

Exciting First Results From Deuteron-Gold Collisions at RHIC

Findings intensify search for new form of matter

The latest results from the Relativistic Heavy Ion Collider (RHIC), the world's most powerful facility for nuclear physics research, strengthen scientists' confidence that RHIC collisions

of gold ions have created unusual conditions and that they are on the right path to discover a form of matter called the quark-gluon plasma, believed to have existed in the first microseconds after

the birth of the universe. Scientists from RHIC's four international collaborations presented data at a special colloquium at BNL on June 18 to coincide with the submission of three scientific papers on the results to *Physical Review Letters*.

The scientists are not yet ready to claim the discovery of the quark-gluon plasma, however. That must await corroborating experiments, now under way at RHIC, that seek other signatures of quark-gluon plasma and explore alternative ideas for the kind of matter produced in these violent collisions.

In a press release sent out on June 11 to announce the findings and the colloquium, Thomas Kirk, BNL's Associate Laboratory Director for High Energy & Nuclear Physics, noted, "This is a very exciting result that clearly indicates we are on the right track to an important scientific discovery. But the case for having created quark-gluon plasma is not yet closed. We have four experiments looking for a number of different 'signatures' of this elusive form of extremely hot, dense nuclear matter."

Raymond L. Orbach, Director of DOE's Office of Science, the primary funding agency for research at RHIC, commented in the press release, "These results from RHIC are profoundly important. They go to a fundamental question in science: How did the universe look at the beginning of time? People have always been fascinated by the question of how our world began. And every time something fundamental is learned, society eventually benefits, either directly from that knowledge or from the technology developed to obtain it."

Standing Room Only

The packed June 18 meeting drew several distinguished guests from Washington, D.C.: John Marburger, Director of the Office of Science & Technology Policy and Science Adviser to the President; Peter Rosen, Associate Director for High Energy & Nuclear Physics, DOE's Office of Science; and Dennis Kovar, Director of DOE's Division of Nuclear Physics within High Energy & Nuclear Physics.

Physics Department Chair Sam Aronson introduced four speakers from the RHIC experiments, who each gave news (continued on page 4)

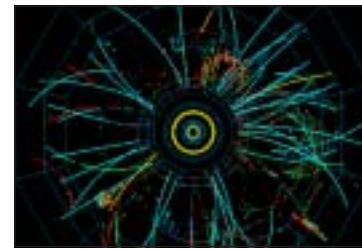


Roger Stoutenburgh D030663



Far left: Listening intently at the June 18 colloquium at BNL are speakers Dennis Kovar of DOE, Peter Rosen of DOE, and Praveen Chaudhari of BNL (second, fourth, and fifth from left, respectively).

Above: During the Q and A session at the end of the colloquium, John Marburger, Office of Science & Technology Policy, was the first to ask a question of the four presenters: (from left) Gunther Roland, PHOBOS; Ian Bearden, BRAHMS; Thomas Hemmick, PHENIX; and Peter Jacobs, STAR.



An end view of a collision between deuterons and gold ions captured by RHIC's STAR detector.

The Results

The latest RHIC findings come from experiments conducted from January through March of 2003, in which a beam of heavy gold nuclei collides head-on with a beam of deuterons (much smaller and lighter nuclei, each consisting of one proton plus one neutron). These deuteron-gold experiments, along with other experiments using two colliding beams of protons, serve as a basis for comparison with collisions of two gold beams at RHIC.

The gold-gold collisions, which bring nearly 400 protons and neutrons into collision at once, are designed to recreate, for a fleeting instant in the laboratory, the extremely hot, dense conditions of the early universe. When two gold (continued on page 4)

BNL, NREL Team Jointly Win Award For Excellence in Technology Transfer

Toshifumi Sugama of BNL's Energy Sciences & Technology Department and Keith Gawlik of the National Renewable Energy Laboratory (NREL) have jointly won a 2003 Federal Laboratory Consortium (FLC) Award for Excellence in Technology Transfer. This year, the team was among 22 recipients of the annual award, which recognizes employees who have accomplished outstanding work in the process of transferring a technology developed by a federal laboratory to a commercial marketplace.

FLC is a volunteer organization of over 700 federal research laboratories, research centers, and their parent departments and agencies, which work together to promote the rapid movement of federal technology research and development into the mainstream of the U.S. economy. The awards were conferred at the May 7-8 FLC national meeting in Tucson, Arizona.

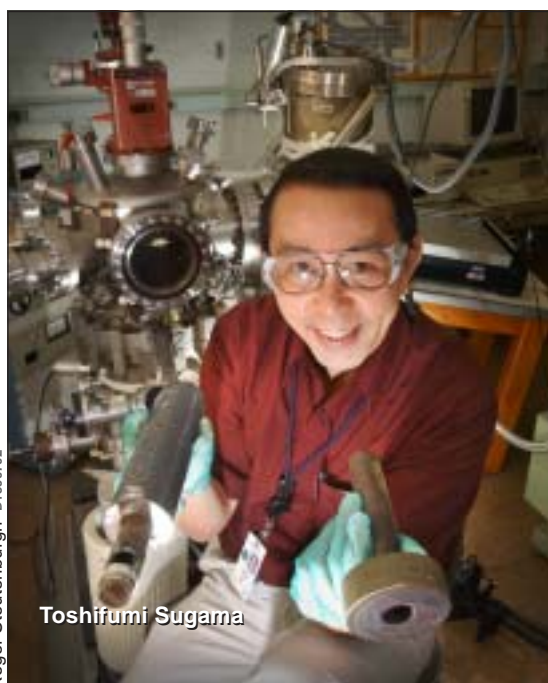
Sugama and Gawlik won the award for developing and transferring the technology of making a high-performance coating that is particularly suited for use in carbon-steel heat exchanger tubes in geothermal power plants, where the hot, wet environment can corrode, oxidize and foul tubes.

"I am honored to share this award with my colleague, Keith Gawlik," Sugama said. "We spent several years developing the technology, testing it, and then contacting various firms to market it. I am gratified that it has proven to be commercially successful."

The awarded coating was developed under the Geothermal Materials Program in DOE's Office of Energy Efficiency & Renewable Energy. Bob Curran & Sons of Dickenson, Texas, and Ticona Corporation, of Summit, New Jersey, also helped in developing the coating. Curran & Sons reports tests that show that this polyphenylenesulfide (PPS) coating system will last 20 years or more and perform for about five years before needing substantial maintenance, while competing coatings need maintenance at three- to six-month intervals.

In addition to protecting heat exchanger tubes in geothermal power plants, PPS can be used in other settings. It can be applied to other components, such as metal pipes, (continued on page 2)

Toshifumi Sugama holds up a condenser (left) that has been treated with the R&D 100 Award-winning high-performance polyphenylenesulfide coating system, and a piece of a partially rusted heat exchanger tube that has not been treated with the coating system.



Roger Stoutenburgh D130702

Toshifumi Sugama

James Tarpinian Named Assistant Director For Environment, Safety, Health & Quality

James Tarpinian was named BNL's Assistant Laboratory Director for Environment, Safety, Health & Quality (ESH&Q), effective April 7.

With 175 employees and a budget of \$20 million, the ESH&Q Directorate is responsible for environmental protection, occupational safety and health, and quality services at the Laboratory site. The Directorate responsibilities include developing and implementing programs to ensure compliance with federal, state and local regulations that protect BNL employees, the public, and the environment. The Directorate includes the Environmental & Waste Management Services Division, the Radiological Control Division, and the Safety and Health Services Division.

In addition, the ESH&Q Directorate is responsible for many of BNL's management and oversight systems. Those systems include the Independent Oversight Office, which verifies the effectiveness of the Lab's self-assessment programs; the performance-based management/integrated assessment system that Brookhaven Science Associates implements for managing the entire Laboratory; the Quality Programs and Services Office, which ensures that BNL plans and performs operations in a reliable and effective manner; and the Training and Qualifications Program Office, which establishes standards for coordinating and delivering training to employees and others.

"I am still learning about the Laboratory, and my goal is to determine how we can strengthen the Brookhaven culture so that every employee embraces safety and environmental stewardship as personal values," Tarpinian said. "The idea of doing the right thing — taking the safe path rather than a shortcut that might endanger health, safety, or the environment — should be more than a priority, but an intrinsic part of who we are."

Tarpinian received a B.A. in biology from the University of Connecticut at Storrs in 1975 and an M.S. in radiological sciences and protection from the University of Lowell, in Massachusetts, in 1980. In that year, he joined Bechtel Power Corporation as supervisor of decontamination and radioactive waste engineering. Tarpinian worked his way through the ranks of Bechtel, one of the world's largest engineering-construction firms, to become manager of safety and (continued on page 2)



Roger Stoutenburgh D0010503

James Tarpinian

Calendar of Laboratory Events

- The BERA Sales Office is located in Berkner Hall and is open weekdays from 9 a.m. to 3 p.m. For more information on BERA events, contact Andrea Dehler, Ext. 3347; or Chris Carter, Ext. 2873.
- Additional information for Hospitality Committee events can be found at the Lollipop House and the laundry in the apartment area.
- The Recreation Building (Rec. Hall) is located in the apartment area.
- Contact names are provided for most events for more information.
- Calendar events flagged with an asterisk (*) have an accompanying story in this week's Bulletin.

— EACH WEEK —

Weekdays: Free English for Speakers of Other Languages Classes

Beginner, Intermediate, and Advanced classes. Various times. All are welcome. Learn English, make friends. See www.bnl.gov/esol/schedule.html for schedule. Jen Lynch, Ext. 4894.

Mon., Tues., & Thurs.: Kickboxing

\$5 per class. Mon. & Thurs. noon-1 p.m. in the gym; Tues., 5:15-6:15 p.m. in the gym; Thurs., 5:15-6:15 p.m. in Brookhaven Ctr. Registration is required. Christine Carter, Ext. 2873.

Mon., Thurs., & Fri.: Tai Chi

Noon-12:45 p.m., Brookhaven Center North Room. Adam Rusek, Ext. 5830 or rusek@bnl.gov.

Mondays: BNL Dance Club Ballroom, Latin & Swing Practice

5:30-7 p.m. North Ballroom, Brookhaven Center, except Lab holidays. Jean Logan, jlogan@bnl.gov or Ext. 4391.

Tuesdays: Welcome Coffee

10-11:30 a.m. Rec. Hall. Hospitality event. Come and meet friends. The first Tuesday of every month is special for Lab newcomers and leaving guests. Hospitality Chair Monique de la Beij, 399-7656.

Tuesdays: BNL Music Club

Noon, North Room, Brookhaven Center. Come hear live music. Joe Vignola, Ext. 3846.

Tuesdays: Singles Club

5:15 p.m., Brookhaven Center. Contact: Jean, Ext. 4391.

Tuesdays: BNL Dance Club Individual & Couples instruction

5-11 p.m. North Ballroom, Brookhaven Center. Ron Ondrovic, ondrovic@bnl.gov or Ext. 4553.

Tuesdays: Toastmasters

1st and 3rd Tuesday of each month, 5:30 p.m., Bldg. 463, room 160. Guests, visitors always welcome. www.bnl.gov/bera/activities/toastmasters/default.htm.

Tuesdays & Thursdays: Aerobics

5:15-6:30 p.m., \$4 per class. Rec. Hall. Pat Flood, Ext. 7886.

Tuesdays & Thursdays: Aqua Aerobics

5:15-6:15 p.m. Christine Carter, Ext. 2873.

Wednesdays: On-Site Play Group

10 a.m.-noon. Rec. Hall. An infant/toddler drop-in event. Parents meet while children play. Svetlana Agafonova, 205-5065.

Wednesdays: Farmer's Market

11:30 a.m.-1:30 p.m., Berkner Hall parking lot

Wednesdays: Weight Watchers

Noon-1 p.m. Michael Thorn, Ext. 8612.

Wednesdays: Yoga Practice

Noon-1 p.m., Brookhaven Center. Free. Ila Campbell, Ext. 2206.

Wednesdays: Open Chess Night

5-8 p.m., Rec. Hall. Christine Carter, Ext. 5090.

Wednesdays: Exercise 101

5:15-6 p.m., Rec. Hall. \$4 per class or \$35 for 10 classes. Stretching, low-impact aerobics, and other exercises. Pat Flood, Ext. 7886.

Fridays: Family Swim Night

5-8 p.m. at the BNL Pool. \$5 per family.

Fridays: BNL Social & Cultural Club

6-9 p.m., North Ballroom, Brookhaven Ctr., dance lessons, 9-11:30 p.m. general dancing. Rudy Alforque, Ext. 4733, rudy@bnl.gov.

Fridays: Jiu Jitsu Club

6-7 p.m. in the gym. All levels, ages 6 and above. \$10 per class. Tom, Ext. 4556.

June is Gay Pride Month

A display commemorating gay pride is set up in the Berkner Hall lobby. For more information, see www.bnl.gov/bera/activities/globe.

— NEXT WEEK —

Tuesday, 6/24

Garden Enthusiasts Tailgate Swap

Noon, gazebo. Thin out your gardens and bring excess plants and ideas to swap. There should be enough to share without an exchange if you are just starting out. Beth Blevins, Ext. 5630.

Tues., 6/24, & Wed. 6/25

Vacuum Gauging and Cryogenic Pump Seminars

9 a.m.-1:30 p.m., Berkner Hall, Room B. Representatives from Helix Technology will present this two-day course in vacuum measurement. Lunch, coffee, and refreshments will be provided by Helix. For more information and to register, contact Mel Johns, (508) 337-5150, or mjohns@helixtechnology.com.

James Tarpinian (cont'd.)



health for the Hanford restoration contractor, Bechtel, Hanford, Inc. Currently the site of the world's largest environmental cleanup project, Hanford, located in Washington State and managed by DOE, played an important role in the nation's nuclear defense, beginning with the Manhattan Project in the 1940s.

A health physicist certified by the American Board of Health Physics, Tarpinian is also a Fellow of the Health Physics Society (HPS). He was Director of the HPS from 1995 to 1998, and he had received the Elda E. Anderson Award from the Society in 1991. Currently a member of the American Academy of Health Physics, Tarpinian is also a former president (2002) and former director (1997-1999) of the Academy.

— Diane Greenberg

Toshi Sugama (cont'd.)



pumps, and boilers in geothermal and power generation units, and also to chemical, desalination, water treatment and air-conditioning equipment.

Last year, *R&D Magazine* named the PPS coating system as one of the top 100 technological achievements of the year. It has now been commercialized under the trade name CurraLon® by Bob Curran & Sons. Ticona Corporation manufactures the PPS used in the coating. — Diane Greenberg

Service Awards

The following employees celebrated BNL service anniversaries during April 2003.

40 YEARS

Harold Gassner C-A

35 YEARS

Lonnie Muldrow Plant Eng.
John Bennett ITD

30 YEARS

Guy Mastrion Staff Svcs.
Suresh Srivastava Medical

25 YEARS

Michael Schaeffer Plant Eng.
Peter Vanier NNS
Toshifumi Sugama ES&T
Robert Browngardt Plant Eng.
Susan White De Pace HENP
Harriet Vanslyke PPM
John Blydenburgh PPM
Alfred Farland Central Shops
Thomas Nepsee C-A

20 YEARS

Antoniette Russo Budget
Eleanor Hughes .. Director's Office
Anthony Spina Central Shops

10 YEARS

George Rundlett Training
Roger Connolly C-A
Anthony Guadagni PPM
William MacKay C-A
Richard Anderson C-A
Karen Ratel ESH&Q
Barbara Mack Staff Svcs.
John Searing ES
Linxiang Jia C-A
Gloria Ganci Medical
Vadim Gratchev Physics
John Flanagan Biology
Russell Burns Physics
Kevin Wolniewicz Instrumentation

No Bulletin 7/4

BNL will be closed in observance of Independence Day on Thursday, July 3, and Friday, July 4. Therefore there will be no Bulletin printed on Friday, July 4.

Inside Information

Visit of ICRP Chair Roger Clarke to BNL

On May 16, Roger Clarke, Chair of the International Commission on Radiological Protection (ICRP) and Director of the United Kingdom's National Radiological Protection Board, spent a day at BNL. Clarke first met with Assistant Laboratory Director for Environment, Safety, Health, & Quality James Tarpinian (see story, page 1 and at left).

Later, Clarke gave a talk, attended by Tarpinian; previous ICRP Vice Chair Charles Meinhold, BNL retiree and a Non-proliferation & National Security Department guest scientist; and several Lab safety and radiation protection staff.

Topics ranged over ICRP issues of interest, such as the different approaches used to compare historically contaminated sites with natural background radiation, and whether the public would more easily understand the concept of radiation dose if the level were consistently compared to various levels of natural background radiation. He also spoke about future directions of ICRP recommendations for radiation protection. Many of these issues will be addressed in the next major ICRP publication, in 2005.

In addition, Bill Gunther, Life Sciences Directorate, took Clarke to meet Biology and Medical Department staff. Clarke also visited the National Synchrotron Light Source (NSLS) with Robert Casey of the NSLS; and the Relativistic Heavy Ion Collider with Edward Lessard of the Collider-Accelerator Department.

— Liz Seubert

Be a Good Sport, Obey No-Slide Rule

It's the seventh inning, bases loaded, two outs and a heavy hitter at bat. Team A puts the squeeze on Team B and wins the game — and all the players enjoy a post-game barbeque.

This picture shows a typical evening at BERA softball. Each year, many BNL employees relax together in this sport or in other BERA clubs.

However, many employees get hurt on the field or court. Injuries resulting from sporting activities account for 20 percent of all BNL workers' compensation injuries. This year, BERA has adopted the "no slide" rule for the softball league, in the hope of reducing the risk of softball-related injuries.

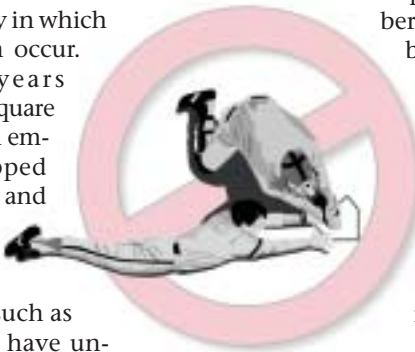
Softball is not the only activity in which injuries can occur. Several years ago, while square dancing, an employee tripped over a chair and fractured a hip. Even non-contact sports such as badminton have un-

foreseen consequences: one employee got hit in the eye with a badminton birdie!

Taking simple measures, for example, doing warm-up exercises to prevent muscle strain and using appropriate protective equipment, helps to reduce the risk of injuries.

"I encourage team captains and BERA participants to take a moment before each game to review safety rules to help keep each other safe. I also encourage employees to be mindful, and be safe, whether at work, play or home," says James Tarpinian, BNL's Assistant Laboratory Director for Environment, Safety, Health & Quality.

"Most importantly," continues Tarpinian, "remember that your number one safety priority should be to protect yourself, your colleagues and your teammates. Be a real winner and go home injury-free." — Jane Koropsak



Summer Sunday BNL Tours, 7/13 - 8/24

BNL's annual Summer Sunday Tours will begin on July 13 and continue for seven Sundays until August 24, with exciting interactive exhibits and an inside look at a different Lab facility each week. Admission is free, and no reservations are needed, but to be admitted on site, all visitors age 16 and over must bring photo ID.

Every Sunday, from 10 a.m. to 3 p.m., visitors will see:

- "Brain Matters," a hands-on exhibit on the brain, with skill-testing "brain twisters" to solve. Produced by the Oregon Museum of Science & Industry, funded by the National Institutes of Health
- Poster on the 2002 Nobel Prize in Physics won by BNL scientist Ray Davis
- Camp Upton Historical Collection: memorabilia from World Wars I & II.
- "Whiz Bang Science Show," with new special effects, at 10:30 a.m., 12 noon, 1:30 p.m., and 3 p.m. Children and adults can learn basic scientific principles by watching lively, interactive demonstrations at this fun show.

The schedule for visiting featured Lab facilities is as follows:

- 7/13 - Chemistry
- 7/20 - Energy & Environment & Weather
- 7/27 - Family Fun Day
- 8/3 - National Synchrotron Light Source (NSLS), Nanoscience
- 8/10 - Magnet Division
- 8/17 - Relativistic Heavy Ion Collider (RHIC)
- 8/24 - Fire, Security & Plant Engineering

For more information, call (631) 344-2651.

VHDL Training Class Offered by ITD

The Information Technology Division is scheduling introductory and intermediate Very High Speed Integrated Circuit Hardware Description Language (VHDL) classes in July/August. The fee, depending on enrollment, will be about \$2,200/ for each five-day class. For more information, call Chris Herbst, Ext. 5304.

Get to Know Your Lab! Visit PHENIX Today



Roger Stoutenburgh CHS-311-01

All Lab employees, facility users, guests, and retirees are welcome to join today's Employee Lunchtime Tour to see the Relativistic Heavy Ion Collider's PHENIX experiment. The group will meet at noon in Berkner Hall's upper lobby to be transported by Lab bus to PHENIX to learn about how this giant detector was built, and how it works.

The group will return to Berkner by 1 p.m. For more information, call BNL Community Involvement's Elaine Lowenstein, Ext. 2400.

Benefit Notes Qualifying Events

Changes to medical and/or dental coverage may be made during the benefits annual open enrollment. Also, certain changes may be made within 31 days of when a qualifying event occurs. Qualifying events include: birth or adoption of a child, marriage, divorce or legal separation, loss of dependent status (for instance, graduation, attainment of age limit, or no longer a full-time student), death of a dependent, change in the place of residence or worksite, or a spouse's gain or loss of employment. The Benefits Office will need documentation of the qualifying event.

For the change in benefits to be approved, the qualifying event must closely relate to the requested change in benefits. For example, if a child is born, a participant may add the child to his/her medical coverage. The participant cannot drop medical coverage at that time.

In addition, depending on the situation, some items that might be updated at a qualifying event are:

- covered dependents for medical and/or dental coverage
- life insurance beneficiaries
- tax withholdings on Form W-4
- address change
- emergency contacts

For more information or to change your benefits within the 31 days of the qualifying event, contact the Benefits Office, Bldg. 185, Ext. 2877 or 5126, or call (800) 353-5321.

Bldg. 179 Parking

To improve the quality of the workplace environment in and around Bldg. 179, the four 15-minute parking spaces in the parking lot off Center Street have been relocated to the center of the lot, closer to the entrance ramp of the Upton Branch of the U.S. Post Office. The original location of the four spaces will now be used by the Motor Pool of the Staff Services Division.

Wanted, Family Art
'Bring A Pic,' 7/27

This year, during the "Family Fun Day" Summer Sunday event on July 27 (see page 2) the BNL Art Society will hold a sidewalk art exhibit. On that day, BNL employees, retirees, visitors, guests, facility users and their families are all invited to "Bring A Pic," that is, any artwork in a frame, ready for hanging, to be hooked onto easels in the show, which will be from 10 a.m. to 3 p.m. Children's work will be very welcome. Those who would like to bring a larger display and hang it on their own stands may do so. To bring-a-pic — or several pics — contact Robert Chrien, chrien@bnl.gov or Ext. 3903 or Liz Seubert, lseubert@bnl.gov or Ext. 2346.

Arrivals & Departures

Arrivals

Brian Leskiw Chemistry
Rogelio Tomas Garcia C-A
Carol Pulley PPM

Departures

Alexandros Georgakilas ... Biology
Hua Hou Chemistry
Richard Thoel Plant Eng.

Hospitality Picnic, 6/28

The Hospitality Committee invites the Lab community, family and friends to an early Fourth of July picnic on Saturday, June 28, at 6 p.m. at the gazebo located in the apartment area. Participants are asked to bring a dish to share with six to eight people. There will be games for the children. For information, call Hospitality Chair Monique de la Beij, 399-7656.

EAP, APAA Lecture, 6/26

'Asian-American Health and Mental Health'

On Thursday, June 26, BNL's Employee Assistance Program and Asian Pacific American Association are co-sponsoring a talk on "Asian-American Health and Mental Health." The talk, which will be held from noon to 1 p.m. in Berkner Hall, Room B, will be given by Philip Wong, Associate Professor in Long Island University's Department of Psychology.

As Wong will discuss, in 2001, the Surgeon General issued a report titled, "Mental Health: Culture, Race, and Ethnicity," which described some of the central issues in health and mental health facing Americans of Asian heritage and their families. Wong will talk about some of the potentially stressful challenges, such as intergenerational conflicts, from perspectives that range from broad, epidemiological patterns to individual case examples, with the aim of increasing awareness of the complex psychological and social forces impinging on modern Asian-American families.

On L.I., A Good Summer Rental Is Hard to Find — and Keep



Roger Stoutenburgh photo2003

While driving on site recently, Lab photographer Roger Stoutenburgh, Photography & Graphic Arts Division, spotted a furious battle between two northern mockingbirds who each wanted the other out of the territory. "They were so intent on fighting, they didn't even know I was there with my camera," says Stoutenburgh. Tim Green, BNL's natural resource manager, says, "These are common birds here around houses and open areas. They are mimics, repeatedly imitating other birds' calls. Some are so good at mimicry that recent reports from Central Park in New York City say they can be heard making the sounds emanating from cell phones!"

More Phone INFO

BNL's INFO hotline, 344-4636, has been updated to include much more information. This convenience is designed principally to help those without access to the Web.

On dialing 344-4636, you will hear the header "Welcome to BNL," and the statement that the Lab is open, or, exceptionally, the expected hours of closure, as during a snowstorm. Then, you will hear a prompt to press:

- 1 for language help
- 2 for this week's events
- 3 for directions, transportation, access & on-site garage
- 4 for food service
- 5 for hospitality/welcome
- 6 for recreation & child care
- 7 for mail, internet & banking
- 8 for BNL weather
- 9 for questions & feedback

At any time, you may press * to go back to the main menu.

Gonna Be There? Of Course You Will!

Long Island Corporate Challenge Run/Walk, 7/29

On Tuesday, July 29, Long Island's largest corporate picnic will be held at 7 p.m. at Jones Beach, and, says Jim Marron of the BNL Runners Club, "This is your opportunity — be there as a member of Brookhaven National Laboratory!" Marron explains that each year, JPMorganChase sponsors a series of corporate challenge events around the world. The best teams from each event meet on Park Avenue, New York City, in October to determine "the best of the best."

The race distance is 3.5 miles to run or walk.

In 2002, BNL won as the best men's team and took fifth place among women's teams on Long Island from more than 9,200 participants from over 300 companies; among them: Cablevision, LIPA, Grumman, Computer Associates, Symbol, and Stony Brook University.

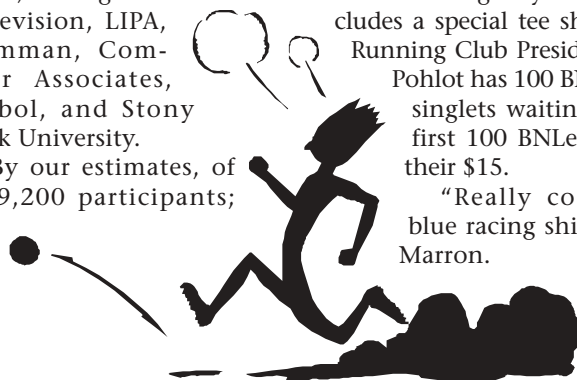
"By our estimates, of the 9,200 participants;

1,500 were racers; 3,200, casual runners; and 4,500, walkers," says Marron. "We were engineers, teachers, cops, firefighters, educators, doctors, delivery personnel, scientists . . . and we'll all be meeting again this year on July 29. Just join us at Jones Beach Parking Field 5 by 7 p.m." After the 3.5 mile course is run or walked, a party follows. "It's a great party. Ask anyone who was there last year," says Marron. "And this year, we plan to make it even better."

The party cost is not yet decided, but it will be less than \$10 per person. Contact Marron, marron@bnl.gov or Ext. 6222 for an entry form to fill in, sign, and return with \$15 in cash, by July 7.

After the event, all entrants will receive a "goody" bag that includes a special tee shirt. Also, Running Club President Peter Pohlot has 100 BNL racing singlets waiting for the first 100 BNLers to pay their \$15.

"Really cool royal blue racing shirts!" says Marron.



Thank You, Blood Donors

During the June 12 & June 13 Blood Drive, Long Island Blood Services collected 266 units of blood from BNL donors.

Classified Advertisements

Placement Notices

The Lab'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 list of all job openings; use a TDD system to access job information by calling (631) 344-6018; or access current job openings on the World Wide Web at www.bnl.gov/HR/jobs/default.htm.

LABORATORY RECRUITMENT - Opportunities for Laboratory Employees

TB2731. OFFICE SERVICES ASSISTANT (CW-2) - Requires an AAS degree or a minimum of two years' related work experience. Will input and extend time and attendance records; ensure compliance with applicable Laboratory policies; check reports for accuracy; process checks and leave and overtime adjustments; calculate retroactive pay and prepare various corre-

spondences and assist employees with inquiries either in person or by telephone. A working knowledge of personal computers and exposure to computerized business systems is required, as is knowledge of Excel, Word and payroll processing and systems. PeopleSoft Payroll/HR is highly desirable. Fiscal Division.

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside candidates.

MK2851. ASSISTANT PHYSICIST (S-1) - Requires a Ph.D. and experience in high energy spin physics experiments. Position is with the RHIC Spin Program, which is a world-class program to study the spin structure of the proton. This is based on the STAR and PHENIX experiments, observing the collisions of polarized protons with energies from 200 to 500 GeV. The experiments will measure the gluon polarization in the proton, the flavor decomposition of quark contributions to the proton's spin and will probe for new physics using parity violation. Under the direction of G. Bunce, Physics Department.

MK2927. POSTDOCTORAL RESEARCH ASSOCIATE (reposting) - Requires a Ph.D. in either optical physics/spectroscopy or closely related field with special emphasis on the acquisition of Raman spectroscopy in the UV/VIS spectral region, associated data acquisition hardware, and data reduction. Expertise should also include the use of solid-state pulsed-laser sources and low-level signal detection using ICCD/CCD devices. Experience in Mie Lidar operation, data reduction and analysis techniques would be highly desirable. This research, in the Atmospheric Sciences Division, will be in support of their novel short-range Raman lidar system. Under the direction of A. Sedlacek, Environmental Sciences Department.

MK2767. POSTDOCTORAL RESEARCH ASSOCIATE - Requires a Ph.D. in chemistry, analytical chemistry or materials science, and experience in electrochemistry, *in situ* spectroscopies, and nanoparticle synthesis. Research will involve spectroscopic and electrochemical studies of nanoparticle catalysts, their preparation and surface decoration. Catalytic activity of modified nanoparticle surfaces will be investigated for hydrogen and hydrogen/carbon monoxide oxidation and oxygen reduction. Under the direction of R. Adzic, Materials Science Department.

NS4034. MANAGER, SAFEGUARDS AND SECURITY DIVISION (M-3, ERAP Eligible \$1K, reposting) - Requires a bachelor's degree (advanced degree preferred), broad background in safeguards and security, to include extensive experience in nuclear security, nuclear materials control and accountability, and emergency management of security forces. Minimum of five years' experience in managing a major safeguards and security organization, such as a military unit or a Federal or private security organization. Considerable skill required in supervising large numbers of people and effectively dealing with upper management and other division managers. Excellent skills in oral and written communication, decision-making, budgeting, and interviewing are a must, as are U.S. citizenship and ability to obtain and maintain a DOE "Q" security clearance. Responsible for planning, organizing, managing, and directing the activities of the Division and directing all safeguards and security activities at the Laboratory. Develops policies and procedures; manages programs for the protection of nuclear materials, classified information, and other Laboratory assets; directs the nuclear materials control and accountability program; and liaisons with Federal, state and local law enforcement

agencies. Ensures compliance with DOE and Laboratory policies and procedures pertaining to the safeguarding and securing of nuclear resources and other Laboratory facilities, equipment, and personnel. Identifies problems, weaknesses, and deficiencies in safeguards and security programs; develops solutions; and takes corrective actions. Prepares and manages the Division budget. Serves as Laboratory Classification Officer. In security emergencies, acts as the Laboratory Emergency Supervisor. Reports to the Assistant Laboratory Director for Facilities & Operations.

TB2641. SR. CONTRACTS SPECIALIST (A-7, term appointment) - Requires a bachelor's degree in business administration or equivalent experience plus five years' directly related experience; an MBA and/or professional certification desirable. Must have knowledge of Federal Acquisition Regulations for cost type and fixed price contracts and experience with procurement in the environmental restoration, reactor decommissioning and site remediation fields. Must be well versed in all aspects of procurement in a government environment, including drafting RFPs, proposal evaluation, cost and price analysis, negotiation, drafting of contracts and modifications. Will be responsible for obtaining desired equipment and services through contractual agreements with minimal supervision. In addition, will be responsible for contract administration functions including monitoring of progress, receipt of deliverables and invoice approval in coordination with contract administration representatives, technical representatives and contractors. Experience in teaming with technical requestors, program managers, quality assurance personnel, developing and monitoring incentive fee contracts is desirable. Familiarity with Microsoft Word and Excel is preferred. Procurement & Property Management Division.

Calendar

(continued)

Wednesday, 6/25

Federal Women's Dollars and Sense Workshop

9 a.m.-noon, Berkner Hall. Displays and exhibits by local women-owned businesses. See how these businesses can help BNLers perform their jobs better by providing various products and services. Everything from batteries and chemicals to light bulbs and hazardous-chemical disposal systems will be on display. All are welcome. Barbara Simpson, Ext. 7643.

Money Talks Seminar

Noon, Berkner Hall. All are welcome to learn about the new TIAA-CREF funds available in BSA retirement plans as of July 1, 2003; learn how to evaluate your risk tolerance, investment style, and preferences; and how to use TIAA-CREF's range of asset classes to create a diversified portfolio at the Money Talks Seminar entitled "Investment Solutions: New Funds From TIAA-CREF." For more information, contact Joyce Wund, Ext. 7516.

Thursday, 6/26

EAP, APAA Lecture

Noon, Berkner Hall, Room B. Philip Wong, Associate Professor in Long Island University's Department of Psychology, will present "Asian-American Health and Mental Health." See story, page 3.

Saturday, 6/28

***Hospitality Committee Picnic**

6 p.m. at the Gazebo in the apartment area. The Hospitality Committee invites the Lab community, family and friends to an early Fourth of July picnic. Participants are asked to bring a dish to share with six to eight people. There will be games for the children. For information, call Hospitality Chair Monique de la Beij, 399-7656.

— WEEK OF 6/30 —

Wednesday, 7/2

ASAP Barbecue

5 p.m. at the gazebo by the softball field. Sponsored by BNL's Association of Students and Postdocs (ASAP). All ASAP members welcome. There will be food, fun, sports, and music. To RSVP or to volunteer with set-up and event coordination, contact Rainer Soika at soika@bnl.gov. For more information about ASAP, see www2.bnl.gov/asap/.

— WEEK OF 7/7 —

Thursday, 7/10

Community Advisory Council Meeting
6:30 p.m., Bldg. 490, Large Conference Room. Open to the public. For more information, see http://www.bnl.gov/community/CAC.htm.

— WEEK OF 7/21 —

Friday, July 25

Blues Concert

8 p.m., Berkner Hall. BNL Music Club and Long Island Blues Society will sponsor "Soaring With the Bluz," live, with Sam Taylor and Todd Wolfe. Open to the public. Buy tickets in advance at \$15 each at the BERA Sales Office. No tickets will be sold at the door. Contact the club at Ext. 3846 or jyv@bnl.gov.

— WEEK OF 8/11 —

Thursday, 8/14

Community Advisory Council Meeting
6:30 p.m., Berkner Hall, Room B. Open to the public. For more information, see http://www.bnl.gov/community/CAC.htm.

Saturday, 8/16

BERA Bus Trip to Ellis Island

All-day trip. Tickets available at BERA Sales Office. More information from Andrea Dehler, Ext. 3347.

— WEEK OF 9/1 —

Tuesday, 9/2

U.S. Open Tennis Trip

\$62 per person includes day session ticket and bus transportation. Bus departs the BNL tennis court parking lot at 8:30 a.m. Paid reservations are being taken at the BERA Sales Office, weekdays, from 9 a.m. to 3 p.m. For more information, contact Rita Kito, Ext. 3320.

Note: This calendar is updated continuously and will appear in the Bulletin whenever space permits. Submissions must be received by the preceding Friday at noon to appear in the following week's Bulletin. Enter information for each event in the order listed above (date, event name, description, and cost) and send it to bulletin@bnl.gov. Write "Bulletin Calendar" in the subject line.

New Printing Process at PGA



Led by Cornelius Jackson (right), Offset Printing Group members Kevin Hester and Leon Lawrence are seen making printing plates with the new, hi-tech and environmentally friendly platesetter.

This issue of The Bulletin is the first to take advantage of a new "direct-to-plate" printing process in the Photography & Graphic Arts Division (PGA). PGA's Printing Group has just installed a Presstek Dimension 400 "platesetter" to replace the film-based Agfa Imagesetter — a significant improvement in technology, says Printing Supervisor Rick Backofen.

Backofen explains that in traditional printing, an image of the page to be printed is transferred electronically onto film using an imagesetter. Then, the printing plate — a large aluminum sheet coated with photographic emulsion — is "burned" or exposed to the film under bright light to transfer the image onto the plate. Next, the plate is mounted on a printing press ready to transfer the image to paper.

"The film and plate are processed using chemicals, creating chemical waste that is costly to dispose of," Backofen says. "In addition, burning the plate takes time and causes some degradation of the image."

The new platesetter uses lasers to image plates directly from electronic files. The process creates residual carbon, but this rinses off with tap water. The printers then mount the plate directly on the press.

"The result is a sharper image, reduced production time, and the elimination of chemical waste created by the film-based printing process," Backofen says.

Exciting First Results From Deuteron-Gold Collisions at RHIC *(cont'd.)*

from their collaborations: Thomas Hemmick, Stony Brook University, for PHENIX; Gunther Roland, Massachusetts Institute of Technology, for PHOBOS; Ian Bearden, Niels Bohr Institute, for BRAHMS; and Peter Jacobs, Lawrence Berkeley National Laboratory, for STAR.

Nobel Prize-winner in physics T.D. Lee of Columbia University, who heads the RIKEN BNL Research Center, sent a message to be read at the event:

"The name 'quark gluon plasma' has been coined before, but its properties are only being unraveled now at RHIC. The new form of nuclear matter created at RHIC behaves very differently from anything that has been seen before. This is a major discovery!"

After the scientific presentations, Praveen Chaudhari, BNL's Director, listed different ways to look at the present "spectacular results." In addition to the experiment itself and its findings, he described the nature of the RHIC experimentalists from all over the world: "You are motivated by something that transcends nationality, culture, and comfort, and that is to get the data that you seek," said Chaudhari. He addressed the RHIC teams as four groups that "support each other and root for each other even while competing . . . an interesting culture all bound by this one machine around which you circle."

Before introducing the guest

speakers, Chaudhari also gave thanks to the financial supporters of the machine, such as DOE program managers "who took the calculated risk that such an experiment was worth building."

"You are motivated by something that transcends nationality, culture, and comfort, and that is to get the data that you seek."

— Praveen Chaudhari

Visitors From Washington

John Marburger was the first of the D.C. visitors to give his remarks and congratulations to the RHIC team.



"All of us who have come into contact with RHIC, its detectors, and its team of extraordinary people who make it all work feel a deep sense of pride," he said.

"The goal of RHIC is not isolated discovery of a quark-gluon plasma — it is exploration of the

"Science is not a career, it's a calling."

— Dennis Kovar

complex environment in which we creatures live out our brief existence," he continued. "I offer my congratulations to the experimental teams, the staff of the RHIC/Alternating Gradient Synchrotron complex, and the

visionary leaders and builders who, decades ago, started the wheels turning that brought us to today's event."

Said Peter Rosen, a key DOE supporter of RHIC, "It's clear that a new



fundamental phenomenon has been discovered here." He attributed that success to "a multi-component partnership" composed of BNL, the nuclear physics scientific community, the nuclear physics program in the Office of Science led by Dennis Kovar, and DOE's Brookhaven Area Office led by Mike Holland — all of whom played "a very important role in bringing RHIC into existence and seeing it properly completed, and becoming a productive scientific facility."

DOE's Dennis Kovar recalled big and small RHIC milestones. "But the present milestone, I believe, is very special. This is what RHIC was built to do — to explore the unexplored," he said.

"What this occasion means to all of you who are participating," continued Kovar, "is the joy, the sense of accomplishment that one gets at that moment of realizing that one now knows something, has discovered something completely new. . . . This is why some say that science is not a career, it's a calling."

"Congratulations, well done, good work," he concluded.

Of course, Kovar added, "we have much to do ahead."

For Rent

CENTER MORICHES - waterfront 2-bedroom Cape, 2-car garage, 0.5 acre, 85 ft. bulkhead on deepwater creek, \$1,700/mo. incl. util. Alan, Ext. 5854.

EAST MORICHES - share lg. house w/ prof., 300 ft. to water, 10 mi. to BNL, furnished own bdrm. w/cable, a/c, & phone, single, non-smoker. 744-8386.

FARMINGVILLE - main floor of home, 2 bdrms., l/r, kit., full bath, yard, deck, gar., priv. driveway. \$1,300 incl. utilities, cable, lawn maint. Avail. 7/15. 758-3952 after 6 p.m.

MASTIC BEACH - 4-bdrm. ranch, quiet st., close to water, \$1,600/mo. plus util. & security deposit, 1-year lease. Dan, Ext. 7658.

MEDFORD - 2-bdrm. basement apt., separate ent., all util & cable incl., non-smoker, no pets/children, \$1,000/mo. 698-9016.

MILLER PLACE - studio apt., full bath & kit., no smoking, \$750/mo. avail. immed. Ted, Ext. 5645.

PATCHOGUE - 1 bdrm. in furn. shared house, non-smoker, no pets, incl. elec., water, oil, cable, 2 bath, w/d, fireplace, pool, walk to parks, beaches, LIRR & downtown, \$650/mo. Heather, 632-7916 or 289-2999.

PATCHOGUE - 1-bdrm apt., 2nd floor of big house, 15 min. from Lab., priv. entrance, 10 min. from sea, furnished or buy furniture for \$300, \$850/mo. incl. util., no smoker/pets. Alex, Ext. 3114.

RIDGE - on Shoreham border, 1 bdrm. apt., new kit. & bath, quiet, \$800 incl. util; Greg, Ext. 2278.

RIDGE, 8-rm/4-bdrm. Col., 4 mi. to BNL, 1st fl.: eik, l/r, den, foyer, 2nd fl.: mstr. bdrm. & bath, walk-in closet, laun. rm., 3 bdrms., full bath, attic, storage, owner, 1 bdrm. access. apt. & gar., \$1,999/mo. Greg, Ext. 2278.

RONKONKOMA - 1 bdrm. w/full bath, use of laundry room & extra cabinet space, no pets/smoking, \$600/mo. util. incl. Nick, 588-0180.

SEAFORD - small cottage w/1 bdrm., on water w/40 ft. dockage for boat, \$1,400/mo. incl. util. Diane, Ext. 3670 or 744-7947.

SHIRLEY - 478 Carnation St., \$1,800/mo. or \$210,000, 1 mo. dep. Fernando, 345-3754.

SHIRLEY - big 2 bdrm., quiet area, near Lab, rent incl. heat, elec., water & cable, \$1,100 - \$1,300 neg. Tomasz, Ext. 7448.

SHOREHAM - 4 bdrms., 2 full baths, a/c, 2-car gar., lg. eik, SWR school district, \$2,300/mo, 1 mo. sec. & ref. required. 929-0004.

SOUND BEACH - 1 bdrm. basement apt., for 1 pers., full kit., full bath, lg. l/r, lg. closets, sep. ent., priv. pking, \$900/mo. incl. all except cable + 1 mo. sec., 209-0082.

SOUTH SETAUKET - 4-bdrm. Colonial in 3-Village SD, l/rm, d/rm, den, 2 1/2 baths, gas heat, \$2,000/mo. plus util., no pets/smokers. 455-6121.

For Sale

MANORVILLE - 2 bdrm., 2 bath, l/r, kit., deck, 1-car gar., in Greenwood Village, 55 & over community, new stove, refrig., carpets, \$105,000. 872-6002.

SHOREHAM - cheerful, 8-rm. Colonial, SWR SD, 4 bdrm., 2.5 baths, eik, 0.52 acre, wooded, new roof, siding, Andersens, kit., furnace, \$389,000. Alan, Ext. 4714.

SOUND BEACH - 3 bdrm., 2 1/2 bath, Colonial, eik, d/r, l/r, Miller Place SD, \$325,000. 821-1271.

TAYLASVILLE, NC - in N.C. foothills, 4-bdrm., 3-bath house, M/D, 1,872 sq. ft., double det. gar., 1.9 acres, fenced, county water, \$145,000. Joann, 878-8263.

Motor Vehicles & Supplies

01 FORD TAURUS - silver, 3L, 50K mi., a/t, a/c, all power, am/fm/cass., well maint., \$9,000. Henri, Ext. 8294 or 776-2779.

00 MITSUBISHI ECLIPSE GS - 5-spd., a/c, p/s, p/w, warr., 46K mi., excel. cond., premium sound, \$11,000. Sally, 821-0829.

96 VOLKSWAGON GOLF - green, a/t, a/c, p/s, p/b, 92K mi., alarm, \$4,300; 95 Plym. Voyager, white, a/t, a/c, p/s, p/b, c/c, 117K mi., auto start, \$2,500. Rich, Ext. 7013 or 698-5294.

95 CHEVY S10 BLAZER - all power, 4-dr., 4-wd, leather, tilt, c/c, alarm, new brakes, balljoints, tires, exhaust, well maint., excel. cond. in/out. Ralph, 325-0145.

95 FORD ESCORT - a/t, a/c, p/s, 92K mi., excel. cond., brand new tires & timing belt, \$2,100. Rachel, 399-2417.

94 GMC JIMMY SLT - 90K mi., good tires, well maint., make offer. Howard, 744-3203.

94 MITSUBISHI MIRAGE S - all power, 119K mi., very clean, \$2,200, avail. July 15. Ext. 3056 or Ext. 1211.

93 JEEP CHEROKEE - all power, 117K mi., 2/4 wheel drive, clean, runs well, good tires, brakes, body in good cond., garaged, \$4,500. Bob, 928-1806.

93 SUBARU IMPREZA - a/t, a/c, p/s, p/b, p/w, 160K mi., ABS, airbags, new Pirelli tires, good cond., \$1,800. 751-8351.

93 VOLVO 850 - clean, well maint., \$4,500. Peter Stephens, Ext. 5634.

92 MERCURY SABLE - blue, station wagon, 3.8L, V6, 160K mi., a/t, a/c, all power, ABS, airbags, 3rd seat, \$1,500. Roy, Ext. 7531 or 929-3550.

92 MITSUBISHI ECLIPSE - black, a/c, p/s, 110K mi., \$1,300 obo. Ext. 3838 or 744-2940.

92 SUBARU SVX - burgundy, V-6, clean. Jen, 516-521-0969.

91 CHEVY CAVALIER - orig. own., 81K mi., runs very well, a/t, a/c, sunroof, new tires, converter & battery, reliable & dependable, \$2,000. 475-2068.

89 MAZDA MPV - V6, 7 pass., loaded, new brakes, tires, struts, shocks etc., excel. cond., \$2,400. Ext. 7262.

87 FORD TAURUS WAGON - 5-spd., all power, 135K mi., runs well, \$400. Ext. 8419 or Ext. 1268.

PARTS - for '86 Toyota Tercel, some free, some cheap. Rich, Ext. 5827.

THE CLUB - fits on steering wheel rendering vehicle impossible to steer, deters theft, double tumbler lock w/2 keys, like new, \$25. Warren, Ext. 2080.

TIRES - one pair of Firestone slicks, 28.5" tall x 9" wide, \$175, Crager 8 in. Five Star rims w/tires. Wayne, 698-1184.

Miscellaneous

BIKE TRAILER - Burley, 2-child bike trailer, \$125; Perego stroller, \$15; Gerry backpack, \$10. Steve, Ext. 7570 or 874-2805.

CLOTHING - Maurada raw silk pantsuits, natural & teal color, s,m,l, \$18; Maurada cotton knit tops, s,m,l, \$8; plus size short sets, size 20, 22, \$16, all new. Susan, Ext. 2418.

TICKETS - Norah Jones Concert, PNC Arts Center, 6/27, 8 p.m., 2/\$60. Michele, Ext. 3281.

Free

CAR REMOVAL - junk cars & trucks removed free. Rich, Ext. 4201 or 589-9103.

MOUNTAIN BIKE - Huff, working cond., tires need air, you pick up. Lisa, Ext. 2773.

PRINTER - Epson Action Laser II, not working. Nick, Ext. 3205.

In Appreciation

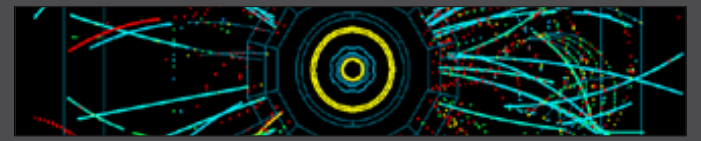
I would sincerely like to thank everyone for the gifts, flowers, cards & kind words following Grant Mayo's death. — Brian Mayo

We thank all our friends for all the comfort and support after the loss of our father. — Pat & Rich Froelich

It was great seeing everyone and walking with all of you at my "Farewell Walk" last week. I especially enjoyed the picture poster and tee-shirt with all your signatures. Your presence and presents made me feel very special. Thanks again for taking the time for me. — Mary Wood, jmwood18@aol.com

Ads omitted due to lack of space will appear in next week's Bulletin.

RHIC Results *(cont'd.)*



nuclei collide head-on, the temperatures reached are so extreme (more than 300 million times the surface temperature of the sun) that the individual protons and neutrons inside the merged gold nuclei are expected to melt, releasing the quarks and gluons normally confined within them to form a tiny sample of particle "soup" called quark-gluon plasma. In contrast, the small deuteron passes through the large gold nucleus like a bullet, without heating or compressing it very much. The gold nucleus remains in its usual state, composed of distinct protons and neutrons.

In either type of collision, a pair of energetic quarks can be knocked loose from within a proton or neutron. Each of these loose quarks will produce a "jet" of ordinary particles, and the two jets will emerge back-to-back from the collision region. Scientists can use these jets to probe nuclear environments.

In the deuteron-gold experiments conducted this spring, back-to-back jets were seen to emerge, but in head-on collisions from the earlier gold-gold experiments, one of the two jets was missing. In addition, fewer highly energetic individual particles are observed coming from gold-gold than from deuteron-gold collisions. Scientists are intrigued by these distinctions, which clearly show that head-on gold-gold collisions are producing a nuclear environment quite different from that of deuteron-gold collisions.

One possible explanation of the missing jets is that a quark traveling through this new environment would interact strongly and lose a substantial amount of its energy. Thus, if a quark pair is produced near the surface of the nuclear fireball resulting from a head-on collision of gold nuclei, the outward-bound quark is able to escape, while the inward-bound quark is absorbed. Only one jet is detected by the physicists. This phenomenon is called "jet quenching" and was predicted to occur in quark-gluon plasma. The same calculations also predicted the observed suppression of high-energy individual particles.

If further scientific research proves that a quark-gluon plasma has been made, the physics story has just begun. By studying the behavior of free quarks and gluons in the plasma, RHIC scientists hope to learn more about the strong nuclear force — the force that holds quarks together in protons and neutrons.