Bulletin Vol. 62 - No. 19



June 6, 2008



Generation IV International Forum On Nuclear Energy Systems Held at BNL

A group of international experts gathered at BNL on May 19-20 for a workshop to discuss how to incorporate proliferation resistance and physical protection into new nuclear reactors and their associated fuel cycles at the conceptual design stage, a few decades before the reactors would actually begin operating.

The workshop, sponsored by the Generation IV International Forum on Nuclear Energy Systems, was cochaired by Brookhaven's

group of international experts gathered at BNL on y 19-20 for a workshop to cuss how to incorporate pro-

> The group, which is responsible for developing evaluation methods for proliferation resistance and physical protection of new designs, included representatives from Canada, France, Japan, Republic of Korea, United States, European Commission, and the International Atomic Energy Agency.

— Jane Koropsak

BSA Distinguished Lecture, 6/9 Barabási to Talk on 'Science Networks'

lbert-László Barabási, ADistinguished Professor at Northeastern University and Director of the University's Center for Network Science, will give a BSA Lecture titled, "Network Science: From the Web to Human Diseases," at BNL on Monday, June 9, at 4 p.m. in Berkner Hall. BSA Distinguished Lectures are sponsored by Brookhaven Science Associates, the company that manages Brookhaven Lab, to bring topics of general interest before the Laboratory community and the public. The lecture is free and open to the public. Visitors to the Laboratory age 16 and over must bring a photo ID.

Systems as diverse as the Internet and the cell have highly interconnected networks with amazingly complex links. Recent studies by Barabási and colleagues indicate that simple but generic laws govern the evolution of these complex networks, resulting in apparently universal architectural features. Barabási will discuss the surprising order that characterizes interconnected networks and its implications in communications and medicine. He will also touch upon the next challenge of network research - quantitative studies of these interconnected systems. A Hungarian-born native of Transylvania, Barabási earned a Master's degree in theoretical physics at Eötvös University in Budapest, Hungary. He then came to the U.S. to study physics at Boston University, where he earned a Ph.D. After a year as a postdoctoral fellow at IBM T. J. Watson Research Center, he joined Notre Dame University in 1995 as



an assistant professor, where he was promoted to Professor and Endowed Chair at the unprecedented age of 33. In 2007, he became Director of the Center for Complex Network Research at Northeastern University, where he also holds the title of Distinguished University Professor. One of today's most cited scientists, Barabási is the recipient of numerous awards. including the National Science Foundation's Early Career Development Award, the Office of Naval Research's Young Investigator Award, the Institute of Electrical and Electronics Engineers von Neumann Award for Computer Science, and the Federation of Biochemical Societies' Anniversary Prize for Systems Biology. He was elected a member of the Hungarian National Academy and Academia Europeae. Barabási is the author of Linked: The New Science of Networks, co-author of Fractal Concepts in Surface Growth, and co-editor of The Structure and Dynamics of Networks. Diane Greenberg

8 NSLS-CFN Joint Users'8 Meeting Coverage



Attendees at the 2008 National Synchrotron Light Source (NSLS) and Center for Functional Nanomaterials (CFN) Users Annual Meeting included: (from left) Dan Fischer of the National Institute of Standards & Technology, Users' Executive Committee (UEC) past Chair; Chi Chang Kao, NSLS Department Chair; Pat Dehmer, Deputy Director for Science Programs in DOE's Office of Science; Sam Aronson, BNL Director; Emilio Mendez, CFN Director; Molly Frame of Stony Brook University (SBU), CFN UEC Chair; Steve Dierker, Associate Laboratory Director for Light Sources; John Parise of SBU, NSLS UEC Chair; and Doon Gibbs, BNL Deputy Director for Science & Technology.

Users' Meeting Stresses Strategic Planning

Defining the role of synchrotron science and research at the nanoscale for BNL and the nation at large was a key task stressed by government and Lab officials at the third joint meeting of the National Synchrotron Light Source (NSLS) and Center for Functional Nanomaterials (CFN) user communities. About 400 visiting scientists, staff members, and scientific leaders attended the annual meeting, which ran from May 19-21.

Calling the CFN, NSLS, and the future National Synchrotron Light Source II (NSLS-II) the "backbone of the Lab's programs in photon science and nanoscience," Lab Director Sam Aronson told the plenary session audience how the facilities also enable the energy strategy of DOE's Office of Science.

"Our vision is to be the provider of choice for worldclass science and facilities in support of the DOE Office of Science's mission to enable breakthroughs that ensure our nation's future," Aronson said. "These facilities play a key role in our thinking about how to attack the nation's critical energy problems."

Aronson also stressed the importance of NSLS-II to BNL's strategic plan for the next decade. "A shift will take place in the Lab's overall balance of research, which has been dominated for most of its life by research in particle physics and nuclear physics," Aronson said. "While nuclear and particle physics are and will continue to be mainstays of BNL, I see the Lab developing more of a balance between basic energy sciences and nuclear and particle physics as it goes

efining the role of synchrotron science and of that, as is the CFN."

Critical Decisions for Projects and the Budget

A familiar face at the annual users' meeting, Pat Dehmer took the stage next in her new role of Deputy Director for Science Programs in DOE's Office of Science. Dehmer first congratulated the CFN on achieving critical decision 4b (CD-4b), which signals the start of operations and came almost nine years after the idea for the CFN and DOE's four other nanocenters was born.

Dehmer also congratulated NSLS-II on the completion of CD-2, which sets the project's cost and schedule baseline, and outlined the five critical decisions that DOE projects must meet. Slated to achieve CD-3 by the end of the year, NSLS-II "is about halfway through its development, even though the ground has not been broken yet," Dehmer said.

Displaying a chart showing Office of Science appropriations for the last 10 years, Dehmer pointed out that only in 2007 and 2008 were funds significantly less than the amount requested by the President. "It's important to understand that the appropriations process has not been uncertain over the long haul," she said.

Dehmer praised NSLS-II for keeping the project on track with limited funds — \$15 million was removed from the project's requested budget last year. "It's to the credit of the NSLS-II team that this did not affect the schedule at which they were getting CD-2 and now, CD-3," Dehmer said. "That's a remarkable tour de force on the part of this project." NSLS-II Update: Construction on Horizon

Next, Steve Dierker, Associate Laboratory Director for Light Sources, gave the audience an update on the NSLS-II project, which is scheduled to start full operations in June 2015.

Currently, NSLS-II staff members are working on final engineering design documents, which will be used to build the facility, Dierker said. Those will be reviewed in September, after which they expect to achieve CD-3. By early 2009, the project plans to award a \$200 million contract for ring construction, Dierker said.

"Then, things will be very busily happening to the south of us as the construction proceeds," he said. "It's been about six years that this version of an NSLS upgrade has been seriously underway and it will be about six years from now when we achieve our early project completion goal and beam will be available to the beamlines."

Recent changes to the facility's design include increases in beam height, tunnel height, and in the experimental floor's radial width, as well as the addition of spaces between the laboratory office buildings to allow for the extension of beamlines outside of the storage ring. The current design accommodates for nine of these extra-long beamlines, each up to several hundred meters long, Dierker said. After detailing several research and development advances made in terms of magnets and optics for NSLS-II, Dierker talked about the need to develop a "coherent, facility-wide plan that is responsive to the needs of the various user (see Users' Meeting on pg. 2)



At the 2008 NSLS/CFN Users' Meeting, pictured with CFN Users' Executive Committee (UEC) Chair Molly Frame (left) and NSLS UEC Chair John Parise (right), both of Stony Brook University, are poster winners: (from left) Abdel Isakovic, NSLS; Lan Zhou, University of Vermont; Cherno Jaye, Hunter College; Imke Bodendiek, NSLS; Katherine Cano, George Mason University; and Sanjaya Senanayake, Oak Ridge National Laboratory.

The Bulletin



NSLS UEC past Chair Dan Fischer (center), presents the UEC Community award given for service, innovation, and dedication to users of the NSLS, to NSLS science associate Randy Smith (left) and Hingzhu Hu, Stony Brook University. For more information on Smith and Hu's contributions, see www.bnl. gov/today/story.asp?ITEM_NO=695.



NSLS Chair Chi-Chang Kao (left) presents Harvard University physicist Eli Sloutskin (right) with this year's National Synchrotron Light Source (NSLS) Julian Baumert Ph.D. Thesis Award for his work on liquid surfaces and the nanometer-thin layers that cover them. The prize is given for recent thesis research that includes measurements at the NSLS. Most of the measurements for Sloutskin's thesis, titled "Surface Ordering in vander-Waals and Coulomb Liquids," came from NSLS beamline X22B. For more information, see www.bnl.gov/today/story.asp?ITEM_NO=696.



Organizers of the 2008 NSLS/CFN Users' Meeting are: (standing, from left) Cecilia Sanchez-Hanke, BNL; John Parise, Stony Brook University (SBU); Nancye Wright, BNL; Grace Webster, BNL; (seated) Jean Jordan-Sweet, IBM Research Division; Molly Frame, SBU; Kathy Nasta, BNL; Mercy Baez, BNL; and Gretchen Cisco, BNL.

New BNL Grants Promote Science, Math, More: Applications being accepted from local nonprofits

Local nonprofit community organizations in Suffolk County have until July 18 to apply for BNL's new BreakThru Mini-Grant. Organizations that apply may receive up to \$5,000 to fund any new or existing program designed to increase interest and strengthen skills in science, technology, engineering, and math among 10- to 15-year-old females, African Americans, Hispanics/ Latinos(as), and/or Native Americans. BreakThru Mini Grants are funded by Brookhaven Science Associates, which manages BNL, and administered by the Lab's Community Relations Office. These awards were created to bolster organizations that can inspire a new generation growing up in an increasingly scientific and technological world. A total of \$25,000 in grants will be awarded in allotments of up to \$5,000. We want to support new and innovative initiatives that encourage these students to enjoy and be excited about the fields of science, technology, engineering, and math," said Jeanne D'Ascoli, manager of the Community Relations office at BNL. "During the next decade, it is expected that the U.S. demand for scientists and engineers will increase at four times the rate of all other occupations," she added. "It would be terrific if some of the students in programs benefiting from these grants went on to enter scientific or technical fields." BreakThru Mini-Grant applications must be submitted by July 18 for programs operating between September 1, 2008, and August 31, 2009. Applicants are encouraged to apply online at www. bnl.gov/community/breakthru. All BreakThru Mini-Grant winners will be notified in August 2008. For detailed information on BreakThru Mini-Grants including eligibility, criteria, and more, go to www.bnl.gov/community/breakthru or contact Jeanne D'Ascoli (631) 344-2277 or dascoli@bnl.gov.

(Users' Meeting contd)

communities." Input from the first NSLS-II User Workshop, held in July 2007, and a series of planning workshops held with the NSLS earlier this year, will be used to meet that goal.

"One clear message was the advantages, both scientific and technical, to be gained by appropriately combining communities with similar requirements," Dierker said. The white papers produced from the workshops also show why it is important for careful strategic planning, he said, as the total number of beamlines requested greatly exceeds the number of ports that will be available at NSLS-II.

"We need to prioritize among competing demands and weigh new ideas versus the needs required for the continuation of existing communities served well by NSLS," he said.

CFN Update: 'What a **Difference a Year Makes'**

Since its ribbon-cutting ceremony in May 2007, the CFN has gone from a mostly empty building to a vibrant research facility with the goal of being the "hub for nanoscience in the Northeast and beyond," said CFN Director Emilio Mendez.

"Most of our instruments are state-of-the-art, but none of them is unique," he said about the CFN and the four other nanoscale science research centers funded by DOE's Office of Science. "We're unique because we combine a high density of state-of-the-art tools with top scientists in the nanoscience field."

Mendez gave examples of research conducted by the facility, which is divided into three themes — electronic materials. interface science and catalysis, and soft and biological nanomaterials — and stressed the importance of CFN's collaboration with the NSLS, BNL's Chemistry Department, and other facilities across the Lab.

"We are not doing more of the same, but coming at these scientific problems from a different angle," he said.

With the CFN now running at full operations, the user program has greatly expanded, Mendez said. As of the end of April, more than 260 proposals were received and reviewed, of which almost 230 were approved. The facility's staff is growing as well, with 33 scientists, support staff members, and postdoctoral students, nine of which were hired in the last year. By 2010, Mendez said, the staffing level is expected to grow to 55.

The staff is working to acquire new equipment, including an ebeam lithography system (a tool that allows scientists and engineers to create nanometer-sized electronic and mechanical devices using a computer-guided beam of electrons to "write" patterns or designs) and an aberration-corrected low-energy electron microscope and photoemission electron microscope. The staff also hopes to provide new resources for users, such as web-based access for simulations, remote training, and electronic management of user proposals, Mendez said.

NSLS Update: Keeping Active in a Tough Year

Next, NSLS Chair Chi-Chang Kao thanked staff and users for helping the NSLS achieve a number of accomplishments in the past year: receiving the best Lab-wide grades in DOE's Integrated Safety Management audit, surpassing 95 percent reliability on both of the facility's storage rings, and producing almost 1,000 publications - a record high. About 25 percent of those papers were published in premier journals, a testament to an increase in both the quantity and quality of NSLS research, Kao said.

Kao also acknowledged the difficulties presented by the budget shortfall, which resulted in about a \$7-million cut to the dollars requested by the NSLS in fiscal year 2008. In addition to slowing down the addition of new staff, delaying upgrade projects, and reducing the operating budget, machine operating hours had to be cut back for the first time in NSLS history.

"Last year was a tough year," Kao said. "It was challenging to the staff and to all of you who work with us. All we can do is prioritize, ask tough questions, and make difficult choices."

Despite limited resources, the facility still remained extremely active, Kao said. For example: plans are under way to add three more beamlines to the facility next year, bringing the total number to 68; research and development work continues to yield novel, advanced detectors for the NSLS and light source facilities around the world; a newly formed Beamline Transfer Working Group is helping guide the transition from the NSLS to the NSLS-II; and NSLS staff members, along with the Office of Educational Programs, are organizing activities for the new Historically Black Colleges and Universities User Consortium meant to train professors and students in synchrotron skills.

The number of NSLS users remains steady at about 2,200, Kao said, adding that he would like to increase the number of industrial users, which now make up about seven percent of the total.

"There's a need to bridge the gap between basic sciences and applied sciences," Kao said. "The NSLS is one of the best places to do that, because very often, you find different scientists working on similar things, but they just don't know about it. The facility's job is to get them together, to create a new paradigm of universities, industries, and the Lab work-

First up was George Crabtree, Director of the Materials Science Division at Argonne National Laboratory, who talked about "Alternative Energy for a Sustainable Future." The world energy demand is currently about 14 terawatts of power, said Crabtree, adding that in the next 50 years, "We'll have to take the power system we have now and duplicate it." Because of limited resources, as well as pollution concerns, traditional sources of electricity - oil, gas, and coal - won't be able to satisfy this demand. The solution, Crabtree said, requires the aggressive exploration of a mixture of alternative energy sources including hydrogen storage, solar power, and the use of superconductors.

Next, University of Pennsylvania researcher Cherie Kagan talked about "Molecular and Nanostructured Materials for Solar Photovoltaics." In the same way that lowcost and flexible macroelectronics, such as paper-thin video displays, are being pursued, scientists also are striving to make low-cost, highperformance solar cells, she said. Kagan highlighted advances in organic-inorganic hybrid photovoltaics, and the challenges in tailoring the materials' chemistry.

The last speaker, University College of London researcher Ian Robinson, discussed "Uses of X-ray Coherence for Exploring Structure on the Nanoscale." Robinson detailed the benefits of using x-ray coherence - which allows the 3-D visualization of noncrystalline objects with nanometer-scale resolution — to probe biological samples and nanomaterials. Currently a user at the Diamond Light Source, in England, and the Advanced Photon Source, at Argonne National Laboratory, Robinson said he hopes NSLS-II will push research further along the nanoscale.

Awards, Workshops

Each year, the NSLS Users' Executive Committee (UEC) presents the UEC Community Service Award, which honors hard work and dedication toward bettering the experience of users and the user community. UEC past Chair Dan Fischer of the National Institute of Standards & Technology presented this year's awards to Stony Brook University's Jingzhu Hu and NSLS science associate Randy Smith. The annual Julian Baumert Ph.D. Thesis Award, which is given to researchers who have recently conducted a thesis project that included measurements at the NSLS, was given to Harvard University physicist Eli Sloutskin by NSLS Chair Kao.

Eight workshops were held during the three-day meeting. In addition, at the end of the first day, participants attended the annual poster session and vendor exhibition, and awards were presented to the top six student and postdoc posters. Winners include: Imke Bodendiek, NSLS; Katherine Cano, George Mason University; Abdel Isakovic, NSLS; Cherno Jaye, Hunter College; Sanjaya Senanayake, Oak Ridge National Laboratory; and Lan Zhou, University of Vermont. Kendra Snyder

ing together.

Renewable/Sustainable Energy Science Talks

After brief updates from the NSLS and CFN Users' Executive Committee Chairs, Dan Fischer and Molly Frame, respectively, the audience heard from scientists who have conducted research related to the meeting's theme —"Lighting our Way to a Renewable/Sustainable Energy Future."

New Accent Modification Program Planned

BNL employees who have an accent or regional dialect that makes communication difficult for participation may want to join an Accent Modification training program. If your colleagues often ask you to repeat yourself, or to slow down your speaking, or misunderstand you, you may find that accent modification for better English

pronunciation is a great tool to assist you with clearer and more effective communication skills.

The program will be held on site during August and September. It will consist of one group class and one additional private coaching session each week. To participate in this pilot program or for more information, e-mail training@bnl.gov.



The Bulletin

Celebrating Earth Week 2008

elebrations for Earth Week, April 21-25, were organized by the Environmental & Waste Management Services Division (EWMS). Some highlights included the more than \$1,800 collected from Environmental Pledge Tree pledges, with the proceeds forwarded to the Foundation for Ecological Research in the Northeast (FERN). A large audience attended the Brookhaven Lecture/Earth Week talk on a "Grand Solar Plan," by Vasilis Fthenakis of the Energy Sciences & Technology Department. A later talk by Rosemary Weisner of Brookhaven Town gave ideas on how to prepare "Garbage-Free Takeout Lunch."

BNL kicked off its first-ever Energy Challenge, in which buildings will compete against

each other to see how much energy they can conserve. At the annual Office Swap, over 75 percent of the items collected were recycled throughout the Lab, and National Synchrotron Light Source members saved e over \$1,000 by finding items at in the swap that are regularly used in the department. The Environmental Vendor Fair was well attended and featured great giveaways. The hybrid vehicle display was informative and also well attended. To round off the week, EWSD members and other Lab volunteers set up and staffed a BNL booth with interactive displays at the two-day Heckscher State Park Spring Festival, hosted by the New York State Office of Parks, Recreation, and Historical Preservation in honor of Earth Day.



BNL employees brought their hybrid vehicles to display and discuss their advantages with other interested BNLers.



George Goode presents an Envi- $\frac{9}{2}$ ronmental Stewardship Award to John Read, Plant Engineering Division, for his efforts to conserve energy at the Lab. Read received a Sylvania Energy Saver Certificate for replacing over 80 percent of T-12 fluorescent light bulbs with more energy-efficient, less hazardous "green" lighting.



Environmental Stewardship Awards were presented to the Custodial Supervisors group: (from left) Martha Bryant, Phil Baker, Carl Booker, and Debbie Dovle, for their commitment to environmental stewardship and employee safety through continuous efforts to reduce chemical inventories in custodial operations and to utilize green products to replace the current inventories of more hazardous chemical cleaners.



Michael Holland, DOE Brookhaven

Site Manager, presents an Office

of Science Award for Best in Class

to the Biology Department's Betsy

Sutherland, who had developed a

new, environmentally friendly tech-

nique for assessing the damage

local elementary schools for

their Earth Day posters on the

theme of energy conservation.

radiation causes to human DNA.

At BNL's annual Earth Week Environmental Pledge Tree, the Environmen-

tal & Waste Management Services Division's Jason Remien and Melanie

Thiesen were among volunteers who collected pledges to benefit the

Foundation for Ecological Research in the Northeast.

Earth Day Awards Ceremony

n April 24, an enthusiastic

audience gathered in Berk-

ner Hall for the annual Earth

Day Awards Ceremony. All were

welcomed by George Goode,

Manager of the Environmental

& Waste Management Services

Division. Michael Holland, 🚊 DOE Brookhaven Site Office 쿭

Manager, presented an Office ਜੂ of Science award to BNL senior

scientist Betsy Sutherland for

a new pollution-prevention

technique developed in her re-

search. Goode presented Envi-

ronmental Stewardship awards

to employees who made out-

standing contributions in pol-

lution prevention, recycling,

waste minimization, energy, conservation, compliance, or

resource conservation, and also

gave awards to children from

George Goode presents an Environmental Stewardship Award to Ann Emrick, Biology Department, for her outstanding and long-term commitment to environmental protection and environmental management. Emrick was recognized for finding ways to improve the environment and save money, while supporting and enabling science.

Science Summer Camp

BNL employees may register their children or grandchildren for the free 2007 Summer Science Explorations Program, offered by the Lab's Science Learning Center in the Office of Educational Programs. The three-day summer camp will be held Tuesday-Thursday, 8:30-11:30 a.m., for students entering 4th - 6th grades. The weeks of July 22 and August 5 are reserved for children of the BNL community. The camp's focus is energy. Students will experiment with and learn about chemical. mechanical, electrical, and alternative energy. The environmental day will highlight radio telemetry and how BNL scientists use this technology to locate and track different animal species on site. Students will use GPS units and learn how useful GPS is to scientists. Teaching participants include Lab Science Educators, research staff, and pre-service teacher interns. To register your child or grandchild, contact the SLC office, Ext. 4495, Bldg. 400. Students must attend all three days; parents are welcome.

CALENDAR THIS WEEKEND -

Friday, 6/6

Plant Swap Noon. Berkner Hall parking lot. Bring spare plants to swap.

Saturday, 6/7

Benefit Cultural Concert

7-9 p.m. Berkner Hall. International music and dance by BNLers, community groups, local students, to raise funds for cyclone and earthquake victims. Open to public. Visitors to the Lab of 16 and over must carry photo ID. \$12/person, \$30/family in advance at BERA Store; \$15 and \$37 at the door. See p. 4.

— WEEK OF 6/9 —

Monday, 6/9

*BSA Distinguished Lecture

4 p.m. Berkner Hall. Albert-Laszlo Barabasi, Northeastern University will talk on "Network Sci-ence: From the Web to human diseases." All are welcome to this free lecture, open to the public. Visitors to the Lab of 16 and older must carry a photo ID. See p. 1.

Thursday, 6/12

*Benefit International Lunch

Noon-1:30 p.m. First 80 people will taste, eat, international dishes from BNLers and local restaurants. \$15/person, all proceeds to go to BNL's fund for cyclone and earthquake victims, to be matched by BSA up to \$25,000. See p. 4.

— WEEK OF 6/16 —

Tues. & Wed., 6/17 & 18

*Blood Drive

9:30 a.m.-3 p.m. B'haven Center. Donors must be from 16 to 75 years of age, in good health, and weighing over 110 lbs. Restrictions may apply to individuals from the United Kingdom and Europe. Donors should have photo identification and know their social security number. To make an appointment, log on to the Human Resources webpage, click on "Blood Drive" and select "Schedule an Appoint-ment." Or, contact Liz Gilbert, Ext. 2315. See story, p. 4.

- WEEK OF 6/23 -

Wednesday, 6/25

BSA Noon Recital: Pianofest

Noon. Berkner Hall. Participants in Pianofest, a summer workshop held in the Hamptons, will showcase a recital, sponsored by Brookhaven Science Associates, the company that manages the Lab. The concert is free and open to the public. All visitors to the Lab age 16 and over must bring a photo I.D. For more information on Pianofest go to: www. pianofest.com/

437th Brookhaven Lecture

4 p.m. Berkner Hall. Michael Rosenthal, Ph.D., Nonproliferation & National Security Depart-ment, will talk on "Strengthening International Atomic Energy Agency Safeguards: Challenges Ahead." All are welcome to this free lecture, open to the public. All visitors to the Lab age 16 and over must bring a photo I.D.

Honoring Flag Day, 6/13

 ${f F}^{
m lag}$ Day, a date set aside by an act of Congress to honor the birth of a precious national symbol of the U.S., falls annually on June 14. The flag may be flown daily or on holidays. One portion of flag etiquette states: "When a flag is so worn that it is no longer fit to serve as a symbol of our country, it should be destroyed in a dignified manner."

you have a flag that falls into this category, bring it to Berkner Hall on Friday, June 13, 11 a.m. -1 p.m. It will be collected

> for proper disposal. The BVA, a BERA organization, is dedicated to serving the interests of BNL Veterans and employees who are faced with the challenges of their loved ones currently serving in the military, and to their communities. For more information, go to: www.bnl.gov/bera/activities/va/default.asp.

CIGNA Representative Is Ready to Help

A CIGNA Healthcare representative is available in Human Resources, Bldg. 400, or by phone, to assist with claims you have been unable to resolve yourself through CIGNA's Customer Service number (1-800-CIGNA24). Mary Beth Kivlen will be available by appointment only. You will need to provide all pertinent documentation. To schedule, call the Benefits Office, Ext. 5126.

In honor of Flag Day, the Brookhaven Veterans Association (BVA) will collect American Flags that are too worn. If

Join a BERA Trip!

Buy tickets at the BERA Store, Berkner Hall, Bldg. 488, Ext. 3347, weekdays, 9 a.m.-3 p.m. Trips leave from the Brookhaven Center.

- Young Frankenstein on Broadway, Hilton Theatre, 213 West 42nd St., 3 p.m., Sun., 6/29. \$145/person. 40 orchestra seats available. Bus leaves BNL 10 a.m., leaves city about 5:30 p.m. Recommended for 10 years & older.
- Circle Line Cruise of New York City, plus "Do-As-You-Please" time in NYC. Sun., 7/13. Bus leaves BNL at 9 a.m., leaves NYC at 5:30 p.m. Two-hour cruise begins 11:30 a.m.,

\$28/person, 55 ticketsavailable. Sail down the Hudson, around the Battery, up the East River, and under the Brooklyn, Manhattan and Williamsburg Bridges to the United Nations and back. Then, free time.

- Atlantic City, Sat., 7/26. Boardwalk casino. Leave BNL 9 a.m., leave city 8 p.m. Adults only, 18 and over. \$25/person. 53 seats.
- Wildwater Kingdom, Dorney Park, PA. Fri., 8/1. \$35/ adult or child. Leave BNL 7 a.m., leave PA 6 p.m. 55 seats.
- Boston overnight trip. Sightseeing tour of Boston, Sat. & Sun., 8/9 & 10. \$280/person double, \$255/person triple, \$230/person

quadruple. Includes Port Jeff ferry, coach, Duck Boat tour, lodging at 1927 Boston Park Plaza Hotel, lunch at Vinnie T's, breakfast at hotel, allday City View Trolley ticket. Nonrefundable \$50/person deposit due immediately, all payment by 7/11.

- Renaissance Faire, Sterling Forrest, Tuxedo, NY. Sat., 8/23. \$20/ person for coach, entrance. Leave Lab 9 a.m., leave Faire 5 p.m.
- US Open, Tues., 9/2, (not a Lab holiday). \$58/person for ticket & coach. Leave BNL 8:30 a.m., leave stadium 7:30 p.m. Section 311 & 312, upper promenade level.
- New York City Dinner Cruise — To be rescheduled.

Arrivals & Departures – Arrivals –

Ashima Bagaria	Biology
Laura Barrio Pliego	Chemistry
Kieran Boyle	Physics
Nora Detweiler	CEGPA
Rolf Lageraaen	Fiscal
Chuan Miao	Physics
Paul Moskal	Dpty. Dir. Ops
Qun Shen	
Jonathan Skone	Chemistry
Marie Thomas	Chemistry

- Departures -

3arbara Blenn	CEGPA
George Dioguardo	PPM
Jeonghoon Lee	Env. Sci.
Joan Smith	ITD

Classified Advertisements

To apply for a position, go to www.bnl. gov. Select "Careers at Brookhaven" then "Employment Opportunities."

OPEN RECRUITMENT - Opportunities for Lab employees and outside candidates. POSTDOCTORAL RESEARCH ASSO-CIATE - Requires a Ph.D. in chemistry, chemical engineering or physics. Previous experience in the characterization of heterogeneous catalysts and in the techniques used in surface science is desired. The successful candidate will participate in studies of the structural, electronic and chemical properties of metal and oxide surfaces. A substantial part of the experiments will be carried out at beamlines of the NSLS: UV floor (photoemission) and x-ray floor (high surface area catalysts. XRD and XAFS). Under the direction of J. Rodriguez, Chemistry Department. Apply to Job ID# 14503.

SR. RESEARCH ENGINEER (P-10) (reposting) - Requires an advanced degree or equivalent capabilities in electrical engineering or physics and fifteen (15) years of expert engineering experience in the design and analysis of highly complex RF systems. The position will entail the comprehensive design and analysis of particle accelerator RF system architecture and the evaluation of alternative approaches. The candidate must apply leading-edge engineering principles and demonstrate expertise with system analysis tools such as Pspice or MatLAB and electromagnetic field solvers such as Superfish, Microwave Studio and CLANS in the design of subsystems including up/down conversion from IF to RF frequencies, beam phase measurement, high speed digital communication links to the control system and RF cavities. Expert knowledge in the use of test and measurement equipment, in particular network and spectrum analyzers is required. Excellent communication skills and the ability to solve the most challenging engineering problems as well as the development of comprehensive technical designs and procedures are also required. Experience with high speed digital and RF signal processing analysis and modeling is required. Experi-ence with high power RF vacuum tube amplifiers and their associated high-voltage power supplies is highly desirable. Responsibilities for this position include the development of highly innovative approaches and techniques in the analysis, design and commissioning of a broad range of RF systems for NSLS-II including S-band linac, 500MHz normal and super-conducting cavities powered from 80 to 300kW CW inductive-output-tube (IOT) and klystron amplifiers and a passive 1500MHz superconducting cavity and their associated RF/beam control systems. The selected candidate is expected to take the technical lead of a major subsystem such as the master os-cillator distribution system, turn-key LINAC, booster RF system or Landau cavity and will work closely with the electrical and mechanical engineering groups in the integration of the RF system into the accelerator complex. National Synchrotron Light Source-II. Apply to Job ID# 4305.

ELECTRICAL ENGINEER/DIAGNOSTICS & INSTRUMENTATION (P-9/P-10) - Requires a bachelor's degree in Electrical/Electronics Engineering and a minimum of 10 - 15 years of expert engineering experience in analog and digital signal processing and in the design, development and operation of accelerator beam position monitors and other beam diagnostic instrumentation. Excellent written and verbal communication and good interpersonal skills are required to interact with a diverse group of scientists and technical staff. Responsibilities for this position include the application of leading-edge engineering principals and highly innovative approaches and techniques in the analysis, design and commissioning of a broad range of diagnostics and instrumentation systems for NSLS-II. Additional responsibilities include the preparation of specifications and procurement in a variety of diagnostics projects, as well as directing technicians during all phases of construction, commissioning and operation of the NSLS-II beam diagnostics systems. Reports to the Group Leader, Diagnostics and Instrumentation, National Synchrotron Light Source II. ERAP eligible - \$1,000.00. Apply to Job ID# 14501. CONSTRUCTION SAFETY OFFICER/ PROJECT ENGINEER I (P-9) - Requires a bachelor's degree in safety management or related field, and a minimum of ten years' progressively responsible related work experience in construction safety programs. Broad knowledge of OSHA regulatory requirements and experience in developing and implementing programs related to Confined Space, LOTO, structural steel erection, roof work, exterior architectural work, rigging/materials handling safety, implementing a fall protection program and excavation safety is required. Broad knowledge of proper construction safety work practices, tool usage, and equipment operations is also required. Certification as a Safety Professional is highly desired. Will develop, implement and administer the NSLS-II Conventional and Technical Construction Safety Program, including plans, goals and strategies for improved safety performance at the construction site.

Responsibilities will include auditing the contractor's implementation of safety programs and compliance; analyzing construction site safety performance and participating in investigations. Will provide subject matter expertise and direction on: health and safety best practices, regulatory issues, interpretations of standards and codes, and incident investigations. National Synchrotron Light Source Il Project. ERAP eligible \$1000.00. Apply to Job # 14505

QUALITY ENGINEER- (P-7) - Requires a bachelor's degree in engineering or related discipline and 7+ years experience as a Quality Engineer in an engineering and manufacturing environment; excel-lent written and oral communication skills; ability to provide high quality reports and presentations; excellent interpersonal skills and the ability to interact effectively with a diverse group of scientific, engineering, and technical staff; working knowledge of QA systems and implementation, as well as engineering drawings and manufacturing processes. Familiarity with procurement processes and experience dealing with suppliers is required. Responsibilities include the generation, implementation, and maintenance of QA systems and procedures, including design control, process control, discrepancy reporting, calibration, and receiving inspection. Will specify and enforce supplier quality requirements, perform pre-award surveys and surveillance, and ensure corrective actions as needed. Will perform internal QA audits and provide support for external audits of the project. Reports to the Quality Assurance Manager, National Synchrotron Light Source II Project. ERAP eligible \$1,000.00. Apply to Job ID# 14504.

ELECTRONIC TECHNICIAN/TECHNICAL ASSOCIATE I (T-5) (Reposting) - Requires an AAS degree in electrical engineering technology or equivalent experience, plus at least eight (8) years of relevant work experience performing complex and difficult assignments. Primary role will consist of testing, installation and commissioning of NSLS-II facility beam instrumentation such as beam position monitor & current monitors. Must consistently show a high degree of initiative and judgment when solving technical problems and have extensive experience in building, repairing and troubleshooting analog/digital diagnostic and instrumentation equipment. Must have in-depth experience in the use of test and measurement equipment such as function generators, oscilloscopes, multi-meters, and spectrum analyzers. Machine shop skills are a plus. The candidate will also have responsibility to maintain quality, calibration and test log of all instrumentation systems. The selected candidate must be self motivated and have good communication skills. Reports to the Accelerator Diagnostics & Instrumentation Group Leader, National Synchrotron Light Source II Project. ERAP eligible - \$1,000.00. Apply to Job ID# 14377.

ELECTRO-MECHANICAL TECHNICIAN (T-4) - Requires an AAS degree in electromechanical technology and a minimum of six (6) years of relevant experience in the use of electro-mechanical equipment. Requires a high degree of initiative and judgment, and must be able to plan, coordinate and perform technical assignments. Strong background and demonstrated competence in assembly, installation and maintenance of mechan cal devices and subsystems required. Previous experience in an accelerator or a light source facility; extensive experience in the use of machine shop tools; experience in working with cryogenic systems; and working knowledge of PC software such as Autocad, Inventor, Word and Excel is highly desirable. Under general technical direction and with considerable latitude for the exercise of a high degree of initiative and judgment, will act as lead technician on the girder support system, vibration and thermal measurements, and laser-tracker based survey and alignment projects, as well as vacuum chamber fabrication and testing. Will direct the work of other technicians as required. Reports to the Mechanical Engineering Group Leader, National Syn-chrotron Light Source-II. ERAP eligible -\$1,000.00. Apply to Job ID# 14502. CUSTOMER SUPPORT ANALYST (I-4) Requires a bachelor's degree or equivalent work experience, good organization and communication skills, and 0-1 years experience in an information technology field. Candidate must operate well in a team environment, and must have working knowledge of Microsoft Windows 2000/XP/Vista operating systems, PC hardware and general software support. MCP/MCSA certification a plus. Valid Drivers license is required for occasional driving on-site for system pickup and delivery. Must be able to lift 30 lbs. Responsibilities include troubleshooting desktop applications, Group Policy and SMS client issues and Windows Updates, as well as performing hard drive sanitization. Additional responsibilities include running and monitoring application/job events, printing and collating timecards/statements, and maintaining printer forms inventory. Information Technology Division. Apply to Job ID# 14499.

Motor Vehicles

06 SUZUKI GSX1300R HAYABUSA - Ltd ed, pearl white, mint cond., tsukigi titanium exh. 2500 mi. \$8,500/neg. 702-3402. 05 HARLEY DVDSN FATBOY - Built be HD, PM 240 Phatail, PM whls, driv side brk, 19" frt, Carlini bars, 2,300 mi. \$21,500. 804-5842. 96 HONDA CIVIC EX - gd. gas mi., dk gr., 4 dr., a/t, a/c, rem. start, m/roof, alarm, mnr dings. 171K mi. \$3,200/neg. 751-1224. CAR TOP CARRIER - 18 cub. ft., VWBug

rack & cargo box. 7.5'l, 2'w, locks hinge opens 2 ways, ask/\$390. 765-4147. TOW BAR - 3500 lbs. capacity w/2" ball hitch and safety chains, non-adjustable, ask/\$20. Peter, Ext. 5551

Boats & Marine Supplies

22' PROSPORTS CNTR CONSOLE - '03, 225 HP Suzuki outbrd., color gps, head-in console, fg t-top, live well. \$15,000. 553-2477. 23' COLEMAN CARAVAN - unopened, 27' extended, orig. owner, pd/\$18K in '02. \$9,700. 821-8347.

23' SEA SPRITE CUDDY CABIN - '88, 3.7L FW coold, rebit carb., out drive is 3 yr old, new top. \$1,900/neg. 727-4417. 25' CATALINA SAILBOAT - '80, swing keel/pop top, main, jib, storm jib, 150 Genoa. '94 9.9 Tohatsu, \$2,500, Ext. 3434. BOAT ANCHOR - Mushroom for sm. boat

\$10. Peter, Ext. 5551. Furnishings & Appliances AIR CONDITIONER - Sharp, for window, gd. working cond. SR, Ext. 6236.

DRYER - elec., Maytag, Neptune; excel. cond. \$250. Ext. 3313 or 289-4552. DRYER - Roper elec., XL capacity, gd. cond., b/o. Gregory, Ext. 7810. KITCHEN CART - w/wheels, white tile top over white/natural wood cabinet on casters, 24w x 18d x 33h, \$40. 878-9020. KITCHEN SET - High bar style, 6 chairs still in plastic, 1-leaf, lazy susan incl., pics avail., ask/\$700. Jeanne, 758-6731. RANGE - Tappan freestanding elect, coil

stove, b/o. Gregory, Ext. 7810. TV - SONY, 32" Trinitron, \$250; Entertain Center, 68"w x 28"d x 31"h, white, low luster, formica finish, \$350. 874-3606.

Audio, Video & Computers

NINTENDO WII GAME - Mario Party 8, orig/\$50, ask/\$40. Ext. 8709. PLAY STATION 2 - Newer Play Station 2 w/mem card, manuals, all cords, games, \$100. Patrick, Ext. 3664

Sports, Hobbies & Pets

CAMPING ITEMS - 2 boxes various camper parts and supplies, clearance lights, etc., ask/\$20. Ext. 5551. CHILD BACK CARRIER - Tough Traveler Colt, for child up to 40lbs, excel. cond.,

\$75. Steven, Ext. 7862. COLEMAN POP-UP TRAILER - '83, slps 6, stove, sink, storage, needs new tires, 1600 lbs., ask/\$800. Ext. 2716 or 878-2425. GOLF CLUBS - left-handed, complete set, driver thru pitching wedge plus bag, gd. cond., ask/\$125. Joseph, 758-2938. KAYAK PADDLE - LL Bean, \$20; Travel Scrabble, \$5; Pole, fishing, short, Surf rod, medium action, w/reel #36, \$15. Ext. 7647.

NOK HOCKEY CHAMP - game board, need puck, paddles, \$5; Triv. Prsuit 20th Anniv, \$5; horseshoe set w/case, \$15. Ext. 7647.

Tools, House & Garden

DEHUMIDIFIER - \$20. Shane, 345-0063. SPRINKLER PUMP - 2h.p. sprinkler water pump excel. cond., like new, \$100. Michael, Ext. 5262 or 284-2277. TOOLBOX - Rubbermaid, for full size P/V truck, \$20. Shane, 345-0063.

Miscellaneous

DON'T WAIT, SELL NOW - buying all gold/silver/coins and antique jewelry, licensed by Suffolk County Consumer Affairs 392-0103

I AWN SPRINKLERS - install, rotor, sprays, poly and pipe. Michael,284-2277. SINGER SEWING MACHINE - antique, in wood cabinet, excel. running cond., \$30. Susan, Ext. 4298 or 928-7893. TREADMILL - Sears Pro-Form Crosswalk 375E t/mill w/mtce contract thru 10/09, \$200. Pick up in Middle Island. Ext. 2746.

Yard & Garage Sales

Disaster Relief: Support Two Benefit Events, 6/7, 6/12

 ${
m A}^{
m ll}$ are invited to attend two benefit events: a cultural concert on Saturday, June 7, and an international lunch on Thursday, June 12, for victims of the cyclone in Myanmar and the earthquake in China. The BNL Relief Fund, which BSA will match up to \$25,000, will receive 100 percent of the proceeds of these events.

BNL Cultural Concert Tomorrow, Saturday, 6/7

Come to Berkner Hall tomorrow night, Saturday, June 7, 7-9 p.m., for an evening of international music and dance to raise funds for those affected by the cyclone in Myanmar and the earthquake in China. Enjoy performances by fellow BNL employees, community groups such as The Center for Chinese Learning at Stony Brook and the Qian Jin Foundation, Inc., and student groups from Commack, Hauppauge, Longwood, Miller Place, Mount Sinai, Port Jefferson, Shoreham-Wading River, Southampton. and Ward Melville school districts.

All are invited to attend this event, which is open to the public. Attendees of 16 and over must bring a photo ID. Purchase tickets in advance for \$12/person or \$30/family at the BERA store, or by contacting Beth Lin at bylin@bnl.gov or Ext. 3372. Tickets will cost \$15/ person, \$37/family at the door.

International Lunch for 80: Thursday, 6/12

Experience different dishes from all over the world in the Recreation Hall from noon to 1:30 p.m. and help provide disaster relief for people affected by the cyclone in Myanmar and the earthquake in China. International dishes will be provided by BNL employees and donated by local restaurants. Admission to this food-tasting event is limited to the first 80 attendees and costs \$15 per person which can be paid for at the door.

LI Hospitals Need Blood **BNL Blood Drive**, 6/17 & 18

See schedule to donate at www.bnl.gov/HR/BloodDrive

ith major blood shortages V on Long Island, donors are needed for the upcoming BNL Blood Drive, on Tuesday and Wednesday, June 17 and 18, 9:30 a.m.-3 p.m.

First-time donor and BNL employee Mindy Markstaller of the Safeguards and Security Division is eager to roll up her sleeve and pitch in. She knows through firsthand experience that giving blood can save others' lives. She said, "My family members have needed blood in the past," recalling a brother who once received blood after suffering third degree burns. "This is my way of giving back and I really consider it an honor."

Louie Nieves, of the Information Technology Division, is no stranger to the blood-donating procedure. Nieves began donating blood while serving in the Coast Guard in 1978. Although he does not know exactly how many people have received his blood, Nieves has donated more than 60 times and will donate again on June 17 without hesitation.

"There are people out there that need blood. to better their lives or to continue their lives," he said. "I'm going to try to help them out."

For first-timers who are ap-



isfaction in knowing you have done a good deed."

As Markstaller and Nieves both know, less than one pint of blood could help save as many as three people's lives. According to Long Island Blood Center, hospitals on the island require nearly 800 pints of blood per day, while only 2 percent of the population donates each vear.

The BNL Blood Drive will be held in the Brookhaven Center. Donors must be 16 to 75 years of age, in good health, and weigh more than 110 lbs. Restrictions may apply to individuals from the United Kingdom and Europe. Donors must bring photo identification and know their social security number. For more information, call prehensive about the experi- Liz Gilbert, Ext. 2315, or go to www.bnl.gov/HR/BloodDrive. – Joe Gettler

ROOKHAVEN H Sat., June 7; Chimney Court off Andiron, tools, garden equip., household items, bikes. Ext. 3830. GARAGE SALE - North Babylon, 5/31, 9-4pm, rain date 6/1; 124 Parkdale Dr., 2 blocks north of SSP, rte. 231. 661-3368.

Happenings

MUSIC ALUMNI CONCERT - 5th Annual William Floyd Music Alumni Concert, June 7 @ 2 pm @ Mastics, Moriches, Shirley Library. Jeffrey, Ext. 5587. TEA PARTY - St Andrews Episcopal Church Sat. May 31, 2 to 4 pm tickets \$10, Neighborhood Rd. 281-9133.

Free

AUDIO TAPES - 71 cass., mostly country music. Peter, Ext. 5551.

HOT WATER HEATER - gas, 30 gal. Ext. 3884. KITTENS - adorable, need gd. home, Please help! Mary, Ext. 3927.

Wanted

EXTERMINATOR - need Bees moved out of house. Michael, Ext. 8612.

ence, he added, "It doesn't hurt and there's personal sat-

HANDBAGS - Girl Scouts Silver Award project collecting new or gently used bags to be donated for auction to benefit Breast Cancer. Darlene, Ext. 5191. WATCHES - Got old broken watches? I will take them off your hands for free, send to Bldg 815E. Judy, Ext. 4538.

For Rent

BAREFOOT BAY, FL - beautiful retirement community w/18 hole golf course, tennis courts, pools, etc., 2 bdrm, 2 bath home avail. for the season, \$1,500/mo. \$1,600/ mo. Lewis. 770-786-4609.

BROOKHAVEN HAMLET - rm. in charming house on acre incl. all util., kit., w/d. cable, lovely terraced yd. w/BBQ, very quiet area. \$485/mo. Sidney, 286-4028. BROOKHAVEN HAMLET - Studio apt. in house in lovely, quiet area, <10 mi. to Lab, pvt. ent., deck; avail. now, \$875/mo. incl. util. \$875/mo. 776-9091.

HARRISONBURG, VA - Eagle Trace Timeshare. Townhouse sleeps 6, waterpark on site, golf, etc.; www.massresort.com and see resort and all other activites, 7/26-8/2 \$550/wk. Linda, Ext. 3750 or 672-4141.

HAUPPAUGE - 1 bdrm, apt., separate //r. no smkg/pets, incl. all. \$900/mo. Dawn, 516-810-9424.

ROCKY POINT - 1 bdrm. cottage, walk to beach, 15 min, to BNL, no pets, 1 mo sec., plus util. \$1,000/mo. 744-5282.

SHOREHAM - brand new, 1 bdrm, garden apt, 1st flr, indep. ent/drway., full bath, kit, I/r. cac. no smka/pets, few mi, to BNL, 1 month sec., util. not incl. \$1,150/mo. Ext. 3842 or 833-8374.

SAN IGNACIO, BELIZE - 3 bdrm, house, 2 full bath,I/r, kit., excel. location/view in mountains, close by 2 rivers. \$800/wk. Joseph, Ext. 4669 or 399-4169.

Bulletin

Published weekly by the Media & Communications Office for the employees, facility users, and retirees of Brookhaven National Laboratory.

Liz Seubert, editor John Galvin, reporter Roger Stoutenburgh, photographer OntheWeb, the Bulletinis located at www. bnl.gov/bnlweb/pubaf/bulletin.html. A calendar listing scientific and technical seminars and lectures is found at www. bnl.gov/bnlweb/pubaf/calendar.html.

Bldg. 134, P.O. Box 5000 Upton, NY 11973-5000 phone: (631) 344-2345 fax: (631) 344-3368 e-mail: bulletin@bnl.gov