Microgrid Allows Simultaneous Study of Multiple Variables
Could improve understanding, diagnosis of Alzheimer’s and other diseases

Scientists at BNL have developed a method for correlating the results of microscopic imaging techniques in a way that could lead to improved understanding, diagnosis, and possibly treatment of a variety of disease conditions, including Alzheimer’s disease. The project, conducted at the National Synchrotron Light Source Department (NSLS), was funded by the National Institutes of Health, with operational support for the NSLS provided by the Office of Basic Energy Sciences within DOE’s Office of Science. The Lab has filed a U.S. provisional patent application for the invention.

The invention is essentially a micron-scale metallic marking grid upon which scientists place their samples — biological tissues or inorganic samples such as minerals — prior to imaging using different methods.

“When the findings are analyzed, the grid can be used to ‘map,’ or orient, the images up to another, allowing us to study multiple variables in a single sample and better understand how they relate to one another,” said Lisa Miller of the NSLS, leader of the team of Don Elliott, Instrumentation Division; Randy Smith, National Synchrotron Light Source II; Vladimir Blaskiewicz, National Synchrotron Light Source Department; and Zhe Zhong, National Synchrotron Light Source.

More on the Microgrid
Many diseases, such as Alzheimer’s, are characterized by changes in both organic materials, such as proteins, as well as changes in the composition or concentration of inorganic tracts (e.g., iron, copper, and zinc). Scientists have techniques — infrared spectroscopy and x-ray fluorescence — for imaging the results of microscopic experiments to characterize the organic and inorganic components that can be missed.

“The x-ray and infrared-sensitive grid allows for the study of both pathological symptoms by precisely overlapping the results of these imaging methods,” Miller said. “This ability to correlate images will ultimately lead to a more complete picture of many disease states.”

Six BNL Scientists Awarded Tenure

Brookhaven Science Associates (BSA) granted tenure effective August 1 to: Scott Berg, Physics Department; Dan Fu, Biology Department; Timur Shaftan, National Synchrotron Light Source II; Vladimir Blaskiewicz, National Synchrotron Light Source Department; Fillingham Videbaek, Physics; and Zhe Zhong, Physics. Fu was featured in the Bulletin of 11/2/07. Articles on Shaftan and Videbaek appear at right.

Timur Shaftan
Timur Shaftan, a physicist in National Synchrotron Light Source (NSLS) II, won tenure for his outstanding research on electron beams in accelerators for synchrotron radiation and free-electron laser sources and significant contributions to the development of the Deep Ultraviolet Free-Electron Laser (DUV-FEL) and the conceptual design report for NSLS-II.

“Timur has made significant contributions to accelerator physics, particularly in developing synchrotron radiation and free-electron laser sources. He is widely recognized in the community as one of the top scientists of his generation in his area of research,” said Chu-Chang Kao, NSLS Chair. “His broad knowledge and exceptional ability have had an important impact on accelerator projects at the Lab, and he is playing a critical role in developing accelerator systems for NSLS-II.”

Shaftan received his Ph.D. in physics from the Budker Institute of Nuclear Physics, Novosibirsk, in 1997. His Ph.D. thesis was dedicated to experiments with a single electron in a storage ring. In 2000, he became a research associate at the NSLS, working at the Accelerator Test Facility, where he suggested and developed an interferometer that demonstrated the high temporal coherence of the High-Gain Harmonic Generation (HGHG) FEL output. He also developed an infrared detector, the Liquid Crystal Camera that is of great interest for industrial applications.

In 2001, he joined the NSLS II, and he continued his research. As part of the DUV-FEL team, he played a key role in the successful generation of the saturated output from the HGHG FEL in 2003. He also designed experiments to characterize effects in high-brightness electron beams that he, with Zhong Huang of Stanford Linear Accelerator Center, then showed to be caused by the longitudinal space charge. At DUV-FEL he also thought of a way, which he and BNL’s Li-Hua Yu later proved experimentally, of making short-wavelength seed FELs continuously tunable without tuning the wavelength of the seed laser. Currently, he leads the development of the NSLS-II injection system.

Flemming Videbaek
Physicist Flemming Videbaek was awarded tenure for his seminal contributions to the Relativistic Heavy Ion Collider (RHIC) and for his leadership from its inception of the BRAHMS experiment.

“Under Videbaek’s leadership, BRAHMS has been a full partner — along with PHENIX, PHOBOS, and STAR — in the remarkable exploration of a new realm of nuclear matter whose scientific impact has been well documented not only in scholarly journals but in the popular media as well,” said Physics Department Chair Thomas J. E. I. Holland, Manager, Brookhaven Site Office, and Charles Dimino, BNL.

Nuclear Safety Regulatory Group Meets at Brookhaven Lab

From October 16-18, BNL hosted the fall 2007 meeting of the Energy Facility Contractors Group (EFCOG) Price-Anderson Amendments Act (PAAA) Working Group. The group’s main purpose is to promote excellence through the active exchange of programs, practices, procedures, lessons learned, and other information. Historically, the primary focus of the EFCOG PAAA Working Group has been on radiological safety regulatory activities, but new federal regulations covering security of classified information and worker safety & health have resulted in significant changes to the scope and structure of both the DOE Office of Enforcement and the working group.

The meeting included talks on lessons learned from recent DOE enforcement actions, screening and reporting of worker safety & health, and security & safety. On Monday, the new Director of the DOE Office of Enforcement, Don C. Guera, the new Director of the DOE Office of Enforcement. It was organized and coordinated by Charles Dimino, BNL’s PAAA Coordinator, and Peggy Sparrrow of BNL’s Internal Audit & Oversight Office.

Participants in the meeting held at BNL for the Energy Facility Contractors Group (EFCOG) Price-Anderson Amendments Act (PAAA) Working Group included: (from left) Arnold Guera, Director, DOE Office of Enforcement; Dean Gibbs, BNL Deputy Director for Science & Technology; Martha Tomlinson, Deputy Director, DOE Office of Science; Charles Dimino, BNL...
Then & Now — Getting to Know Others at BNL

Meet Maggie Rando

Maggie Rando, known to many as “Main Gate Maggie,” greets almost every visitor to the Lab. Rando, who works in the trailer at the Lab’s main gate, is responsible for following up on U.O. DOE and Lab procedures relating to site visitors. She processes main gate access forms, checks identification, and completes necessary forms for all visitors, with special attention to foreign nationals.

Sydney Thompson

Research Chemist Sydney Thompson was featured in the March-April, 1948, Issue of Isis, where she described her main research interests, including one for three years in the Manhattan Project. He joined BNL on June 1, 1947, and in 1948 was using the use of radioactive tracer elements in chemical processes.

Fred Crozier

Fred Crozier, Inspector of Police for the Manhattan District, was one of the earliest employees at BNL. In September 1946 to organize the BNL Police Department in preparation for new jobs.

Olga Varo

Olga Varo, an administrative aide in the Fiscal Office who was responsible for supervising payroll preparation, spoke, read and wrote French, Italian, Spanish, and German. As reported in the September/October 1948 Isotopes, she attended James Monroe High School in New York City, and later graduated from Hunter College. After teaching languages in high school, she was employed in the Fiscal Department of the Manhattan District. In her spare time, she played piano, taught by her father, a professional musician, and she was also interested in art and craft activities.

Coming Up, Wednesday, 12/12

• BSA Noon Recital, Opera Excerpts
  Noon. Berkner Hall, Stony Brook Opera will present excerpts from Bellini’s opera Capriccio. Includes "I Capuleti ed i Montecchi." A quick scan of Isotopics, the Lab’s first newspaper, shows that Thompson was also acing woodworking and making educational toys, and he was a keen student of historiography. Thompson was also active within the series at www.bnl.gov/today/EmployeeProfiles.asp.

Dave Rahm Fest, 12/18

All are invited to an 80th Birthday Fest on Tuesday, 12/18, in the Physics Department, to honor David Rahm. A symposium will begin at 2 p.m. in the Large Seminar Room, to include lectures and discussions about other BNLers’ work and hobbies have proven popular, and a new homepage, “Employee Profiles,” has begun, with “Main-gate Maggie,” or Maggie Rando of the Safety & Security Division (see story at right) as the first star of the show. Already, six other stories on BNlers of interest are archived in the series at www.bnl.gov/today/EmployeeProfiles.asp.

Meet Maggie Rando

Rando loves her job. “Every day is diverse,” she said. “I’ve met many different people from around the world. Besides many employees, I’ve also met elected officials, contractors, and scientists coming to the Lab with their families to start new jobs.”

During the Bulletin’s interview with Rando, a truck driver entered the trailer and said he was from the Kiwanis organization and had come to pick up a car that Rando was donating to them.

Rando checked her computer and found that the employee had not signed an online access gate form, but that did not stop her from getting the job done. She called the employee, who confirmed he was donating a car to the Kiwanis. Since no access form had been submitted, Rando called one of the police officers to escort the truck driver to the appropriate Lab location. All of this was done in a flash and all parties left happy. It is interesting to watch Rando in action and get a better understanding of her job and how she does it. Rando stresses, however, that employees should not assume that main gate access forms are unnecessary. Visits to the Lab go much more smoothly if employees follow procedures.

“There are occasions when a visitor does not gain access to the site. We need to remember that after the tragedy on 9-11, these procedures at the Lab’s main gate to pique, is useful for following up on the planning for eRHIC, as well as

Tenure: Flemming Videbaek

the future program at RHIC. Two BRAHMS papers are among the most highly cited ever in experimental nuclear physics. "Videbaek is clearly an internationally recognized scientific leader in nuclear physics," Ludlam said.

Videbaek earned his Ph.D. from the University of Copenhagen in 1974, continuing at the Niels Bohr Institute there as assistant and then tenured associate professor. From 1985 he worked at Argonne National Laboratory until joining BNL in 1989. He has held adjunct and guest appointments at institutions such as Kansas University, Argonne, and Massachusetts Institute of Technology. Though the BRAHMS experiment completed its data collection in June 2006, Videbaek continues to lead the collaborations and serve as its spokesperson as it completes data analysis. Since 2004, he has also been group leader in Brookhaven’s Heavy Ion Research Group. In this role he has now taken on additional leadership responsibilities for future research at RHIC with STAR, RHIC II, and the planning for dBCP, as well as in the heavy ion program with the ATLAS collaboration at the Large Hadron Collider.

— Karen McNulty Walsh

Service Anniversaries

The following employees celebrated service anniversaries during September 2007.

40 Years

- Hans Abendroth ......................... CADE
- Charles Nelson ......................... NSLS

35 Years

- Alexander Pendleton ................. CADE

30 Years

- John Hausser ......................... Dr.’s Office
- Harold Kirk .................. Communications
- Richard Savoy ....................... Cent. Fab.
- Peter De Toll ................ NSLS
- Peter Schnitzleinbauer .......... CADE

25 Years

- Ahovi Koppo ......................... CADE
- Dolly Johnson ..................... Plant Eng.
- Barbara Pierce ................... Plant Eng.
- Thomas Lawton ................... Biology

20 Years

- Troy Mayo ......................... Plant Eng.
- Patricia Corten ............... Plant Eng.
- Robert DeAngeli .......... Plant Eng.
- Joann Giambalvo .......... Staff Serv.
- Robert Cheniel .............. NSLS
- John Walsh .................... Instrum.
- John Cozzolino ......... Magnet
- Robert Collick .............. Library
- Dennis Haag ........... Plant Eng.
- David Winchell .......... E&ST
- Sandra Harris .......... Staff Services
- Maureen Fazzio ..... Bus. Sys./Sls.
- Dorothy Leverett ....... Phys. Chemistry
- James Cassidy, Jr. .... Plant Eng.
- Razvan Popescu .......... Phys. License

10 Years

- Joann Giambalvo .......... Staff Serv.
- David Winchell .......... E&ST

The following employees celebrated a service anniversary since September 2007.

35 Years

- Peter Bond ................. De’os Office
- Craig Thorn .............. Physics
- Michael Creutz .......... Physics
- Serbian Protopopescu .... Physics
- Harold Kirk ..................... Physics

30 Years

- Sheryl Golden .............. Env. Pastor.
- Kevin Kubus ............. Plant Eng.
- Marilyn Zane .......... Facics. & Ops.
- Mark Sardisimini ........ CADE
- Peter Bond ................. Plant Bd.
- Susan Foster ............... HRM
- Jean Logan ................. Medical

25 Years

- Albion Borrelli .......... NSLS
- John Maller .............. Env. Bd.
- Jerry Gaeta ............... CEPA
- Robert Sikora ................. CADE
- Donald Tarrant ........ Planing.
- Peter Bonetti .......... CEPA
- Donna Dowling .......... HRM

20 Years

- James Wajda .......... Chemistry
- Joseph Braverman ........ E&ST
- Nora Volokh ................. De’s Office
- Katherine Orta ................. OM
- Lonny Berman ............... NSLS
- Arthur Schultz ............... Plant
- Vincent Bonafede .......... TD
- Michael Furey .......... Plant
- Sheryl Golden .......... Planing.
- Christopher Weaver .......... TD
- Patricia Yalden .......... HRM

10 Years

- Yvonne Chalashev .......... CFN
- Achim Franz .......... Physics
- Jeffery Landgraf .......... Physics
- Vitalij Rostanjoff .......... S&RD
- Stephen Rinaldi .......... CEPA

CIGNA Representative

A CIGNA Healthcare representative is available as needed by Human Resources, Ext. 4887, or by phone to assist with claims issues you have been unable to resolve yourself through Brookhan’s Customer Service number (1-800-CIGNA24). Mary Beth Kellin will be available by appointment only. You will need to provide all pertinent documents to schedule, call the Benefits Office, Ext. 5126.
BNL's United Way Fund Drive Needs Your Support

This year's United Way Campaign Chair, Ken White of the Educational Programs (OEP), with Kathy Gurski, who works with White in OEP, urge BNLers to support this well-known and worthy cause.

Says White, "The United Way of Long Island is a proven, effective way to help local fami-
lies and individuals going through difficult times. The campaign slogan this year, "United We Care...United We Share," reflects the spirit of generosity for which the Lab is known. Together we can achieve our goal for supporting our local community through our combined con-
tributions.

The United Way of Long Island supports many service agencies that provide assistance to individuals and families who are undergoing sudden medical or economic hardships, or who have long-term need of support, for example, for a disabled child or an elderly relative.

This year's campaign will include raising funds through the return of pledge forms that have been sent to all employees. This year's goal — at least 500 pledge forms returned!

Pledge Forms Eligible for Air Tickets Drawing

To help support this effort, a new pledge incentive of round trip airline tickets for two with
continental U.S. compliments of Omega Travel, has been added. Pledge forms received between 11/13 and 12/9/07 will be entered for a drawing for this generous contribution.

Departments are asked to support the events that help the United Way (see below) and add your support! Also, other ways include helping to provide volunteer hours, giving books or goods for the yard sale, and attending the various events. Participating employees who volunteer hours at their own chosen place of service can earn that additional contribution.

Say White and Gurski, "We look forward to seeing you at the events. Have a wonderful holiday season as we help those in need. United We Care...United We Share."

Upcoming United Way Fundraiser Events

Through 12/31...Volunteer Work Program. Contact: Maria Beckman, Ext. 5463, beckman_m@bnl.gov; or Mary Campbell, Ext. 3927, maryc@bnl.gov.

12/5 & 6...Holiday Auction. Berker Hall, 11 a.m.-2 p.m. Contact: Linda Sinatra, Ext. 6042, sinatra@bnl.gov; Linda Jones, Ext. 5406, jones3@bnl.gov; Linda Hanlon, Ext. 7517, hanlonl@bnl.gov; Pam Yerry, Ext. 7774, yerryl@bnl.gov; or Don Farnam, Ext. 8248, farmanl@bnl.gov.

12/5 & 6...Yard Sale. Berker Hall, 11 a.m.-2 p.m. Contact: Christopher Johnson, Ext. 7636, johnsoncl@bnl.gov; or Denise Miness, Ext. 5875, minessl@bnl.gov.

12/6...Used Book Sale. Berker Hall, 11 a.m.-2 p.m. Contact: Kathy Lancaster, Ext. 7537, lancasterl@bnl.gov; Lakalo Collins, Ext. 3138, lasonal@bnl.gov.

12/14...Science Gift Wrapping. Rec. Hall, noon-3:30 p.m. Tickets, $10. Contact: Jennifer Lynch, Ext. 4894, lynchn@bnl.gov.

12/18-21...Holiday Gift Wrapping. Berker Hall, 11 a.m.-2 p.m. Bring your gifts to be wrapped for a small fee. (Gift paper & wrappings are provided.) Contact: Christine Carter, Ext. 5090, carterel@bnl.gov or if you are available or to make a donation.)

Also, see the BNL United Way website: http://intranet.bnl.gov/unitedway/.

**Buy Science-Based Gifts**

Sponsored by the English for Speakers of Other Languages (ESOL) Program, ESOL Tutor Sarah Assamagan will present photos of science-based gifts at the BERA Science Club Christmas Party. The class will be taught on Thursday, December 6, 7-9 p.m., in the Brookhaven Center South Room, 6 p.m.-9:15 p.m. The event is open to BNL, RSA, and DOE employees, family members, and their families. Attendees will be able to reserve and purchase the science-based gifts on three fri-
days: Dec. 7, 14, 21.

**Travelogue Café**

See notice at left.

**Social & Cultural Club Christmas Party**

The 20-piece "Bill Wilkinson & the Long Island Sound Orches-
stra" will perform at the North Ballroom of the Brookhaven Center recre-
tation Center, Bldg. 935 (previous-
ly called the Science Museum) on three Fridays: December 7, 14, and 21, noon-2 p.m. as an extra special feature to celebrate Christmas and the holiday season.

A half-hour beginner Swing dancing class will be given at 8 p.m. After the live performance, an extra hour of Ballroom, Latin, Swing, and Hustle dance will be played by a Digital DJ until midnight. The event is sponsored by the BERA Social Club and is open to the public; all visitors of age 16 and over must bring a photo ID. Tickets are sold at the BERA Store, at $25, if paid before 12/7; $30 by e-mail reservation, and $35 at the door, if available. Only 200 tickets will be sold. This event costs a gold hero buffet, cookies, refreshments, and the entertainment. ASAP members get a 50 percent discount to support Bette Allocco, Ext. 4753 or rudy@bnl.gov for more information.

**Buy Science-Based Gifts, 12/7, 14, 21**

The Science Learning Center Gift Shop has fun, unique science-based gifts for BNL employees, families, and guests to buy in the Science Learning Center (previously called the Science Museum), Bldg. 915, on three Fridays: December 7, 14, and 21, noon-2 p.m.
PROJECT ENGINEER/QUALITY ENGINEER/SAFETY ENGINEER - Requires a BS degree in engineering or a related discipline. Experience in engineering or a related discipline is desired. Knowledge of hydrometallurgy of metals in aqueous solution and experience with semiconductor materials is also desired. Experience with QA/QS systems, including ISO 9001 and NEQAS certification (CQAS, COQ) is a plus. Must have excellent interpersonal skills and the ability to work as part of a team in a fast-paced environment. Familiarity with MS Office systems and databases is required. Must possess strong people skills, excellent oral and written communication, and the ability to work as part of a team in a fast-paced environment. Experience with the National Strontium Laboratory (NIST) Strontium Stripping Process and serve as an Assistant Building Manager. Send resume to Position No. T6040.

POSTDOCTORAL RESEARCH ASSOCIATE - Requires a Ph.D. in a physical science or engineering discipline, with focus on spectroscopy used in the field of chemical processes, including design and construction of equipment and instruments. Send resume to Position No. PH4588.

ASSISTANT FISCAL OFFICER (M-5) - Requires a bachelor's degree in business administration and at least 5 years of related experience and ability in auditing financial control systems. Must have knowledge of Generally Accepted Accounting Principles (GAAP) and strong general ledger and internal controls. Send resume to Position No. PH7693.

ASSISTANT╓SOLS LEAD MEC-

HANICAL ENGINEER (P-10/P-9) - Requires a bachelor's degree in mechanical engineering and at least 10 years of experience in mechanical and/or electrical systems design. Position requires an understanding of codes and standards. Must have experience in design and construction of small facilities and systems. Send resume to Position No. N8547.

PROJECT ENGINEER/QUALITY ENGINEER/SAFETY ENGINEER - Requires a BS degree in engineering or a related discipline. Experience in engineering or a related discipline is desired. Knowledge of hydrometallurgy of metals in aqueous solution and experience with semiconductor materials is also desired. Experience with QA/QS systems, including ISO 9001 and NEQAS certification (CQAS, COQ) is a plus. Must have excellent interpersonal skills and the ability to work as part of a team in a fast-paced environment. Familiarity with MS Office systems and databases is required. Must possess strong people skills, excellent oral and written communication, and the ability to work as part of a team in a fast-paced environment. Experience with the National Strontium Laboratory (NIST) Strontium Stripping Process and serve as an Assistant Building Manager. Send resume to Position No. T6040.

POSTDOCTORAL RESEARCH ASSOCIATE - Requires a Ph.D. in a physical science or engineering discipline, with focus on spectroscopy used in the field of chemical processes, including design and construction of equipment and instruments. Send resume to Position No. PH4588.