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BROOKHAVEN NATIONAL LABORATORY

DAS Division Helps Poland In Cleaning Up Kraków's Air Pollution

At the Church of Saint Peter and Paul in the Old Town of Kraków, Poland, stone statues of the 12 apostles carved in the 18th century have become faceless — silently testifying to the destructive power of 20th-century air pollution.

Like other historic stone monuments and structural elements throughout Kraków, the statues that had survived three centuries untouched have dissolved over the past 40 years or so, as the increasing air pollution has aged the stone faster than usual.

A hub of Polish culture that was not destroyed during World War II, Kraków is now an industrial center with one of Eastern Europe's largest iron and steel plants — and one of Eastern Europe's largest air pollution problems. The air pollution is so bad, in fact, that tourists to Poland are warned not to visit this city in winter if they have respiratory problems.

Built in 1954, Kraków's steelworks are the city's most visible source of air pollution — but that industry is not the worst offender as far as particulates and hydrocarbons are concerned.

Rather, the nearly 2,250 boilers and roughly 100,000 home stoves that burn coal and supply almost half the city's heat are Kraków's major sources of particulates and hydrocarbons.

Though individually each boiler or stove emits only a small amount of pollution, collectively these low-emission sources produce an estimated 10,000 tonnes per year of particulates and 14,500 tonnes per year of carbon monoxide.

Testing Kraków's low-emission sources to quantify how much pollution they are dumping into the air and assessing how to reduce this pollution from these low-emission sources by increasing the clean use of fossil fuel have become the concern of BNL Scientist Thomas Butcher and his colleagues in the Energy Efficiency & Conservation Division within the Department of Applied Science (DAS).

Working with Butcher on this project are: Wai Lin Litski and C.R. Krishna, on engineering assessment; Richard Krajewski and Yusuf Celebi, on stove and boiler testing; and Barbara Pierce and Jerome LaMontagne, on economic assessment.

In addition, Monica Mazurek of DAS' Environmental Chemistry Division is serving as a testing-methods consultant, Atsushi Kobayashi of the Nippon Steel Corporation is helping to analyze the testing results, and student collaborator Thomas Kirchstetter from the State University of New York at Albany analyzed the composition of Kraków's boiler population and the relative contribution of each boiler type to the city's air pollution.

Roger Stoutenburgh

Gathered round a coal stove under test as part of the Kraków Clean Fossil Fuels & Energy Efficiency Project: (from left) Monica Mazurek, C.R. Krishna, Jerome LaMontagne, Richard Krajewski, Thomas Butcher, Barbara Pierce and Yusuf Celebi, who is kneeling by the flue-gas analyzer. Missing from the picture: Wai Lin Litski, Atsushi Kobayashi and Thomas Kirchstetter.

SEED is Sown

"Because it is located in the Vistula River valley," Butcher says, "Kraków has poor ventilation and is subject to natural thermal inversions. In addition to the pollution created within the city by the steelworks and the coal-burning stoves, pollution is blown into Kraków from other industries within the Upper Silesia region, from Czechoslovakia and from what used to be East Germany."

Butcher and company became involved in the U.S. effort to improve Kraków's air quality as a result of the Support for Eastern European Democracy (SEED) Act of 1989.

Passed by Congress following the political upheaval in Poland, SEED authorized the U.S. Department of Energy (DOE) to spend $30 million in undertaking two projects. The funding comes to DOE through the U.S. Agency for International Development.

The first project involves $10 million for retrofitting two of the 11 boilers within one of Kraków's two power plants, with U.S.-made scrubbers to reduce sulfur dioxide emissions in the flue gases.

The second — the Kraków Clean Fossil Fuels & Energy Efficiency Project (CFFEEP) — includes $20 million for first assessing the fuel-burning status of Poland's stoves, boilers and furnaces, and then developing ways to modify the heating equipment so that it will burn fossil fuels — including Poland's abundant supply of coal — more cleanly.

With project management from DOE's Pittsburgh Energy Technology Center, Brookhaven is involved in the first phase of the Kraków CFFEEP, working with a team of researchers in Poland to perform engineering assessments, stove and boiler testing, and economic analysis.

The results from both projects are expected to be useful to the rest of Poland and Eastern Europe. By encouraging joint U.S.-Polish ventures to carry out the studies' results, the projects aim to open the door to Poland and the rest of Eastern Europe for U.S. private firms specializing in air pollution-control technology.

Clean Fossil Fuels

As part of the Kraków CFFEEP, Butcher has made a half dozen trips so far to Kraków. In taking on the air pollution created within the city's limits, Butcher and his colleagues have undertaken the assessment of four subprojects, all dealing with clean fossil fuels.

First, they are considering the conversion of small basement boilers to natural gas or the replacement of the older boilers with more advanced and cleaner-burning ones. The second subproject is looking into eliminating some home stoves in the Old Town of Kraków by increasing the use of electric heat.

Third, Butcher and company are considering how to modernize large boilers, either by retrofit or replacement. Finally, they are examining the possible use of cleaner coal fuels, such as briquettes, in present-day home stoves and/or in home stoves of improved design.

Explains Butcher, "Each of our four subprojects has three elements — an engineering assessment to develop information on how much the proposed options will cost; testing to come up with baseline emissions and

(continued on page 2)

BWIS Presents Scholarship to Re-Entry Woman

Roger Stoutenburgh

At a ceremony held in Berkner Hall on Tuesday, August 18, Janice McCarthy (center) became the 1992 recipient of the Renate W. Chasman Scholarship for Women.

Presented each year by Brookhaven Women in Science (BWIS), the one-time, $1,000 scholarship is named in honor of the late Renate Chasman, a noted BNL nuclear physicist and accelerator theorist, who codesigned the Lab's National Synchrotron Light Source.

The scholarship is intended to encourage women o pursue scientific research careers in the natural sciences, engineering or mathematics. Since its inception in 1986, the award has been presented each year to a re-entry woman — one whose college education was interrupted, but who has returned to pursue a degree on a half-time or greater basis.

This was the case with McCarthy, who will be a junior this fall at the State University of New York at Stony Brook. While she is pursuing a B.S. in biochemistry and mathematics, her long-term goal is to earn a Ph.D. in molecular biology and enter the field of research.

McCarthy entered college for the first time in 1983, at the age of 17, as a theater major. A year and a half later, she left school to reconsider her career choices. After working full-time as a waitress for about a year, she went back to school for computer programming, a skill she applied in business for four years, but did not find fulfilling. So, McCarthy returned to school again in 1989 — as a freshman at Suffolk Community College.

After two impressive years at Suffolk, McCarthy says, "After searching down so many blind alleys, I have finally found the courage to admit to myself and to others that I want to be a scientist. If I had more than one lifetime, I would want to study all the major sciences. Since I'm limited to only one, I've decided to focus on molecular biology."

Shown with McCarthy are members of the BWIS Scholarship Committee (from left): Mary Wood; Harriet Fadem; Patricia Giacalone; Anita Cohen; committee chair Victoria McLane; Mildred Laster; Mary Kingsley; Edith Thornhill, liaison with BNL's Office of Scientific Personnel; and Ruth Kempf. Not shown: Eva Bozoki and Gail Williams.

Poland (cont'd)

efficiency data, which then will be used in selecting from among the proposed options; and an analysis of the economic incentives that can be used to implement the options that are selected."

As part of the engineering assessment, which is being performed by Polish researchers, the City of Kraków has discovered that some 1,671 of its 2,248 boilers do not have pollution-control devices that collect particulates.

Baseline Test Results

The emissions and efficiency testing of stoves is being conducted in a lab designed by Butcher's group and set up this February in the Polish Academy of Mining & Metallurgy. Meanwhile, tests have been completed on one boiler and are ongoing on three more located in Kraków boiler houses and basements.

To date, stove-testing results have shown that the old type of masonry units used in Kraków are about 65 percent efficient and emit a great deal of carbon monoxide, as well as particulates. However, when clean-burning briquettes are used instead of unprocessed coal, the particulate emissions are reduced by a factor of ten or more — making briquettes a very attractive fuel option.

"We are very pleased with the stove-testing results to date," says Butcher. "We are also pleased with the knowledge, skills and resourcefulness of the Polish engineers and scientists with whom we've been working. Poland is a very equipment-poor country, so we had to bring over a lot of test equipment, which we helped our Polish colleagues turn into a state-of-the-art laboratory."

Lastly, the incentives analysis has found, for instance, that, while the prices for natural gas and coal are close to world levels, the price of electricity is unnaturally low due to government subsidy. When it is no longer subsidized under a market economy, the price of electricity will skyrocket — so it may not be an attractive heating option.

These assessments will continue through next summer. Meanwhile, DOE will hold public meetings in both countries, to interest Polish and American firms in forming partnerships to undertake the subprojects themselves using the results of phase-one assessments.

For the subsequent phases of the Kraków CFFEEP, DOE will make funding available to interested firms, for studies of the feasibility of such joint ventures. Feasible partnerships will then carry out the four subprojects. — Marsha Belford

Shoe Shop Shutdown

The on-site safety shoe shop on the northeast side of Bldg. 88 will be closed on Thursday, August 27, and Monday, August 31. During this time, call Ext. 2300 with questions about safety shoes.

Softball

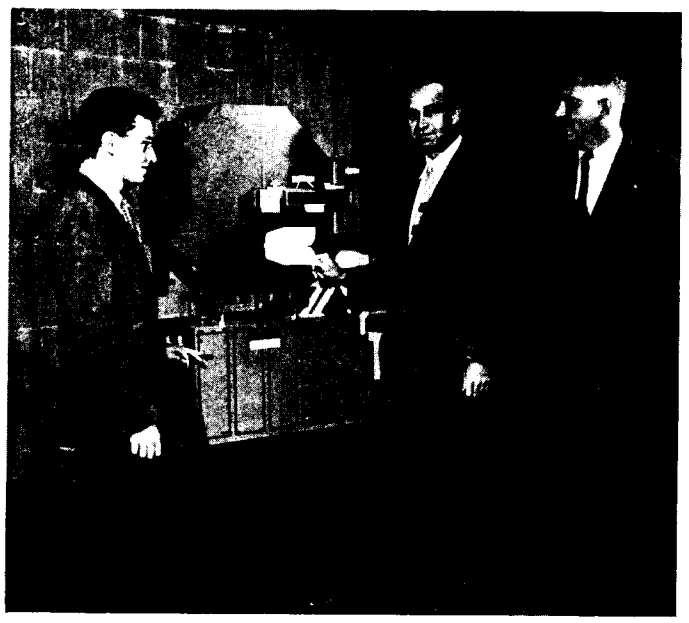
Standings as of 8/14

League 1		League 2	
Blue Jays	11-2	Titans	12-2
Phoubars	8-5	Cocoon	9-4
Ravens	8-5	Dirty Sox	9-5
Up & Atom	6-6	Scram	8-5
Cool 'n Gang	5-8	Phase Out	7-6
Magnuts	5-8	Lights Out	4-9
Revised Edition	5-8	Antiques	3-10
Six Pax	3-9	Lunatechs	1-12
League 3		**League 4**	
Big Sticks	10-0	Sting Rays	11-2
Surefire	8-3	Roustabouts	9-3
Bombers	6-4	Personnelities	9-4
Quantum	6-3	Snakebites	8-5
Medical	3-8	Simply Awesome	6-7
DOE Nuts	2-9	Just 4 Fun	4-9
Dangerous Curves	2-10	Source	2-11
		Park Avenue	2-10
League 5			
Good Timers	8-2	Lead Bottoms	3-7
Molson Express	9-3	Snafu	2-10
Ha Has	8-3	Jerry's Kids	1-10
What's on 2nd?	8-4		

Saluting 40 Years of Strong Focusing

Forty years ago today, on August 21, 1952, the discovery of the alternating gradient focusing principle, also known as the strong focusing principle, was announced at BNL.

Co-discovered at Brookhaven by scientists Ernest Courant, M. Stanley Livingston and Hartland Snyder, this revolutionary breakthrough in accelerator design came at a time when much of the most important research at the Lab's existing Cosmotron had been done, and a new, much higher energy machine was a primary concern. As it turned out, strong focusing had been independently proposed earlier by Nick Christofilos, in Greece, but no results had been published.



In 1952 at BNL, scientists (from left) Ernest Courant, M. Stanley Livingston and Hartland Snyder, who codiscovered the principle known as alternating gradient focusing or strong focusing, gathered around a quarter-scale model of the Cosmotron magnet.

Before the discovery of strong focusing, to build a proton accelerator ten times more powerful than the 3.3-billion-electron-volt (GeV) Cosmotron would have required 100 times as much steel, making it prohibitive in cost.

In ring-shaped accelerators, particles travel in a circular path, confined by a magnetic field made by two types of magnets: bending and focusing. Since the bending power of the magnetic field was limited, increasing the particles' energy required that they travel in larger diameter circles, using bigger or more magnets.

In the Cosmotron and similar machines of the day, the bending magnets were all built with a weak focusing strength. But, in light of the new principle, calculations showed that by dramatically increasing the focusing strength and alternating the magnets — one focusing vertically, the next horizontally, and so on — the particle beam could be strongly focused both vertically and horizontally.

The beam could then pass through magnet apertures as small as one or two inches in diameter, as opposed to 8 by 24 inches in the Cosmotron.

Alternating gradient focusing was quickly transformed from an idea to the foundation stone of BNL's 33-GeV Alternating Gradient Synchrotron (AGS) and the CERN 24-GeV Proton Synchrotron, which were commissioned in 1960, as well as all the large proton accelerators built since.

This discovery led to such Nobel Prize-winning findings as the muon-neutrino, CP violation and the J/psi particle at the AGS in 1962, 1963 and 1974, respectively. The same principle is fundamental to the next generation of accelerators now under construction, BNL's Relativistic Heavy Ion Collider and the national Superconducting Super Collider. — Liz Seubert

A Team of Their Own

It's not quite a league of their own, but women at BNL have the next best thing: a team of their own in League 3 of the Employees' League of the BERA Softball League.

Known as Dangerous Curves, the team is co-captained by Kathy McNaught and Denise Miesell, who is also secretary of the Softball League.

At present, BERA Softball is divided into five subleagues. Players in the Mixed League, which has two of those subleagues, can be either employees or spouses. The other three subleagues are in the Employees' League, where players must be BNL employees. Though participation in both leagues is open to both sexes, teams in the Employees' League have traditionally been all men.

Over the years, Miesell observed, "The Softball League has tried to put together an all-female league — with no success at all." But this year, BNL women made their first foray into the Employees' League — with Dangerous Curves.

Unlike the teams in the all-female baseball league portrayed in the film *A League of Their Own,* BNL's all-female softball team faced all-male opponents in their freshman year — and compiled a 2-10 record for the season.

One win was an uncontested forfeit, but the other — an impressive 10-7 victory — came in the season's eighth week against the Bombers, the team that eventually finished third in the seven-team league.

"We weren't doing too well in the beginning," said Miesell, "but we started to do better after about six weeks. Defensively, we've improved 100 percent."

McNaught agreed. "We have gotten a lot better," she said. "We have only been shut out in two games."

Concerning their reception by the rest of their league, Miesell said, "I've had to have the umpire inform the other team not to play games with us, but as far as their giving us a break — absolutely not!"

That was obvious during the last game of the season, when Dangerous Curves lost to Big Sticks — the team that leads League 3, with a 10-0 record. But what was also obvious was that both sides — and even the umpire — were having fun while playing exciting softball.

In the top of the sixth inning, for example, Dangerous Curves showed some snappy pitching and fielding, as pitcher Marsha Kipperman induced the first Big Sticks batter to ground out to Miesell at first base and the second to fly out to Anette Meier in left center field.

After giving up a single, Kipperman had the next batter fly out to Latesha Smith in left field. Seeing little action in this efficient inning were catcher Lois Marascia, Barbara Royce at second base, McNaught at shortstop, Nancy Ohlmann at third base, Michi Miura in right center field and Sydell Lamb in right field, the position played by Patti Bender in the next inning.

Dangerous Curves sent seven batters to the plate and scored one run in the bottom of the sixth, but in the top of the seventh inning, Big Sticks lived up to their name, winning the game. But the women of Dangerous Curves were not dispirited. They recognized how much they had achieved in a single season and also took the opportunity to recognize the efforts of two others who helped them along the way — coaches Bob Brown and Izzy Garcia — who were thanked "for all their encouragement and never yelling at us!"

Dangerous Curves, BNL's first all-female softball team in the Employees' League with their coaches, Bob Brown (kneeling, left) and Izzy Garcia: (front, from left) Michi Miura, Anette Meier, Marsha Kipperman, Patti Bender; (back, from left) Sydell Lamb, Lois Marascia, Kathy McNaught, Barbara Royce, Nancy Ohlmann and Denise Miesell. Missing from photo: Pat Cahill, Joann Giambalvo, Renée Holaday, Terri Lacker, Barbara Langhorne, Sue Sally, Latesha Smith and Diana Toledo.

All of the women on Dangerous Curves have previously competed in the Mixed League. And about half of them were teammates on the BNL softball team that competed last year in Brookhaven Town's Snowflake League.

Organized by Patricia Cahill and Marsha Kipperman, the Snowflake League team was aptly named — playing in weather as cold as 29 degrees. Last year, the BNL team came in third out of six all-female teams in that league.

Despite that successful season, McNaught recalled, "It wasn't easy convincing everyone to form an Employees' League team. In the beginning, there were comments like, 'I'll come out and play the first night, but, if I don't like it, you'll never see me again!' But everyone came back."

With their Employees' League season now over, many members of Dangerous Curves are looking ahead to the Snowflake season. "All the practice we've had throughout the summer has definitely improved us for the Snowflake League," said Miesell. "I don't think we'll run into any teams that will hit nearly as hard as these teams did!"

— Anita Cohen

In Memoriam

Anthony P. Meade, a senior project engineer and Deputy Head of the Production Engineering Section (PES) of the Magnet Division within the Accelerator Development Department (ADD) died of a heart attack on August 6, at the age of 58.

"Tony had a very diversified engineering background and was very knowledgeable in high vacuum and cryogenic technology, properties of materials, and mechanical fabrication methods," recalls his supervisor, Eugene Kelly, Head of PES. "All of his capabilities and knowledge, as well as his honest engineering attitude were a great asset to the Laboratory."

Meade came to Brookhaven 29 years ago, on December 1, 1962, as a development engineer II in the former Mechanical Engineering Department.

From the mid-1960s through the 1970s, he lead the refrigeration and cryogenics efforts during the construction of a liquid hydrogen moderator for the production of low-energy or "cold" neutrons at the High Flux Beam Reactor (HFBR). When the cold-neutron moderator was completed, he was in charge of its operation. The HFBR remains the only research reactor in the U.S. equipped with such a moderator.

After being promoted to development engineer I in July 1969, Meade moved to the Physics Department in November 1976. There, he was named research engineer I and senior research engineer in October 1980 and 1981, respectively.

In May 1988, Meade transferred to ADD, as Deputy Head of PES. As such, he became involved with the development of superconducting magnets for the national Superconducting Super Collider and BNL's Relativistic Heavy Ion Collider.

In doing so, not only was he noted for expanding his engineering expertise into a new area, but he was also commended for passing on to younger engineers and designers the knowledge that came from his years of experience. In June 1988, he was promoted to a senior project engineer.

Having resided in Commack, Anthony Meade is survived by his wife Katherine Meade, their daughters Kathleen Quartararo and Eileen Rothmeier, their sons Gerard Meade and James Meade, and eight grandchildren.

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Valerie Bridgett, a high school trainee clerk who worked in the Accounts Payable Section of the Fiscal Division, died Wednesday, August 19, along with her aunt, Lucy Deweese, and cousin, Evangeline Chadwick, following a car accident at the intersection of Longwood Road and William Floyd Parkway. Bridgett was 18 years old.

A 1992 graduate of Longwood High School, Bridgett took part from October 1991 to May 1992 in BNL's High School Cooperative Program, whereby students from Longwood and other area high schools are provided with part-time jobs after school to help prepare them for the working world.

Bridgett returned to the Lab on July 6 in the same position, but full-time, as part of the Youth on Campus Program.

According to Accounts Payable Supervisor Anne Corr, Bridgett had said that she was working at the Lab to save money for college. She had planned to go to Norfolk State University in Virginia this fall, to major in computer science or psychology.

In remembrance, says Corr, "Valerie was a super worker, a fine lady who was loved by all. Everybody loved her smile. This is a terrible shock for us."

A former resident of Medford, Valerie Bridgett is survived by her uncle, Herman Deweese. Funeral arrangements were incomplete at press time. Contributions in Bridgett's memory may be made through April Donegain, Bldg. 134A, Ext. 2459.

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A former custodian, **Santoria Fountaine,** who retired from the Plant Engineering Division on April 15, 1989, died on July 19 of cancer. He was 66. Fountaine began his 22-year association with the Lab on August 29, 1966, as a janitor in the former Plant Maintenance Division. Having resided in Coram, Fountaine is survived by his wife Ruth; three sons: Tracy Fountaine of BNL's Safeguards & Security Division, Conrad Fountaine and Kevin Fountaine; three daughters: Brenda Fountaine, Judith Clark and Crystal Trollinger; and eight grandchildren.

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Retiree **Charles J. Lyons** of Sag Harbor died on July 22 at the age of 70. He had started work at the Lab on May 5, 1952, as a patrolman trainee, and, 32 years later, retired on March 2, 1984, as a storeskeeper in the Supply & Materiel Division. He is survived by two sons: Carl Lyons and Charles Lyons Jr.; a daughter: Frances McArdle; and five grandchildren.

On Display: Tapestries By Pakistani Children

From lions, tigers and peacocks to camel caravans; from women carrying water on their heads on the slopes of the Himalayas to fishermen dragging their nets on the shores of the Arabian Sea — these amazingly varied, children's-eye views of jungles and Pakistani village life will be on display in a tapestry show sponsored by the BERA Art Society, in Berkner Hall, Room B, all next week, including Sundays.

Each tapestry, known as a gabba, is designed and made entirely by the children in hand-dyed wool backed with cotton. The traditional chain stitch they use traces back 2,000 years to Kashmiri embroidery found along the silk route. A video made in Pakistan of gabba crafters and their surroundings will also be shown.

Exhibition hours will be 10 a.m. to 3 p.m. on the two Sundays, August 23 and 30 — hours that coincide with the Lab's free public tours. From Monday through Friday, August 24-28, hours will be 11:30 a.m. to 1:30 p.m., and on Monday, August 24, from 5 to 7:30 p.m. Homemade refreshments will be offered at the lunch and evening receptions on Monday.

Catch a glimpse of
GLANCE
playing in Berkner Hall
weekdays, 11:30 a.m. to 1:30 p.m.
Show changes every Tuesday.

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Equipment Demos

On Tuesday, August 25, representatives from Keithley Instruments will be in Berkner Hall from 9 a.m. to 4 p.m., to consult on electrical measurement applications. They will demonstrate their new digital multimeter model 2001, as well as digital voltmeters; current amplifiers; sinks, sources and electrometers for such uses as IV characterization; direct digital-function generators; LCZ analyzers; and an 80-channel, half-rack matrix/mux controller. Literature will be available.

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Tektronix, Inc., will host a product show on Wednesday, August 26, from 10 a.m. to 2 p.m., in Berkner Hall. Products to be demonstrated will include oscilloscopes, logic analyzers, spectrum analyzers, FFT analyzers, color printers and x-terminals. Free coffee and doughnuts will be served.

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Zenith Data Systems and Atlantic Business Systems will display notebook computers that can do double duty as desktop PCs, in a demonstration in Berkner Hall on Thursday, August 27, from 10 a.m. to 2 p.m. Products shown will include the Z-Note series, and technical experts will be on hand to answer questions.

Arrivals & Departures

Arrivals

Radoslav R. Adzic.....App. Science
Jane L. O'Brien-Fox.....Staff Serv.
Frederick P. Orsatti.....Accel. Dev.
Mark Peragine.....Accel. Dev.

Departures

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

Susan P. Lees-Miller.....Biology
Paul D. Levin.....Biology
Joseph T. Rogers.....NSLS
Virender K. Sharma.....Chemistry

Sybase Meeting

BNL's Sybase Local Users Group will hold its first meeting on Wednesday, August 26, at 1:30 p.m., in the CCD Seminar Room, Bldg. 515. The agenda includes accessing the Sybase server from the various platforms on site and discussing today's third-party user interfaces. Users are invited to come prepared with suggestions and problems.

For more information, contact Susan Eng, Ext. 7988, or send E-mail to sge@bnl.gov.

Ticket Sales Are Heating Up!

The picnic will be held, rain or shine, from 11 a.m. to 7 p.m., with refreshments, games, races, softball, tennis, volleyball and all sorts of fun. Bring your own food or buy hot dogs, hamburgers, etc. Tickets are $3 (free for kids under three) and are now being sold first come, first served, at the BERA Sales Office at Berkner Hall, Ext. 3347; and by Michelle Cummings, Ext. 2077; Renée Flack, Ext. 3316; Liz Mogavero, Ext. 3940; Betty Pergan, Ext. 2937; and Rosalie Piccione, Ext. 3160. Sign up for the Fun Olympics with Mogavero, Bldg. 510A, or Pergan, Bldg. 179A.

Mum's the Word

A Mum Sale will be held outside the Cafeteria next Thursday and Friday, August 27 and 28, from 9 a.m. to 2 p.m. The sale will be run by the Association for the Help of Retarded Children, which will use the proceeds to fund activities for mentally retarded adults.

Call for Bowlers

Bowling League applications for the Tuesday night men's league in Port Jefferson and the Thursday night mixed league in Shirley are available at the BERA Sales Office. Priority registration for existing teams is due today; new team registrations are due by August 28. A captains' meeting will be held on Wednesday, September 2, at noon, in Berkner Hall, Room B. For information, call Debbie Keating, Ext. 7673, or Maryann Reynolds, Ext. 5241.

Cafeteria Menu

Luncheons

Monday, August 24

Soup: Turkey noodle	.80/1.10
Entree: Baked Fish	3.65
Entree: Chef's choice	3.20
Fitness: Stir-fried beef & broccoli	3.45
Carvery: Hot pastrami sandwich	2.95
Grill: Cheese quartet	2.95

Tuesday, August 25

Soup: Cream of broccoli	.80/1.10
Entree: Chicken cordon bleu	3.65
Entree: Chef's choice	3.35
Fitness: Zucchini frittata	3.20
Carvery: Hot roast beef sandwich	2.95
Grill: 1/4-lb. mushroom burger on roll	2.95
Special: Pizza w/choice of fixings	

Wednesday, August 26

Soup: Minestrone	.80/1.10
Entree: Manicotti w/meatless sauce	3.20
Entree: Chef's choice	3.20
Fitness: Seafood linguine	3.35
Carvery: Hot baked ham sandwich	2.95
Grill: Hot ham w/cheddar on bun	2.95

Thursday, August 27

Soup: Cream of cauliflower	.80/1.10
Entree: Pot roast of beef	3.45
Entree: Boneless breast of chicken Dijon	3.65
Fitness: Chef's choice	3.20
Carvery: Corned beef sandwich	2.95
Grill: French dip	2.95
Special: Blue dot on your plate? Free lunch!	

Friday, August 28

Soup: Maryland-style crab	.80/1.10
Entree: Baked fish	3.65
Entree: Pork Creole	3.35
Fitness: Chef's choice	3.20
Carvery: Turkey sandwich	2.95
Grill: Chicken breast on Kaiser roll	2.95

Classified Advertisements

Placement Notices

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

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

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

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

LABORATORY RECRUITMENT - Opportunities for Laboratory employees.

DD 0175. SECRETARIAL POSITION - Requires AAS in secretarial science or equivalent experience, excellent communication skills and a thorough knowledge of Laboratory policies and procedures. Will provide varied secretarial support to Department administration office. Responsibilities will include preparing manuscripts, reports and correspondence, and processing all domestic and foreign travel. WordPerfect 5.1 and IPAP travel experience required. Biology Department.

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside candidates.

DD 1063. TECHNICAL POSITIONS (term appointments) - Require AAS in mechanical technology or equivalent experience and good communication skills. Will be responsible for installing alignment monuments into concrete floors. Experience with optical columnation and precision setting of monuments is required; experience with core drills and installing anchor shields helpful. Accelerator Development Department.

LF 0171. BIOLOGY ASSOCIATE POSITION - Requires a bachelor's degree in biochemistry, molecular biology or biological chemistry. Lab courses or experience in modern molecular biology, protein chemistry and enzymology would be helpful; computer familiarity useful. Will participate in human genome project to make new DNA-cutting proteins by tagging DNA-binding proteins with small molecules that can cleave DNA. Responsibilities include the preparation and characterization of new DNA cutters, use of electrophoretic gels and electronic imaging or phosphorimaging using computers to measure DNA cleavage, and preparation of solutions and materials. May require occasional travel and irregular hours as necessary. Biology Department.

NS 6138. TRAINER POSITION - Requires a BS in physics, radiological science, health physics, safety or electrical engineering, and excellent oral and written communication skills. Experience in coordinating, developing and organizing skills-related or safety-related training programs preferred. Responsibilities will include managing, developing and organizing training programs related to safety and operations. Will instruct and evaluate the effectiveness of programs and instructors, as well as maintain job analysis and records. Alternating Gradient Synchrotron Department.

MK 8009. ADMINISTRATIVE POSITION - Requires a BS in science or engineering, preferably chemical engineering or biotechnology, experience commercializing high technology, and excellent analytical, marketing, organizational, communication, negotiation and planning skills. Will be responsible for conducting market evaluations of invention disclosures received from Laboratory staff, developing market and business analyses for potential projects, and developing collaborative research opportunities with industry. In addition, will market intellectual properties to potential licensees and industrial collaborators and negotiate research agreements with industry. Office of Technology Transfer.

NS 0692. BUDGET ADMINISTRATOR - Requires a BS in business administration with an emphasis in accounting (master's degree desirable), extensive pertinent experience, and excellent analytical, written and oral communication skills. Responsibilities will include the overall administration, coordination and control of assigned areas of the Laboratory budget. Will develop and review data to establish budgets; prepare and interpret budgets and related financial reports; and plan, evaluate and recommend improved budget practices and procedures. Budget Office.

Motor Vehicles & Supplies

91 TOYOTA TERCEL - 5-spd., ac, tape deck, blue, $7,750. Walter Loss, Ext. 3086.

91 GEO STORM - 5-spd., ac, p/s, p/b, air bag, am/fm, new struts & head gasket, metallic blue, warr., $6,200. Dusan, Ext. 5665 or 201-546-7014.

90 GEO PRISM - 4-dr., p/s, p/b, ac, a/t, am/fm cass., 55k highway mi., excel. cond., orig. owner, $6,500. 331-8170.

89 GEO METRO - 5-spd., 4-dr., red, ac, am/fm, 81k mi., $2,995. Joe, Ext. 2898 or pager 0925.

89 CHEVY CAVALIER - a/t, p/s, p/b, ac, sunroof, Craig removable stereo, black int., metallic silver ext., $5,200 neg. P. Fish, Ext. 5320.

89 DODGE SHADOW CSX - limited production, 2.2 liter, turbo, 5-spd., Shelby Aero pkg., ac, 4-wheel disc., $6,000. Charlie, Ext. 7638.

89 PONTIAC GRAN PRIX - 2-dr., gray, a/t, ac, 60k mi., $6,500 firm. Pat, Ext. 2539.

89 COLEMAN POP-UP - tub & shower, hot water, refrig., heater, awning, queen bed, must see, $5,000. 474-3080.

87 BMW 325ES - black, 6-cyl., 5-spd., every option, sunroof, radar, cruise, ac, asking average retail value $10,300. Michael, Ext. 4987.

87 TOYOTA MR2 - T-top, a/t, ac, p/s, p/b, cruise, am/fm stereo cass., excel. cond., extras, $7,200 neg. Ext. 5922 or 475-2870.

87 MAZDA 323LX - sun/moonroof, p/l, p/m, cruise, am/fm cass., new tires, exhaust $3,950 neg. Jill, 734-5066.

86 CHEVY CELEBRITY - s/w, 6-cyl., cruise, a/t, ac, am/fm, p/s, p/b, new brakes & muffler, $1,800. Igor, Ext. 5801.

85 BUICK SKYHAWK - 2-dr., black, p/s, p/b, am/fm stereo, ac, new battery, good cond., asking $2,350. Mike, Ext. 3981.

85 JEEP CJ7 - 6-cyl., p/s, 63k mi., new tires & summer & winter tops, excel. cond., $5,500 neg. 878-6729 after 4:30 p.m.

85 CAPRI 5.0 - rare, looks just like Mustang GT, black, T-top, a/t, ac, must see, $5,000. Sharon, Ext. 2517 or 698-2798.

84 MAZDA B2000 PICKUP - 82.5k mi., new tires, battery, 24 mpg, cap, must sell, $2,000. Joann, 472-6742.

83 MAZDA GLC - h/b, blue, 4-spd., m/t, runs well, $800. Warren, Ext. 4939 or 924-7552.

82 VW JETTA - 90k mi., am/fm stereo cass., Pirelli tires, new fuel inj., distributors, batt., alt., starter, needs minor work, excel. body, $1,200. Ext. 3593.

81 TOYOTA COROLLA - high mi., runs well, $750. Ute, 751-5050 eves.

80 HONDA PRELUDE - runs well, some rust, some dents, $500 neg. Jack, Ext. 2907 or 928-3545.

74 CHRYSLER - s/w, Town & Country, a/t, $250. Tony, 698-9274.

73 OLDSMOBILE CUTLASS - runs well, $300. Bill, Ext. 4201 or 563-1940.

70 CHEVY CHEVELLE - V-8, a/t, ac, 2-dr., needs timing chain, 74k orig. mi., some rust, $400. Glenn, Ext 4987.

66 MUSTANG - needs body & brake work, 6-cyl. motor not started in 2 yrs., int. good cond., $400 neg. Frank, Ext. 4446.

CHEVY 454 BIG BLOCK - new cam, disassembled, good project motor, $600 neg. Ed, 661-9155.

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

Att: Buyers — Don't Leave Sellers Waiting

An employee wrote about a problem that may be affecting other Bulletin readers:

I ran a few ads in your Bulletin. Several people have answered by phone, promising to come by and see the article for sale. I wait and wait, but they never show up. My time is wasted. Can't they have the decency to phone back and say they changed their mind? It is a courteous thing to do.

We agree. It is courteous — and simple — to call back, so please take a few moments of your time to save someone from waiting hours for a no show.

VIKING POP-UP TRAILER - sleeps 8, needs some work, best offer. Rich, Ext. 2043 or 435-4316.

RUNNING BOARDS - Dee-Zee, aluminum, never used, 67" long, orig. $180, asking $90. Chris, Ext. 2022 or 395-6112.

PARTS - front end & doors, 1981-84 Chevy Monte Carlo, excel. cond., $325/all. Jon, 281-7935 eves.

CAP - A.R.E. alum. w/ladder rack, side-opening door w/tool bins, rear-opening glass door, black, Mazda, etc. excel. cond., Mike, Ext. 3981.

SCOOTER - Yamaha Riva, street legal, runs well, excel. cond., $200. Bill, Ext. 2419.

ENGINE - '85 Chevette, 37k mi., plus other parts, tires, new battery. Duke, Ext. 2957 or 289-3586.

Boats & Marine Supplies

29' CHRIS CRAFT CATALINA - 1985, sleeps 6, 106 hrs. on twin 230 Mercs, new canvas, asking $28,500. Ext. 4724.

22' MARSHALL CATBOAT - freshwater-cooled Yanmar diesel, VHF radio, depth sounder, Danforth compass, head. Gordon, 477-2269.

21' RENKEN - 1980, cuddy cabin, port-a-potty, Volvo engine, fish finder, etc., $2,900. 878-5825.

15' GATOR - fg, 5 yr. old 40-h.p. Mariner like new, boat older, trailer, DF, life preservers, cushions, $1,100 or best offer. Frank, 929-0916.

14' FOLBOT - nonfolding, 2 seats, 2 dbl. paddles, Touring Kayak, $250 neg. Bernie, Ext. 4842.

SUNFISH - all equipment, used 1 season except hull, daggerboard dolly, asing $600. 286-1097.

WINDSURFING EQUIPMENT - 2-piece mast, new, $50; weed fin, new, $45; North 4.5m², Izzy Wave sail, $130. Joe, Ext. 4139.

MOTOR - 1989, 48-h.p. Evinrude, used 2 seasons, $1,200 neg. Ed, 661-9155.

MOTOR - Universal Atomic 4, F.W.C. Marine engine, 30-h.p., V-drive, needs rings, no comp., one cyl., $500. Walter, 938-8353.

CLAM RAKES - 2, commercial, $10 ea. Marilyn, Ext. 2259.

Furnishings & Appliances

BEDROOM SET - solid oak, queen-size bed, $1,500; dining room set, Ethan Allen, table w/2 leaves, china closet, portable bar, $1,300. 751-8381.

DINING ROOM - 6 chairs, 2 leaves, table pads, lighted china closet, buffet, mint cond., $1,500. John, Ext. 2075 or 924-3915.

DINING ROOM SET - cherry, 6 chairs, table, china closet, buffet, $1,500; kitchen set w/4 chairs, $175; king headboard, $75. Ext. 4519 or 924-6051.

DISHES - porcelain china, service for 4 or 8, pastel flower design, brand-new, never used, $40/four, $75/eight. Ext. 5922 or 727-3863.

END TABLE - Colonial, $10. Marilyn, Ext. 2259.

KITCHEN SET - 48" round table w/leaf, 4 swivel bucket chairs, $150. Penny, Ext. 2625 or 467-8297.

MICROWAVE - full size, electronic control, good cond., $40. Frank D., Ext. 2022.

MOVING SALE - home entertainment center, redwood table & bench, desk, charcoal grill, couch, 10-spd. bike. Rene, 331-7143 eves.

REFRIGERATOR - Frigidaire, 20.6 cu. ft., white, 2 mo. old, orig. $700, asking $500. 325-1246.

REFRIGERATOR - 3.9 cu. ft., for office or dorm, excel. cond., $90. Ext. 3701 or 751-8128 eves.

ROOM DIVIDER - wooden, 2'x4'x7' high, w/drawers, cabinet, shelves, both sides, $75; Tom, Ext. 4507 or 878-1060.

SINK - Kohler, white, cast iron, 2 basin, new, $25. Glenn, Ext. 4987.

SOFA BED - queen size, $300; washer & dryer, $50/ea.; large microwave, $125; compact microwave, $75. 821-3762.

VACUUM CLEANER - good cond., asking $40. Nakano, 345-3948.

Tools, House & Garden

HOUSE PLANTS - mature, some exotic species, reasonable. 727-8631.

JOINTER - Jet, 4"x32" long, ¾ h.p., like new, $150, Bill, Ext. 2419.

LAWN VACUUM - $75. Ext. 4519 or 924-6051.

MAPLE TREES - Japanese red, $10-$45+; well pump, 1½ h.p., FW, 3 stage, $75; Deming shallow well pump, ¾ h.p., $75. 265-6542 after 6 p.m.

PATIO FURNITURE - 3-piece Bistro set, 28" diameter table, white wrought iron, $30. 744-3744.

SKYLITES - venting, acrylic, one each, 45"x30", $75; one each, 32"x24", $50. Dennis 878-0071 after 5 p.m.

TABLE SAW - Grizzly, 10", contractor's type, 1½ h.p., like new, $250. Bill, Ext. 2419.

TABLE SAW - on stand, 8" blade, $35; 2 bottom plow for Ford tractor, 3-point hitch, $100; used electric motors, good, $5/ea. 878-6637.

WOOD PANELING - ¼" walnut, good quality, used, over 12 sheets, $35/all. Tom, Ext. 4507 or 878-1060.

WOOD STOVE - Glacier Bay, wood or coal, $25. Roger, Ext. 7518 or 878-8847.

Sports, Hobbies & Pets

BIKES - 20" GT Performer, $120; 20" California Mongoose, $200; Scooter w/hand brakes, $15. George, Ext 4453.

BIKE - ATB, 18" frame, Shimano 500LX components, toe clips, U-lock, 1 mo. old, orig. $450, asking $350. Michael, Ext. 5472.

COMPOUND BOW - Golden Eagle turbo hawk, 29-30" draw, 65 lb. pull, left-handed w/sighter, quiver & rest. Mark, Ext. 4289.

GOLF CLUBS - Lynx Radials 3-PW, $125; metal woods, Taylors 1,3,5, $100; metal woods, closed face, $100. Hank, Ext. 3894 or 744-9812.

LIVE CHICKENS - also turkeys & Sheltie puppies w/papers & shots. Ramona, 929-3889.

POOL MOTOR - 1¼ h.p., brand-new, never used, good for above ground or small built-in, orig. $200, sell for $150. 475-2870.

PUPPIES - mini Dachshunds, shots, papers, 8 wks. old, very cheap. 821-2854.

ROWER/SKIER - $75; electric typewriter, Casiowriter, $25. 821-3762.

Audio, Video & Computer

COMPUTER - 386SX, IBM Ram, 40 Mb HD, 3.5", 5¼" floppy, modem, mouse, IBM VGA color monitor, $875. Tom, Ext. 4563.

COMPUTER - XT compatible, EGA color monitor, 5¼" disk drive, mouse, 32 Mb hard drive, Panasonic dot matrix printer. Steven, Ext. 5694.

STEREO - Sony, 75-watt receiver, turntable, CD, cassette, stereo Beta VCR, full remote control, $600. 472-4133.

TAPES - VCR, new Maxell GP, $3/ea.; El Nikkor enlarging lens 2.8, excel., $75. Susan, Ext. 7647.

Miscellaneous

AIRLINE TICKETS - 2, round trip, Islip-Ft. Lauderdale, FL, 9/5-9/12, $125/ea. Toni, 821-0379.

AIRLINE TICKET - Islip-San Diego, CA, 1-way, 9/13, $75. Shen, Ext. 3836.

ELECTRIC TYPEWRITER - $75; wrought iron disc VCR holder, $25; redwood table, $30; yachting chair, $20; 22" box fan, $18. Kathy, 744-2203.

MET OPERA TICKETS - 2, *L'Elisir D'Amore*, Kathleen Battle, Sat. matinee, 12/5, rear orchestra, $60/ea. Joyce, 289-5770 after 6 p.m.

RING - 14k gold, 2 carats total diamond weight, cluster, size 10, comes w/$3,100 appraisal, asking $1,900. Ruth, Ext. 3305.

SNEAKERS - Keds, women's size 7, white oxford, new, in box, $20. Ext. 5873.

Free

BEDROOM DRESSER - 6 drawers w/2 end tables, you pick up. Glenn, Ext. 4987.

COUCH - 7', beige, good cond., you pick up. Marilyn, Ext. 2259.

DOG - 8 mo. old, neutered female, has all shots, need loving home. Kelly, 563-6062.

RABBITS - four + hutch. 281-2746.

Yard & Garage Sales

BELLPORT - Sat.-Sun., 8/22-23, 9 a.m.-3 p.m., multifamily, 16 Second Street.

HOLBROOK - Sat. 8/22, 9 a.m.-4 p.m., multifamily, windows, furn., more, Ginger La. off Springmeadow Dr., Woodgate Village Condos.

PATCHOGUE - 8/22-23, 9 a.m.-4 p.m., rain/shine, family antiques, collectibles, misc., 175 Grove Ave.

PORT JEFFERSON STATION - 8/22-23, multifamily, 444 North Bicycle Path. Pam, 473-9114.

Wanted

BIKE - woman's 3-spd., for small 5'1" person, also used regular man's, any spd. bike, reas. prices. 286-1165.

BOWLERS - for Tue. night men's league 6-9 p.m., in Port Jeff. Nick, Ext. 2461.

CRADLE - for 26' sailboat, boat draws 4', new or used. Mike, Ext. 5972 or 744-4579.

HOUSESITTER - in Shirley, Labor Day weekend. Kymi, Ext. 3165.

MOTHER'S HELPER - for approx. 4 wks., Sept./Oct., 3 nights/wk., 3:30-12:30 in my home for 3 children, mature, w/own transp. Betty, 758-2653.

PARACHUTE - for Upton Nursery School, free or reas. Jane, 744-7336.

PEOPLE TO JOIN — Toastmaster's Club on site, improve your thinking, listening & public speaking. Darryl, Ext. 7892, or Mike, Ext. 3189.

PIGEONS - excess racers, nuisance birds, will come w/pickup trap if necessary. Scott, Ext. 5320 or 929-4563.

RECORDS - call Frank before throwing them away, rock & roll & polka, 50s, 60s, etc. Ext. 3120.

ROOMMATE - to share 2-bdrm. house, 15 min. to Lab., cable, sec. & refs. Bob, 821-2875.

TIRES - good cond., P205/758-14 or F78-14. Susan, Ext. 7647.

TOYS - Little Tykes, in good cond., will pay $. 474-3080.

VOLUNTEERS - to serve beer & soda at Family Picnic 9/19. Contact B. Brown, Bldg. 490, or K. Sutter, Bldg. 480, by mail only.

In Appreciation

Deep appreciation is extended to all those who expressed sympathy and shared our loss. Thank you very much. — Nelson Tyler & Family

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