

BNL Celebrates Winners Of Science, Technology External Awards

On June 9, BNL Director Praveen Chaudhari hosted BNL's first External Awards Recognition Ceremony to honor BNLees who, between October 2002 and June 2004, had won awards and other honors from external organizations. Pictured below with Director Chaudhari (back left) and Manager of the DOE Brookhaven Site Office Michael Holland (back right), are many of the awardees, who are listed with the name of their

award. Chaudhari asks that all future awardees — and especially any past award winners who might have been inadvertently omitted from this year's celebration, or anyone who knows of an award winner who should have been among the honorees on June 9 — should contact Kathleen Barkigia, barkigia@bnl.gov, who is maintaining a list of awardees for inclusion in the 2005 recognition ceremony.



Back, from left: Praveen Chaudhari, 2003, Elected to the National Academy of Sciences; John Hill, 2002, Fellow of the American Physical Society (APS); Stephen Schwartz, 2002, Fellow of the American Association for the Advancement of Science, 2003, Haagen-Smit Award; Toshifumi Sugama, 2003, Federal Laboratory Consortium Award, 2003, Battelle Distinguished Inventor Award; Jie Wei, 2003, APS Fellow; Marge Lynch, 2004, Honored by Brookhaven Town; Edward Beebe, 2003, Ion Source Prize, a.k.a. the "Brightness Award;" Peter Daum, 2002, Southampton College's First Annual Environmental Leadership Award; Joseph Indusi, 2003, Fellow of the Institute of Nuclear Materials Management; Alexander Pikin, 2003, Ion Source Prize, a.k.a. the "Brightness Award;" Wu-Tsung (Bill) Weng, 2004, Fellow of the Institute of Electrical & Electronics Engineers (IEEE); Pavel Rehak, 2003, IEEE Fellow; Craig Woody, 2002, APS Fellow; Joanna Fowler, 2003, Elected

to the National Academy of Sciences; Thomas Kirk, 2003, Fellow of the American Association for the Advancement of Science; Helene Benveniste, 2004, Honored by Brookhaven Town, 2004, The American Women's Medical Association Changing the Face of Medicine; Diane Cabelli, 2003, Honored by Brookhaven Town; Andrew McNerney, 2003, Award for Electrical Engineering Management of the IEEE Region 1. Front, from left: Martin Blume, 2003, Advanced Photon Source Arthur H. Compton Award; Doon Gibbs, 2003, Advanced Photon Source Arthur H. Compton Award; Li Hua Yu, 2003, Free Electron Laser Prize; Vladimir Litvinenko, 2003, APS Fellow; Joseph Hendrie, 2004, Henry DeWolf Smyth Award of the American Nuclear Society; Stanislaus Wong, 2003, National Science Foundation Early Career Award; William Willis, 2003, W.K.H. Panofsky Prize in Experimental Particle Physics of the APS; Gerry Bunce, 2002, APS Fellow; Suresh Srivastava, 2003, Battelle

Distinguished Inventor Award; James Glimm, 2002, National Medal of Science; Sergei Maslov, 2002, Presidential Early Career Award for Scientists & Engineers; Alexei Tselik, 2002, APS Fellow.

Not present (listed by date of award): Raymond Davis Jr., 2002, Nobel Prize in Physics, 2003, Benjamin Franklin Medal in Physics, 2003, Presidential Enrico Fermi Award; Robert Bari, 2003, "Tommy" Thompson Award of the American Nuclear Society; Denis McWhan, 2003, Advanced Photon Source Arthur H. Compton Award; Tsung-Dao (T.D.) Lee, 2003, Appointed to the Pontifical Academy of Sciences; Gen Shirane, 2003, Japanese Society for Neutron Science Medal; Nora Volkow, 2003, Paul C. Aebersold Award of the Society of Nuclear Medicine; Ivan Bozovic, 2004, Technology Achievement Award of the International Society for Optical Engineering; and Mary Daum, 2004, Honored by Brookhaven Town. (Photo by Roger Stoutenburgh D0520604)

Sambamurti Memorial Lecture, 7/28 Size Matters: Spacetime Geometry of Subatomic Collisions

"Size Matters: The Spacetime Geometry of Subatomic Collisions" is the topic of the Sambamurti Memorial Lecture to be given on Wednesday, July 28, by Mike Lisa of Ohio State University, who is a member of the STAR collaboration at BNL's Relativistic Heavy Ion Collider (RHIC). All are welcome to this talk, which will be held at 3 p.m. in the Large Conference Room of the Physics Department, Bldg. 510.

In his talk, Lisa will briefly describe the RHIC program and the physics motivation driving it. In this huge effort, more than 1,000 physicists in four experiments have sifted through thousands of particles generated in heavy ion collisions since 2000 and exposed many surprising features of the state of matter in the system formed.

Lisa will then focus on space-time geometry — the crucial aspect of heavy ion physics which distinguishes it from high energy studies of collisions between elementary particles such as electrons.

Fundamental to the concept of a new state of matter are "large" — relative to the size of a proton — length scales, while the transition itself is expected to induce "large" time scales. To typical scales measured in physics, however, these scales are unimaginably tiny.

Lisa will discuss the amazing fact that the system can be — and is — measured down to the scales of 10^{-15} m (a millionth of a billionth of a meter) and 10^{-24} s (a millionth of a billionth of a second). These measurements (continued on page 2)

Some Basics on Using Subatomic Collisions to Reveal Secrets of the Strong Force

Of the four forces in nature that act on matter, the strong force is responsible for holding protons and neutrons together to form atomic nuclei. Thus, this force determines the properties of much of the mass in the universe and all of the energy production — through nuclear reactions in stars — which make our existence possible.

Yet, compared to the three other forces — weak, electromagnetic, and gravity — the strong force is poorly understood. One main reason is that the strong force only acts directly on quarks and gluons, which make up protons and neutrons, and, under normal conditions, quarks and gluons are confined within the proton or neutron; they cannot be isolated for examination.

However, the current theory of quantum chromodynamics (QCD), which helps to explain the strong force, predicts that under conditions of very high temperature and/or density, "normal" nuclear matter is transformed into a new state of matter — the quark gluon plasma in which partons are deconfined.

Experimentally, colliding two very heavy nuclei at high energies is the only way to generate the conditions necessary for the transition to occur. Data collected from these experiments, such as the experiments being done at BNL's Relativistic Heavy Ion Collider, are then sifted and analyzed to give information about the new state of matter and the forces that act on it.



Mike Lisa at RHIC's STAR detector

Roger Stoutenburgh D0520704

Location, Location, Location

BNL biologists discover that a plant enzyme's position within the cell can change its function

Scientists have long thought that individual enzymes have specific, single jobs dependent on their molecular shape. According to this premise, enzymes could only evolve to perform new functions by accumulating several shape-changing mutations, which can take thousands of generations. Now, scientists at BNL have discovered another factor that can change several plant enzymes' functions instantaneously: their location within the cell. Depending on where these enzymes end up, they produce slightly different products.

"It looks as if the old axiom of what's important in real estate — location, location, location — holds for some enzymes as well," says John Shanklin, Biology Department, lead author of a paper describing the first example of such location-dependent enzyme function in the July 13, 2004, issue of the *Proceedings of the National Academy of Sciences*.

Multifunctional enzymes such as these could substantially expand the diversity of metabolic products available to a cell, thereby increasing the organism's ability to adapt to changing conditions, Shanklin says. They may also offer scientists new ways to tailor plant products to meet specific needs, such as growing crop plants that make different, perhaps heal-



John Shanklin (standing) and Ingo Heilmann.

thier oils. This research was funded by the Office of Basic Energy Sciences within DOE's Office of Science, The Dow Chemical Company and Dow AgroSciences LLC, and the German Science Foundation.

Shanklin and his research associates Ingo Heilmann and Mark Pidkowich of Biology were studying a particular class of enzymes known as desaturases in *Arabidopsis*, the equivalent of the fruit fly for plant scientists. (continued on page 2)

Roger Stoutenburgh D0520604

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. First Tuesday of every month is special for Lab newcomers and leaving guests. Cindy Ottemann, 849-2646

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. Kati Petreczky, 821-4131.

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.

Thursdays: Reiki Healing Class
Noon-1 p.m., Bldg. 211. Nicole Bernhole, 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.

— THIS WEEKEND —

Saturday, 7/24

***2nd Annual Salsa Picnic**
11 a.m.-6 p.m. at the gazebo in the picnic area. All BNLeers are invited to the BERA Hispanic Heritage Club's 2nd annual "Salsa Picnic featuring DJ Alex." Bring own beverages, food, and a dish to share with four people. Carmen Narvaez, Ext. 3254, narvaez@bnl.gov; or Anna Petway, petway@bnl.gov.

***Hospitality "Summer Fun" Picnic**
5:30 p.m. at the gazebo in the apartment area. Music, games, and fellowship at the gazebo in the apartment area, near the playground. Bring a dish to share with about six people. Drinks and snacks will be provided. Cindy Ottemann, 849-2646 or cjottabb@optonline.net.

— WEEK OF 7/26 —

Monday, 7/26

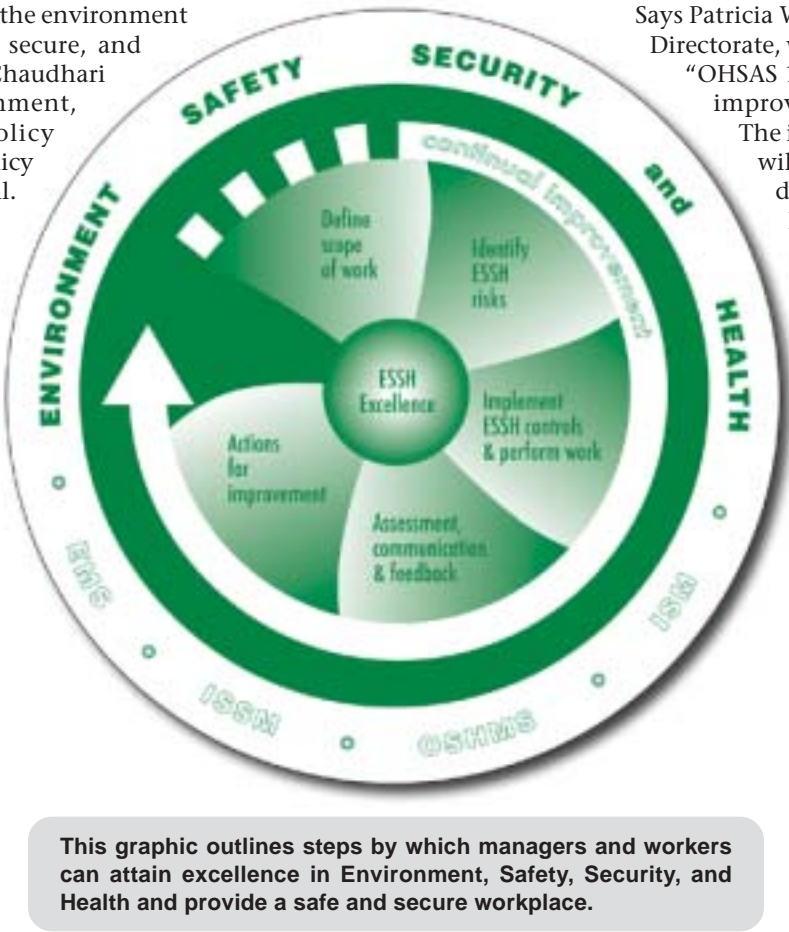
IBEW Meeting
6 p.m. Centereach Knights of Columbus Hall, 41 Horseblock Road, Centereach. A meeting for shift workers will be held at 3 p.m. in the union office. The agenda includes regular business, committee reports, and the president's report.

Three Pilot Organizations Prepare for Safety Registration Audit

In an ongoing effort to protect the environment and help keep workers safe, secure, and healthy, Lab Director Praveen Chaudhari signed into effect an Environment, Safety, Security & Health Policy (ESSH) on April 19. The ESSH policy can be found at: <http://www.bnl.gov/ESHQ/ESSH.asp>.

As part of this effort, Chaudhari formed an Occupational Health & Safety Assessment Series (OHSAS) 18001 Registration Pilot Project Team, and charged its members to perform risk assessments, develop new training modules for managers and workers and update policies and procedures that will lead to improved safety performance at BNL. OHSAS 18001 is designed to be compatible with internationally recognized management systems and standards such as ISO 14001, the system designed for environmental stewardship. The Lab achieved ISO 14001 registration in 2001.

- BNL already has the following ESSH management systems in place:
- Integrated Safety Management (ISM)
 - Environmental Management System (EMS 14001)
 - Worker Safety & Health and Facility Safety Management Systems — both of which will be combined under a new name, Occupational Safety & Health Management System (OSHMS), when BNL achieves full 18001 registration.
 - Safeguards & Security Management System, which, with the addition of "Integrated" will become known as ISSM.



Says Patricia Williams, Facilities & Operations Directorate, who leads the pilot project team, "OHSAS 18001 is the next logical step to improve safety performance at BNL. The integration of these four systems will allow us to streamline procedures and implement additional hazard controls that will protect workers, property, and the environment."

Three pilot organizations are currently working toward OHSAS 18001 registration. The Plant Engineering Division, Collider-Accelerator Department, and Central Fabrication Services Division, with support from the Environment, Safety, Health & Quality Directorate, will undergo a preliminary audit during July 27-29. If the Lab meets the OHSAS 18001 guidelines, a complete desk and field audit will be conducted during September 22-24 by NSF International Strategic Registrations, Ltd. If the final audit is successful, and OHSAS 18001 registration is achieved, BNL will be the only Lab in the DOE complex to acquire such a high-level safety registration.

"I urge employees to provide feedback to their supervisors on how we can continue to work together to make BNL a safe, secure, and healthy place to work," says James Tarpinian, Assistant Laboratory Director for Environment, Safety, Health & Quality. "It is important that we all work together to achieve ESSH excellence."

Safety suggestions are always welcome. Send suggestions to Steven Hoey, Ext. 7936, or hoey@bnl.gov. — Jane Koropsak

Sambamurti Lecture

(cont'd.)

have proven among the most difficult to understand theoretically, strongly challenging physicists' understanding of the hottest, densest system ever studied.

Mike Lisa earned his B.S. at the University of Notre Dame in 1988, his M.S. at Stony Brook University in 1990, and his Ph.D. at Michigan State University in 1993, all in physics. After three years as a post-doc at Lawrence Berkeley National Laboratory, he joined Ohio

State as Assistant Professor, becoming Associate Professor in 2001. This year, he was elected a Fellow of the American Physical Society.

The Sambamurti Memorial Lecture was established in 1992 to commemorate the work of Aditya Sambamurti, a young BNL physicist who died of cancer in 1992, at age 31. Each year, an outstanding young physicist whose professional interests overlap those of Sambamurti is selected to deliver the lecture.

Service Anniversaries

The following employees celebrated BNL service anniversaries during the months of June and July 2004.

— June —	
40 Years	
Stephen Waski, Jr.	Plant Eng.
35 Years	
Bette Morgan	Budget
30 Years	
Morgan May	Physics
Thomas Brown	C-A
25 Years	
John Di Nicola	Plant Eng.
Vincent Castillo	C-A
Dawn Mosoff	CEGPA
James Alessi	C-A
Bonnie Miller	HR & OM
Roger Stoutenburgh	CEGPA
David Derryberry	C-A
Stephen Howell	Chemistry
William Newburgh	NSLS
Susan Wong	ITD
Christopher Manning	Cent. Fabrication Svcs.
Frank Marotta	Facilities & Ops Directorate
20 Years	
Mary Durham	Plant Eng.
George Kontovrakis	Plant Eng.
John Skaritka	NSLS
Ronald Best	NSLS
Yusuf Celebi	ES&T
Sheila Land	PPM
10 Years	
Gregory Stawski	Plant Eng.
Frank Masia	Plant Eng.

Plant Enzyme Position

(cont'd.)

Desaturases remove hydrogen atoms from fatty acid chains to create carbon-carbon double bonds, desaturating the fat. While using yeast cells to determine the functions of several newly discovered *Arabidopsis* desaturases, Heilmann and Shanklin noticed that one of the enzymes appeared to operate differently in yeast from the way it did in the plants: It inserted a double bond in a different place along the fatty acid carbon chain.

The biologists knew that, in the plant cells, the enzyme is tagged with an "address signal" that directs it to the plant cells' chloroplasts, the green organelles within plant cells where photosynthesis takes place. When Heilmann removed this address signal, the plant enzyme no longer went into the chloroplast, but instead entered the endoplasmic reticulum, a membranous structure within the cell. In that location, the enzyme desaturated fatty acids the same way it did in yeast. Conversely, when the scientists added the chloroplast address signal to several desaturases that normally operate in the endoplasmic reticulum, they instead traveled into the chloroplasts and operated like the desaturases normally found there.

"So, instead of waiting for multiple mutations to accumulate to produce a new function, one simple addition or deletion of an address signal — a single mutation — could change the enzyme's product instantaneously," Shanklin says. But the scientists still did not know how the change in location produced the change in enzyme function.

They suspected that lipid head groups — a sort of "scaffold" that links the fatty acids and takes different forms in the chloroplasts and endoplasmic reticulum — might play a role. By adding the

gene responsible for building the chloroplast lipid head group to yeast cells, the scientists were able to produce yeast cells where the desaturase worked just as it did in the chloroplasts, proving that the head group was the key to the location-dependent change in function.

Now, the BNL scientists, together with collaborator Thomas Girke of the University of California at Riverside are conducting studies to see how widespread this enzyme function-shifting phenomenon might be. Using computer algorithms, they have analyzed the entire *Arabidopsis* genome for variations in "address signals." Of the approximately 6,000 *Arabidopsis* gene families, they've identified 239 that produce enzymes that are sent to different locations within cells. Whether these variants have different functions remains to be seen. "It's a new area that needs further exploration," Shanklin says.

The scientists will also explore the possibility of adding or removing address signals to/from known enzymes to see if they can change their locations and functions. "We are already using the chloroplast desaturase, without its address signal, to make a healthier, less saturated, plant oil in *Arabidopsis*," said Shanklin — an approach, he says, that might one day be useful in producing healthier crop plants.

— Karen McNulty Walsh



Local Food Bank Benefits From Battelle, Runners, L.I. Track & Field

As part of Battelle's policy of making charitable contributions to the community, on behalf of Battelle, Gregory Fess (right), BNL's General Counsel, presents a check for \$1,000 to Robin Amato (center) of Long Island Cares, a local food bank. In addition, Peter Pohlot (left) of the Environmental Services Division, who coordinated BNL's Earth Day Run on April 17, had arranged that the run be given Grand Prix status by the Long Island Track & Field Association, in conjunction with Vytra Healthcare. The run was organized to benefit Long Island Cares, and not only did runners donate 400 pounds of non-perishable food, but also, Long Island Track & Field presented \$500 to the food bank.



Roger Stoulenburgh szszn004

IAA, APAA Joint Project

Wanted: approximate count of people interested in hearing a talk on Vedanta Hindu Philosophy

BERA's Indo-American Association and Asian-American Pacific Association hope to obtain an approximate count of people who would be interested in attending a one-hour free lecture on "Vedanta" — Hindu Philosophy — based on "the universal truths." The lecture would be held noon-1 p.m. on Monday, October 11. The speaker, A. Parthasarthy, from India, is an acclaimed exponent of Vedanta who graduated from London University and dedicated his life to the study, research and propagation of Vedanta. His best-seller book, *Vedanta Treatise*, presents scriptural insights in contemporary thought. For more details, visit <http://geocities.com/TheTropics/Harbor/1595/iaaEvents.html>. If you are interested in attending this lecture, contact Ila Campbell at ila@bnl.gov.

Arrivals & Departures

Arrivals

Kristine Ferrone C-A

Departures

Robert Browngardt Plant Eng.
David Geib Biology
Melissa Lemaire Chemistry

Salsa Picnic Tomorrow, 7/24

All BNLers are invited to the BERA Hispanic Heritage Club's 2nd annual "Salsa Picnic featuring DJ Alex" on Saturday, July 24, 11 a.m.-6 p.m. at the gazebo by the picnic grounds. Admission is free. Bring your own beverages, a picnic basket of food, and an extra dish to share with four people. Accommodations for barbecuing will be available. Bring chairs and an umbrella. DJ Alex will provide Latin and popular music, and there will be sports activities, so bring your sports equipment. Children will enjoy musical chairs, face painting, and a water sprinkler to cool off. For information, contact Carmen Narvaez, Ext. 3254, narvaez@bnl.gov; or Anna Petway, petway@bnl.gov.

Hospitality Picnic Tomorrow, 7/24

The Hospitality Committee invites the Lab community to a summer fun picnic on Saturday, July 24, at 5:30 p.m. Enjoy music, games, and fellowship at the gazebo in the apartment area, near the playground. Bring a dish to share with about six people. Drinks and snacks will be provided. A special feature will be face painting by the Upton Nursery School at \$5 for a whole face, \$2 for one cheek, to benefit their program.

All are welcome. For more information, contact Cindy Ottemann, 849-2646 or cjottabb@optonline.net.

What's in BERA Store?

All sorts of gifts can be found at the BERA Sales Office in Berkner Hall lobby, open weekdays from 9 a.m. to 3 p.m. You can buy all sorts of neat stuff: BNL T-shirts, sweatshirts, caps, pens, post-cards, film — which you can have developed — and tickets for trips. For example:

- Friday, 9/17, go to the musical *Cabaret*, at Bellport Gateway Theater, \$45 includes the show and a wine and cheese reception before the curtain rises.
- Sunday, 9/19, Ellis Island and the Statue of Liberty, \$25 for adults, \$20 for children.
- Saturday, 10/16, join a trip up the Hudson Valley, lunch at the Culinary Institute of America and visit the Vanderbilt Museum, all for \$52.

Roll Up Your Sleeve: Blood Drive, 9/9

To replenish Long Island's blood supply, BNL is holding a blood drive on Thursday, September 9, from 9:30 a.m. to 3 p.m. in the Brookhaven Center. Those eligible to donate are people in good health between the ages of 17 and 75 who weigh at least 110 pounds. Restrictions may apply to individuals from the United Kingdom and Europe. Donors should have a photo ID and know their social security number.

To make an appointment, contact Susan Foster at Ext. 2888, or e-mail donate@bnl.gov. In your message, include your name, phone extension, and preferred time to donate.

Brookhaven Lab Recruits Interns For the International Atomic Energy Agency



Roger Stoulenburgh dsszsn04

Thirteen recent graduates from colleges around the country have been recruited by BNL for a one-year internship at the International Atomic Energy Agency (IAEA) in Vienna, Austria. The Lab's International Safeguards Project Office (ISPO), which recruited the students, provides technical assistance to the IAEA for verifying that nuclear material placed under IAEA safeguards is not diverted for non-peaceful purposes.

Susan Pepper (not in the photo), head of ISPO, initiated the IAEA Internship Program in 2002. Catherine Osiecki (standing, far left) and Melvyn Morris (standing, far right) of BNL's Office of Educational Programs (OEP), help to administer the IAEA internship program. Christopher Dalton (standing, fourth from left), served a one-year IAEA internship in Vienna starting in June 2002, and last year he was hired by OEP as a consultant to help with web design. He is returning to IAEA for a one-year position as a software development consultant.

At their orientation session at BNL are IAEA interns: (seated, from left) Francesco Queirolo, resident of Germantown, NY, and graduate of Union College; Kathleen Donoghue, West Bridgewater, Massachusetts, Columbia University; Christopher Duncan, Columbia, Missouri, University of Missouri; Andrew Janowczyk, East Meadow, NY, Rensselaer Polytechnic Institute; (standing, from left) Maryam Tatavosian, Erie, Pennsylvania, Mercyhurst College; Kendra Klump, Whitefish Bay, Wisconsin, Georgetown University; Jessica Satterfield, Athens, Georgia, University of Georgia; and Cherie Knickerbocker, Cookeville, Tennessee, Tennessee Technological University. The students are joined by Donna Occhiogrosso and Barbara Hoffheins of BNL's ISPO.

IAEA interns who were not available for the photo include: Jonathan Essner, Oakland, California, University of California, Berkeley, and Monterey Institute for International Studies (MIIS); Sinkyung Kim, Irvine, California, MIIS; Jennifer Olszewski, Hammond, Indiana, Purdue University; Indhira Ramirez, New York City, Long Island University; and Kimberly van Dyke, Annandale, Virginia, Rensselaer Polytechnic Institute.

Calendar (continued)

Wednesday, 7/28

*Sambamurti Memorial Lecture

3 p.m., Large Seminar Room, Physics Department, Bldg. 510. Michael Lisa of Ohio State University will give the Sambamurti Memorial Lecture on "Size Matters: The Space-Time Geometry of Subatomic Collisions." All are invited. See story, page 1.

BWIS Anniversary Celebration

5:15 p.m., Courtyard of Physics Department, Bldg. 510. Brookhaven Women in Science celebrates 25 years with refreshments. All are welcome.

Thursday, 7/29

Radisson Hotels Demo

9:30 a.m.-1:30 p.m., Berkner Hall lobby. Representatives from Radisson Hotels will present BNLers with special rates on hotel accommodations and services. Nick Wilson, 961-8292.

WEEK OF 8/2

Tuesday, 8/3

Caring Friends Meet

Noon, Berkner Hall, Room D. All are welcome to join an informal support group serving as a resource for individuals experiencing grief following the loss of a loved one. Call Pat Hein, Ext. 3962, or Gerry Van DerLaske, Ext. 3476.

Pegram Lecture Rescheduled: 10/19

The Pegram Lectures to be given by Richard Smalley, announced in the Bulletin of June 16, 2004, as starting on August 3, have been rescheduled. The First Pegram Lecture, "Our Energy Challenge," will be given by Smalley at 4 p.m. on Tuesday, October 19. The Second Pegram Lecture, "The Brave New World of Buckytubes," which was to have been on Tuesday, October 5, will now be given at 11 a.m. on Wednesday, October 20.

Wednesday, 8/4

ASAP/BSA Barbecue

5:15 p.m. The Beach Hut, Smith's Point. The Association for Students and Postdocs — ASAP — and BSA are sponsoring a barbecue. \$10 includes full BBQ, soft drinks, entertainment. Buy tickets at the QOL/BERA/Recreation Office, Bldg. 179B, or at the BERA Store in Berkner Hall, before Monday, 8/2.

Thursday, 8/5

University of Phoenix Demo

10 a.m.-2 p.m., Berkner Hall. Representatives from the University of Phoenix Online, the largest accredited university offering web-based courses, will present BNLers with information on undergraduate and graduate degree programs. For more information, visit www.uopx.com/nyc or call John Cuevo, 1-800-618-6792, Ext. 1769. (Not the on-site Ext. 1769.)

WEEK OF 8/16

Thursday, 8/19

BSA Distinguished Lecture

4 p.m., Berkner Hall. George Saliba, Columbia University, will give a talk on "Whose Science is Arabic Science in Renaissance Europe?" All are welcome to this free lecture, sponsored by BSA. Visitors to the Lab of 16 and over must carry photo ID.

— WEEK OF 8/30 —

Thursday, 9/2

BNL Career Network Group Meeting

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

— WEEK OF 9/6 —

Tuesday, 9/7

Caring Friends Meet

Noon, Berkner Hall, Room D. All are welcome to join an informal support group serving as a resource for individuals experiencing grief following the loss of a loved one. Call Pat Hein, Ext. 3962, or Gerry Van DerLaske, Ext. 3476.

Thursday, 9/9

*Blood Drive

9:30 a.m.-3 p.m., Brookhaven Center.

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.

Family Fun Day, This Sunday, July 25



Joseph Rubino DWR60703

On Sunday, July 25, BNL's Summer Sunday Tours continue with Family Fun Day! Join in fun-filled demonstrations at the Science Museum and meet guest partners from the Long Island ScienCenter, NY Hall of Science, Nassau Cradle of Aviation, and the Goudreau Math Museum. See displays by artists, a glass maker, and a silversmith — create your own sidewalk chalk art. A planetarium, a Mission to Mars display, and a hair-raising hands-on exhibit will mean a great day for the whole family.

Tours are free and no reservations are needed. Visitors may arrive any time between 10 a.m. and 3 p.m. All visitors of age 16 and over must bring a photo ID.

Additional attractions are: a new hands-on "Light & Color" exhibit, produced by the Oregon Museum of Science & Industry; an exhibit on the 2003 Nobel Prize in Chemistry, researched in part at BNL; a demo by high-school students of a robot they built; and the "Whiz Bang Science Show," with new special effects, to be given at 10:30 a.m., noon, 1:30 p.m. and 3 p.m.

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.

OPEN RECRUITMENT – Opportunities for Laboratory employees and outside candidates. MK4191. POSTDOCTORAL RESEARCH ASSOCIATE - Requires a Ph.D. in biophysics, biochemistry, or related field and a strong background in structural biology. Outstanding candidates from physical sciences will also be considered. The position involves structural study of macromolecular protein complexes by cryo-electron microscopy. The ideal candidates should have experience with electron microscopy and computer programming for image process. Facilities include a Jeol 2010FastEM, a Jeol 1200EX, SGI workstations, and a full biochemistry lab. Under the direction of H. Li, Biology Department.

MK3150. POSTDOCTORAL RESEARCH ASSOCIATE – Requires a Ph.D. in physics, chemistry, materials science, or biophysics. Experience in several of the following areas is highly desirable: biopolymers, organic thin films, colloids, biophysics research, synchrotron x-ray, light scattering, confocal microscopy, and scanning probe techniques. Will apply state-of-the-art methods, including nanomanipulation, synchrotron x-ray scattering, environmental AFM and confocal microscopy for in-situ bulk and surface studies. Will be in close collaboration with biological labs and nanofabrication facilities. The interdisciplinary team will pursue research on microscale interactions, structure and assembling of bio-inorganic nanocomplexes. Under the direction of O. Gang, Center for Functional Nanomaterials.

MK7777. - The RIKEN BNL Research Center (RBRC) at Brookhaven National Laboratory, together with university partners, invites applications for a program of cooperative fellowships in strong interaction theoretical physics motivated by the experimental heavy-ion and proton spin programs of the Relativistic Heavy Ion Collider at BNL. Each RHIC Physics Fellow will be jointly selected and supported for five years by the Center and one of the cooperating universities and will hold a tenure track faculty appointment (or equivalent) in that university's Physics Department. Each fellow will spend about half time at RBRC and the remaining time at the university. Candidates should have a Ph.D. degree in theoretical nuclear or particle physics and be interested in pursuing theoretical re-

search within a broad range of hadron physics, such as high energy nuclear theory, RHIC physics, QCD (perturbative and lattice), hadronic spin physics, hadronic spectra and their transition matrix elements. Scientists with appropriate backgrounds who are interested in applying should send a curriculum vitae, publication list, a brief description of their research interests, and arrange three letters of reference to be sent to Dr. Nicholas P. Samios, Director, RIKEN BNL Research Center, Building 510A, Brookhaven National Laboratory, P.O. Box 5000, Upton, Long Island, NY, 11973-5000, before December 1, 2004. Additional information, including current participating universities will be available by sending an e-mail request to rhic_fellows@bnl.gov or by writing to the above address.

NS3342. PHYSICIAN (M-3, part-time) – Requires physician licensure in the State of New York; Board Certification or eligibility to be Board Certified in Occupational Medicine preferred. Duties will include medical examinations and other tasks related to employee health and safety at the Laboratory. Human Resources & Occupational Medicine Division.

NS3439. SR. TECHNOLOGY ANALYST (I-5) – Requires a bachelor's degree, preferably in computer science or equivalent, plus 1-3 years' experience in administering Unix/Linux with a focus on Solaris or Redhat. Demonstrated expertise in system patching, DNS and NIS in a data center, as well as system monitoring and performance tuning necessary. Experience with applications such as e-mail, LDAP, and scripting languages used for system administration, such as Perl and Bourne Shell, are also required. Will work with a team of system administrators responsible for maintaining core computer services. Information Technology Division.

Motor Vehicle & Supplies

03 DODGE RAM 1500 - a/t, 2dr., incl. bed liner, ladder, rack & tool box, 17K mi., \$17,500. Cindi, Ext. 398-1704.

02 FORD ESCORT - a/t, a/c, p/s, p/b, 4dr., dk. blue, clean, 42K mi., \$5,500. Jeff, 678-7719.

00 DUTCHMAN 30BH - 30' fifth wheel travel trailer, like new, 1K mi., \$20,000. Pam, 922-9015.

99 GMC CONVERSION VAN - 49K mi., 1 yr. warr., excel. cond., many extras, \$15,500. Robert, 929-3092 or 886-1142.

99 TOYOTA COROLLA - a/t, a/c, p/s, p/l, p/w, c/c, dual front airbags, 63K mi., \$6,300. Sung, Ext. 4357 or 924-2269.

98 HYUNDAI ACCENT - a/t, a/c, p/s, p/b, excel cond., 95K mi., \$1,600. Yarema, Ext. 8603 or 671-9781.

98 JEEP CHEROKEE - a/t, a/c, p/s, p/b, p/w, new shocks, tires brakes, stereo, well maint., 126K mi., \$6,500. John, 289-0557.

97JEEP CHEROKEE SPORT - 5spd., p/s, p/w, 114K mi., \$3,500. Gary, Ext. 8580 or 821-7952.

96 NISSAN QUEST - a/t, a/c, p/s, p/b, p/w, 7 pass., rear air, tinted wind., excel. cond., 122K mi., \$4,800. Steve, Ext. 7936

95 SATURN SL2 - a/t, a/c, cass., new radiator & water pump, high mi. \$1,450. Richard, 878-2040.

94 MAZDA626 - 5spd., a/c, p/s, p/b, p/w, new brake pads, batt., timing belt, reliable, 110K mi., \$2,999. Jim, Ext. 5018 or 335-9007.

89 FORD MUSTANG LX 5.0 - 5spd., Cobra intake, full exhaust, many modifications, 178K mi., \$4,500. JoAnn, 772-2553.

84 KAWASAKI MOTORCYCLE - GPZ1100, runs well; 77 Ford F150 Pickup, call for details, \$800/ea. Tracy, 563-1153.

85 JAGUAR - a/c, p/b, gold, new leather int., sunroof, ask \$500. Cynthia, Ext. 3084 or 924-6475.

Boats & Marine Supplies

34' SYLVERTON - '85 conver., 270hp twin Crus., 920 hrs., all new electronics, \$44,900. Ed, Ext. 4905 or 298-8563.

28' NEWPORT MK II - '85 Univ. diesel, 14hp, main & 150 Genoa roller furling, equipped galley, \$23,700. Dick, Ext. 4329 or 751-6820.

21' PROLINE - '97 walk-around, cuddy cabin, windless anchor, Merc. i/o, low hrs., new Bimini top, \$17,000. Carrie, 889-5302.

19' LARSON - '77, '84 140hp Evinrude single eng., trailer, runs well, \$2,000. Tracy, 563-1153.

19' RENKEN - '82, V6, i/o, runs well, b/o JoAnn, 772-2553.

17' TIGERCAT - Catamaran, roller furling, new rudders, solid deck, safe, stable, \$1,900. Mary, Ext. 2815 or 472-4087.

JET SKI - '96 SeaDoo w/trailer & Acc., model hp, yellow, low hrs, gd. cond., \$2,000. Frank, Ext. 2012 or 277-0464.

Furnishings & Appliances

AIR CONDITIONER - Frigidaire, 3 yrs. old, 110v, 5K Btu, excel. working cond., min. blems, low hrs., \$100. Chuck, Ext. 6136.

BED/MATRESS - for toddler, excel. cond., \$20. John, Ext. 4028.

DINING ROOM SET - light wood table w/extra leaf, 4 chairs & china cabinet, \$175. Diana, Ext. 3681 or 399-3910.

DINING ROOM TABLE - butcher block, 2 chairs, \$75; folding bed, \$25; color TV, \$20. Kathleen, 878-9592.

DINING TABLE - 48" round, 2-15" leafs w/ custom pads, \$75/obo. Paul, Ext. 5829 or 289-9152.

FURNITURE - and other household items. Victor, 281-1441.

RANGE - Kit. Aid gas w/convection oven, 3 yrs. old, stainless/black, ask \$300. Chris, Ext. 2024 or 395-6112.

WALL OVEN - GE True Temp digital, white, b/o Barbara, Ext. 2585.

WASHER/DRYER - Frigidaire, white, heavy duty, all assoc. hoses, \$300/pr. Paul, Ext. 3194.

WOOD STOVE - Atlantic freestanding, airtight or screen w/front or side loader, \$375. Joann, Ext. 7459 or 929-1981.

Tools, House & Garden

LAWN MOWER - '03 Craftsman EZ3, gas/elec. start, \$200. Paul, Ext. 3194.

LAWN MOWER - Sears, 30" cut, 8 hp, ride-on golf cart style w/ attachmts., needs front tire, \$225. Frank, Ext. 2012 or 277-0464.

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

Sports, Hobbies & Pets

DOG FOOD - unopened, 20lb. bag Flint River adult formula, natural ingreds., contains glycosamine, Marie, Ext. 5483 or 744-0790.

FOOSBALL TABLE - Sportcraft, gd. cond., rarely used, \$115. Marc, Ext. 8292.

MODEL AIRPLANES - radio control, some w/eng., ready to fly. Bill, 475-7620.

Audio, Video & Computers

DELL - 1Ghz CPU, 256Mb ram, 20Gb hd, 17" mon., \$300; w/o mon., \$250; scanner, \$40; printer, \$20. Don. Ext. 7237 or 929-6571.

Miscellaneous

COMPUTER DESK - \$10, Proctor-Silex iron, new, \$5, upright freezer, 16.1 cu. ft., \$75; couch, \$75. Corinne, 654-3697.

FAUCETS - Moen, like new, single level, chrome, 3 avail., b/o. Bill, 452-1726.

JEWELRY - silver, old vintage, 40s, 50s & 60s costumes, some gold, Diane, 369-9448.

MAPLE SYRUP - from my family's farm in VT. Peter, Ext. 7687 or 744-1112.

PAINTINGS - contemp. oil, 4x5, city skyline view w/mirror strips, pastels & blues, gold frame, \$250. Irene, 924-3049.

RIDE-ON-TOYS - suitable for 2- or 3-yr.-old, toddlers. Pat, Ext. 3536.

Yard & Garage Sales

MIDDLE ISLAND - sofa, bed, dining table, table, toys, & more, several free gifts, Sung, Ext. 4357 or 924-2269.

Lost & Found

FOUND - man's watch in Bldg. 703 training rm. Nanci, Ext. 2821.

Wanted

BOWS - old recurved & long. Bill, Ext. 2377 or 654-8685.

GARDEN ASSISTANCE - for retiree, southeast Patchogue Vill., noon-1 p.m. Alyce, 447-5377.

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

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

Free

ABANDONED CATS - neighbors sold their home, left two cats, which urgently need kind home. Pat, Ext. 7288, 758-3952.

DOG - Yellow Lab Mix, 3½ yr. old male, lovable, neutered, housebroken, all shots, prof. obedience training, Don, 581-7656.

KITTEN & CAT - blk./white, male kitten and a 2 yr. old cat, both very lovable, Diane, 363-2596.

Car Pool

Meeting in Plainview for 8 a.m. - 4:30 p.m. shift, 4th driver/rider wanted. Ron, Ext. 6068.

For Rent

BAITING HOLLOW - studio apt., priv. ent., no smkg./pets, quiet person working days pref., \$800 + sec. Diane, 369-9498.

CENTER MORICHES 1 bdrm. apt., full bath, kit., d/r, nice location, \$800/mo. George, 878-1178.

EAST MORICHES - share lg. furn. 2- bdrm. house, own bdrm. w/ac/cable/phone, 300' to beach, 10 mi. to Lab, single, non smkr. 744-8386.

MEDFORD - 2 bdrm. bsmt. apt., \$1000/mo., util. inc. except cable. Tony, 736-8841.

MILLER PLACE -1 br., grd. level, kit., full bath, l/r, prkg., cable avail., \$850/mo./1mo. sec., utils., cable not incl. Rose, 744-2448.

Get to Know Your Lab!

Visit PHOBOS Today at Noon

Today, Friday, July 23, at noon, the Lab community is invited to join an employee lunch tour of the PHOBOS experiment, which is located in the tunnel of the Relativistic Heavy



Roger Stoutenburgh CNA37804

Ion Collider (RHIC). At RHIC, physicists are gaining insight into the nature of matter as it existed just after the Big Bang. To join the tour, meet Elaine Lowenstein of BNL's Community Relations at noon in the upper lobby of Berkner Hall and be taken by Lab bus to the RHIC tunnel. The group will return to Berkner by 1 p.m.

Go Cruisin'

Dinner/Dance Cruise Round Manhattan, 8/7

Join BERA's trip to the Spirit Cruise on Saturday, August 7, for a dinner buffet and dancing while sailing around New York City. Buy tickets at BERA Store, \$82 per person, which includes leaving BNL at 4:30 p.m. on a luxury bus, dockside cocktail reception at 7:30 p.m., sailing at 8:30 p.m. then eating, dancing, and watching the stars and city lights. Cash bar available.

Port Jeff Sunset Cruise With Music, 8/11

The Hospitality Committee invites the BNL community of all ages to join in on what has become a BNL tradition — the annual Port Jefferson Ferry Sunset Cruise, this year, featuring reggae music by King Wellington & The Earth Peoples. Meet at the Port Jeff ferry building on Wednesday, August 11, and purchase tickets on the boat at \$14.50 per person. The boat leaves at 5:30 p.m. and returns at 9 p.m. Come and create a fun evening!

For more information, contact Cindy Ottmann at 849-2646 or cjottabb@optonline.net.

On-Site Service Station Tip of the Month

Anyone who is thinking about buying new tires should remember that mixing tire types or sizes, or new with partially worn tires may cause unpredictable handling, braking, or loss of control of your vehicle. New tires should be installed on the rear axle. The Upton Services Inc., service station will be pleased to obtain and fit tires for you while you are at work. Call Ext. 4304 for more information.

PORT JEFFERSON - sm. 1 bdrm. apt., in vill., furn., new bath & kit., priv., 1 person, \$800/mo., incl. all. Yako, 474-1243.

ROCKY POINT - lg. studio apt., full kit., sm. priv. yd., pref. someone handy, \$525 + elec. Linda, Ext. 7187.

ROCKY POINT - lg. studio, sep. house, 9 mi., to Lab, \$500 + util., avail, 8/1, Raman, Ext. 2770 or 821-4605.

KISSIMMEE, FL. - Indian Creek Vac. home, priv. 5 br, 4 bath, 3 mi. to Disney, conser. view, priv. pool/spa, more, \$875-\$1225/wk. Carrie, 878-6968.

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

Farewell Gatherings

RETIREMENT PARTY - for Dr. Sbarra, Wed., 8/18, 5 p.m., Brookhaven Ctr., south rm. & patio, \$30 incl. buffet dinner & gift, cash bar, Robyn, Ext. 3192.