

BNL Lecture: Breaking Up Is Hard to Do

On the surface of it, it might seem that it would be a simple matter to break the bonds between the atoms on a surface. It turns out, however, that breaking a surface bond is a difficult and complex process.

What that process is and how it came to be uncovered will be the subject of the 233rd Brookhaven Lecture by Michael Knotek, Chairman of the National Synchrotron Light Source (NSLS) Department. Entitled "Surface Chemical Bonds: Breaking Up Is Hard to Do," his talk will begin at 4:30 p.m. on Wednesday, April 22, in Berkner Hall.

In the mid-1970's, at Sandia National Laboratories, Michael Knotek



Michael Knotek

began trying to understand the mechanisms involved in breaking the bonds between surface atoms. Knotek will begin his lecture with a simple explanation of atomic bonding. Then he will explain how he used low-energy, ionizing radiation to remove atoms and molecules from the surfaces — a process called stimulated desorption.

The then-current theory indicated that desorption was probably caused by the radiation exciting one of the outer electrons directly involved in the bond. But as Knotek will describe, his studies showed some unexpected mechanisms — that desorption was generally caused by excitation of electrons near the atom's core. When announced in 1978 by Knotek and Peter Feibelman, also of Sandia, this revelation caused quite a stir among condensed matter physicists.

The following year, working at the Stanford Synchrotron Radiation Laboratory, Knotek discovered that photons could also be used to initiate desorption. Photons, it turned out, are easier to work with and provide more details about the process than do electrons. The process has become even more straightforward at the NSLS with its very intense photon beams. Today, Knotek continues his work with stimulated desorption on the NSLS's vacuum ultraviolet ring. Also at the NSLS are several other groups of scientists doing research in this area.

In addition to providing basic insights into the nature of surfaces and the atoms that bond to them, such research may have far-reaching practical applications. Knotek will conclude his talk by describing how such studies could, for example, help scientists understand the interstellar chemistry of dust particles, improve the performance of synchrotrons or explain processes seen in biological damage, such as the creation of free radicals.

Michael Knotek received his Ph.D.

Patents Awarded

In September 1986, Devinder Mahajan, Chemistry Department, and William A. Slegeir, Richard S. Sapienza and Thomas E. O'Hare, Department of Applied Science, were awarded U.S. Patent No. 4,613,623 for developing a process to synthesize methyl formate.

Using this method, significant amounts of methyl formate can be synthesized in one step from carbon monoxide and hydrogen at low temperature. Currently, commercial methyl formate is made in a two-step process by the carbonylation of methanol as an intermediate product.

The new process controls the reaction conditions so that the production of methyl formate will be preferred to that of methanol, which is also formed during the reaction. The catalyzed reaction is conducted under relatively low temperature, 50 to 150°C, and relatively low pressure, less than about 100 psi.

The catalyst consists of a complex reducing agent capable of activating hydrogen for reducing carbonyl bonds, as well as the metal carbonyl, which can activate carbon monoxide. The catalyst is dissolved in a solvent and used as a homogeneous liquid in the gas reaction.

The predominant end product of the process is methyl formate produced directly from synthesis gas and not

through a methanol intermediate. The production of methyl formate is thus up to a 50% ratio with the co-production of methanol.

In November 1986, Sapienza, Slegeir, O'Hare and Mahajan were awarded U.S. Patent No. 4,623,634 for the invention of a new series of low temperature, high activity catalysts and a process to synthesize methanol from carbon monoxide and hydrogen.

One example of the new catalysts consists of a slurry reducing agent. It is best used alone, but is also effective when combined with a metal carbonyl.

The catalyst is subjected to a conditioning or activating step at low temperatures in the range of 80 to 120°C, and pressure at about 50 to 1000 psi, with 300 psi as the best starting level. A stirred or agitated type reactor is used, first flushed with hydrogen. The catalysts are prepared and charged under an inert blanket, such as argon.

Used alone, this catalyst yields the unusual amount of greater than 80% conversion to methanol in a one-pass process. The catalyst/metal carbonyl combination yields between 30 and 35% conversion of methanol in a one-pass process. Either system results in a minimum of by-products, and a typical run gives 96% methanol based on syngas consumed.

News Flash!

The first commercially made, prototypical, superconducting magnet for BNL's proposed Relativistic Heavy Ion Collider (RHIC) was successfully tested last week, by the Accelerator Development Department (ADD). The 9.7-meter-long magnet, one of three manufactured by Brown, Boverie & Cie of West Germany, exceeded the magnetic field operating requirements for RHIC magnets by 0.5 tesla (T).

During the test, the magnet made its first "quench," or transition from a superconducting state to its normal state of electrical resistivity, at 4 T. As the operating field specified for RHIC dipole magnets is 3.5 T, the first commercial prototype exhibited a comfortable operating margin.

"This is a significant step," says Eric Forsyth, ADD Chairman. "It proves that these magnets can be made by industry according to our specifications, shipped to the Laboratory and still work up to our expectations. Without significantly more research and development, the 288 dipole magnets needed for RHIC could be put into production."

The excellent results from the quench of the first Brown, Boverie & Cie magnet follow on the heels of the successful testing last month of the first RHIC prototypical dipole, which had been assembled at BNL.

These dipole magnets would guide heavy ions around RHIC in opposite directions, at energies of 100 billion electron volts per nucleon in each direction. Using RHIC to study ultra-high energy collisions of heavy ions, physicists could explore nuclear matter at temperatures and densities resembling the conditions of the universe immediately after its creation. If approved, construction of the collider will begin in fiscal year 1989.

— Marsha Belford

in physics from the University of California, Riverside, in 1972. That same year he joined the staff of Sandia National Laboratories. In 1978, he was named Supervisor of Sandia's Surface Science Division, a position he left in 1985 to come to Brookhaven to assume the Chairmanship of the NSLS.

Knotek's other current professional activities include being on the Policy Board for the CHESS synchrotron at Cornell University and the advisory boards of the Stanford X-ray Center, the Louisiana State University Microstructure Research Center and the Synchrotron Radiation Center at Stoughton, Wisconsin. He is also serving as chairman of the Third Conference on Desorption Induced by

Electronic Transitions, to be held in May, and preparing to speak in June at the Fifth National Conference on Synchrotron Radiation.

Knotek received the Department of Energy's Basic Energy Sciences Award for Solid State Physics Research in 1983 and for Ceramic Research in 1985. In addition, he is a member of Sigma Xi, the American Vacuum Society, the American Physical Society, the American Chemical Society and the American Association for the Advancement of Science.

All those interested in getting together with the lecturer are invited to join a group going to a restaurant off site on April 23. Anyone who would like to be part of this group should call Gwyn Williams, Ext. 7529.

The Topic Was Safeguards



Visiting BNL on April 2 was Jon Jennekens (seated, right), who has been appointed Deputy Director General for Safeguards at the International Atomic Energy Agency (IAEA). Jennekens, who will take up his post in July, is now Chairman of the Board, President and Chief Executive Officer of the Atomic Energy Control Board, Ottawa, Canada. Briefing Jennekens on the work that BNL's International Safeguards Project Office (ISPO) does for the Program of Technical Assistance to IAEA Safeguards were (standing, right) Leon Green, ISPO Head, and (seated, left) Christian Kessler, U.S. State Department. Also taking part in the meetings were (standing, from left) Arthur Waligura, Deputy Head of ISPO, and Herbert Kouts, Chairman, BNL's Department of Nuclear Energy.

Secretaries: Professionals of Whom to Take Note

It's Professional Secretaries Week, April 19 to 25 — and Geraldine Callister, President of the Upton Chapter of Professional Secretaries International (PSI), is extra busy with PSI's plans to celebrate the week-long occasion (see accompanying box).

"Today's secretaries are aware of the importance of the psychological aspects of their jobs, as well as their technical skills," said Callister, a Secretarial Specialist in the Department of Nuclear Energy (DNE). "Successful decision making, coping with



Geraldine Callister

conflict, establishing the best working partnership with a manager — these are all part of a smoothly run office."

The latest insights on these topics will be presented during the brief, on-site programs, which were planned by Program Chairman Deidre Seymore, Central Shops Division. One need not be a PSI member to attend, so everyone is welcome.

Other PSI officers are Vice-president Susan Carlsen, Safety & Environmental Protection Division; Recording Secretary Nancy Griffin, Safeguards & Security Division; Corresponding Secretary Sharon Moore, DNE; and Treasurer Cheryl Christie, Planet Speed and Custom Shop, Patchogue. The officers and other board members of the chapter assist in organizing regular meetings, special programs and fund-raising efforts. They also help to prepare "Up Strokes," the monthly Upton Chapter newsletter.

"There is so much going on," said Callister. "Besides our activities at Upton, we are in touch with county, state and national branches of the organization. We like to have our chapter represented at big outside conferences, and this means we must do fund-raising. Last year, our giant October garage sale was successful enough to cover our representatives' costs at the Northeast District Conference in Stamford, Connecticut."

Callister explained that the "inter-

Upton Chapter of PSI Salutes Professional Secretaries Week

- **Monday, April 20 — Certified Professional Secretaries — Credentials for the Professional Secretary.** Slide Presentation, Berkner Hall, Room B, noon.
 - **Tuesday, April 21 — Decision Making.** Video, Berkner Hall, Room B, noon.
 - **Wednesday, April 22 — Upton Chapter Meeting.** Juliette Kinsella, Suffolk County Clerk, will speak about public information and the County Clerk's Office. Berkner Hall, Room C, meeting at 6 p.m.; presentation, 7 p.m.
 - **Thursday, April 23 — Coping with Conflict.** Film, Bldg. 555, Hamilton Seminar Room, noon.
 - **Friday, April 24 — Working Partners: the Secretary/Manager Team.** Video, Berkner Hall, Room B, noon.
- All noon meetings will last about 25 minutes.

national" part of PSI means just what it says. "For example," she said, "if your manager makes a trip to Japan, through the network from PSI headquarters in Kansas City, you can be in touch with a member in Tokyo who advises you on the ins and outs of local hotels and transport, or whether an arrival date clashes with a national holiday — all sorts of useful information. And you might do the same for someone else. The network works both ways."

In her own career, Callister, a charter member of the Upton Chapter of

PSI, reflects the organization's awareness of the advantages of professional development. After 21 fulfilling years in the Medical Department, Callister recently accepted a position with the Technical Support Organization, a division of DNE, where she is learning new aspects of the job she knows well.

PSI encourages members to keep abreast or ahead of new technology in the field — and the Upton Chapter president is enthusiastically undergoing her first "hands on" encounters with computers. "It's a challenge," she said. "I enjoy it!" — Liz Seubert

Payroll Notes

Form W-4A Available

Payroll now has a supply of form W-4A, which is easier to fill out in calculating income tax withholding allowances than the four-page form W-4 distributed earlier in the year. If you have already filed form W-4 for 1987, it is not necessary to file another form. Copies of form W-4A are available from Payroll, Bldg. 134.

New York State Tax Change

New York State has issued new tables to calculate the amount of tax to be withheld from employees' wages beginning in April, which should result in more take-home pay.

This year's reductions in withholding result primarily from:

- an increase in the standard deduction allowance to \$2,800 (from \$2,600) for a single person and to \$3,800 (from \$3,000) for a married couple.
- an increase in the personal exemption amount to \$900 (from \$850).
- a reduction on the withholding rate to 9% (from 9.5%).

CREF Values

January \$33.54 February \$34.99
March \$36.02

CADD Training Class

Ron Eberhard, President of Eberhard Engineering in Smithtown, will conduct another "basic" training class using AUTOCAD 2/3D drafting and design software on the IBM PC. This will take place on Wednesday, April 22, in the AMD Seminar Room, from 10 a.m. to 4 p.m., with a break for lunch.

As taught by Eberhard, a professional engineer, the class will be informative to both new users and those veterans who want to hone their skills on the new software.

Did you know? Curie House, the women's residence on Mitchell Lane, was named in honor of Marie Curie. With her husband Pierre and Henry Becquerel, Curie was awarded the Nobel Prize for physics in 1903, for the discovery of radioactivity. She also won the Nobel Prize for chemistry in 1911, for the discovery of radium.

BNL's Fabulous Forty

The BNL we know today is the sum of thousands of events that have taken place here since 1947. This sampling shows the variety of events — from the monumental to the minor — that occurred during the month of April, throughout the Lab's 40-year history.

April 1, 1947 — BNL began its first full month of operations under Associated Universities, Inc.

April 1, 1949 — J.A. Kosh, Accelerator Project, announced in the Bulletin Board that he and Mrs. Kosh were interested in establishing a cooperative nursery school.

April 4, 1949 — David Lilienthal, Chairman of the Atomic Energy Commission, visited BNL and addressed employees at an informal talk at the Theatre.

April 16, 1952 — Retiree Dennis Puleston, then head of Technical Information, gave a lecture at the U.S. Naval Reserve meeting and showed color films, including a small boat voyage to the South Pacific Islands and winter sailing in the North Atlantic.

April 1955 — Research at the Cosmotron resumed under improved conditions and with increased performance, following a four-month shutdown for repairs.

April 6, 1956 — A ten-man field group began a ten-week tour of 14 Asian countries, as part of Project Columbo, a study undertaken by BNL to assist the U.S. government in drawing up plans for a regional nuclear research and training center in Asia.

April 2, 1958 — Employees were invited to view the motion pictures taken during the 1957 World Series between the New York Yankees and the Milwaukee Braves and were asked to "Bring your own peanuts!" (Yankees won, 4 out of 7 games.)

April 1, 1959 — It was announced in the Bulletin Board that Slow Pitch Softball would replace the fast-pitch version for the first time at the start of the upcoming softball season.

April 13, 1960 — The 50-million-electron-volt linac for the AGS began operation.

April 11, 1961 — The Bulletin Board reported that ground had been broken and excavation was in progress for the construction of new efficiency housing units — now apartment buildings 40-43.

April 22, 1966 — BNL's High Flux Beam Reactor was dedicated.

April 16, 1968 — The first results in the search for solar neutrinos, in the Homestake gold mine in South Dakota, was announced by the BNL team of Raymond Davis Jr., Don Harmer and Kenneth Hoffmann.

April 2, 1970 — The Bulletin reported on the ongoing effort to tie departments

into BROOKNET, the Lab's new time-sharing computer system.

April 24, 1971 — Earth Day was celebrated at BNL with an Environmental Technology Seminar attended by 120 students and teachers from Long Island High Schools.

April 25, 1972 — A paper by David Goosman and David Alburger reporting the discovery of the isotope phosphorus-35, using the Tandem Van de Graaff, was announced at the American Physical Society meeting.

April 28, 1975 — The discovery of baryon charm at the Alternating Gradient Synchrotron (AGS) was announced by a BNL team headed by Nicholas Samios and Robert Palmer.

April 30, 1976 — With energy conservation a prominent consideration, the Bulletin reported, "With the advent of warmer weather the Laboratory is asking all employees to save energy on air conditioning."

April 15, 1977 — Though it appeared

in black and white in the Bulletin, the new logo announced for the Exhibit Center "is printed in a rainbow of color. It is symbolic of energy and Brookhaven's spectrum of research."

April 19, 1978 — The 7-foot Bubble Chamber completed its run at the AGS with a new world's record for number of pictures taken in a run involving only one cool-down: 1,181,225.

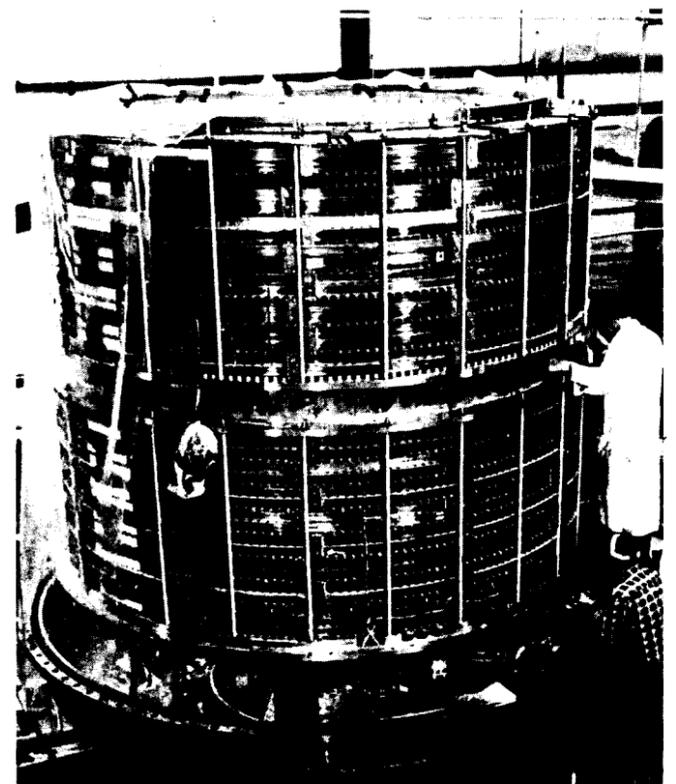
April 20, 1979 — The Bulletin announced that the first three areas selected for the experimental TRANSVAN program were Patchogue (31 miles round trip), Stony Brook (35 miles) and Nassau, Queens and Kings Counties (140 miles).

April 3, 1981 — BNL telephones were switched to the present GTE system.

April 6, 1982 — Meteorology recorded 11 inches of snow on site in the heaviest April snowstorm in BNL's history.

April 14, 1984 — BNL hosted the 1984 National Bridge Building Contest, featuring balsa models of bridges designed by high school students.

April 3, 1986 — The first beam of heavy ions — oxygen nuclei generated at the Tandem — was injected into the AGS, via the Heavy Ion Transfer Line.



The 7-foot Bubble Chamber, with which the charmed baryon was discovered in April 1975, was the first such detector in which the chamber was surrounded by a superconducting magnet (shown here).

Coming Up

The Raphael Trio will give a concert at Berkner Hall on Monday, April 27. The group, which has received great critical and popular acclaim throughout the U.S. and Europe, will begin their performance at 8:30 p.m. Admission is \$5.

Hospitality News

The Hospitality Committee is sponsoring a bus trip to the Brooklyn Botanical Gardens and the Brooklyn Museum on Wednesday, May 6. That date is the first day of the Botanical Society's Plant Sale.

The bus will leave at 9 a.m. from the Recreation Bldg. in the apartment area and return there at about 4:30 p.m. The fare for the bus trip is \$4 per seat; children over one year old must occupy a seat.

Admissions are not included in the bus fare. At the time of the visit, participants will pay admission fees for the place or places they choose to visit. Admission to the Gardens is \$1, and a \$3 admission fee is suggested for the Museum.

Checks for the bus fare should be made payable to BNL and sent through the U.S. mail to: Hospitality Committee, Brookhaven National Laboratory, Bldg. 185, Upton, NY 11973. If you will be attending the April 22 Cooking Exchange, checks may be turned in at that meeting. For more information, please call Kathy Barr, 924-0570.

NYIT Information Desk

Representatives from the New York Institute of Technology (NYIT) will be in Berkner Hall on Wednesday, April 22, from 11:30 a.m. until 1:30 p.m. An information desk will be located near the cafeteria where employees' questions about NYIT educational programs will be welcome.

Sci-Tech '87

"Transportation Technology" is the topic to be covered on Friday and Saturday, April 24 and 25, during Sci-Tech '87, the third annual science and technology conference for high school science teachers and others who may be interested. Sci-Tech '87 is sponsored by BNL's Office of Research & Technology Applications (ORTA) and the Science Museum of Long Island (SMIL), among others.

While the first day will be held at SMIL in Manhasset, the second day of the conference will be held at the Lab. Featured speakers that day will include Frank Salzano (ORTA), who will talk on "Hydrogen as a Fuel," and James Powell (Department of Nuclear Energy), whose talk is entitled "Levitated (Magnetic) Trains."

The fee is \$30 for both days of the conference, or \$20 for one. If you are interested in attending or would like further information, call Andrea Sabatini at SMIL, 627-9400.



Concord String Quartet

Concord String Quartet To Give Last Concert at BNL

The Concord String Quartet will give a final concert at Berkner Hall on Wednesday, April 22, at 8:30 p.m.

The ensemble is internationally renowned for its performances of the standard string quartet literature, as well as for the world premieres of over 70 new works. Earlier this year, the group members announced their intention to disband after 15 years of extensive touring and recording. Their performance at Brookhaven will likely be the last time Long Islanders will hear the Concord play as a quartet.

The concert on April 22 is a continuation of an all-Beethoven series begun by the Concord in previous performances at Brookhaven. They will play three string quartets: A Major, Op. 18, No. 5; F Minor, Op. 95, "Sero-so"; and F Major, Op. 135.

The Beethoven cycle will be completed in Brookhaven's 1987-88 Concert Series by the New Zurich String Quartet, which has played in the BERA Concert Series in the past, and by the Composer's String Quartet.

Ludwig van Beethoven waited a surprisingly long time to debut as a composer of string quartets, especially considering the popularity of the genre at the time in Viennese salons.

Perhaps he was simply reticent about competing so directly with Joseph Haydn, the acknowledged master of the medium, who produced fourteen of his greatest quartets between 1793 and 1799, Beethoven's first years in Vienna. Moreover, Beethoven's earliest chamber works were tied to the piano, his own instrument.

Eventually, though, Beethoven weaned himself from the piano, largely through the medium of the string trio, and demonstrated complete mastery of the problems of composing for strings without piano in the Opus 3 and Opus 9 trios, as well as in the Opus 8 serenade. Yet not until 1798 did he begin work on a set of quartets, and most of the next two years was required to bring it to completion. The entire Opus 18 set was published in 1801; they marked the end of the first stage of Beethoven's involvement with quartets that was to last, on and off, for the rest of his life.

Tickets for the April 22 concert will be sold at the door the night of the performance. Prices are \$9 for general admission, \$6 for students and those over age 65, and \$5 for those under 18.

Swim Club

The Swim Club will practice as usual on Thursday, April 23, at 5:15 p.m. at the BNL pool. For more information, call Marsha Belford, Ext. 5053, or Peter Heotis, Ext. 2304.

Cooking Exchange

Learn new ways to enjoy our Island's natural bounty when the International Cooking Exchange explores "Long Island Specialties." Recipes will be demonstrated using locally grown fruits, vegetables and seafood, which will soon be in plentiful abundance.

All are welcome to come, see and taste on Wednesday, April 22, from 12:30 to 2 p.m. at the Recreation Bldg. For \$1.50 those present are entitled to food samples and copies of the recipes prepared. Babysitting is available at 50¢ for each child.

For more information, call Kathy Whitney Barr at 924-0507.

AACC Announces Contest Winner

The Afro-American Culture Club (AACC) announces that Robert Mosley is the winner of their Name-the-Newsletter Contest. The name of the newsletter will be *AFRO-AMERICAN VOICES*. Mosley has won one free ticket to the AACC's Annual Installation Dinner. Congratulations, Robert — please contact Rosa Palmore, Ext. 2064, to claim your prize.

Volleyball

The Volleyball Awards Dinner will be held at the Rock Hill Country Club in Manorville on Friday, May 15, at 6 p.m. Tickets are \$7 per league member and \$11 for guests. This includes hot and cold buffet, free beer and a deejay. A cash bar is also available.

Tickets may be purchased from Barry Karlin, Ext. 5624, Bldg. 725A, or Walt Reams, Ext. 3408, Bldg. 526.

Basketball

First Game		
Hollywood — 58	Runaways — 48	
E. Meier Jr. 26	J. Desmond 20	
R. Domenech 11	S. Gilbert 10	
W. Gunther 7	T. James 6	
G. Mack 6	M. Anerella 5	
G. Smith 6	G. Shepherd 5	
R. Kowalski 2	R. Moran 1	
	A. Stillman 1	

Second Game		
Longshots — 74	Celtics — 58	
W. Cummings 22	R. Garappolo 27	
J. Cyr 20	T. Mendez 8	
R. Seymore 8	J. Gaeta 6	
L. Walcott 8	M. Fulkerson 5	
J. Garrison 6	P. Browne 4	
L. James 6	M. Williams 4	
F. Molone 2	P. Ratzke 2	
R. Rowley 2	N. Schaknowski 2	

Arrivals & Departures

Arrivals

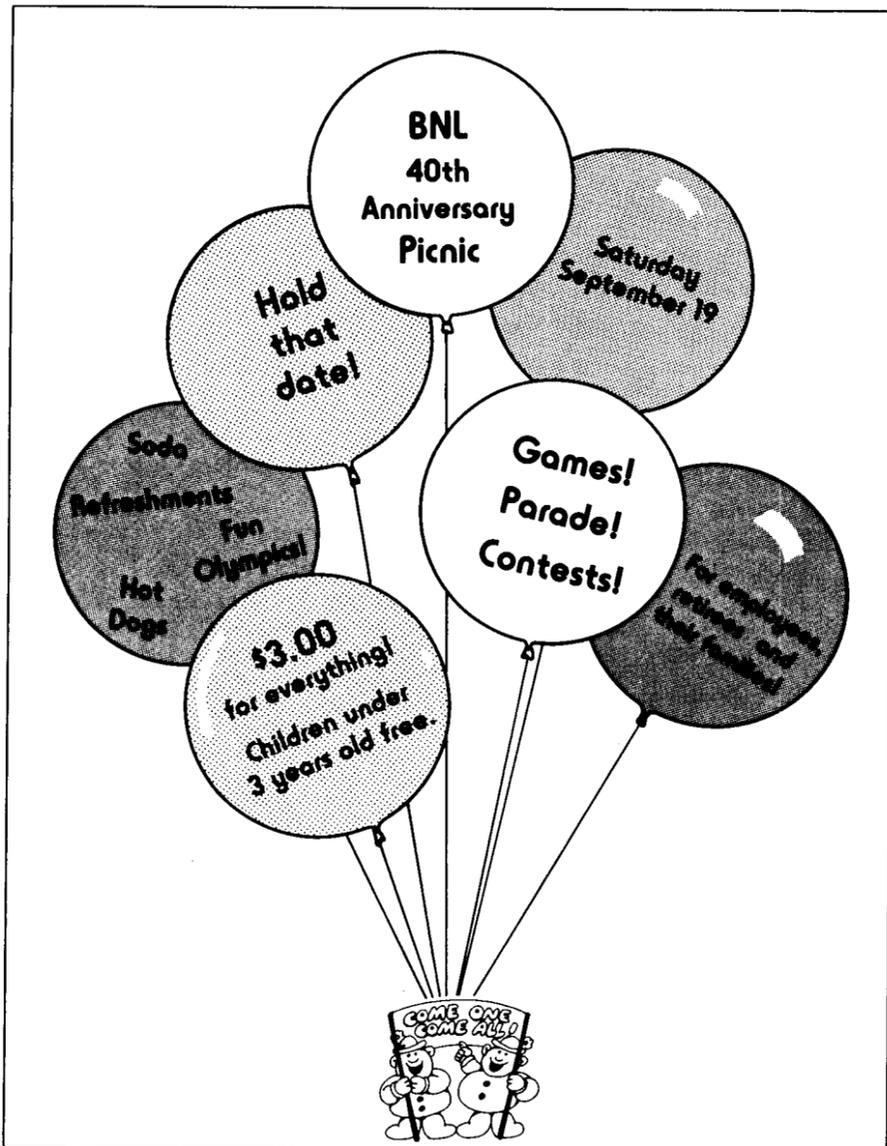
John Alois Jr.	S&EP
Yusuf Celebi	DAS
Martin Fallier	Plant Eng.
Andrew E. Levine	S&EP
Lin-Shen C. Sun	S&EP

Departures

This list includes all employees who have terminated from the Laboratory, including retirees:	
Iris C. Caceres	Sfgdrds & Sec.
Terrence F. Keough	Sfgdrds & Sec.
Depuyster G. Pitcher	Reactor

Reminder — Register Those Vehicles

Employees are reminded that those who have not already done so should register their vehicles for on-site use. For ease of entry at the gate, people may also register their privately owned bicycles. For more information, call Susan Rackett, Ext. 5149, Safeguards & Security Division.



BROOKHAVEN BULLETIN

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Bowling

Red/Green League

High games were bowled by J. Medaris 245, T. Holmquist 226, N. Combatti 224, E. Sperry III 212, L. Jacobson 210, H. Marshall 207, J. Connelly 204/200, J. Muller 204, W. Kristiansen 203.

Pink League

Ann Parrinello rolled a 186, Ellie Adams 179, Fern Coyle 167, Ellie Kristiansen 167.

White League

Ken Riker had a 235, Ed Meier 218, Pat Manzella 207/189, Ken Asselta 210, John Hanlon 210, Ed Sperry IV 209, Elaine Zukowski 196, Mary Grace Meier 193, Marilyn Picinich 190. Skelly Frei and Elsie Murray converted the 4/7/10.

Purple League

Joe Ferrante bowled a 248/607 scratch, Paul Callegari 232, Betty Jellett 199, Fern Coyle 189.

Note to Diners

The Cafeteria will be closed on Saturday, April 18. On that day, snack bar service will be available from 9 a.m. to 2 p.m. at the Brookhaven Center.

Cafeteria Menu

Week of April 20

Monday, April 20

Cream of mushroom soup	(cup)	.75
	(bowl)	.95
Veal cordon bleu w/1 veg.		2.75
Spinach soufflé w/1 veg. (lite-weight)		2.75
Hot deli: Baked ham	(bread)	2.45
	(roll)	2.55
	(hero)	2.65

Tuesday, April 21

Beef barley soup	(cup)	.75
	(bowl)	.95
Lasagna bianca w/1 veg.		2.85
Beef Stroganoff over noodles		2.75
Hot vegetable plate (lite-weight)		2.20
Hot deli: Roast beef	(bread)	2.45
	(roll)	2.55
	(hero)	2.65

Wednesday, April 22

Split pea soup	(cup)	.75
	(bowl)	.95
Cuban-style fried steak w/1 veg.		2.75
Eggplant Parmesan w/1 veg.		2.85
Hot deli: Turkey	(bread)	2.45
	(roll)	2.55
	(hero)	2.65

Thursday, April 23

Beef noodle soup	(cup)	.75
	(bowl)	.95
¼ broiled chicken w/1 veg.		2.75
Baked meatloaf w/1 veg.		2.75
Hot deli: Six-foot hero		1.10/inch

Friday, April 24

New England seafood chowder	(cup)	.75
	(bowl)	.95
Ravioli w/1 veg.		2.75
Broiled fish w/1 veg. (lite-weight)		2.85
Hot deli: Corned beef	(bread)	2.45
	(roll)	2.55
	(hero)	2.65

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.

2588 CUSTODIAN, GROUP LEADER (5/11/87 - 10/9/87) - Staff Services Division.

2589. MAIL CLERK (5/18/87-8/28/87) - Requires a valid NYS driver's license. Staff Services Division.

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside applicants.

2590. STEAMFITTER (5/18/87-10/2/87) - Requires completion of a four-year apprentice program or its equivalent, and a minimum of 5-10 years' commercial, industrial plant experience. Incidental welding experience is required. Plant Engineering Division.

Autos & Auto Supplies

79 HONDA CM400T - excel. cond., crash bars, luggage rack. 929-5945 after 6 p.m.

75 FORD TORINO - station wagon, running cond., needs muffler, \$400. Marty, 744-5615 eves. & wknds.

67 CHRYSLER - convertible, 383 V8, a/t, p/s, p/b, p/w, new top. Tony, 698-9274.

72 PLYMOUTH - full-size station wagon, excel. running car. Ext. 2022 or 744-8386.

86 MAZDA PICKUP - gold w/white cap, \$4,500. 698-3321.

UTILITY BOX - for back of pickup, silver, brand-new, best offer. Ext. 2384.

74 PLYMOUTH DUSTER - 8 cyl., p/s, p/b, needs fuel pump, runs well, \$400. Ext. 2816 or 878-0480.

GENERATOR - 110 volts, 2000 watts, mounts on car engine, \$40. Ext. 4204.

80 VOLVO DL - garaged, stand., 2 dr., tan, good cond. 929-6442 after 6 p.m.

TIRES - P215/75R15, white wall, steel-belted radial (1) new, driven 50 mi., (1) driven 16k mi., \$50/both. Ext. 2981 or 473-7809.

75 CHEVY C10 - 350, stand., no windows, body good, runs very well, must sell, \$1,400. 698-1173.

78 BUICK SKYLARK - 2 dr., grey, black vinyl top, needs trans. work, \$400 neg. 399-0942.

TIRES - (4) 215/78R15, radials, \$60; rims and other sizes avail. Ken, 289-8212, eves.

74 CHEVY NOVA - 2 dr. sedan, good cond., 6 cyl. Gina, 929-4753 after 5 p.m.

70 CHEVELLE - 350 h.p., a/t, 12-bolt posi., excel. cond., must sell, \$3,500. 821-0144, before 3 p.m.

77 ELDORADO - new tires & exhaust system, am/fm stereo w/tape, good cond., must sell. Ext. 7732.

MOTOR OIL - Kendall Superb 100, 5W-30, 85¢/quart. Ext. 4680 or 4679.

80 HONDA PRELUDE - 5 spd., elec. sunroof, Blaupunkt stereo, good cond. 325-0447 after 6 p.m.

81 HONDA XR80 - garaged, mint cond., new back tire, must see, \$400. Neal, 286-2435.

FRONT BUMPER - GM truck, white, excel., \$40; rear step bumper, gray, new, \$85; service manuals, 78 Chevy, \$25; 83 Ford, \$25. Tony, Ext. 2462.

STEREO - am/fm radio, Alpine, cass., 2 Jensen spkrs., 2 Alpine spkrs., clock, 7-band graphic equalizer, \$425. John, 878-4414.

82 PLYMOUTH CHAMP - 4 spd., am/fm, front wheel drive, \$1,500. 924-8432 after 6 p.m.

79 FORD FAIRMONT - wagon, 92k mi., a/t, p/s, p/b, am/fm cass., orig. owner, \$1,100. Anne K., Ext. 3293 or 751-7430.

WIRE WHEEL COVERS - (4), for 15" tires, like new. 325-0447 after 6 p.m.

79 MONZA - V6, a/t, sunroof, am/fm radio, htchbk., excel. body & running cond., orig. owner. 735-1144.

84 FORD ESCORT - a/t, gray, 2 dr., htchbk, 52k mi., am/fm stereo, very good cond., \$1,800. Chris, Ext. 2593.

75 FORD LTD - 2 dr., 8 cyl., excel. cond., orig. owner. Ext. 2265 or 289-0569.

64 FORD FAIRLANE 500 - 2 dr., sport coupe, 289 factory, 4-on-floor, buckets. Eileen, Ext. 4194 or 924-4922.

74 BRAVO POP-UP - sleeps 8, sink, 3-burner stove, 3 way refrig., gas heater, 2 gas tanks, tandem axle, portable potty, \$1,600. 924-0539.

79 MUSTANG II - 4 spd., hi mi., good tires & body, new exhaust, asking \$690; 81 Suzuki GS250T, low mi., excel. cond., extras, \$590. 929-8287.

79 MAZDA RX-7 - silver, 4 spd., am/fm cass., excel. cond., \$3,900. Ext. 2949 or 427-2435.

84 PONTIAC FIERO SE - low mi., a/t, a/c, p/w, am/fm cass., sunroof, tilt wheel, \$7,000. Jeff, 288-6375.

85 KAWASKI ATV 110 - excel. cond., new windshield, low mileage, \$800. 727-0364.

65 AVALON - 17' travel trailer, sleeps 6, stove, refrig., bathroom, \$950. Joe, Ext. 5131.

78 TOYOTA CELICA - liftback, 5 spd., orig. owner, no rust, A1 cond., reliable, 99k mi., must sell, asking \$1,300. Bob, Ext. 4656 or 928-1806.

84 CADILLAC - Fleetwood Brougham, low mi., \$13,000; 81 Delorean, 5 spd., black int., 7,500 mi., \$20,000 neg., both loaded. 289-1441 after 5 p.m.

79 FORD VAN - 6 cyl., a/t, sell in parts. Dick, Ext. 3499 or 589-9103.

PARTS - Datsun B210/B110, rebuilt 4 spd. trans., \$125; H.D. radiator, \$75; stock radiator, \$40; distrib., \$40; more. Dave, Ext. 4636 or 475-2626.

77 CAMARO - V8, a/t, black; 73 Capri, stand., decor group, many new parts; 79 Pontiac Sunbird, must sell. 744-0725, eves.

79 FORD BRONCO - black/silver, 351, no pollution, reg. gas, 33" tires, \$5,000. Mike, 821-0318 after 5 p.m.

78 MERCURY ZEPHYR - 2 dr., white, 4 spd., clean, high mi., runs well, \$700. Walter, Ext. 2050.

77 VIKING POP-UP - sleeps 5, good cond., \$1,000; Chevy 327 cyl. heads, good cond., \$50/pr. Dan, Ext. 4987 or 698-7322.

78 CORVETTE - mint cond., completely redone, top to bottom, white/red int., asking \$11,500. 589-7496.

80 FORD FIESTA - htchbk., 48k mi., 4 spd., a/c, clean, \$1,800. 286-0795.

71 CHEVY MALIBU - 2 dr., 307 engine, a/t, p/s, orig. owner, \$475. Gordon, Ext. 3216.

TRUCK CAP - for Chevy C10, 6½' bed, stepside, good cond., Ext. 5163 or 475-6964.

TIRES - (2) Pro-Trac-50 racing profile, N50-15, brand-new, \$75 ea. 924-0960.

TOP RACK - Sears, used once, \$20. Akos, Ext. 4973.

77 VW RABBIT - 4 dr., htchbk., a/t, sunroof, new trans., asking \$1,200. Ext. 4049 or 744-8087.

85 RENAULT ALLIANCE - 2 dr., am/fm cass., excel. cond., 45k mi., 5 yr., unlimited warranty, \$4,999. 727-7761, eves.

PARTS - 77 Plymouth Trailduster, 4WD, 360 engine, a/t, rotors. Ken, Ext. 2350.

75 HONDA - Goldwing GL1000, windshield, am/fm cass., saddlebags, king/queen seat, must sell, \$800 neg. Frank, Ext. 3386.

Boats & Marine Supplies

21' RENKEN - 1983, cuddy, 120 OMC, I/O, canvas, CB, DF, CG package, \$7,000. 585-1856 after 6 p.m.

FLAGSHIP ENGINES - pair, 185 h.p., V8, matched L/H & R/H, recently overhauled, fresh water cooled, \$1,800/pr. 744-3421.

24' CHRIS CRAFT - plywood & mahog., needs eng. work, \$500 or best offer; 12' sailboat, Sunfish type, \$100. Harry, Ext. 7578 or 744-2715.

20' GLASTRON - fiberglass, needs 70 h.p. motor, full canvas, \$990. Jim Klein, 298-8805.

RACING CANOE - Sawyer D-Y special, includes life preservers, custom pad, carrier kit. 924-5282.

19½' BAYLINER - Capri bowrider, 1984, Volvo I/O, trlr., quality Coast Guard & ski equip., full canvas, all covers, extras, \$9,400. Ext. 2981 or 473-7809.

17' GLASTRON - good cond., \$250. 286-9606.

19' THOMPSON - w/50 h.p. Evinrude, cuddy cabin, tanks. 325-0567.

17½' TRAVELER - 1966, fiberglass, outboard, gas tanks, rope, anchors, excel. cond., asking \$1,200. John, 878-4414.

18' RENKEN - 1983, I/O, 120 h.p. OMC, w/trailer & full cover, excel. cond., \$5,900. Ady, Ext. 4531 or 331-3785.

19' LIGHTNING SAILBOAT - trailer, race-equipped, many extras, good cond., \$2,500; galvanized chain, ¾", proof coil, \$1.60/ft. 399-1679.

14' SUPER-SAILFISH AMF - good cond., w/shoreline trailer, \$750. 265-1308 after 7 p.m.

30' COLUMBIA II - fresh water cooled, full covers, VHF, new depth finder, swim platform, \$17,500 neg. Ext. 2021.

19' MFG BOW RIDER - V-hull, 140 h.p., I/O, w/shoreline trailer, excel. cond., \$3,900. Rick, 744-4494.

Miscellaneous

AZALEAS - field-grown, 2'-3', \$5; geraniums, 4½" pots, \$2; impatiens, begonias, petunias, marigolds, \$10/flat. 744-0722.

FLOWERS/VEGETABLES - 4 & 6 packs, large selection, delivered week of 5/11, 80¢/pack. 727-6818 after 3:15 p.m.

TOP SOIL - delivered, \$12/yard. 924-7746.

AZALEAS - 5' diam., U-dig; Franklin stove. 689-9234.

LAWN MOWER - 21", rear bagger, self-propelled, used 1 season, excel. cond., \$140. Ext. 3589.

FORSYTHIA BUSHES - 3'-4', ready to bloom, \$6; some French Lilac and Native Holly. Chris, 878-0621.

ENGAGEMENT RING - 14k gold, .27 carat, premium stone & 2 side diamonds, appraised \$625, asking \$450. Pete, Ext. 7627 or 929-3847.

BICYCLE - man's, Ross, 12 speed, 21" frame, 27" wheels, Shimano components, extras. Ext. 2022 or 744-8386.

BIKE - little girl's, 12" w/training wheels, \$15. 744-9677.

19" TV - Zenith, portable, good cond., \$40; 2 tennis rackets, his/hers, \$20 each. Ext. 3701.

FURNITURE - Colonial, loveeat w/matching curtains & wooden rods, \$150; Castro convert. ottoman, opens to single bed, \$100. 928-1942.

BICYCLE - man's 22", Motobecane, 12-speed. Oscar, Ext. 3499.

OVEN - gas, 20", Hardwick, 4 burners on top, good cond., \$50. 924-9465.

MICROWAVE - Panasonic, Dimension 4, Mod. NE-9970, 16"x15"x10" w/table, cook book, 1 yr., \$225. Vincent, Ext. 3772 or 281-5578.

STOVE - 40", Westinghouse, double oven, self-cleaning, works fine; sofa, blue & white, velvet, \$75; fp utensils, \$10. Ken, Ext. 7915 or 744-0722.

BICYCLE - girl's, 26", 10-speed, speedometer, less than 1 yr. old, \$80. Leslie, 878-0375 after 6 p.m.

BICYCLE - girl's, 20", Columbia, excel. cond., training wheels, \$35. 286-0259.

REFRIGERATOR - 22 cu. ft., side-by-side, \$200; hi-riser, \$30 or best offer. Ext. 7655 or 584-7206.

BICYCLE - built for 2. 325-0567.

STEREO SYSTEM - Sony, HP250, am/fm w/external speakers, \$70; headboards, maple, twin size, \$15; card table, felt top, \$40. Tony, Ext. 2050.

DESK - solid pine, 54"Wx28"D, excel. cond., \$250; desk w/chair, solid dark pine, \$200. Tom, 331-1297.

MICROWAVE OVEN - Roper, excel. cond. 475-9452 after 5:30 p.m.

ORGAN - Hammond, model J-122, w/bench, walnut, \$375; swivel rocker & footstool, Naugahyde, walnut, \$60. Pat, Ext. 4805 or 722-4489.

CARPET - 8'x10", brown tweed, \$35; child's chest of drawers, 30"x36"x16", \$40. Ext. 7112 or 286-9725.

ATARI 800 - w/books, etc., make offer. Ext. 3941.

LAWN MOWER - riding, 3 h.p., w/grass catcher, elec. start used 11 hours, asking \$950. Ext. 7919.

WASHING MACHINE - \$50. Ext. 5400 or 874-3447.

GENERATOR - Agtronic 4kW, new, still in orig. box, \$500; table saw, Sears, 7¼", older model, complete, \$75. Mark, Ext. 5350 or 369-0793.

GREEN HOUSE - poly-type, 22'x100', includes fan, boiler, sprinklers system; 2 farm tractors, 1 gas, 1 diesel. Jim, Ext. 4040 or 289-0876.

AUTO-THERMOSTAT - (2) Honeywell, \$40 ea.; recliner, like new, \$90; Sun-air, glow kero. heater, 22,600 Btu. Ext. 2683 or 751-2469, eves. & wknds.

WET SUIT - small, Farmer John and jacket, heavy duty, worn four times, \$85. Soahn, 281-4673.

ROCKER - \$50; tea cart, \$30; 2 tables, \$15 ea.; lamp, \$35; 2 shelf units, \$25; magazine rack, \$15. Marion, Ext. 2902.

JACUZZI - pool filter w/motor for inground pool, used for above ground pool, 2 seasons, \$195. Ext. 2254.

BAKER'S RACK - 3 shelves, 42 bottle wine rack below, wrought iron, 72"x30"x15", unique. Carol, Ext. 4398.

CHINA CABINET - 1925, mahogany, glass door, 36"Wx66"H, good cond., \$50. 744-3792.

VHS - Quasar, movie camera, new vicon, extras, asking \$750. Ext. 2021 or 878-8901, eves.

FREEZER - large chest-type, good cond., \$50. John, Ext. 3302 or 924-0651.

PATIO DOOR - 8', double glass, \$200; alum. sliders, various sizes, 6'x5', 4'x5', many more, w/storms & screens, best offer. Al, Ext. 3992 or 331-1003.

LAWN MOWER - 20", 3½ h.p., Briggs & Stratton engine, rotary, all new parts, very good, \$50. Ext. 4987 or 698-7322.

ELECTRIC RANGE - 24", Hotpoint, \$75. 289-1439, eves.

WOMEN'S DRESSES - from factory, chiffon, new, from size 5 to 13, call for appt., reasonable price, 924-0960.

Car Pools

OAKDALE - Bohemia, would like to form car pool. Frank, Ext. 2314.

Yard Sale

YAPHANK - 442 Yaphank-Middle Island Rd., May 2 & 3, 9 a.m. to 5 p.m., toys, jewelry items and much more.

Free

KITCHEN TABLE - 30"Wx40"L, formica, 3 chairs; book case, 36"Wx30"H, wood, open, 3 shelves; typewriter table, metal, small. 744-3792.

Lost & Found

PLEASE RETURN - Sears AC welder, taken from room 2-89, Bldg. 510, personal property. Ed Bihn, Ext. 3840.

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

SELDEN - Village in the Woods, spacious 1 bdrm. apt., eik, cac, w/w, 1 yr. lease, avail. 6/1, \$625/mo. inc. heat & gas cooking. Lynn, Ext. 2780 or 732-7954 after 6 p.m.

EAST PATCHOGUE - 3 bdrm., 2 bath, lg. modern kit., lg. l/r, occupation & bank ref. required, no pets, 2 months security. 475-8440.

SHIRLEY - 2 bdrm. apt., l/r, lg. kit., full bath, ground floor, walk to beach, \$650 inc. all. 744-2821.

ROCKY POINT - small house, 2 bdrm., yard w/garden, walk to beach, avail. 5/1. 922-2024.

EAST QUOGUE - newly renovated ranch on ½ acre, 3 bdrms., 2 baths, eik, full bsmt., oak floors, extras, \$165,000. 653-9514, eves. & wknds.

SMITHTOWN PINES - prime area, near highway, beautiful 1 bdrm. apt., l/r, eik, dishwasher, full bath, a/c, new carpet, patio, \$650, optional baby-sitting for