

BNL Hosts the ATLAS Software Workshop

On May 23-28, an international group of scientists developing software that will analyze data from ATLAS, a high-energy particle physics experiment under construction at the Large Hadron Collider (LHC) facility near Geneva, Switzerland, met at BNL to discuss their progress.

BNL is the U.S. headquarters for ATLAS computing, one of six such "regional centers" across the globe.

Approximately 120 scientists from 25 institutions participated in the workshop. At the first session, held on Sunday, May 23, in Berkner Hall, Tom Kirk, Associate Laboratory Director for High Energy and Nuclear Physics, welcomed the attendees.

"BNL is very proud to be named the host laboratory for the ATLAS experiment for the U.S.," he said. "The grid will be a reality and a tool by the time ATLAS starts."

During the workshop, attendees divided into several sessions to discuss and hear talks on specific subjects. For example, they discussed "applications," pieces of software used for data analy-

sis. The participants also talked about grid models, which are prototypical grids being developed by different groups, as well as the progress of the ongoing "data challenges." Data challenges are essentially practice runs, in which the developers test the grid with simulated data.

The software project is extensive because ATLAS will generate such huge volumes of data – more than one billion gigabytes – when it begins operating in 2007. So that all the data can be analyzed, it will be divided among the regional centers. From each center,

(continued on page 2)



Roger Stoutenburgh D4560504

ATLAS grid developers at the workshop (from left): Gilbert Poulard (CERN), ATLAS Leader for Grid, Data Challenges, and Operations; John Huth (Harvard University), U.S. ATLAS Associate Program Manager for Physics and Computing; Bruce Gibbard (BNL), U.S. ATLAS Facilities Manager and head of the U.S. ATLAS Tier 1 Center; and Dario Barberis (Genoa University), ATLAS Computing Coordinator.



Participants in the ATLAS Software Workshop, held at BNL on May 23-28.

Joseph Rubino D4300504

Hendrie Awarded Nuclear Statesman Award

Joseph Hendrie, who retired as a senior physicist from BNL's then Department of Nuclear Energy in June 1996, has been honored with the Henry DeWolf Smyth Nuclear Statesman Award.

Jointly established in 1972 by the American Nuclear Society (ANS) and Nuclear Energy Institute, the Smyth Award is named for Henry DeWolf Smyth, who chaired Princeton University's physics department and advocated for international partnership to develop peaceful uses of nuclear energy. The award recognizes statesmanlike contributions to the many aspects of nuclear science and technology.

At the June 15 Honors and Awards Luncheon at the 2004 ANS Annual meeting in LaGrange Park, Illinois, Hendrie, a former Commissioner and Chair of the U.S.

Nuclear Regulatory Commission (NRC), received the award to acknowledge his outstanding leadership in the development and safe management of nuclear technologies.

"The honor of the 2004 Smyth Award is a most fitting acknowledgment of Dr. Hendrie's stellar achievements in developing and guiding the peaceful aspects of nuclear energy," wrote BNL's Senior Physicist, Robert Bari. "He is recognized worldwide for his achievements."

Hendrie, who joined BNL in 1955, received his Ph.D. from Columbia University in 1957. A year later, he was named a project engineer and the Chair of the Steering Committee for the High Flux Beam Reactor (HFBR), holding the position until the successful completion of the project in 1965. The HFBR enabled many discoveries in the basic sciences to be made. Thousands of researchers in the materials and life sciences benefited from the use of this facility during its years of operation from 1965 to 1996. In 1988, the ANS named the HFBR a Nuclear Historic Landmark.

Hendrie also pioneered efforts to develop standard review plans that facilitated the licensing process during the rapid growth of the nuclear power industry.

Hendrie was named Department of Applied Science Chair in 1975, after he had spent two years in Washington as Deputy Director for Technical Review of the Atomic Energy Commission's (AEC) Directorate of Licensing. He also served as NRC Chairman, 1977-81, then returned to BNL as a senior scientist.

Hendrie served as ANS President in 1984 and is the recipient of numerous awards and honors including the AEC's E.O. Lawrence Award in 1970. King Baudouin of Belgium made him a Commander of the Order of Leopold II in 1982.

— Liz Seubert



Roger Stoutenburgh CNR-146-98

BNL Scientists Patent Portable Sensor That Detects Harmful Substances

Scientists at BNL have been awarded U.S. patent number 6,608,677 for a portable device that quickly detects and identifies unknown chemical and biological substances from safe distances. The sensor may be useful as a tool to help improve national security and could be used, for example, by emergency personnel or at sensitive locations, such as airports.

"The technology developed here at Brookhaven Lab represents a fundamentally new sensing paradigm, able to detect and identify unknown materials without requiring contact with the substance," said Arthur Sedlacek, Environmental Sciences Department, and one of the two scientists that developed the sensor. The other is Mark Ray, formerly of BNL.

"Currently, when first responders come across an unknown chemical spill, the technology now available requires that they either get close to the substance or take a sample of the material for analysis, both of which have to be conducted prior to knowing what the material is," Sedlacek continued. "Our sensor is specifically designed to detect and identify chemical spills and other ground contamination without requiring sample collection, thus providing the user with an inherently safer tool."

The device, called a mini-Raman light detection and ranging (lidar) sensor, is able to analyze and identify many potentially harmful substances, such as gases, solid or liquid materials, contaminants, and pollutants, from a distance of approximately two to 50 meters. The identification process takes only minutes, and the sensor is small enough to be transported and carried by emergency responders.

"The mini-Raman sensor is a vast improvement over traditional lidar, which can only detect airborne substances that are kilometers away," said Sedlacek.

The system works by illuminating the target substance with a laser beam, which consists of tiny "particles" of light called photons. The photons scatter off of the substance, are reflected back toward the sensor, and then collected by a telescope,

one of the sensor's components. Another component then analyzes the scattering pattern. Because every chemical and biological substance has a unique pattern, the sensor is able to determine the identity of the substance. It can be linked to a notebook computer that will display the results of the analysis, based on known data of tens of thousands of biological and chemical compounds.

In the event that the substance in question is not listed in the sensor's database, its readout could be configured to indicate this. According to Sedlacek, work is currently underway to com-



Art Sedlacek working on one of his laser systems.

Roger Stoutenburgh D0261102

pile a library of harmful substances for the U.S. Department of Defense, which could be used with the lidar system.

The mini-Raman lidar system has several civilian and military applications. For example, it could be used to detect biological or chemical agents that have been maliciously released in a populated area. More locally, it could detect the composition of environmental spills or seepage, determining whether a substance threatens water supplies or wildlife. In airports or harbors, workers could identify unknown substances found in luggage or cargo. Because the analysis is done on the spot, without removing the sample and waiting for test results, the device allows serious situations to be dealt with efficiently and false alarms to be realized quickly.

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A Closer Look At the ATLAS Grid

The ATLAS grid computing system is a large and complicated endeavor that will allow researchers and students around the world to analyze ATLAS data.

The beauty of the grid is that a wealth of computing resources are available for a scientist to accomplish an analysis task, even if those resources are not physically available close to them. The data, software, and storage may be located hundreds or thousands of miles away, but the grid makes this invisible to the researcher.

Organizationally, the grid is set up in a tier system, with the Large Hadron Collider (LHC), located at CERN, the European Organization for Nuclear Research, at Tier 0, the very top. Tier 0 has the largest number of computers and data storage capacity, and will collect the raw data from ATLAS, perform a first-pass analysis, and then divide it among five Tier 1 locations, also known as regional centers, which includes BNL. At the Tier 1 level, which will connect to Tier 0 via the internet, some of the raw data will be stored, processed, and analyzed.

(continued on page 2)

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.

Mondays: BNL Gospel Choir

5:15-7 p.m. Berkner Hall. All faiths are welcome. www.bnl.gov/bera/activities/choir/.

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.

Tuesdays: Welcome Coffee

10-11:30 a.m., Apartment area gazebo/playground. The first Tuesday of every month is special for Lab newcomers and leaving guests. Monique de la Beij, 399-7656.

Tuesdays: BNL Music Club

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

Tuesdays: Jiu Jitsu Club

6:30-7:30 p.m. in the gym. All levels, ages 6 and above. \$10 per class. Tom, Ext. 4556.

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.

Tues. & Thurs: Upton Nursery School

The school is on summer break. Contact Alison Tilp, Ext. 4465, or tilp@bnl.gov, for information on Sept. enrollment.

Wednesdays: On-Site Play Group

10 a.m.-noon. Apartment area gazebo/playground. An infant/toddler drop-in event. Parents meet while children play. Cindy Otteman, 821-4482.

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: Dance Lessons

6-8 p.m., North Ballroom, Brookhaven Ctr. John Millener, Ext. 3853.

Thursdays: Reiki Healing Class

Noon-1 p.m., Bldg. 211. Nicole Bernholz, Ext. 2027.

Thursdays: FreshDirect Delivery

3:30-5:30 p.m., Berkner Hall parking lot.

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.

— NEXT WEEK —

Wednesday, 6/23

FreshDirect Demo

11 a.m.-2 p.m., Berkner Hall. FreshDirect representatives will present BNLers with sample food items and information on the FreshDirect grocery shopping service that is available at the Lab.

*Minimum Distribution Seminar

Noon-1 p.m., Berkner Hall. Join a representative from TIAA-CREF for a financial planning talk on "Meeting Your Minimum Distribution Requirements." For more information, contact Joyce Wund, Ext. 7516.

Thursday, 6/24

Sam's Club Demo

11 a.m.-1 p.m., Berkner Hall. Representatives from Sam's Club will present BNLers with special membership rates. Cory, 447-0253.

Saturday, 6/26

*Early Fourth of July BBQ

6 p.m. at the gazebo located in the apartment area. The Hospitality Committee invites BNLers to an early Fourth of July BBQ. Participants are asked to bring a salad or side dish to share with six persons. Burgers, hot dogs, veggie burgers, buns, and beverages will be provided. There will be games for the children. Monique de la Beij, 399-7656.

SBU's Mirna Lerotic Wins 2004 Scharff-Goldhaber Prize



Roger Stoutenburg D25000404

Mirna Lerotic, a student at Stony Brook University (SBU), won the 2004 Scharff-Goldhaber Prize, which was presented by Maurice Goldhaber, BNL Scientist Emeritus and widower of Gertrude-Scharff Goldhaber, for whom the \$1,000 award was named.

Administered by Brookhaven Women in Science (BWIS), the Scharff-Goldhaber Prize was established to recognize substantial promise and accomplishment by women graduate students in physics who are enrolled at SBU or who are performing their thesis research at BNL. In 1950, Scharff-Goldhaber became the first woman Ph.D. physicist appointed to the BNL

staff, and, later, she became a founding member of BWIS.

Lerotic earned her undergraduate degree in physics from the University of Zagreb in Croatia, and she hopes to pursue a career in research after she earns her doctorate at SBU, which she expects to do by 2005. Lerotic gave a talk on her winning research paper, titled "Cluster Analysis in Spectromicroscopy," at the April 21 ceremony at the Lab.

Also pictured are BNL physicist Vinita Ghosh (left), a member of the BWIS scholarship committee; and Chris Jacobsen, Lerotic's advisor in the x-ray microscopy group at SBU Physics and Astronomy Department. — Diane Greenberg

BNL Hosts the ATLAS Software Workshop

(cont'd.)

some of the data will be further divided among several universities and institutions. Analyzing the data will require a system called "grid" computing (see sidebar on page 1).

The ATLAS (A Toroidal LHC Apparatus) experiment, a detector the size of a seven-story building, is one of the largest physics projects ever undertaken. It is designed to detect particles created by proton-proton collisions. One of its main goals is to look for a particle dubbed the Higgs, which may be the source of mass for all matter. If

found, the Higgs particle could help explain why the fundamental particles have mass, a question that the theory does not yet answer. ATLAS findings may also offer new insight beyond the Standard Model of physics, the theory that describes fundamental particles and how they interact. This research may lead to the discovery of a new family of particles, called supersymmetric particles, or new, hidden dimensions of space beyond the four dimensions we know — the three space dimensions and time.

— Laura Mgrdichian



BNL Scientists Patent Portable Sensor

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The lidar system has been in development at the Lab since the late 1990s, sponsored by the former DOE Office of Nonproliferation & National Security (now the Defense Nuclear Nonproliferation program within DOE's National Nuclear Security Administration). Additionally, since 1999, BNL and ITT Industries, a global engineering and manufacturing company, have been working on modifying the sensor for the detection of chemical agents during battle. This close collaboration provides the Lab with unique ex-

pertise on the issues associated with moving the technology into the area of chemical and biological sensing. Additionally, The U.S. Department of Defense elected to fund ITT Industries to develop a militarized version of the sensor, known as Joint Chemical Spill Detection (JCSD), for testing in 2005.

In March 2003, the mini-lidar technology was licensed to UTEK Corporation, a technology transfer company. UTEK has assigned the license to Circle Group Holdings, Inc.

— Laura Mgrdichian

Correction

The RHIC & AGS Users' Meeting photo caption in the May 28, 2004, Bulletin incorrectly listed Peter Steinberg's affiliation as "Columbia University Nevis Labs." Steinberg has been a BNL employee since December 1, 1999. The Bulletin regrets any inconvenience that this may have caused.

Arrivals & Departures

Arrivals

Douglas Wright Jr. Env. Sci.
Weiguo Yin Physics

Departures

Yang Chao Biology
Shelly Mayo SSD

ATLAS Grid

(cont'd.)

Each Tier 1 facility will then connect to five Tier 2 locations that will provide some data storage, as well as computers and disk space for more in-depth user analysis and simulation. Thus, each tier is basically a computing center consisting of a cluster of computers and storage.

The grid computing infrastructure is made up of several key components. The "fabric" consists of the hardware elements — computing centers, disk storage, tape storage, and networking. The "applications" are the software programs that users would employ, for example, to analyze data. Applications take the raw data from ATLAS and reconstruct it into meaningful information that scientists can interpret.

Another type of software, called "middleware," links the fabric elements together so that they form a unified system — the grid. The development of the middleware is a joint effort between physicist and computer scientists.

There are several other ongoing developments needed to produce a working grid. Groups of scientists are working on different prototypical grids for possible use at the LHC, which are based on the different ways that the fabric elements can be combined to handle data. These different configurations are also known as "topologies."

To test the grids, the developers have staged "data challenges," which are test runs employing simulated data to gauge the capabilities of the grid and the reconstruction software. Data is fed into the system in steps, and is gradually increased in complexity and quantity. This will prepare the grid for actual data when operations start in 2007. Until then, there will be approximately one data challenge per year.

At BNL, scientists involved in the ATLAS software project are working on ways to ramp up the Lab's computing facilities and are participating in the data challenges. They also are working on obtaining a high-speed internet link, which will allow easy transfer of data from the LHC. BNL scientists are also writing software for ATLAS, and are deploying and testing new middleware.

Outside of high-energy physics, grid computing is used on smaller scales to manage data within other scientific areas, such as astronomy, biology, and geology. But when completed, the LHC grid will be the largest of its kind.

Funding for the middleware development is provided by the National Science Foundation's (NSF) Information Technology Research program and by DOE. DOE also funds the Tier 1 center activities, while the Tier 2 centers are funded by the NSF. A leading supporter of grid middleware technology and infrastructure is Peter A. Freeman, Assistant Director of the NSF for Computer and Information Science and Engineering.

— Laura Mgrdichian

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, or 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, below are some items you may want to update when you have a qualifying event.

- Covered dependents for medical and/or dental coverage
- Life insurance beneficiaries
- Retirement plan beneficiaries
- Tax withholdings on Form W-4
- Address change
- Emergency contact(s)

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

Attention Retirees . . .

Do you want to continue to receive The Bulletin by mail? If so, then complete the form on page 4 and mail it back to us.

Eating Disorders Talk, 7/20

Join Mather Hospital's Kathleen Jochen on Tuesday, July 20, from noon to 1 p.m. in Berkner Hall, Room C, where she will give the talk and videotape presentation "Real Talk About Real People With Eating Disorders." Participants will learn about anorexia, bulimia, binge eating disorders, and Mather Hospital's Eating Disorders Program.

Pre-registration is required for this free talk. Check your mailbox for registration forms. For more information, contact Linda DiPierro, Ext. 2733.

BERA Store Offers

- **"Cabaret" tickets**
Friday, September 17, at 6:45 p.m. at the Gateway Playhouse in Bellport, \$45 per person, includes wine & cheese reception before the play.
- **Movie tickets**
United Artist, Regal, and Edwards Movie Theatre tickets, \$6 each.
- **Golf shirts**
maroon or khaki
- **Lizards Lacrosse**
Season tickets, \$15 each.

BNL's Small Business Fair is the Biggest Ever



Roger Stoutenburgh D3010404

A record 300 attendees packed a recent Small Business Fair at BNL. Sponsored by the Lab in collaboration with the Brookhaven Town Small Business Advisory Council, DOE, the Small Business Development Center at Brookhaven Lab, Farmingdale University, and Stony Brook University, the fair offered an opportunity for small business personnel to network with buyers from large businesses to understand their needs, with the goal of winning contracts. This year's fair was the ninth biannual fair held at the Lab.

"The event was a great success," said Jill Clough-Johnston, BNL's Small Business Liaison Officer. "Brookhaven Lab awarded about \$30,000 worth of orders to small businesses right at the fair."

In the photo, Mary-Faith Healey (right), Manager of the Procurement & Property Management (PPM) Division, and Paul Simons (far right), PPM's Procurement Operations Manager, look over some of the scientific equipment displayed by Jackie Timko (left) and Paul Giannotti (standing next to Timko), both of the Physics Department.

Local Fleet Managers Attend Workshop On BNL's Pollution Prevention Expertise



Joseph Rubino D2810404

Attending the Pollution Prevention event are: (from left) George Goode, Manager of BNL's Environmental & Waste Management Services Division; Brian Farber and Rosemary Manesis from Congressman Tim Bishop's Office; and David Sprintzen and James Heil, Community Advisory Council members.

Alternative-fuel vehicles, vegetable-based hydraulic fluids, and re-refined motor oil are a few of the technologies that BNL uses to protect the environment while reducing waste disposal costs through pollution prevention. These and other technologies have proven to be so successful that the Lab and its Community Advisory Council — a group of about 30 member organizations that represent business, civic, education, employee, community, and environment and health organizations — hosted a free one-day workshop at BNL on fleet-maintenance pollution-prevention techniques to spread the word to local businesses and government agencies on how

to economize and be earth-friendly in managing large numbers of vehicles.

About 50 participants attended the workshop, and they came from a variety of institutions, including the Towns of Brookhaven, Huntington, Oyster Bay, and Southold; Northrop Grumman Corporation; the Riverhead Central School District; Suffolk County Water Authority; and United Parcel Service. Workshop speakers included BNL experts as well as guest speakers from the New York State Department of Environmental Conservation and KeySpan. In addition, several vendors supplying pollution prevention products and techniques were also on hand.

Hospitality BBQ, 6/26

The Hospitality Committee invites the Lab community, family and friends to an early Fourth of July BBQ on Saturday, June 26, at 6 p.m. at the gazebo in the apartment area. Participants are asked to bring a salad or side dish to share with six people. Burgers, hot dogs, veggie burgers, buns, and beverages will be provided. For decoration, the Hospitality Committee asks that attendees bring a paper flag from your own native country. There will be games for the children. For information, call Hospitality Chair Monique de la Beij, 399-7656.

Financial Planning Talk, 6/23

Join a representative from TIAA-CREF on Wednesday, June 23, from noon to 1 p.m. in Berkner Hall for a financial planning seminar on "Meeting Your Minimum Distribution Requirements."

At this talk, BNLers will learn how the federal government requires that minimum distribution payments be taken from certain retirement accounts, including IRAs, at age 70½. This seminar will review how to comply with the federal minimum distribution rule.

For information, contact Joyce Wund, Ext. 7516.

Calendar

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— WEEK OF 7/5 —

Wednesday, 7/7

BSA Noon Recital: Pianofest, Part 1

Noon, Berkner Hall. In this, the sixteenth year of Pianofest, the summer workshop in the Hamptons, its director, Paul Schenly, will bring a number of outstanding young pianists to the Berkner Hall stage to demonstrate their talents. Noon recitals are free and open to the public. All visitors to the Lab of 16 and over must bring a photo ID.

— WEEK OF 7/12 —

Wednesday, 7/14

BSA Noon Recital: Pianofest, Part 2

Noon, Berkner Hall. In this, the sixteenth year of Pianofest, the summer workshop in the Hamptons, its director, Paul Schenly, will bring a number of outstanding young pianists to the Berkner Hall stage to demonstrate their talents. Noon recitals are free and open to the public. All visitors to the Lab of 16 and over must bring a photo ID.

— WEEK OF 7/19 —

Tuesday, 7/20

*Talk on Eating Disorders

Noon-1 p.m., Berkner Hall, Room C. Join Mather Hospital's Kathleen Jochen for a talk and videotape presentation on "Real Talk About Real People With Eating Disorders." Participants will learn about anorexia, bulimia, binge eating disorders, and Mather Hospital's Eating Disorders Program. Pre-registration is required for this free talk. Check your mailbox for registration forms. For more information, contact Linda DiPierro, Ext. 2733.

— WEEK OF 8/30 —

Thursday, 9/2

BNL Career Network Group Meeting

Noon, Berkner Hall, Room A. All are welcome. Cathy Wehrmann, Ext. 7823.

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.

Vehicle Auction

The Government Services Administration will offer 42 motor vehicles, located at Warehouse T-87, for public auction. The auction will begin on June 21 and will last seven days, during which time anyone may bid on the vehicles. Photos of each vehicle with all pertinent information will be posted at www.gsa.auctions.gov. To inspect the vehicles, call Jerry Quigley, Ext. 4527.

Safety Glass Office

The Safety Glass Office will be closed on Wednesday, June 30, and Wednesday, July 7, and will reopen on Wednesday, July 14. For more information, call Deborah Botts, Ext. 3888.



Calendar of Pegram, BSA Distinguished Lectures

All are invited to these free public lectures, which are intended for a general audience. Visitors to the Lab age 16 and over must bring their photo ID.

BSA Lecture Monday, July 12, noon

"Eye of the forehead and eye of the mind — some thoughts on how engineers and scientists see"
presented by John Lienhard

First Pegram Lecture Tuesday, August 3, 4 p.m.

"Our Energy Challenge"
presented by Richard Smalley

BSA Lecture Thursday, August 19, 4 p.m.

"Whose Science is Arabic Science in Renaissance Europe?"
presented by George Saliba

Second Pegram lecture Tuesday, October 5, 4 p.m.

"The Brave New World of Buckytubes"
presented by Richard Smalley

BSA Lecture Friday, December 10, 11 a.m.

"The Structure of the Ribosome"
presented by Venki Ramakrishnan

BSA Speakers who will come to BNL after October 1, but who are not yet scheduled:

- James Gates, superstrings
- James Barber, photosystem I

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 JOBSITE, 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.

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside candidates.

MK4081. ASSISTANT SCIENTIST - (S-1) - Requires a Ph.D. in radiation science (cell/molecular biology preferred) and postdoctoral experience. Experience in cell culture and good communication skills and willingness to work with US and international investigators is essential. A strong background and/or experience in radiation biology and previous experience in accelerator-based radiobiology, or in carrying out research away from home institution, are desirable, and position may lead to Continuing Appointment. As part of a NASA-sponsored project, will join a team of heavy ion beam line scientists providing expertise, support, and guidance to NASA-sponsored radiobiology investigators at the NASA Space Radiation Laboratory (<http://server.c-ad.bnl.gov/esd/nsrl/index.html>) and at the Alternating Gradient Synchrotron (<http://www.bnl.gov/bnlweb/facilities/AGS.html>). Extended and irregular hours may be required; must live locally to provide off-hours support to Users, and must be willing to travel to national or international scientific conferences. Potential for research on clustered DNA damages and their repair under the direction of B. Sutherland, Biology Department.

MK4079. POSTDOCTORAL RESEARCH ASSOCIATE - Requires a Ph.D. or equivalent in radiation biology, biochemistry or molecular biology, good communication skills and the ability to interact with all levels of staff. Position may require travel to collaborating institutions, and there is a potential for participation in the NASA-funded Heavy Ion Radiobiology Program. Will study the molecular aspects of induction and repair of radiation-induced DNA damage clusters in DNA and in mammalian cells, especially damages induced by radiation found during space travel outside the magnetosphere. Possibility for collaboration with group developing laser-sizing single molecule methodology to measure DNA damages in DNA of a single mammalian cell. Under the direction of B. Sutherland, Biology Department.

Motor Vehicles & Supplies

- 99 CHEVROLET CAVALIER - a/t, a/c, p/s, p/b, p/w, runs well, looks gd., reliable, 115K mi., \$2,200. John, 335-6831.
- 99 FORD ESCORT ZX2 - a/c, 5spd, 2dr., moonroof, excel. cond., 57K mi., \$4,400. John, 648-3927.
- 99 GMC CUSTOM VAN - 5.7L, excel. cond. many extras, 10K mi. or 1-yr. warr. \$16,995. Bob, 929-3092.
- 99 NOMAD ZZ CAMPER, sleeps 4, everything works, 4,000 lbs., \$9,500. 948-5277.
- 99 SATURN SL2 - a/t, a/c, p/b, p/s, p/w, sunroof, new brakes & new batt., alarm, gd. cond., 102K hwy. mi., \$4,100. Lisa, Ext. 7524.

99 CHRYSLER CONCORDE - a/t, a/c, p/s, p/b, p/w, V6, 2.7L, low mi., Lo-Jack sec., new tires, excel. cond., \$7,500. JoAnn or Ray, 924-4147.

98 FORD RANGER XLT - a/t, a/c, p/s, p/b, p/w, extra cab, 2 jump seats, bed liner, 54K mi., \$6,500, Ken, 729-3399 or 516-446-1670.

98 MERCURY MYSTIQUE GS - a/t, 4cyl., all pwr., green, gd. cond., 102K mi., ask \$2,100. Carl, 345-5776.

97 CHRYSLER SEBRING JXi - conv., all pwr., red, leather, cd & cass., sport wheels, 96K mi., \$5,500. George, Ext. 3262 or 744-3144.

94 FORD TAURUS - a/t, p/s, p/b, p/w, 4dr., light green, \$1,200. Raul, 255-7092.

90 FORD F-150 PICK UP - a/t, a/c, rebuilt 5L eng., excel. cond., 55K mi., \$3,195. Katherine, 588-5617.

91 ISUZU RODEO - new tires & exhaust, runs well, looks great, need windshield, orig. owner. Rich, Ext. 5319 or 472-4377.

90 FORD TAURUS GL - a/t, a/c, p/s, p/b, p/w, 6cyl., fuel injec., gd. cond., well maint., \$109K mi., \$1,200. Raju, Ext. 2341 or 897-9557.

HOOD - orig. cowl induction hood from '69 Z28, fits '67-'69 Camaro; rear spoiler for same, \$500/both/obo. Carl, Ext. 5010 or 369-3730.

TRAILER HITCH - class-3 receiver & ball, fits '99-'04 Ford 150/250, \$100. Richie, Ext. 5317.

Boats & Marine Supplies

25' TANZER - '87 Canadian version, '88 9.9 Evinrude outboard, extra sails, quarter berth, extras, \$15,000. Joe, Ext. 5353 or 475-8183.

25' CATALINA - '78 fixed keel w/trailer, 15hp Evinrude, yd. maint., small main sail, 2 jibs, new cushions, \$4,000. Raju, Ext. 2341 or 897-9557.

19' SPORTCRAFT - 115 hp. Johnson, new trailer, everything works, setup for fishing, \$1,700. Tony, 298-1932.

12.5' KAYAK - '03, Old Town, Adventurer XL w/rudder/paddle, forward and aft hatches, excel. cond., ask \$625. Kathleen, Ext. 2223.

Furnishings & Appliances

BEDROOM SET - 4-pc. oak twin platform w/drawers, 3 & 5 drawer dressers, lg. corner shelf, excel. cond., \$400. Linda, Ext. 3750 or 467-5811.

CABINET - antique, base only, gd. cond., \$195. Arlene, 749-2051.

CHAIRS - 4 d/r Parson chairs, upholstered in light grey, need cleaning or recovering, \$10/ea., Joyce, 289-5770.

CRIB - white, \$50; mattress, \$40, bedding, \$40; or \$110/all. Bill, 476-0686.

DRESSER/CHANGING TABLE - combination for infants, 4 drawers, \$10. Michael, Ext. 7410.

HAIR STRAIGHTENER - Conair, hardly used, \$5. Angela, Ext. 5322.

MICROWAVE OVEN - Goldstar, 1.1 cu. ft., \$20; Sanyo mini refrigerator, SR-3 6 cu. ft., for office, bar, dorm., etc., \$40. Marita, Ext. 3060.

REFRIGERATOR - 12.6 cu. ft., GE Profile w/top freezer, white, \$250. Fran, Ext. 3177.

WALL OVEN - GE True Temp digital, white, best offer, Atlantic freestanding, airtight, wood stove, \$450. Barbara, Ext. 2585.

Tools, House, & Garden

AIR CONDITIONERS - 15K Btu., \$100; 10K Btu., \$50; Pool, 12', old, excel. cond. incl. all. \$80. Lynn, Ext. 7918 or 821-1271.

DAY LILLIES AND HERBS - deep red lillies, \$5/cluster; perennial savoy, \$3/6" plants; espresso mach. w/steamer, \$7. Peter, Ext. 5114.

GARAGE DOOR - automatic Liftmaster, 9x7, 4 windows, \$100. 749-2051.

HOSTA PLANTS - variegated, wholesale from grower. Vicki, 689-9234.

LAWN TRACTOR - Toro Wheel Horse, 15hp, 44" deck w/2 sets of blades incl. mulching, runs well, \$850. Joann, Ext. 7459 or 929-1981.

MACHINES - Lathes, milling & honing, + assorted tooling. Rao, Ext. 3799 or 754-3469.

POOL W/DECK - 25' round, above ground, gd. cond., \$300. Jun, 698-2894.

Sports, Hobbies & Pets

DOG CAGE - blk. metal collapsible dog cage, \$20. Steve, Ext. 2897.

SOFTBALL CLEATS - Nike, blk., worn once, size 10 1/2, \$20. Bob, Ext. 4758.

Audio, Video & Computers

AMPLIFIER - Crown PowerBase One, 400w stereo amp., vgd. cond., \$250. Steve, Ext. 2897.

CAMERA - Intel PC, Pro Pack w/create & share software, \$10. Angela, Ext. 5322.

DELL - 1Ghz CPU, 256Mb ram, 20Gb hd, cd/w, 17" mon., Win2K, Off., \$300; w/o mon., \$250. Don. Ext. 7237 or 929-6571.

MEMORY CARD - ScanDisk 256Mb, new, \$25. Steve, Ext. 4211.

PRINTER - Lexmark 231 color inkjet, \$20. Richard, Ext. 4134.

Miscellaneous

ACOUSTIC GUITAR - Sandre w/case, \$95. Chris, 744-6874.

ART PHOTOGRAPHY - for sale at www.jmjohnson.com & at the Bera Store, Jim, Ext. 2238.

CHILD GATES - 2 plastic adj.-width dr. gates, \$10/ea. Steve, 447-9216.

POOL STAIRS - walk-in type for above-ground pool, gd. cond. reasonable, Robert, Ext. 7238.

PRINTER - color HP DeskJet 692C, \$10; BIC stereo turntable, use w/component set, need repair, \$10; JVC VCR.; Onkyo double cass. deck, \$25. Jim, Ext. 2432 or 821-9178.

TRAINS - Lionel, Amer. Flyer & others, cast metal toys, high cash pd., also have some sets for sale, Bruce, 924-4097.

UNIQUE PIÑATAS - all occasions & characters, cartoon, Disney, Sesame Street. Donna, 821-0359.

Yard & Garage Sales

MOUNT SINAI - tools, furniture, clothing, toys, household items, 3 Vale Ct. Walter, 928-8278.

ROCKY PT. - multi-family, 6/18&19, 10 a.m.-3 p.m., rain or shine, 145 Hallock Lane. 821-3762.

SHOREHAM - multi-family yd. sale, 6 block area, start at Harvard or Valentine Rd. off N. Country Rd., Sat. 6/19, 9:30 a.m.-3 p.m. Carl, 744-8632.

Lost & Found

FOUND - woman's silver watch in the Rec. Hall. Pat, Ext. 7886

Car Pool

PLAINVIEW - 4th driver needed, 8 a.m.-4:30 p.m. Elliott, Ext. 2495 or Ron, Ext. 6068.

Wanted

BOX TURTLES - needed for mentoring program, to be used only as pets for the summer and then returned to the wild. Carl, Ext. 5010 or 369-3730.

CELLO - used, full size for student. Richard, Ext. 3741 or 928-8465.

LAPTOP - Rajani, 344-1009.

REPAIR TECH - someone to repair my old B/D stereo turntable, Jim, Ext. 2432 or 821-9178.

RESEARCH VOLUNTEERS - men and women, ages 18 and over, are needed for PET study. Strictly confidential, fee provided. 344-5015.

RUNNERS - and walkers for the JPMorganChase Corporate Challenge, 7/27, 7 p.m., Jones Beach. For more information, see notice on page 3 or contact James, Ext. 6222 or marron@bnl.gov.

SHOTGUN - model 870 in 410Ga., Joe, Ext. 3783 or 929-8321.

Free

85 MERCURY COUGAR - a/t, p/s, p/b, p/w, driven to work everyday, no heat, must go, 110K mi., Dan, Ext. 3172 or 821-2416.

CATS - 2 adult female cats need home due to severe allergies of 2-yr.-old child, both neutered, shots & very loving, ok to separate them. Susa, Ext. 7414 or 345-6456 for details.

DRESSER - w/matching mirror, gd. cond., u-pick-up. Henry, 588-3999.

GE WESTINGHOUSE FREEZER - u-pick-up in Shoreham. Kathy, 821-0898.

Summer Science Explorations Science Camp for Elementary School Students



Roger Stoutenburgh ©148982

Gail Donoghue, BNL's Science Museum Program Manager, identifies animal tracks with some of the summer-science camp students.

All BNLers are invited to register their children in BNL's Summer Science Explorations Program, which is a free offering from the Lab's Science Museum. Students who are entering the 4th, 5th, and 6th grades will have the opportunity to have a hands-on environmental field experience and spend two days investigating the planet Mars using the Museum's new Mars exhibit.

The three-day summer camp will be held from Tuesday through Thursday, from 8:30 to 11:30 a.m. The Science Museum has reserved the weeks of July 13-15 and August 10-12 for the children of the BNL community. Space is limited, so register your child/grandchild early. Children must attend all three days, and the parents of participating children are also welcome. To register, or for more information, contact the Science Museum Program Office, Ext. 4495.

On-Site Services

MARINE ELECTRICAL COMPONENTS - now supplied at Upton Industries, Inc., including hard-to-find units, e.g. Volvo Penta, Mando, Mitsubishi, Honda/Coleman marine generators for RV use available. Ext. 4304.

For Rent

CHESTERTOWN - charming riverfront prop. on Schroon Rvr., 2 bdrm., sleeps 8, stove, dishwasher, eik, l/r, microwave, TV/DVD/VCR, paddle boat. Dawn, 208-0009.

CORAM - apt. mate need to share 2 bdrm., lg. rms. full kit., clean, new flrs., \$600/mo. incl. heat/wtr. Milind, Ext. 3327.

EAST MORICHES - share lg. furn. house, own bdrm. w/ac/cable/phone, 300' to beach, 10 mi. to Lab, single, non smkr. 744-8386.

EAST PATCHOGUE - 2 bdrm., 1 bath, newly renovated, eik, l/r, f/p, Fla. rm., excel., cond., 1/mo. sec., + 1 mo. rent, refs/credit check. Robert, 654-2401.

MANORVILLE - new extra lg. studio, full kit/bath, lots of closet space, drwy, priv. ent., no smkg/pets, 10 min. to Lab, 2 mo. sec., \$1,000/incl. all. Nancy, 878-8442.

MIDDLE ISLAND - beautiful, 2-bdrm. country home on 2+ acres, lg. deck w/jacuzzi, eik, lg. l/r, new w/d, full bath, pets ok, \$1,800. Vicki, 924-4258.

MILLER PLACE - studio apt., priv. ent., bath kit., off-street prkg., \$750/mo., incl., heat/elec. l/r, 821-6161.

MILLER PLACE - 3-bdrm. house, 2 bath, l/r, d/r, eik, deck, yd., Miller Pl. SD, \$2,200/incl. util., ref., Phyllis, 928-3700.

N. SELDEN - 3-bdrm. priv. house, l/r, d/r, eik, full bath, hardwood flr., deck, yd., 15 min. from Lab, \$1,850 incl. heat, sec/ref. Helen, Ext. 5675 or 642-7435.

PORT JEFFERSON STATION - 2 bdrm., kit., bath, \$900/heat/wtr/incl. Sandra, 473-0894.

ROCKY POINT - 1-bdrm. apt., l/r, d/r, kit., bath, no pets, avail. 8/1, \$850 + util. Judy, 744-2545.

SELDEN/CORAM - 1 bdrm., eik, l/r, priv. ent. w/yd., no smkg/pets, \$950/incl. cable & util. + 2 mos. sec. Arthur, 698-7564.

SHIRLEY - 3-bdrm. ranch, priv. area, 1 bath, eik, great rm. w/fp & glass drs. to deck, attach. gar., fenced back yd. up to the Manor of St. Georges, \$1,500/mo. Bob, 281-6551.

SHIRLEY - spacious 1-bdrm. apt., l/r, eik, full bath, priv. ent., patio, 5 mi. from Lab, close to all, \$950/mo. incl. all, sec/ref. Helen, 645-7435.

STONYBROOK - 2-3 bdrm., 1 bath, close to village, N. of 25A, no pets, \$1,800/mo. Yako, 474-1243.

YAPHANK - studio apt, furn., 4 mi. from Lab, high spd. Internet, cable, avail. July, \$700. Irene, 924-3049.

ALEXANDRA, NH - on Newfound lake, 2 bdrm., 2 bath, sleeps 6, '50s decor, \$1,000/wk., Ed, Ext. 4188 or 750-3169.

ARUBA - Marriott/share mstr. suite, 2-bdrm. lockoff, sleeps 4, kit., l/r, d/r, full bath, \$1,200; Studio, sleeps 4, full bath wet bar, \$700, wk. 11/5-12. Bob, 467-5853.

KISSIMMEE, FL - 5 bdrm., 4 baths, priv. pool/ spa, tennis courts, 3 mi. to Disney, \$800-\$1,200/wk., www.family-vacation-homes.com. Carrie, 878-6968.

WILLIAMSBURG, VA. - 2-bdrm. condo w/kit., min. to Wmsburg, Busch Garden, Water Country, pool, golf, avail. 6/26-7/3, \$400. MaryAnn, Ext. 5124 or 758-0790.

For Sale

CUTCHOGUE - Custom Country Cape, 3 bdrm., 2.5 bath, new kit. & appl., fam. rm. w/fp, d/r, l/r, igg, lgs, spa, wooded acre, walk to village, \$675,000. Richard, 734-7342.

MEDFORD - Land, 100x100, \$90,000. Scott, Ext. 3084.

SOUND BEACH, NY - 3-bdrm. ranch, l/r, d/r, eik, bsmt., 2-car gar., deck, Miller Pl. SD, low taxes, \$319,900. Lou, Ext. 4323 or 744-1645.

PORT JEFFERSON STATION - 3-bdrm. L-ranch house, 1 bath, 3/4 acre, new siding, roof & drwy, lg deck, cathedral ceiling, sun-room, hot-tub, 1-car gar., low taxes, \$349,900. Yang, Ext. 3663 or 220-9408.

WADING RIVER - 4 bdrm., 2.5 bath, hw flrs., cvc, part. fin. bsmt., 2-car gar. Colonial on .8 wooded secluded acres, N. of 25A, hw oil, more, SWR SD, low tax, \$492,000. Heather, 929-4886.

FT. LAUDERDALE, FL - Gold Crown Resort, world class golf/fitness ctr., 3 bdrm. lockout unit, sleeps 8, trades for 2 weeks, \$6,500. Ken, 729-3399.

LAND O'LAKE, FL - Mobile home, 2 bdrm., 1 bath, eik, l/r, c/a/c, on Lake Pagget. 50 + community on a fish & ski lake. Glenn, 209-1263.

On-Site Farmer's Market Held Every Wednesday, Now Through 11/24

The on-site Farmers & Crafters Market will be held every Wednesday through November 24 from 11:30 a.m. to 1:30 p.m. in the parking lot outside Berkner Hall. Vendors will sell local produce, plants, homemade preserves, and many different crafts. Each week, there will be music provided by the BNL Music Club, the BNL Gospel Choir, Busking, or by the African Drum Circle. BNL's Antique Car Club will also display classic cars at the market.

Attention Retirees ...

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