

## AUI Chairman Sends Message To Lab Staff

Following Tuesday's announcement that Associated Universities, Inc. (AUI) will not submit a bid to renew its contract to manage BNL, AUI Chairman of the Board Paul Martin sent the following message to the staff of Brookhaven National Laboratory:

"... Until now, AUI, which established BNL and has managed it for fifty years, has kept open the option of competing for the BNL contract. We have concluded that such an attempt would be futile.

"We take pride in, and like to think we can take a bit of credit for, a half-century of outstanding achievements in many fields of science. AUI management has also, with minimal bureaucracy, scrupulously safeguarded your health, safety, and environment — and those of your neighbors.

"Through your efforts and ours, the environmental problems that were cited by the Department of Energy in terminating our contract are being properly managed and rapidly remedied. They never posed a threat to you and your neighbors.

"Since we have a deep affection for you, the Laboratory, and its surrounding community, members of the Board and staff of AUI have gone out of their way to cooperate with potential successors whose stated values and concerns are similar. We shall continue to do so.

"We trust that the new management structures being crafted by teams which have a strong academic component will preserve the Laboratory's scientific excellence, productivity, and atmosphere, and that the Lab and its neighbors will flourish at least as safely and soundly under a new flag as they have for the last 50 years under AUI.

"We shall continue to operate the Laboratory while that successor is selected and to cooperate fully with that successor until it is ready to assume full responsibility for the Laboratory.

"Our best wishes to you all."

## AUI Declines to Submit Bid to Manage BNL

Calling it "an extremely difficult decision," Lyle Schwartz, President of Associated Universities, Inc. (AUI), the management contractor that has operated BNL since its inception 50 years ago, announced this past Tuesday that AUI will not submit a bid as the U.S. Department of Energy (DOE) seeks bids for management of BNL.

On May 1, during a visit to BNL, Energy Secretary Federico Peña terminated DOE's contract with AUI, saying the action was "a result of unresponsiveness on the part of AUI to address DOE's needs and expectations for community relations and environment, safety and health stewardship."

At that point, DOE initiated a competition to select a new contractor team for BNL. When Peña was asked whether AUI would be permitted to submit a proposal, he replied that AUI could do so, but that it would have to overcome "high hurdles."

The hurdles proved insurmountable. In its Tuesday press release announcing the decision, AUI noted, "Despite AUI's strengths in scientific management, its extensive efforts to team with others in the rebid process have been fruitless."

So far, two potential management teams have publicly announced their intention to bid for BNL's management: a consortium of the State University of New York at Stony Brook and Battelle Memorial Institute, and another team-

ing Rensselaer Polytechnic Institute with Westinghouse Corporation.

All proposals are due by August 28. Based on written proposals, oral presentations and negotiated contracts, DOE's Source Evaluation Board will provide evaluations of the proposals to DOE's Source Selection Official, Franklin Peters, who will make the final decision on the Lab's next contractor in November.

In the statement that accompanied AUI's press release, Lyle Schwarz said, "... For 50 years, under AUI management, Brookhaven has conducted scientific research of the highest quality. AUI has played a major role in Brookhaven's success, harnessing the resources of American academia and government to build and operate facilities and perform research on a scale not supportable by individual universities. AUI has operated Brookhaven safely and effectively with minimal bureaucracy."

Schwartz joined AUI as President less than two months before the contract was terminated. He noted that Peña's stated basis for terminating AUI's contract "was that AUI's management actions and inactions were deficient with respect to environment, safety and health matters."

The termination followed an almost four-month period of turmoil after the January discovery of the leak of tritium-contaminated water from the spent-fuel pool of BNL's High (continued on page 2)

## Brookhaven Research Helps Microbial 'Miners' Make Geothermal Energy a Clean Power Resource

It is the microbial equivalent of the 19th-century Yukon. Tiny, but hard-working, bacteria pan streams of water for gold and other valuable metals. The miners work in a harsh environment and drink lots of poison — they even seem to thrive on it. And they may be the key to an entire industry.

The industry is the geothermal power industry, a promising source of renewable energy, and the miners are sulfur-eating bacteria called *Thiobacilli*. The bacteria are a key part of an award-winning process developed in BNL's Department of Applied Science (DAS), which cleans toxic waste from geothermal energy plants and simultaneously recovers valuable metals.

"We've developed new... environmentally friendly and responsible advanced technologies for the treatment of geothermal sludges and brines, which lead to full recovery and recycling of the by-product," says Eugene Premuzic, who heads the DAS research team that developed the process.

### Environmental Award Winner

The DAS research was recently rec- (continued on page 3)



The Department of Applied Science geothermal energy team displays the "Certificate of Environmental Achievement" they recently won for work leading to cleaner and more economically efficient use of geothermal energy resources. The award was for a project entitled "Advanced Biochemical Processes for Geothermal Brines" and was one of 1,600 awards presented nationally by the National Awards Council for Environmental Sustainability. The team includes (front, from left) Michael Bohenek, chemical engineer; Eugene Premuzic, chemist and group leader; Wei Min Zhou, physicist; Jeffrey Yablon, biologist; and (back) Mow Lin, chemist. — Photo by Roger Stoutenburgh

## Team Named to Spearhead Laboratory's Self-Assessment Effort

How well does BNL management assess its performance? What about individual workers? Where could the Lab's self-assessment be improved or enhanced?

Those are some of the questions that the members of a new Self-Assessment Improvement Team, appointed by Deputy Director Mike Bebon and led by John Taylor, Department of Advanced Technology (DAT), will begin to answer next week, as they interact with the Laboratory community in a major thrust of the BNL Self-Assessment Enhancement Project.

The project comes out of Brookhaven's Management Systems Improvement Program (MSIP), which is aimed at integrating good environment, safety and health (ES&H) prac-

tices into all the Lab's programs.

BNL's interim management team initiated the MSIP this past spring, as part of its commitment to a broad-based change in operations. The MSIP began as a response to the findings in the Integrated Safety Management Evaluation report that the U.S. Department of Energy (DOE) undertook following the discovery last January that tritium-containing water was leaking from the spent-fuel pool of the High Flux Beam Reactor.

The Self-Assessment Improvement Team (SAIT), explained Taylor, will work to have all BNL employees, guests and contractors take a good look at their jobs, keeping ES&H — how it affects their work, how their work affects it and how it can be improved — uppermost in their minds.

"One of the first things to do," Taylor said, "is to assess where we are now, then compare our programs to successful safety-assessment programs in industry and DOE, and make suggestions to improve our program."

### Feedback Needed

"To do this," he continued, "we must have feedback. We will need a baseline on the Laboratory."

So, beginning next week, Taylor and his team will gather information for that baseline by meeting with individuals to gain perspectives at all levels, in most Lab departments and divisions, and by reviewing existing documentation. Also in the planning stages is a possible sitewide survey. After compiling the data collected, the SAIT will issue recommendations for

a Labwide self-assessment plan by early October.

Working with Taylor on the Self-Assessment Improvement Team are: Mike Bannon, Alternating Gradient Synchrotron (AGS) Department; James Bullis, Medical Department; Bob Desmarais, DOE Brookhaven Group (observer); Steve Hulbert, National Synchrotron Light Source Department; Jim Hurst, Department of Applied Science; Chris Johnson, Plant Engineering (PE) Division; Dan Galligan, PE; Andrew Mc Nerney, AGS; and Tom Sperry, Safety & Environmental Protection Division.

In addition, four members of DAT's Engineering Technology Division — Bill Brown, Jerry Cadwell, Kathy Nasta and John Usher — will serve as (continued on page 2)

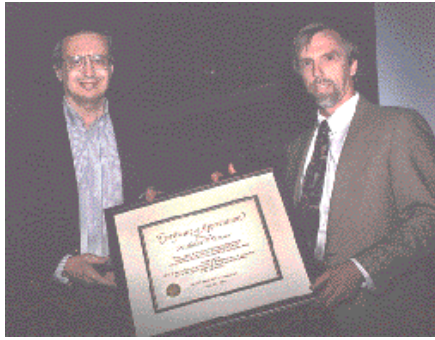


## Silver Linings Vs. Clouds: AGS/RHIC Users Meeting

Marking another year of achievement, with goals met at both the Alternating Gradient Synchrotron (AGS) and Relativistic Heavy Ion Collider (RHIC), the AGS/RHIC Annual Users Meeting was held May 22-23. However, said Thomas Kirk, BNL's Associate Director for High Energy & Nuclear Physics, "The silver linings keep attracting clouds."

Two issues concerning users were the choice of a new contractor to run the Lab and the future of high-energy physics at the AGS, which is being considered by the Gilman subpanel of the High Energy Physics Advisory Panel (HEPAP). After visiting the State University of New York at Stony Brook and BNL next September, the subpanel, two of whose members are BNL Physics Department staff, Sally Dawson and Milind Diwan, is expected to make a final recommendation to HEPAP in March 1998.

The AGS remains the proton synchrotron with the world's highest intensity proton beam, having been brought up to its peak of  $6.33 \times 10^{13}$  protons per pulse in record time this year. A fast-extracted beam was established for the muon g-2 experiment, and a new world record of  $1.7 \times 10^9$  gold ions accelerated in the AGS was set up during the successful RHIC sextant test last January. But run-



Roger Stouenburgh

**Representing the AGS/RHIC Users' Organization, William Molzon (right) of the University of California, Irvine, Chairman of the AGS/RHIC Users Group Executive Committee, presented a certificate to Nicholas Samios, BNL Director, 1982-97, on the occasion of his return to the Physics Department as Senior Physicist and AUI Distinguished Scientist and to full-time particle physics research and science-policy studies.**

ning time for protons dropped for the second year, this year to 12 weeks for the combined slow and fast extracted beams. In 1996, running time was 16 weeks; in 1995; 25 weeks.

At RHIC, the sextant test sent gold beam through the first sixth of the collider to be completed — more than 600 meters. The test involved every

accelerator system that will make up RHIC and proved the soundness of the design. This unclouded event appeared to have been preceded by another, when, last summer, the Nuclear Science Advisory Committee agreed to the RHIC operating budget. However, Kirk reported, DOE has yet to identify all the funding.

Later, detailing funding from the National Science Foundation (NSF), Jack Lightbody, NSF's Nuclear Physics Program Officer, said that \$81 million had been allocated over five years to the Large Hadron Collider at CERN, Switzerland, subject to approval by Congress. This sum will be added to the planned DOE contribution of \$450 million over eight years.

AUI President Lyle Schwartz stressed the importance of users to BNL and also the need for scientists to ensure the public's better understanding of scientific achievements. This viewpoint was emphasized in a later talk by Marvin Goldberg, NSF Particle Physics Officer, on the education mission of the Foundation, which plans to support initiatives to extend science education. To make the point clearer still, Peter Rosen, Director of DOE's Office of High Energy & Nuclear Physics, said, "You have to be ambassadors as well as users."

— Liz Seubert

## Sessions Scheduled On HFBR's Future

BNLers are invited to learn about the decision-making process that the U.S. Department of Energy (DOE) and BNL will follow to decide the future of the High Flux Beam Reactor (HFBR) — and to provide their input into that process — at an information session on Wednesday, August 13, from 11 a.m. to 1:30 p.m., in Berkner Hall.

They are also welcome to join other Long Islanders at a public information session on Thursday, August 14, from 6 to 9 p.m., at the Mastic-Moriches-Shirley Community Library, on William Floyd Parkway in Shirley.

Brookhaven's HFBR is a world-renowned research facility used by hundreds of scientists annually for studies in chemistry, physics, materials science, medicine and biology. It is currently shut down, as a result of the discovery earlier this year that the basement-level pool used to hold its spent fuel is leaking. The leak has contaminated groundwater directly south of the HFBR under the BNL site, and DOE has committed to removing the spent fuel and water from the pool to prevent further leakage and groundwater contamination.

The process to decide the future of the HFBR will culminate in early 1998 with a decision by Secretary of Energy Federico Peña either to work toward restarting the HFBR or to decommission it. The Secretary's decision will take into account the scientific, budgetary, environmental and community issues related to the reactor.

Next week's information sessions will be the first in a series of local events on the HFBR's future that are planned for upcoming months. Future events will be announced as dates are known.

transferred to DAS in January 1969, as a secretary.

**James Biamonte**, who retired from the Staff Services Division as a residence custodian on April 20, 1974, died on July 30. He was 78 years old. He had joined the Plant Engineering & Planning Division on December 8, 1969, as a janitor, then came to Staff Services in October 1970, after a six-month separation from the Lab.

## In Memoriam

**David Brady**, a technical associate in the Physics Department, died on Friday, June 20. He was 63.

Brady arrived at BNL in 1961, when he joined Physics as an intermediate technician. Three years later, he was made Advanced Technician and was promoted steadily through the years, becoming a Principal Technician in 1979, Technical Specialist in 1980 and Senior Technical Specialist in 1984. He attained his last position, Technical Associate, in 1990. Brady moved to the Alternating Gradient Synchrotron (AGS) Department in 1971, returning to Physics in 1982.



David Brady

During his more than 35 years at the Lab, Brady worked on many projects, including the Bubble Chamber and the multi-particle spectrometer at the AGS. His present supervisor, Jim Frank, Physics, described Brady's work as an electromechanical technician in the Department's Electronic Detector Group, where he contributed greatly to the design, construction and maintenance of a large AGS experiment, E787, which has as its primary goal the search for very rare decay modes of the kaon particle.

"Among the many things that Dave did was to design and build the safety system for the counting house, where our data are collected," Frank said. "This large system continuously monitors the voltages and temperatures of dozens of racks of electronic equipment and alerts the experimenters to any abnormalities."

Brady was also well-known among his coworkers for his uncanny remembrance of times and dates, his enjoyment of commuting to work by bicycle, and his devoted work for the Boy Scouts, for whom he often organized weekend wilderness camping trips and eventually became Chairman of the

local Benjamin Talmadge District of the Suffolk County Council.

"Dave was a very dedicated and systematic worker," said Frank. "His demeanor was quiet, but he was always warm, friendly and very interested in helping others. As his illness became increasingly severe, he demonstrated tremendous personal courage. When many others would have pushed their work aside, Dave continued steadily and reliably. In fact, during any slack time, he often offered to help other work efforts and refused to take any possible advantage of his illness in order to 'take it easy.'

"Dave was a true gentleman," concluded Frank. "He graced us all with his presence, and he is greatly missed."

A resident of Middle Island, Brady is survived by his wife Karen, his son Matthew and daughter-in-law Sheri, his son Mark, and brothers Jerry and James in Indiana. — Liz Seubert

*The following retirees passed away recently:*

**Alfred F. Nielsen**, who retired on September 3, 1970, as a senior designer in the Mechanical Engineering Division, died on May 18. He was 77 years old. He had joined the Lab on July 12, 1954, as a designer with the Accelerator Project.

**Andrew J. Reichlen**, who spent 12 years in the Central Shops Division (CSD) before retiring on September 30, 1974, died on June 17, at the age of 75. He had started in CSD on February 12, 1962, as a machinist, and he was a tool & instrument maker at the time he retired.

**Steven C. Biemer**, who retired from the Plant Engineering (PE) Division on January 25, 1993, died on June 18. He was 65 years old. He joined BNL's Plant Maintenance Division on June 8, 1964, as a facilities engineer II, and, at retirement, he was a senior project engineer in PE.

**George E. Fogarty**, who was a rigger in the Plant Engineering Division when he retired on September 24, 1973, died on June 22. He was 71 years old. He had joined the Lab as a laborer with the Grounds Maintenance Group on September 7, 1955.

**Eulyne D. Turner**, whose almost 18 years at BNL were all spent in the Fiscal Division, died on June 22, at the age of 71. She had started on April 21, 1969, as a clerk, and retired on February 21, 1987, as an office services assistant.

**Earl E. Mesaros**, a stationary engineer who retired from the Plant Engineering (PE) Division on February 28, 1981, died on June 28, at the age of 65. He had

joined PE on October 29, 1973.

**Joseph L. Wiensko**, who retired from the Plant Engineering Division on December 18, 1977, as a driver, died on June 28. He was 68 years old. He had joined the Lab on April 20, 1964, as a janitor in the Plant Maintenance Division.

**Leo J. Fulhaber**, who was a machine shop supervisor when he retired from the Central Shops Division (CSD) on September 30, 1982, died on July 1, at the age of 76. He had originally joined CSD on August 7, 1961, as a machinist, the position he resumed when he returned from a two-year separation in March 1964.

**Joan P. Taylor**, an administrative specialist in the Department of Applied Science (DAS) when she retired on September 30, 1995, died on July 8, at the age of 58. Her 34 years at BNL began on June 12, 1961, when she joined the Department of Nuclear Energy as a secretary. She

## Safety Assessment (cont'd.)

expert consultants and facilitators, while further subject matter expertise will be provided by the Office of Field Support in DOE's Office of Environment, Safety & Health.

Last February, that Office published "Applying Industry Best Practices to Improve Self-Assessment Within the Department of Energy," which defined self-assessment as "the line organization's ongoing process for identifying and correcting weaknesses and promoting best practices."

The report emphasizes: "The entire organization must work together to actively promote an environment in which this self-critical attitude can thrive." This means that self-assessment encompasses activities completed by individual managers, supervisors and workers, as well as by teams working together.

The document explains that workers are responsible for continuously evaluating their own work activities and that of their co-workers, and feeding the results of these ongoing reviews back to their line management. Workers also participate in team evaluations to examine the overall conduct of the work in their group. The report notes that managers are responsible for verifying the quality of self-assessment activities completed by their employees, evaluating their own activities and, independently, that of their work group.

The DOE team that prepared the draft report reviewed more than 30 different self-assessment programs at various organizations, including chemical and processing industries, commercial nuclear power plants, DOE management and operating contractors, waste management and hazardous waste operations, and environmental construction companies. Three elements emerged as vital to the success of self-assessment programs: management involvement and commitment, employee involvement, and a positive self-assessment environment.

"These are the elements our team is trying to emphasize," said Taylor, "and to do this, we're looking for everyone's cooperation."

Anyone with questions about the project or information to share with the SAIT may call Taylor, Ext. 7005, or any of the other team members.

— Anita Cohen

## AUI Declines (cont'd.)

Flux Beam Reactor. While AUI and DOE have strongly different views of DOE's response to this problem, both agree on the following, as Schwartz said: "Conditions at Brookhaven did not and do not endanger anyone's health or safety — neither workers nor the residents living nearby. This conclusion was verified by the Suffolk County Department of Health and [DOE] itself." — Anita Cohen



## Celebrate: India and BNL Are Both 50 This Year!

To celebrate the 50th year of India's independence and the Lab's 50th anniversary, the BERA Indo-American Association (IAA) invites BNLers and their families to be guests at an "India Fest" on Saturday, August 16, at 3 p.m. in Berkner Hall. Aspects of Asian-Indian culture — art, music, fashions and cuisine — will all be part of the free festival. From 3 to 4:30 p.m., Indian classical music and dances will lure audiences into the auditorium, while displays of musical instruments, embroidered saris, jewels, ornaments and other artifacts will be on view in the lobby. As part of the special exhibit of bridal costumes from different regions of India, you can even have your face and hands decorated with the traditional designs used by Indian brides. Then, from 4:30 to 5:15 p.m., the festival will continue at the Recreation Hall, where, as guests of the IAA, you are invited to sample a variety of tempting and exotic Indian dishes.

**Nimisha Joshi, a pharmacist and trained Indian classical dancer who is the wife of Piyush Joshi of the Relativistic Heavy Ion Collider Project, will display some of her family treasure of ornaments, embroidery and other artifacts.**



Roger Stoutenburgh

## Nursery School Holds Enrollment

The Upton Nursery School, an on-site, parent-run cooperative, is accepting registrations of three- and four-year-olds for the 1997-98 school year, which runs from September 8 to mid-June at the Recreation Building in the apartment area. Classes are taught by Laura Williams and Rooshi Khalid on Mondays, Tuesdays and Thursdays, from 8:30 to 11:30 a.m.

BNL employees, concessionaires and visitors may enroll their children for \$100/month, with a three-month minimum. For registration materials or more information, call Jennifer Greene, 345-5194, or Michelle Hilton, 744-9443. Register children from now until school begins, but the program fills quickly, so sign up as soon.

## Have You Heard the News? Maurice DuBois Is WNBC Anchor

If TV newsman Maurice DuBois looks particularly at ease with Jane Hanson, who shares morning news anchor duties with him on WNBC's *Today in New York*, perhaps that's because he got an intensive course in working with women in 1984, when he was a summer student in the Public Affairs Office.



Maurice DuBois

Recalling the summer he spent reporting and writing for the Brookhaven Bulletin, DuBois said, "I got to work with about five or six women, and that in itself was a lot of fun."

More important, said DuBois, who was then a college freshman, "I got a broad variety of experience. I wrote on many different things." DuBois particularly remembered the feature story he wrote about BNL photographer

Mort Rosen, who is now retired, and science-related pieces, such as a story about a machine built at BNL to manufacture cable for use in superconducting magnets.

But DuBois was interested in journalism before he came to BNL. He had been sports editor of his high school newspaper at Earl L. Vandermeulen H.S. in Port Jefferson, and he had been a stringer for that town's *Village Times* (now the *Times-Beacon-Record*).

"I still remember my first page-one story," he said, "about a boat burning in the Port Jeff harbor."

When DuBois began contributing to the Bulletin in 1984, it was not the first time his name appeared in its ink: As a four-year-old, his picture had been featured in a 1969 spread on the Upton Nursery School, which he had attended by virtue of being the son of former Payroll Supervisor Maurice DuBois, who retired last year.

In 1983, the younger DuBois won

an AUI Trustee Scholarship. The Bulletin noted that he "plans to attend Northwestern University . . . major in journalism." And that's what he did.

At Northwestern, DuBois contributed to the newspaper, the magazine and the campus radio station. But it was a class he took during his senior year that convinced him to turn to broadcast journalism after graduating in 1987. His first job was at the NBC affiliate in Seattle, where he was a production assistant, then a reporter.

In 1990, DuBois moved to the NBC affiliate in Sacramento, where he was a reporter and anchor. When he joined Fox news in Chicago, in 1994, he was the weekend anchor.

He got the call to come to New York City to anchor WNBC's weekend morning news show last April. But, after about one month, he was moved to the daily morning news show.

"It's been a lot of fun," said DuBois, noting that, most of all, "It's home. I

had worked so many other places, and I hadn't been in New York for so long. I would like to stay here."

And it's different reporting the news at home. "In other places, I was more detached from the news," DuBois said. "Here, I'm more connected." Recent tragic news from Yaphank was more poignant because he had attended elementary school there, and a mention of a newsmaker's home being in Rocky Point brought back memories of Little League games he'd played in that town.

So, while it may be more difficult to maintain his reporter's objectivity when so close to home, DuBois does it well, as witnessed one recent morning when BNL was in the day's news.

Even though he has to be at work at 4 a.m. to prepare for his newscasts, which begin at 5:30 a.m., DuBois considers himself lucky. "I'm thankful for this," he said. "Some people go through life not knowing what they want to do." — Anita Cohen

## Geothermal (cont'd.)

ognized as one of 1,600 outstanding environmental programs from around the country by the National Awards Council for Environmental Sustainability, a coalition of environmental, community, business and government organizations led by the environmental group Renew America. The award-winning programs were included in the 1997 Environmental Success Index, a database that is accessible online at [http://solstice.crest.org/renew\\_america](http://solstice.crest.org/renew_america).

"By recognizing these innovative programs, we motivate the individuals involved to continue their efforts and provide others with successful models and the information necessary to initiate similar programs in their own communities," said Debbie Sliter, Renew America's executive director.

Geothermal energy generation taps water that has been heated by the

Earth's interior, and uses the hot water or steam to drive electricity-generating turbines. In 1994, geothermal energy accounted for 1.4 percent of electric power generation worldwide and 3.1 percent in the United States. The majority of the geothermal resources in this country are in the West, ranging from geysers in northern California to hot springs in Nevada.

"It's a very real, reliable, large-scale resource of energy both in the United States and globally," Premuzic says.

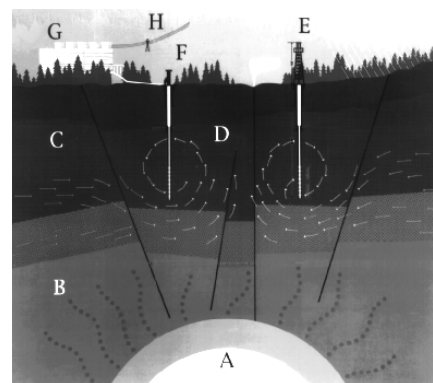
But geothermal energy development has been slowed by a significant environmental drawback. While the hot water cools during power generation, it generates brines and sludges that contain high concentrations of metals — which are both valuable and toxic.

For a 50-megawatt plant near the Salton Sea in California, for instance, one to two tons per hour of sludge are deposited from the cooling geothermal waters. The slag is rich in toxic metals like mercury, copper and lead, and therefore has to be shipped and landfilled as hazardous waste, which costs between \$200 and \$300 per ton.

Disposal of the salty, metal-laden water and sludge has been a major obstacle to environmentally and economically viable geothermal power generation — until now.

"We now have total recycling and a commercially viable product from what was considered a mixed hazardous waste, and therefore subject to very expensive environmental regulatory restrictions," Premuzic said.

Among the commercial products that may be produced are gold and platinum. The Salton Sea brine contains high quantities of both metals, and the DAS group is optimizing ways to use biomass to extract the precious



where it drives electricity-generating turbines. The electricity is sent to cities and other locations by transmission lines (H).

metals — another way to add value to the geothermal sludge.

The DAS process, which was developed over ten years, has been modified for use at two very different types of geothermal energy-generating plants, which generate two different sets of products.

In the Salton Sea area in southern California's Imperial Valley, the hot brines are supersaturated with large amounts of salts and minerals.

After the hot brines are used to drive the turbines, the resulting mineral-rich sludges are fed to heat-loving strains of *Thiobacilli* bacteria, which extract and concentrate toxic but commercially valuable metals like zinc and manganese. Zinc is used to make important metal alloys for industry and in the manufacture of batteries, while manganese is useful in manufacturing stainless steel. Dissolved silica salts in the brine are used to manufacture high-quality amorphous silica, which is used as filler in the manufacture of paper, paint, and similar products.

At Geysers in northern California,

the water vapor is hotter and less salty, and different products are generated, including elemental sulfur, which is used as a fungicide by vineyards located near Geysers. The bacteria also remove much of the mercury and arsenic from the sludge, reducing disposal costs. The remaining liquid is re-injected into underground reservoirs, to be reheated by the earth's interior and re-used to generate more electricity.

"We use sulfur-loving bacteria to feed on the sulfur," said Chemist Mow Lin, who has worked since the beginning on the project, which was funded by the U.S. Department of Energy's Office of Conservation and Renewable Energy. "They metabolize sulfur compounds and rapidly produce sulfuric acid, which dissolves the toxic metals."

"The important thing is that the materials are recycled with essentially zero waste product," Premuzic adds. "We have turned what was known to be hazardous waste into several commercially viable products, and eliminated both the hazard and the waste." — Dan Ferber

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# Racquetball Champs

Top players in BERA's 1996-97 Racquetball Leagues are: (front, from left) Janet Tempel, Mary Scheidet, Lois Marascia, Anette Meier; (back, from left) Frank Karl, Ron Webster, Roy McWilliams, Ron Prwivo, Rich Anderson, George Greene and Izzy Garcia. Garcia and Karl placed first and second, respectively, in the A League; Anderson, Meier and Marascia placed first through third in the B League; Bob Pappas (not shown), McWilliams and Prwivo placed first through third in the C League; and Scheidet, Tempel and Gloria DeBoer (not shown) placed first through third in the Women's League. McWilliams and Greene were selected Most Improved Player/Rookies of the Year. The Racquetball Leagues, which run from October through April, always welcome new members. Sign up in September, when notices will be posted in the Bulletin, or contact Bob Marascia any time, at Ext. 7779.



Roger Stoutenburgh

## Sales Office News

The BERA Sales Office will be closed for the week of August 18 through 22. It will reopen on Monday, August 25, returning to normal weekday hours, 9 a.m.-1:30 p.m.

## Softball

Results reported as of August 1:

League E1		League M1	
Phoubars	12-2	Stingrays	7-1
Magnuts	10-4	Gour-Mets	7-2
Blue Jays	7-7	Happy Hour	6-2
System	6-8	Hit'n Run	2-6
Cleen Sweep	4-10	OER Wellheads	2-6
Hammerheads	3-11	Good Timers	1-8
League E2		League M2	
Scram	10-2	Varmints	6-1
Contaminators	7-3	Skeleton Crew	4-2
CCD	8-4	Mixed Nuts	2-4
Phytinphytos	8-4	What's on 2nd	2-4
Hy Tech	5-6	No Names	2-5
Gas House Gorillas	5-7	League E3	
Lights Out	5-7	Sultans of Swat	8-3
Phase Out	5-7	Sure Fire	8-3
Feds	3-8	Bombers	4-7
Mesocyclones	2-10	Medical	2-9

**Jog Your Memory!**  
please bring food-

**BNL Food Drive**  
pickup all next week

No time to shop? Send personal checks to: BNL Food Drive, c/o Rita Kito, Bldg. 460, or Donna Wadman, Bldg. 599.

## Arrivals & Departures

### Arrivals

Ming Xiong Liu.....Physics  
Jianwei Qiu.....Physics  
Mark H. Voges.....Chemistry  
David F. Winchell.....Adv. Technology

### Departures

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

Richard F. Casten.....Physics  
Janice K. Dell.....Human Resources  
Donald W. Gardner.....Physics  
Seymour Holtzman.....App. Science  
Tomas A. Iglesias.....Physics  
Kari W. Johannessen.....Medical  
David F. Langiulli.....Director's Off.  
Anant R. Moorthy.....Adv. Technology  
Marzia Rosati.....Physics  
Domenico V. Russo.....AGS  
Donald G. Schweitzer.....Adv. Technology  
James W. Sutherland.....App. Science  
Ji Wu Yang.....Adv. Technology  
Dennis P. Weygand.....Physics

## Classified Advertisements

### Placement Notices

The Laboratory's placement policy is to select the best-qualified candidate for an available position. Candidates are considered 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, disability or veteran status.

Each week, the Human Resources Division lists new placement notices, first, so employees may request consideration for themselves, and, second, for 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; call the JOBLINE, Ext. 7744 (344-7744), for a complete list of all job openings; use a TDD system to access job information by calling (516) 344-6018; or access current job openings on the World Wide Web at <http://www.bnl.gov/JOBS/jobs.html>.

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

NS 4767. ENGINEERING POSITION - Requires a BSME, or the equivalent, and experience in the design, operation and maintenance of large-capacity water cooling systems. Proficiency in pipe design and equipment selection, including pumps, heat exchangers, cooling towers and control valves, is required. Familiarity with programmable controllers, including configuration of control logic, control component selection and start-up, is desired. Knowledge of water-treatment techniques and equipment is also desirable. Must be capable of taking a project from inception through construction and start-up. Alternating Gradient Synchrotron Department.

NS 5011. PROGRAM CONTROLS POSITION - Requires a BS in engineering (an advanced degree in finance or business is a plus) and demonstrated experience in the management and control of large-scale, complex technical and commercial projects in nuclear facilities. Detailed working knowledge of budgeting and accounting, cost and schedule engineering and project management principles, as well as scheduling software (Microsoft Project), Excel and mainframe information systems, are essential. Earned-value reporting, performance measurement, estimating and work-control systems experience are necessary. Demonstrated supervisory, communication and motivational skills required. Experience managing projects involving modifications to reactor systems in reactor facilities is preferred. Responsibilities will include oversight of the Project Control Staff, establishing and maintaining the project baseline and project control system for the HFBR Restart Project. Reactor Division.

## Equipment Demo

On Tuesday, August 12, from 10 a.m. to 4 p.m. at Berkner Hall, representatives from Xerox Engineering Systems will demonstrate their latest plotters and wide-format scanning systems, focusing on low-cost solutions for plotting documents and converting older paper prints to a digital format for use on the network. The plotter features three rolls and 400 DPI quality with no cutting or trimming. Scanners will enter hard copy to the digital network at 800 DPI and feature advanced raster-edit drawing restoration ability.

Attendees may bring sample drawings for testing.

## Computing Corner

The following computer training classes are scheduled in the Computing & Communications Division:

- **HTML Training** — Thursday, August 21, beginner, basic Web page publishing and linking; fee: \$210.
- **Introduction to Networking** — Thursday, August 28 (1/2 day), and Friday, August 29 (full day); fee: \$150.
- **Perl Programming** — September 3, 4 & 5, fee: \$300.

To register, call Pam Mansfield, Ext. 7286; Ed McFadden, Ext. 4188; or Julie Pergan, Ext. 5196, by August 18.