

## The Best, Most Competitive of Times: The 1999 AGS/RHIC Users' Meeting

Elation over the Relativistic Heavy Ion Collider (RHIC) and its promise of new science pervaded the 1999 Alternating Gradient Synchrotron (AGS)/RHIC Users' Meeting held at BNL last Thursday and Friday, July 29 & 30.

However, DOE-wide security issues and a limited DOE budget that precludes continuing fixed-target physics at the AGS was sobering news, which was mitigated by the report of possible additional support from the National Science Foundation (NSF).

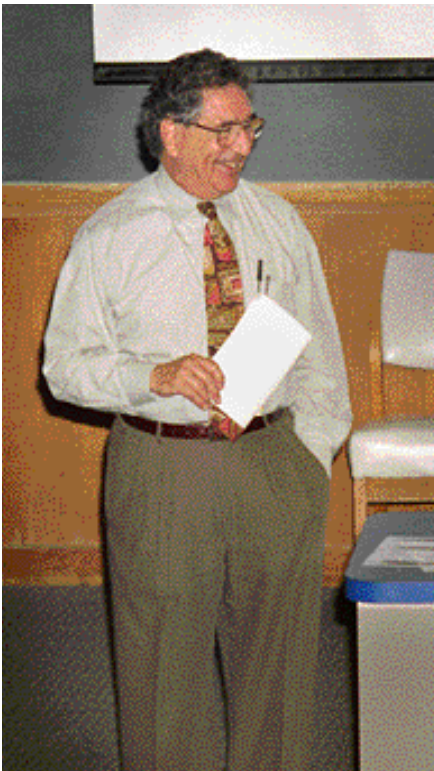
As the latest of the DOE-supported "big-science" user facilities, RHIC — its commissioning status, its first full year of running due to start in December, and the frontier heavy-ion and spin-physics program that it will make possible — took precedence among meeting topics, which also included results from AGS experiments and a session on the AGS past, present and future (see photo, page 2).

### View From BNL

After the meeting's opening welcome by David Hertzog, University of Illinois at Urbana-Champaign and Chair of the User Executive Committee, the first speaker was Deputy Lab Director for Science & Technology Peter Paul. He commented on the Dickensian "best of times" and "worst of times" in the contrasting futures of the RHIC and AGS science programs.

RHIC, BNL's present applause-drawing "show-stopper" will provide the best of forefront science, Paul said. Regarding the AGS, however, while at this time it is practically a unique facility for certain experiments, he conceded that there is never enough money to do what one wants.

"Those people who think that a



Roger Stoutenburgh

### Peter Rosen, DOE

certain science is essential must make a strong case with their colleagues in the physics community," Paul said.

Tom Kirk, BNL's Associate Laboratory Director for High Energy & Nuclear Physics, spoke of the "fantastic era of science" in store at RHIC. Given the Lab's Tandem Van de Graaff, Linac, Booster, AGS, and now RHIC, as well as the National Synchrotron Light Source (NSLS) and the Accelerator Test Facility, he said, the level of accelerator science at BNL is "at least equal to, if not better than" the best in the world.

Kirk also outlined AGS strengths past and present, including an ongoing

portunities for the media that have been undertaken to interest Long Islanders in RHIC and its science. "People came, they went around, and they were impressed and excited," said Ozaki. "We also asked what worries they had, and we were able to reassure many of them."

Commissioning will continue until August 15, (see box, right) Ozaki said, and the first full year of run time will start in December. When pressed for an answer regarding how firm that cutoff date is, Ozaki said, "Whatever decision we make at that point, it will be a reasonable decision."

### View From Washington

Referring to the meeting's celebration of the past of the AGS and the future of RHIC, "This should be a time for libations rather than prognostications," said Peter Rosen, Associate Director of DOE and Head of DOE's Office of High Energy & Nuclear Physics (OHE/NP).

However, Rosen said, the general climate for funding the physical sciences in Washington is not good. For example, he thought that the recent talk of espionage ought to have been a reminder of how important physical sciences are to the economy and national security, but this was not the case.

"The physics community, both high energy and nuclear, has to develop strategies — we have to do a lot more to persuade the public that our work is exciting, in addition to providing the basis for important applications that feed into the economy," he said.

Rosen discussed various new security issues, which he thought may create some bureaucratic problems because "in our field there are no [national] boundaries," he said.

One problem could lie in what is now called "deemed exports of sensitive technology." This unclassified material will now require a licence before it can be talked about or "exported," which Rosen believes could have an impact on collaborative activities.

Another problem Rosen discussed was cyber security. At DOE labs and elsewhere, "sniffers and scanners" continually attempt to penetrate computer systems. The need to secure experimental and other data will make this a very important issue, he said.

Turning to "another cheerful subject," Rosen described the budget situation as complex.

The House has passed a bill with about \$715 million for high-energy physics (HEP) and \$357 million for nuclear physics (NP), he said.

However, restrictions had been placed on what is called laboratory discretionary research and development funds, which is money used by laboratory directors to support promising new research initiatives (cont'd on page 2)

## Blue Beam Accelerated, Lifetime Increased; Yellow Ring Readied

As the Bulletin's layout was being completed on Wednesday, August 4, gold-ion beam in the Blue Ring of BNL's Relativistic Heavy Ion Collider (RHIC) was circulating clockwise for 45-plus minutes, up from less than a second when circulating beam was first accomplished (see Brookhaven Bulletin, July 23, 1990).

And, by "ramping" the magnet current from 540 to 600 amperes, the RF Systems Group has been able to start accelerating the beam to 12 billion electron volts (GeV) in energy. The maximum current that RHIC's superconducting magnets can carry is 5,500 amperes, and RHIC was designed to have gold-ion beam with an energy of 100 GeV per nucleon.

In the meantime, the magnets that form the Yellow Ring, the other of the two accelerators making up RHIC, have been powered, and gold-ion beam has been extracted from the Alternating Gradient Synchrotron (AGS), sent up the AGS-to-RHIC transfer line, into the Y-line arc, and through the Lambertson septum magnet — which is the last non-superconducting magnet — to the injection point into the Yellow Ring.

According to Steve Peggs, who heads the Accelerator Physics Group in charge of RHIC's commissioning, the next step is to repeat the sextant test (see Brookhaven Bulletin, January 31, 1997), that is, send the beam counterclockwise through the first sixth of the Yellow Ring.

Completing that job will alternate with undertaking eight tasks needed to "tune up the Blue beam," said Peggs, which means to accelerate the beam further while increasing its intensity.

RHIC commissioning will continue through August 15 (see story, left).

— Marsha Belford



Dennis Kovar, DOE

## Safeguards, Security Stand Down Held 8/3

As directed by Energy Secretary Bill Richardson and DOE Director of Security & Emergency Operations Eugene Habiger, BNL, along with other DOE facilities, held a stand down on Tuesday, August 3, to increase employees' awareness of safeguards and security concepts and issues. The day of presentations and discussions will be reported in next week's Brookhaven Bulletin.

ing NASA-funded program of radiobiology which, during its last run, completed 35 experiments in a single week.

"BNL is a great venue for experiments," he concluded, "but the AGS/RHIC users are the mainspring for turning these machines into science."

Satoshi Ozaki, RHIC Project Director, gave the RHIC report, complete with photos of milestones celebrated so far. "This machine is performing beautifully," said Ozaki, showing a plot of the Blue Ring beam "captured" in a radiofrequency bucket, and what is called the Blue Ring's tune, "which is exactly what we planned."

Ozaki also explained some of the efforts in public outreach (see story, page 3), such as an open house, community round-table meetings, and op-



Roger Stoutenburgh

Joseph Dehmer, National Science Foundation

AGS/RHIC Users (cont'd)

tives until other funding could be found.

Also, travel by the employees of DOE contractors, such as BNL personnel, has been restricted — \$16 million cut to \$8 million. “In a program with strong international ties, this will be a real hardship,” said Rosen.

The Senate appropriations were much lower: \$691 million for HEP and \$330 million for NP. “We don’t know yet how it will work out — we can hope that the final figures will follow the House,” Rosen said.

Computing initiatives for science have been a particular interest of Under Secretary of Energy, Ernest Moniz, and of himself, Rosen said, citing examples that included accelerator simulation codes, supernovae explosions, and data mining such as that which will be done at RHIC. But DOE’s funding request for these initiatives has been cut altogether.

“There seem to be no great grounds for optimism,” concluded Rosen. Regardless, his advice was to act. “The science community as a whole should talk to people on the [Capitol] Hill who can make a difference,” he declared. “Get into letting them know about these difficult issues.”

Another Washington Angle

The next speaker, DOE’s Dennis Kovar (see photo, page 1), Director of the Nuclear Physics Division in the OHE/NP, focused back onto RHIC, which is “poised for adventure and discovery, creating a whole new sub-field for nuclear physics.”

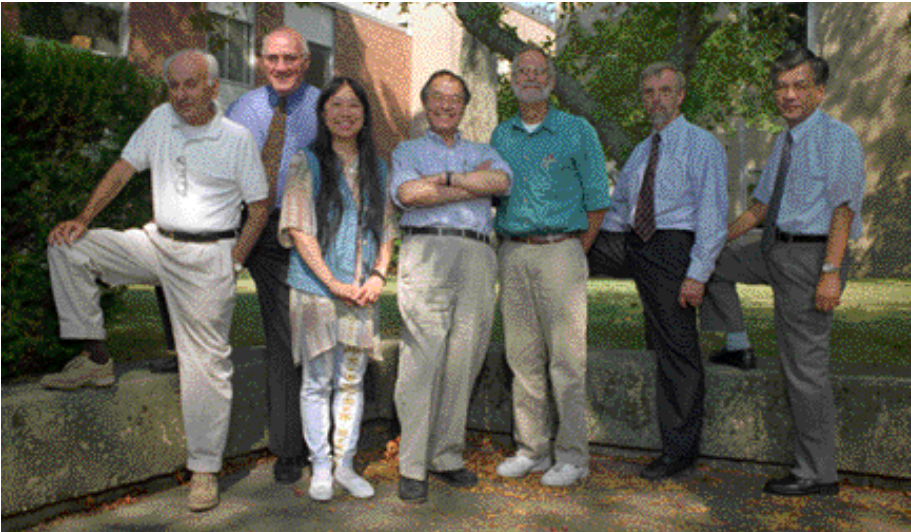
Ten years ago, when RHIC had been identified by the Nuclear Science Advisory Committee (NSAC) as its highest priority for new nuclear-physics construction, Kovar had become NP Projects Manager. “Rightly or wrongly, I feel as though RHIC is my project,” he said later.

Kovar showed how RHIC fits into the DOE mission, which is to operate the facilities, support the scientists, and foster the activities needed to gain new insight into the nature of matter and energy. But how well a project goes depends on the scientific community, and RHIC, he said, is a case history of how DOE and the scientific community can work together to identify the science, make the case, and deliver successfully.

“We needed the community to bring pressure to bear on Congress to get the money — all in a time of declining budgets,” Kovar recalled. Now, RHIC is one of NP’s outstanding examples of successfully completed projects.

“In fact, I was just visiting relatives last week, and they told me what a great project RHIC is!” said Kovar, reflecting on relations living on Long Island’s east end.

Kovar outlined DOE’s nuclear-physics



**During the AGS/RHIC Users’ Meeting session on “The AGS Past, Present, and Future,” chaired by Bill Wallenmeyer (second from left), former Head of DOE’s Division of High Energy & Nuclear Physics, talks were given by: (from left) 1988 Nobel laureate in physics Mel Schwartz, former BNL Associate Director for High Energy & Nuclear Physics, on early AGS high-energy physics; Sau Lan Wu, University of Wisconsin, on J/psi and the middle years; 1957 Nobel laureate in physics T.D. Lee, RIKEN BNL Research Center Director and Columbia University, on theory in the future; Mike Zeller, Yale University, on the rare decay era; Bill Molzon, University of California, Irvine, on the future era; and Shoji Nagamiya, KEK, Japan, on AGS heavy-ion physics.**

ics program, which stands ready to produce results from investments in the continuous electron beam accelerator at Thomas Jefferson National Laboratory in Virginia, the Sudbury Neutrino Observatory in Canada, and the Hollifield Rare Ion Beam Facility, as well as RHIC.

On funding, Kovar said that NP had requested \$352.8 million for fiscal year 2000. As Rosen had stated, the House mark is \$357.8 million, while the Senate stands at \$330 million.

According to the NP request, RHIC is budgeted for a running schedule of 33 weeks, which is down from the 37 weeks recommended by NSAC. Capital-equipment and additional experimental-equipment funding for RHIC is at a level for timely completion of projects. Research is to get a cost of living upgrade, but this is to be distributed to address priorities.

As discussed at the meeting, a major disappointment for BNL is the lack of support for AGS 2000, a proposed program of fixed-target hadron physics at the AGS which includes studies of rare processes. “Everyone is very sensitive to this issue,” Kovar said. “There’s great merit in my opinion in a selected set of experiments in the AGS. You need to make the case to the community, not the agency. I would love to see the case made so strongly that it would get funding.”

NSF View

This AGS/RHIC Users’ meeting was the first attended by the next speaker, Joseph Dehmer (see photo, page 1), who heads the Division of Physics in the National Science Foundation (NSF). An atomic and optical physicist, he usually comes to the NSLS.

After congratulating BNL on RHIC as “a beautiful frontier tool,” Dehmer started his address by saying that the two agencies that invest most in high-energy physics are DOE and his agency, the NSF. “DOE is much bigger, and we do different things,” he said. But, “I want to encourage you to remember — we see that reasonable things get done.”

In deciding which areas are of interest to the NSF physics division, “We look for opportunities where physics can make a broad impact,” Dehmer said.

The NSF’s largest project so far is the Laser Interferometer Gravitational Observatory, an experiment in gravitational physics, which is due to turn on in 2001. While the NSF budget is considerably smaller than that of DOE, the NSF can often focus on smaller funding needs, explained Dehmer. One such example is the NSF’s support of an end-cap calorimeter for STAR, one of RHIC’s two major detectors.

Dehmer emphasized that all funding considerations are extremely competitive. A new approach is the recently established major research equipment account, which has many excellent candidates, one of which is a program of rare processes at the AGS. “We’re discussing to see if something can be done,” he said. “The program was very well exposed this morning.”

Dehmer concluded his talk, and, in fact, summed up the meeting, with a reminder of how difficult it is to “realize the dreams” of scientific proposals. To make his point, he edited Charles Dickens: “It was the best of times — it was the most competitive of times,” Dehmer said. — Liz Seubert

Site Access Update

Reading of Contractor ID Bar-Codes Starts 8/11

Starting next Wednesday, August 11, all employees of contractors working at BNL will have the bar code on their Lab ID badges scanned at the main gate. As a result, contractors’ employees are required to enter via the main gate and, during the morning rush hour, use the right entrance lane. Once stopped at the guard booth, contractors’ employees will be asked to present their ID badges for scanning, to verify whether or not they are authorized to enter the site.

Badge Changes in Fall

DOE has made some changes in the personal-identification badging system used throughout its facilities. As a result, BNL’s green ID badge will be replaced by three badges of different colors: blue for employees with Q clearances, yellow for those with L clearances, and grey for staffers with no security clearance.

The Lab’s Safeguards & Security Division (S&SD) will start to issue the new colors of badges this fall, and it will take a year for the changeover to be completed. In the meantime, BNLers may notice that employees of other DOE facilities have such badges. BNL guests will continue to be issued purple Lab ID badges, and foreign nationals will continue to be given red ID badges.

Y2K Vehicle Registration

The red vehicle-registration stickers, which BNLers have adhered to the back of their vehicles’ rearview mirrors to indicate that their cars and trucks are registered for use on site, will expire at the end of 1999.

Therefore, before the end of the year, S&SD invites Lab employees, retirees and facility-users stationed on site to reregister their vehicles and obtain new stickers at S&SD’s Personnel Security Office, which is located in the Brookhaven Center, Bldg. 30, Ext. 2493, 5149 or 7258. If registering a vehicle for the first time, that vehicle’s state registration, and the driver’s license and Lab ID card are required to be presented.

Visitor, Vendor Access

Access to BNL is controlled by permitting entrance only to those persons who have official business at the Lab and only to those visitors who are properly sponsored.

Thus, to avoid having vendors and visitors delayed at the Main Gate while the purpose of their visits is being verified, S&SD asks that employees who sponsor vendors and visitors inform the division at least 24 hours before their guests’ arrival. The 24-hour lead time is needed to compile a visitor log used at the main gate and indexed by date, arrival time, event, and sponsor’s name.

Thus, during normal business hours 24 hours in advance of a visit, sponsoring employees should provide S&SD with the following information: the name of the visitor, the date of the visit, the approximate arrival time, the name of the event being attended or reason for visit, and the name of the visitor’s sponsor and that person’s extension.

During the usual weekday business hours, send this information to S&SD, Bldg. 50; fax it to Ext. 5688; or phone it to Ext. 4271 or 4177. To notify S&SD during other hours, come to Police Headquarters in Bldg. 50, fax Ext. 5457, or phone Ext. 2238 or 2239. Due to the volume of visitors, do not call the main gate with this information. When a visitor arrives, S&SD patrol officers at the main gate may announce the visitor’s arrival and verify the information provided by calling the sponsoring employee.

Radiological Awareness Report Program Starts August 9

Beginning on Monday, August 9, Lab employees will be asked to participate in a Radiological Awareness Report (RAR) program. Established by the Radiological Control Division, the RAR program is designed to help Lab management identify radiological concerns and address deficiencies in its radiological control program.

To do this, all employees are asked to report any radiological concerns, and poor performance of either the system or personnel in radiological areas.

Examples of what is reportable include: the wearing of an incorrect dosimeter, modified or ignored radiological postings, or improper packaging of radioactive material.

Under the RAR program, employees are now obliged to notify the per-

sons involved in the incident that there appears to be a problem and that immediate action may be necessary, and to report the problem to their supervisor and to the Radiological Control Division via an RAR form.

The RAR Coordinator, Bill Pemberton, then reviews these forms, interviews the people involved, and looks into what immediate actions were taken to resolve the problem. In certain cases, further investigation may be necessary to identify ways to improve radiological protection. The resulting information will be posted as lessons learned.

“We are trying to find problems before they become big issues,” explains Pemberton, who will analyze RAR collectively, looking for trends. “If the same mistakes are being made,

then we want to find out what is causing them and how to prevent them by, for instance, increasing and improving training or radiological postings.”

The site-wide RAR program grew out of a successful pilot project involving the Reactor Division.

“The Lab wants to have the best radiological control of any DOE facility,” says Pemberton, “and the only way to accomplish this is to involve employees in strengthening our program. We are not asking people to snitch on each other; we are asking for everyone’s help in identifying any lapses in radiological control or weakness in our program that they may observe.”

For more information, consult the RAR flier that will be mailed to all employees.

## 1999 BNL Phone Book Now Available on Site

The long-awaited 1999 edition of the BNL Telephone Directory has arrived and is being distributed, one per employee on site, through the telephone service representatives within the Lab's departments and divisions. An on-line version can be found at <http://www.phonebook.bnl.gov>. If you have not yet received your copy of the directory, then inquire within your department or division, or call Cathy Lombardo, Ext. 7099.

## Defensive Driving

A six-hour defensive driving course will be offered on Saturday, August 21, 9 a.m.-3:30 p.m., in Berkner Hall. The course will be taught by a Metropolitan Life instructor. The course will be limited to 72 people and costs \$23 per person. Completing the course entitles participants to a 10 percent discount on vehicle collision and liability insurance for three years, and to have up to four points deducted from their driving records. To register, send a check made out to Empire Safety Company to Scott Zambelli, Metropolitan Life, 145 Pinelawn Road, 3rd floor, Melville, N.Y. 11747. For more information, call Zambelli, 249-3000, Ext. 5877 (not the on-site Ext. 5877).

## AutoCAD Demo

Autodesk representatives will be on site to demonstrate AutoCAD Mechanical 2000, which is optimized for two-dimensional design and engineering, and the Mechanical 2000 power pack. The demonstration will take place on Wednesday, August 11, at 9 a.m. in the seminar room of Bldg. 515. For more information, call Chris Neuberger, Ext. 4160.

## Hospitality Committee

The Hospitality Committee invites all on-site residents, their spouses and friends to join it during the following events. More details are posted in the laundry and on the door of the Recreation Building. For more information, call Julie Kim-Zajonz, 929-0405.

### Welcome Coffee

Coffee is served to apartment area residents every Tuesday, from 10 a.m. to 11:30 a.m., at the covered barbecue area near the apartment area's playground.

### Parent-Toddler Group

Parents of two- and three-year-olds are invited to bring the children to the Recreation Building every Wednesday, 9:30-11:30 a.m. For more information and the location meetings, call Sarah Zill, 821-2602.

### Potluck BBQ

Apartment-area residents are invited to bring a meal to grill plus a dish to share to the next Hospitality Committee barbecue, on Friday, August 27. The committee will provide charcoal with which to grill foods, plus beverages.

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## Summer Sundays 1999 Discover BNL's Medical Department on 8/8

Nuclear medicine — the medical use of radioactive isotopes to diagnose and treat diseases — was revolutionized in the early 1960s, when BNL's Medical Department pioneered the use of technetium-99m and molybdenum-technetium generators. Since then, compounds labeled with technetium-99m have been used in approximately 85 percent of the world's diagnostic scanning procedures, to image, among other organs, the heart, liver, spleen, and bone marrow. Last year, approximately 20 million procedures involving technetium-99m were carried out in the U.S., Europe, and Japan.

Since then as well, the Lab's Medical Department has continued its pioneering research into new medical radioisotopes, such as tin-117m for bone-cancer pain, as well as its work on developing new imaging techniques and improved radiation therapy, such as boron neutron capture therapy for a type of brain cancer (see photo). In complementary work, Medical staff-

**Model of a patient receiving boron neutron capture therapy for a brain cancer called glioblastoma multiforme.**



garding addiction, drug action, organ function, and more. To find out all about Medical's research, come to the Lab this Sunday, August 8, to tour that department as part of the Summer Sunday program. Organized by BNL's Museum Programs, Summer Sundays are free and open to all. The Sunday program runs from 10 a.m. to 5 p.m., but visitors must arrive before 3 p.m.

In addition to touring Medical, Summer Sunday visitors may take a guided bus trip around the site, participate in the Whiz Bang Science Show, and view the Camp Upton Historical Collection. Fun for children of all ages, the Whiz Bang Science Show is a lively, interactive demonstration of basic science principles, presented at 10:30 a.m., noon, 1:30 p.m., and 3:30 p.m. Housed in a Camp Upton chapel, the Camp Upton Historical Collection contains the history of the site during its pre-Lab days as a U.S. Army camp during World Wars I and II.

## Wanted: Employees to Speak About BNL

To respond to requests from civic groups, rotary clubs, schools, parent-teacher organizations, senior groups and similar organizations, BNL needs speakers: employees who can spread the word about the world-class research being done at BNL, report about progress on environmental issues, tell about the difference science makes in everyday life, or give students an idea of the various scientific and technical careers that are open to them.

Through the Speakers Bureau, run by Jane Koropsak, Community Involvement, Government & Public Affairs Division, requests for speakers are matched with capable volunteer employee-speakers. For more information about the Speakers Bureau or to volunteer your expertise to talk on certain subjects, contact Koropsak, Ext. 2345, or [jane@bnl.gov](mailto:jane@bnl.gov).

One of the great rewards of being a speaker for BNL is receiving a letter such as the following one that was sent by teacher Linda Sund and her class at Longwood Junior High School. It was received by Tim Hallman of the STAR detector collaboration (see story, page 1, and Brookhaven Bulletin, July 16, 1999) at the Relativistic Heavy Ion Collider (RHIC), after a speaking engagement during which he shared the excitement of experimental physics at RHIC.

Dear Mr. Hallman,

Thank you so much for taking the time to come to our class and presenting RHIC. We enjoyed your visit. My students were very impressed with the knowledge you imparted. They were interested in the satellite picture of RHIC and Longwood Junior High School. Your team's goal to create a quark-gluon plasma, thereby extending our knowledge of the universe and its formation, is fascinating. We expect to see you in the news as our local heroes. The photograph of the novas in the stellar gases, taken by the Hubble telescope, was amazing. Antionne is still proud that you were impressed with his use of the word "combust." The transportation of STAR from California to Westhampton was also very interesting, especially since the Long Island Expressway had to be closed to get STAR around the overpasses. Joseph is still a little worried about our days getting longer because of the moon's movement away from us. He worries about the future tide problems and the possible extension of a school day. Ryan thanks you for the [BNL souvenir] frisbee; he used it when playing with his dad, the next morning, before school. We all thank you for the [BNL] pencils. We read the RHIC handouts that you'd left for us during our lesson the next day. We are rooting for STAR to make the first discovery.

The presentation was very well done. It is still generating a lot of discussion.

Sincerely,  
**Linda M. Sund**  
Special Education Teacher

## BERA Bus Trips

BERA offers bus trips that include round-trip transportation on a fully-equipped coach bus, and admission to the advertised event. All trips leave from the Brookhaven Center; if requested, an extra pickup will be made at the park and ride at L.I.E. exit 63. Tickets are sold first come, first served. To make paid reservations for one or more of the following trips, go to the BERA Sales Office, Berkner Hall, Tuesday through Friday, 9 a.m. - 1:30 p.m. For more information, call Andrea Dehler, Ext. 3347, or M. Kay Dellimore, Ext. 2873.

### To Great Adventure on August 14

On Saturday, August 14, BERA goes to Six Flags Great Adventure amusement park. The per-person cost is \$45. The bus will leave promptly at 7:30 a.m. and return at approximately 9 p.m.

### To Shea Stadium on August 24

On Tuesday, August 24, BERA is going to Shea Stadium in Queens, to see the New York Mets play the Houston Astros in an evening baseball game. During the game, participants should keep their eyes on the scoreboard, as BERA/Brookhaven Lab will be announced. In addition, each participant will receive a gift, courtesy of the Mets. The cost is \$45 per person for the bus and box seats. Participants are to arrive by 4:15 p.m., the bus will leave promptly at 4:30, the game starts at 7:30 p.m., and the bus will leave the stadium at approximately 10:30 p.m. to return to the Lab.

### To Radio City on December 5

On Sunday, December 5, BERA is going to the newly refurbished Radio City Music Hall in New York City, to see the annual Christmas Show. The cost is \$85 per person, which includes orchestra or front mezzanine seats, as well as transportation. The bus will leave at 11:30 a.m.; return to the Lab will be at approximately 9:30 p.m.

## Citibank Rep on Site

From 11 a.m. to 2 p.m. on Monday, August 9, a representative from the Smithaven branch of Citibank will be in Berkner Hall to discuss its banking services, which include one year of free checking, direct deposit, 200 free checks, and the like. For more information, contact Rosa Scanlon, 265-4006.

## Wanted: BWIS Slogan!

Today is the last day to submit suggestions for a slogan to mark the 20th anniversary of Brookhaven Women in Science (BWIS), which will take place in November. To enter, get your slogan plus your name, Bldg. number, and extension to Terri Kneitel, Bldg. 120, by the end of the day. The winner and all finalists will receive prizes.

## Arrivals & Departures

| Arrivals                   |                   |
|----------------------------|-------------------|
| Kim A. Ackley .....        | NSLS              |
| Roman V. Samulyak .....    | Applied Sci.      |
| Departures                 |                   |
| Harold Avent .....         | AGS               |
| Jeff Efron .....           | Safeguards & Sec. |
| David J. Fisk .....        | Biology           |
| Kwok Hang Fung .....       | Applied Sci.      |
| Paul G. Hawthorne .....    | Legal Off.        |
| Anne B. Katz .....         | Biology           |
| Robert C. Kehl .....       | RHIC              |
| Kristin Kirk .....         | Comm. Rel.        |
| Michael Losquadro .....    | Info. Tech.       |
| Charles Murray .....       | RHIC              |
| James A. Niederer .....    | AGS               |
| Krsto Prelec .....         | AGS               |
| Baorui Ren .....           | Medical           |
| Ernest R. Schmitt .....    | AGS               |
| Frederic Stichelbaut ..... | Physics           |
| Richard L. Witkover .....  | AGS               |

# Balloon Festival Tickets Available

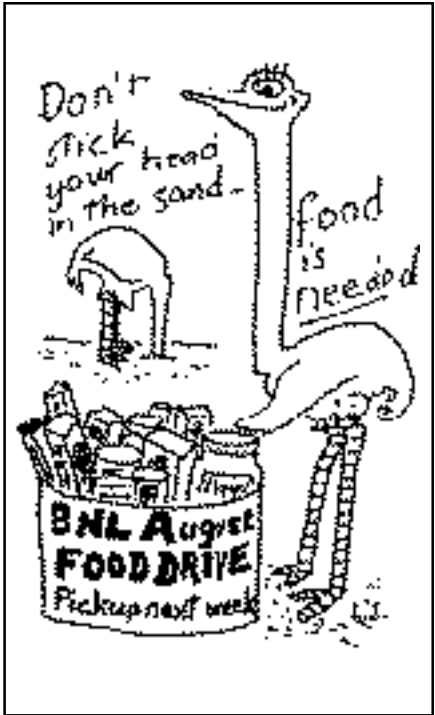
Again this year, the Waldbaum's Balloon Festival will feature some 75 uniquely shaped and brightly colored balloons, which will participate in five ascensions at dawn and dusk, at Calabro Airport in Shirley, Friday through Sunday, August 13-15.

Tickets for this festival are now on sale at the BERA Sales Office in Berkner Hall, Tuesday through Friday, 9:30 a.m. to 1 p.m. The cost is \$8 for adults and \$4 for children age 4 to 12; the cost at the gate is \$15 for adults and \$10 for children of those ages.

The schedule for the Balloon Festival is:

| day  | date    | time             |
|------|---------|------------------|
| Fri. | Aug. 13 | 1-9 p.m.         |
| Sat. | Aug. 14 | 6 a.m.-10 p.m.   |
| Sun. | Aug. 15 | 6 a.m.-7:30 p.m. |

Friday night, Gary U.S. Bond and Chuck Berry will be in concert at the festival. Saturday night will feature Hootie and the Blowfish, and Grucci fireworks. On Sunday, KC and the Sunshine Band will perform.



## Hot Summer Jam

Next Friday, August 13, is the date for BERA's Hot Summer Jam, a TGIF party which will start at 6 p.m. at the Rock Hill Country Club, off Clancy Road in Manorville.

The cost of \$5 will cover hors d'oeuvres and entertainment, including music by DJ Alex; a cash bar will be available. The party is open to all BNL employees and their guests, and no reservations are required.

For more information, call Charles Gardner, Ext. 5214, or Lou Nieves, Ext. 4897.

**Classified**  
**Advertisements**

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

MK7818. POSTDOCTORAL RESEARCH ASSOCIATE - Requires a Ph.D. in structural biology or molecular biology and demonstrated expertise in structural biology, protein purification and crystallography techniques. Current active projects focus on various mechanistic studies of chaperone-dependent protein folding, ATP-dependent proteolysis, and virion-host cell interactions. Work will involve the determination of the x-ray structure of one or more proteins involved in these pathways. Will be expected to be involved in complimentary biochemical studies. Under the direction of J. Flanagan, Biology Department.

MK7969. POSTDOCTORAL RESEARCH ASSOCIATE - Requires a Ph.D. in organic/medicinal chemistry and experience in organic synthesis. Experience in the development of new radiotracers labeled with short-lived positron emitters is desirable. Research projects center on development of labeled organic compounds for studies in human neurosciences. Will be responsible for preparing precursors for radiolabeling, developing new PET radiotracer syntheses, and carrying out related studies in the PET program. Under the direction of Y.-S. Ding, Chemistry Department.

MK7820. POSTDOCTORAL RESEARCH ASSOCIATE - Requires a Ph.D. in biochemistry with a strong background in chemistry. Experience in biophysical and biochemical techniques of enzyme analysis and gas-chromatography/mass spectrometry, fermentation, and anaerobic manipulation of enzymes highly desirable. Will be involved in enzyme engineering and metabolic engineering of plant lipid metabolism, with

the goal of understanding the determinants of enzyme specificity and reaction outcome, and of identifying limitations to the accumulation of unusual fatty acids in oilseeds. Will be involved in the construction of redesigned plant fatty acid-modification enzymes and transgenic plants, and the downstream analysis of resulting seeds. Under the direction of J. Shanklin, Biology Department.

DD8122. DESIGN POSITION - (term appointment) Requires extensive mechanical design experience and proficiency in Autodesk AutoCAD release 14 and Mechanical Desktop release 3.10. Must have the ability to perform professional level design functions. A thorough understanding of engineering fundamentals, machine design, machine shop operations, Mil-Std-100E and ASME Y14.2M-1989 is also required. Experience with superconducting magnets and electromechanical packaging is desired. RHIC Project.