	
Manhattan clam chowder	(cup) .75 (bowl) .95
Ravioli w/garlic toast	2.85
Broiled fresh fish	2.95
Tortellini salad plate (lite-weight)	2.25
Hot Deli: Pastrami	(rye) 2.55 (roll) 2.65 (hero) 2.75

## BROOKHAVEN BULLETIN

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## Classified Advertisements

### Placement Notices

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

Each week, the Personnel Office lists new personnel placement requisitions. The purpose of these listings is, first, to provide open placement information on all non-scientific staff positions; second, to give employees an opportunity to request consideration for themselves through Personnel, and, finally, for general recruiting purposes. Because of the priority preference policy stated above, each listing does not necessarily represent an opportunity for all candidates. As a guide to readers, the listings are grouped according to the anticipated area of recruitment.

Except when operational needs require otherwise, positions will remain open for one week following publication date.

For further information regarding a placement listing, contact the Employment Manager, Ext. 2882.

**SCIENTIFIC POSITION OPEN:** The following staff position is open. Candidates may apply directly to the department representative named or through the Office of Scientific Personnel, Ext. 7813.

**POSTDOCTORAL RESEARCH ASSOCIATE** - Trained in molecular virology, to study the human adenovirus endoproteinase and to design and construct inhibitors of this enzyme. Contact: Dr. C.W. Anderson, Biology Department.

**LABORATORY RECRUITMENT** - Opportunities for Laboratory employees only.

2669. **CENTRAL SHOPS CLERK** (temporary) - Under supervision, will perform various clerical duties including typing and word processing. Previous relevant experience, including experience with computers, is required. Central Shops Division.

**OPEN RECRUITMENT** - Opportunities for Laboratory employees and outside applicants.

2670. **CLERK TYPIST** - Requires accurate typing skills and data entry experience. Additional duties will include filing and records maintenance. Supply and Materiel Division.

2671. **ARCHITECTURAL POSITION** - Requires a BS in architecture or equivalent with two to five years' experience. Must be proficient in the use of AUTO CAD. Duties will include preparation of presentation and record drawings, maintenance of space management records, and other management data. Plant Engineering Division.

### Autos & Auto Supplies

82 YAMAHA 400 - very good cond., \$875. Ext. 4629 or 929-4258 after 6 p.m.

81 YAMAHA 1000 - Midnight Special, new tires, excel. cond., \$2,200. Bob, Ext. 2957 or 878-4556.

FORD APPLIANCE RIMS - spokes, 15"x6", w/nuts & locks, \$200. Mike, 581-7115.

86 SUZUKI SCOOTER - custom paint job, 1,800 mi., excel. cond., \$300. 821-0250.

74 OLDSMOBILE - 8 cyl., a/t, a/c, p/s, p/b, high mileage, rusty, reliable, \$450. Yoon, Ext. 2519/3175.

75 FORD ELITE - 8 cyl., a/c, white w/red top, excel. cond., \$600. 286-4099.

24' TRAVEL TRAILER - sleeps 6, fully self-contained, stereo, new refrig., excel. cond., powered by batt., prop., or elec., \$3,950. 744-5069.

DATSUN 280ZX - rust-free, Pirelli P77 radials, am/fm cass., a/c, p/s, p/b; Honda 77CB750K, fairing, custom seat. Bill, 277-3928.

79 HONDA - hatchback, good cond., \$400. Ramiro, Ext. 4571 or Ext. 4581.

VAN WINDOWS - with gasket \$20; Plymouth radiator, \$5. Frank Rumph, 588-3565.

80 OLDS CUTLASS - 4 dr., diesel, excel. cond., digital am/fm/cass., good tires, no rust, \$1,850. Ext. 4004 or 286-0934.

FORD TRUCK TIRES - 10.5 lt/15 mounted on 15 x 7" 5 lug white spoke rims. Ext. 2075 or 473-4937 after 6 p.m.

73 PINTO - a/t, a/c, body good, runs well, \$325. Rich, 584-5769, eves.

69 VOLVO 1800S - classic sports car, runs well, needs some work, \$2000. Lowenstein, Ext. 4611, or 286-2788.

SNOW TIRES - Goodyear F78, used one winter, on rims, \$50/pair. 744-1750.

78 CUTLASS - V8, 4dr., p/s, good tires, new brakes, mint, 76k mi., \$1,500 neg. 467-1585.

82 FORD EXP - a/t, p/s, a/c, am/fm, 60k mi., good cond., \$1,200. 289-4609.

69 VOLVO 144 - high mileage but still running strong, excel. tires, \$275. Ott, Ext. 3991.

74 CAPRI - decor. group, sunroof, s/t; 77 Camaro, black w/camel int., new tires, a/t, mag wheels, well maint. 744-0725.

81 FIREBIRD - mint cond., p/s, p/b, a/c, a/t, new tires, must see, \$3,950. Andy, 878-4177.

74 CHEVROLET NOVA - 110k mi., 2 dr., 6 cyl., 3 spd., \$350. Ext. 3741.

79 FORD GRANADA - a/c, p/s, p/b, 89k mi., good cond., asking \$1,000. Tom, Ext. 4440.

78 FORD BOBCAT - 83k mi., \$1,000. Ext. 3029 or 3909.

77 CADILLAC SEDAN DEVILLE - white, red roof w/leather int., excel. cond., high mi., \$3,000. Jim, Ext. 4040 or 289-0876.

69 OLDS F-85 - 2 dr., runs well, new battery, needs body work, \$300. Ext. 3260.

78 VOLKS CAMPER DL - 286-0612.

66 CHEVY - excel. cond., no rust, Pioneer stereo cass., Jensen speakers, \$900 firm. 744-7017 after 6 p.m.

78 RABBIT - for parts, engine shot, 286-1205.

86 CHEVY S10 PICKUP - s/s, 22k mi., excel. cond., \$5,700. Peggy, 744-5069.

CRANE CAMSHAFT - for Ford 351C or 351M, new, \$400. 727-0082 after 7 p.m.

77 FORD MUSTANG II - low mileage, no rust, good cond., runs well, \$1,000. 758-5592.

77 CHEVETTE - new paint, tires, 86k mi., very good cond., \$800. Joe, Ext. 4859 or 821-3071.

78 CHEVROLET CHEVETTE - a/t, 4 cyl., 89k mi., good cond., runs well, needs work on light switches, asking \$500. Ext. 5196.

71 VW KARMANN GHIA - convertible, \$1,600. Russ, Ext. 3059 or 698-9364.

81 SUZUKI GS250T - 8-valve 2 cyl., extra counter-balanced shaft, low mileage, w/2 helmets & manual, \$349. Ext. 4411 or 929-8287.

73 MERCEDES BENZ 280 - 4 dr., white, dark green int., \$3,900. Ext. 4099 or 689-9214.

80 CITATION - 4 dr., new tires, radiator, clean in/out, \$900 or best offer. Tom, 475-0084.

68 FORD MUSTANG - 8 cyl., 62k orig. mi., many new parts, transmission problems, \$1,500. Mary, 728-0891.

77 TOYOTA COROLLA DELUXE - running cond., some rust, \$995. 732-5451.

74 OPEL MANTA - yellow, runs, just passed inspection, \$200 or best offer. John, Ext. 3675 or 924-3528.

79 HONDA ACCORD LX - good running cond., \$1,200. 286-8249.

76 PONTIAC FIREBIRD - red, 350, p/s, p/b, good cond., \$2,300 neg. Robin, 581-7733 days, or 475-5591 eves.

79 THUNDERBIRD - black, p/s, p/b, a/c, am/fm, excel. cond., \$1,800. Jerry, Ext. 7427 or 475-5591 after 5 p.m.

84 GMC VAN - custom, asking \$12,500. Ext. 2301.

77 CHEVY SUBURBAN VAN - red, excel. int., excel. running cond. Sam, 399-1349 eves.

84 MAZDA B2000 - w/cap, bed liner, 32k mi., excel., \$4,200. Mark, Ext. 5350 or 369-0793.

85 HONDA MAGNA 500 - 1,200k mi., w/2 helmets, asking \$2,100; stock rims for 1987 Mazda pickup, 14x6, \$5/each. Rob, 928-1209.

75 PLYMOUTH VALIANT - 4 dr. sedan, 225 eng., 98k mi., runs well, body & tires good, \$695. 277-4091.

78 HONDA - 5 spd., new brakes, fuel pump, good tires, runs well, \$750. Frank, Ext. 3531.

84 SUBARU GL - 4 cyl., 5 spd., a/c, excel. cond., \$4,700. JoAnn, Ext. 4120 or 588-8492 after 6 p.m.

82 MERCURY ZEPHER Z-7 - black, p/s, p/b, a/c, am/fm, \$2,200. 499-6341.

86 MITSUBISHI CORDIA-L - 5 spd., h/b, am/fm cass., sunroof, immaculate. 727-5371 after 5 p.m.

75 CHRYSLER LeBARON - \$350; 72 Cadillac, 4 dr., good running cond., \$250; (2) 1979 X/19 Fiats, one runs, one for parts, must see. Bob, Ext. 5010.

73 PLYMOUTH SATELLITE - 4 dr., a/t, a/c, p/s, p/b, good tires, \$200 firm; 78 Chrysler Cordola, a/t, a/c, p/s, \$750 neg. Richie, 584-5769 eves.

78 MERCURY COUGAR - a/t, p/s, p/b, am/fm cass., runs well. Antoni, Ext. 4393 days, Ext. 3090 after 6 p.m.

81 PLYMOUTH RELIANT K - 73k mi., 4 cyl., 4 dr., a/t, new battery, excel. cond., \$1,900 neg. Ext. 3131 or 632-7902.

72 PLYMOUTH STATION WAGON - good running cond., \$400 or best offer. Ext. 2022 or 744-8386.

77 LINCOLN CONTINENTAL TOWN CAR - 56k mi., full power, white, burgundy int., good cond., \$2,000. 666-7238.

77 CAMARO - Rally Sport 305 V8, a/t, p/s, p/b, good cond., \$2,000. 363-6753 after 6:30 p.m.

80 CHEVROLET CHEVETTE - cloth int., am/fm, 4 dr., hatchback, good cond., \$900. Ext. 5299 or 924-0848.

86 HONDA MAGNA - 1,800 miles, mint cond., \$2,900 neg. 765-1109.

79 CHRYSLER LeBARON - 4 dr. sedan, 318 eng., a/t, a/c, p/s, p/b, runs well, \$1,750; 75 Plymouth Valiant, slant 6, \$695. 277-4091.

85 CHRYSLER LeBARON - 4 dr., a/t, p/s, p/b, a/c, am/fm, cruise, 26k mi., \$8,395. 82 Plymouth TC3, hatch, a/t, am/fm, 37k mi., \$2,395. 281-2208 eves.

83 RELIANT K - white, sunroof, front wheel drive, 46k mi., w/warranty, excel. cond., \$4,000. 979-8297.

68 FORD MUSTANG - 8 cyl., 62k orig. mi., many new parts, transmission problem, \$1,500. Mary, Ext. 2232.

84 DODGE AIRES - 4 dr., p/s, p/b, a/t, a/c, am/fm, runs well, reliable, 43k mi., \$3,500 neg. 981-7715.

83 FIREBIRD - T-tops, spoiler, full power, excel. stereo, loaded, \$7,300. Tom, 736-6691.

77 AUDI FOX - a/c, radials, excel. running cond., 85k mi., \$1,250. Al, Ext. 4442 or 929-8411.

77 TOYOTA CELICA GT - 5 spd., lift-back, a/c, Eagles louvers, silver/black, \$1,700. 289-2338.

79 PINTO - needs engine work, new carburetor & tires, good for parts, asking \$200. Pablo, Ext. 3419 days, or Ext. 3235 after 6 p.m.

78 YAMAHA 400 - 14k mi., inspected, good cond., \$400. 473-9223 after 5 p.m.

70 APACHE MESA III - tent/trailer, sleeps 6, stove, ice box, awning, extras, \$800 neg. Greg, Ext. 3472.

SMALL SPARE TIRE - & rim for 1986 Toyota Corolla, brand-new, \$40. 751-5477 eves.

LINER/BRUSH GUARD - for Toyota pickup. Pete, 475-0831.

SERVICE MANUAL - & 3 oil filters for 1977 VW Rabbit Diesel, \$12. for all. Bob, Ext. 4824 or beeper #343.

CHEVROLET 307 ENGINE - needs rebuilding, w/heads & new parts, make offer. Ron, Ext. 4715 or 289-1003.

### Boats & Marine Supplies

12' SNARK SUNFLOWER SAILBOAT - new sail, good cond., life jackets, \$90. 744-7242.

16' BOWRIDER - rebuilt 70 h.p. trailer, canvas, many extras, all good cond., \$2,300. Dan, Ext. 2075 or 737-8124.

36' CHRIS CRAFT - fly-bridge sedan, sleeps 8, twin FWC V8, h/c water shower, must sell, \$6,500. 698-6436.

17' TOWN CLASS SAILBOAT - 2 sets of sails, new rigging, outboard, trailer, 2 rudders, \$600. 289-3409.

21 BAYLINER - 1986, 2150 Cierra, I/O, sleeps 5, swim platform, radios, canvas, in water, \$17,000. 878-0480 eves.

ZODIAC INFLATABLE - model C310, 10'2", wood floor, hard transom replacement, cost \$1,000, sell for \$750. Ext. 2799.

16' WINNER - 50 h.p. Johnson O/B, mint cond., in water, plus 1 year dockage. 475-9452.

19' COBIA - Bowrider Shoreline, trailer, 120 h.p. I/O, full canvas, asking \$3,950. Bob, Ext. 4672 or 929-4753.

20' BEACHCOMBER - 1979, Holiday Cruiser, 200 h.p. I/O, cabin, kitchen, toilet, sleeps 4, tandem trailer, elec. winch, good cond., \$12,500. 475-8219.

### Miscellaneous

COMPACT DRYER - Whirlpool, electric, barely used, harvest gold, asking \$125. Gracie, 732-3549.

LAWN MOWER - Honda HRA-214 w/grass bag, used 2 summers, moving, must sell. 821-1435 or Ext. 7699.

COLOR TV - RCA 19", electronic tuning, not cable ready, \$150. John, Ext. 5152 or 654-0924.

PIANO - Harrington upright, standard, good for practice, \$50. Ext. 3535.

TOPSOIL - 5 yards min., delivered, \$15/per yard. 924-9427 after 7 p.m.

ORIENTAL RUGS - hand woven, several designs, different sizes. 286-4910 eves.

PIANO - beautiful, maple, spinet. 821-0250.

WATER PUMP - water softener & filter system. Ext. 3867.

BEDS - (2) twin size, Colonial, excel. cond., w/39" mattress, \$65/each. Ext. 4341 or 475-4005.

GE REFRIGERATOR - copper, 64"hx24"wx26"d, excel., \$200. 281-7844 eves.

WOOD STOVE - cast iron, free standing, w/flue pipe & extras, repainted, must see, \$250. 758-5592.

HUMIDIFIER - Presto Custom, w/heating unit & 2 speed fan, best offer; Organon electronic organ, cost \$375, sell for \$125. 744-7242.

SONY TV - 19" KV-1991, 2 1/2 years old, like new. Karl, Ext. 4814 or 924-1883.

MOTOROLA TV - 25" color, \$75; wine rack, \$20; headboards, \$20; 2 desks, \$50-\$75; coffee table, \$40; sewing machine, \$65. 277-4091.

GE HEAVY DUTY WASHER - 9 months old, cost \$450, sell for \$250. Andy, Ext. 2907.

DRESSERS - (2) four-drawer, not a set, \$30/each. Jim, Ext. 4986.

LAWN MOWER - Rickel, 3 1/2 h.p., 21" cut, self-drive, rear-bagger, \$100; lawn mower, 21" cut, 3 h.p., JC Penny, \$75. Dan, Ext. 4987 or 698-7322.

RIDING MOWER - MTD, electric start, 8 h.p., 30" cut. Tom, Ext. 5135.

WATERBED FRAME - queen size, w/headboard, siderails & heater, excel. cond., \$200. Denise, Ext. 3630.

COMMODORE 64 - 1541 disk drive, Okimate 10, color printer w/interface, monitor/1702 modem. Walter, Ext. 4100.

POOL COVER - for 32'x16' above ground pool, 2 seasons old, \$45. Neal, Ext. 2254.

APPLE II+ COMPUTER - 64k, thermal printer, disk II, super serial card., needs repair, best offer. 689-8685.

LOVE SEAT - chair, tables, kitchen supplies, curtains, etc., best offer. Apple, Ext. 3138.

DINING ROOM SET - 6 chairs, etc., cost \$4,500, sell for \$850; dinette set, 4 chairs, etc., cost \$500, sell for \$175. 475-4596.

FIREWOOD - seasoned & split, full cord \$130. Mark, Ext. 5350 or 369-0793.

TYPEWRITER - Royal Delux, office model, very good cond., \$40; car-top carriers, (1) 3'x3', \$10; (1) 3'x4', good cond., Ext. 2492.

ROTARY MOWER - also 3 pt. hitch, 5': 325-0193 after 5 p.m.

BEDROOM SET - modern, excel. cond., reasonable; 21" black & white TV, reasonable; sulky for Gravely tractor, will sell or trade. 363-7032.

COPPER TUBING - 1", type K, 40', white aluminum soffitt, 30¢/square foot. Ext. 5400 or 874-3447.

POOL TABLE - 4x8, excel. cond., \$80; Sears 19" boat cover, used one season, \$225. Bob, 584-7350.

WOOL RUG - Danish, yellow/rust, blue border, Oriental pattern, 5'7"x8'4", \$75. Ext. 3699.

RUG - 9'x12', blue/white, \$40. Wajid, Ext. 3405.

GARAGE DOORS - (2) 9x7 3-section, track & all accessories incl., \$200. 298-8861.

DINING ROOM SET - teak, 7 pieces, tiled buffet, rolling bar, like new, asking \$1,950. Al, Ext. 4442 or 929-8411.

HE-MAN FIGURES - 25 full battle dress, 6 vehicles, all mint cond., for Xmas, \$35. Pat, 399-3984.

COLOR TV - Zenith, console, working, \$25. Mike, 736-3949.

TWIN SIZE BED - Davis Cabinet Co., solid cherry, head/foot boards, box spring, mattress, excel. cond., \$200. Sue, Ext. 4931.

SKILL ROTO HAMMER KIT - new, #728, cost \$1,200, sell for \$500; service cart, 2'x3', 2 trays, 4" wheels, new, \$30. 878-6637.

BASSINETTE - \$15; stroller, \$10; F/P play blanket, \$5; 24" white gas stove, \$50; spinning wheel planter, \$15. Judy, 698-4882 after 6 p.m.

SEARS TRASH COMPACTOR - copper, good cond., \$50; oct. cabinet table w/marble top, \$15; air cooler, \$5. Bill, Ext. 4987.

MANTIS TILER CULTIVATOR - like new, used only four hours, border edger, \$199. 286-3235.

### Garage Sale

RIDGE - 44 Marc Dr., off Randall, Sept. 5-6, 10 a.m.-3 p.m., many items.

RIDGE - craft supplies & ideas, Sept 13, 12 p.m.-5 p.m., Longwood Rd. to Strathmore Condos.

### Free

ROOSTERS - Rhode Island Red, for adoption. 744-8829.

THREE PIECE SECTIONAL - Italian provincial. 286-8249.

ASPHALT ROOF SHINGLES - at least 12 bundles, you pick up, Port Jefferson. 473-3792.

### Car Pool

PATCHOGUE VAN POOL - seat open, leave name & number. Ext. 4669.

### 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 Sale

MASTIC BEACH - 4 bdrm. house, 100x120, chain-link fenced yard, full bsmt., 2-car gar., low taxes, must sell, \$100,000. 654-0050 after 6 p.m.

SHIRLEY - Tangiers, 100x100 building lot, level, wooded, Health Department approved, Zoning Board approved, city water, surveys, \$43,000. Chris, Ext. 3145 or 399-3732.

FORT MYERS, FL - approx. 1/2 acre, w/access to Orange River, 5 minutes from I-25 & 20 minutes from SW Florida regional airport, convenient to downtown shopping, gulf & beaches. Ext. 4482.

PORT JEFFERSON - Sawasa Park, 4 bdrms., 2 1/2 baths, M/D possible, f/p, family rm., full bsmt., wooded 1/3 acre, extras, \$210,000. 928-0281.

MEDFORD/YAPHANK - 3 bdrm. ranch, l/r, d/r, eik, 1