

BNL, USB Study Shows Ritalin in Pill Form Is Safe, Non-Addictive for Kids With ADHD

New research on Ritalin, a drug prescribed to millions of American children with Attention Deficit Hyperactivity Disorder (ADHD), indicates that this medication is safe if taken in pill form for that therapeutic purpose.

The finding is reported in the October issue of the *American Journal of Psychiatry* by scientists from BNL and the State University of New York at Stony Brook (USB).

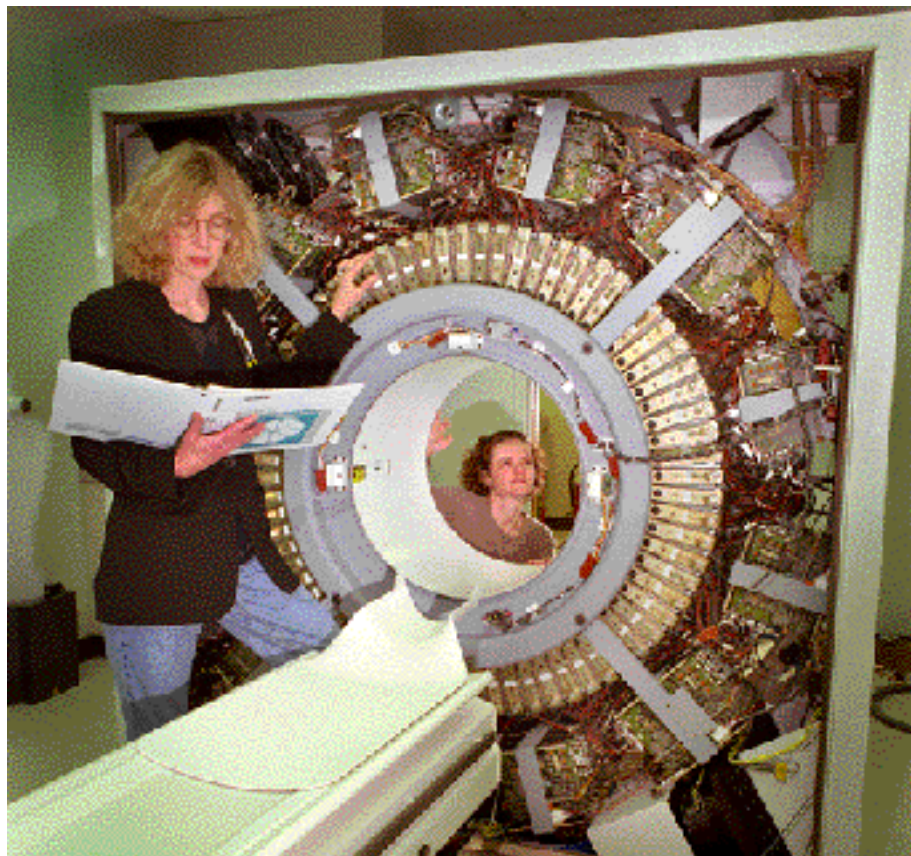
"This is reassuring news for the families who are struggling to deal with the behavioral problems that attention deficit hyperactivity disorder presents," said U.S. Secretary of Energy Bill Richardson (see last week's Bulletin). "I applaud the research team for their insight and perseverance in making this beneficial discovery."

"It is extremely important to clarify that different methods of taking a medication can alter its medicinal effects and can make it more or less dangerous in ways totally unrelated to its clinical indications," said Alan Leshner, Director of the National Institute on Drug Abuse, which jointly funded the research along with the Department of Energy's Office of Energy Research. "This research helps explain why Ritalin rarely leads to abuse and addiction when taken properly as a treatment for ADHD."

The Brookhaven and USB researchers were concerned by reports of Ritalin abuse, aware that thousands of teens and adults snort and inject it in order to get "high." The researchers showed that Ritalin in pill form is safe in therapeutic doses and that its effects are not sufficient to make children feel "high" or put them at risk of becoming addicted.

The Science of the Discovery

The research team made the first measurements ever of how the oral



Pictured by BNL's positron emission tomograph are two of the eight members of the Ritalin-study research team: Joanna Fowler (foreground) and Nora Volkow.

form of Ritalin, known chemically as methylphenidate, affects the human brain dopamine system, which is involved in the reinforcing and addictive effects of abused drugs. Using positron emission tomography (PET) and doses of Ritalin such as those given to children, the scientists imaged the brains of seven healthy young-adult volunteers and compared those images with those they had previously made of cocaine use in cocaine-abusers.

"This finding points out why Ritalin eases the symptoms of ADHD, without

putting children at risk," said psychiatrist Nora Volkow, head of the research team and Chair of Brookhaven's Medical Department.

"We saw a dramatic difference between Ritalin taken orally by ADHD children and Ritalin injected by teenagers and adults to get high, as well as the difference from cocaine," she continued. "And when the pathway to the brain is less direct, as with a pill, the effects aren't sudden enough to cause a high and to develop a reinforcing effect that leads to addiction. But they are enough to focus the attention of

Coming Up

339th Brookhaven Lecture

Senior Scientist Leon Petrakis, Department of Applied Science, will give the next talk in the 1998-99 Brookhaven Lecture series. Entitled "Rendering Asbestos Harmless," the talk will be given on Wednesday, October 21, at 4 p.m. in Berkner Hall. All are invited to attend.

BSA Concert

Brookhaven Science Associates is sponsoring a new concert series at BNL, and the first concert of the season will feature the American Brass Quintet, on Sunday, October 18, at 7:30 p.m. in Berkner Hall. Tickets cost \$10 for adults and \$5 for students. They may be purchased in advance from Paul Freimuth, Bldg. 463, Ext. 3350, or at the door on the evening of the concert.

The quintet will also give a master class in brass chamber music performance, featuring local student ensembles. The class will run from 2 p.m. to 4:30 p.m. in Berkner Hall on the afternoon preceding the concert. All are invited to attend, free of charge.

the child and calm the hyperactivity."

Volkow and her colleagues have studied Ritalin before, showing that, like cocaine, it raises levels of a brain chemical, or neurotransmitter, called dopamine. Their studies have focused mainly on injected Ritalin, confirming through science what high-seeking teens and adults already know through word-of-mouth: a snort or needle full of Ritalin can get you high.

But this latest study was the first to look at the therapeutic form taken by more than 2 million children with ADHD, the most common childhood behavioral disorder.

(continued on page 2)

Long Island Computer Pros Link With BNL Science, Technology

More than 300 Long Island leaders in information technology met at BNL in June to get an unprecedented look at how BNL scientists use computers to study everything from cancer and drug addiction to subatomic particles and environmental contamination.

The computer professionals were all members of LISTnet, a newly formed, nonprofit consortium of over 400 information-technology companies from all over Long Island. LISTnet's mission is to improve the technology sector of the Island's economy through developing more collaborations and improving information exchange.

"This must be the largest concentration of Long Island computing brain-power ever assembled," BNL Director John Marburger said to the assembled LISTnet members. "The connections made today will help build the foundation for this region's future economy, a foundation that will rest on the combined strengths found at Brookhaven and in the many local high-tech companies."

As Peter Goldsmith, LISTnet Chairman and Director of Economic Development for the Long Island Association, commented, "LISTnet stands for high-tech and software development on Long Island, and so does

Brookhaven. The tie-in between our two organizations is the meeting of high tech in the highest regard."

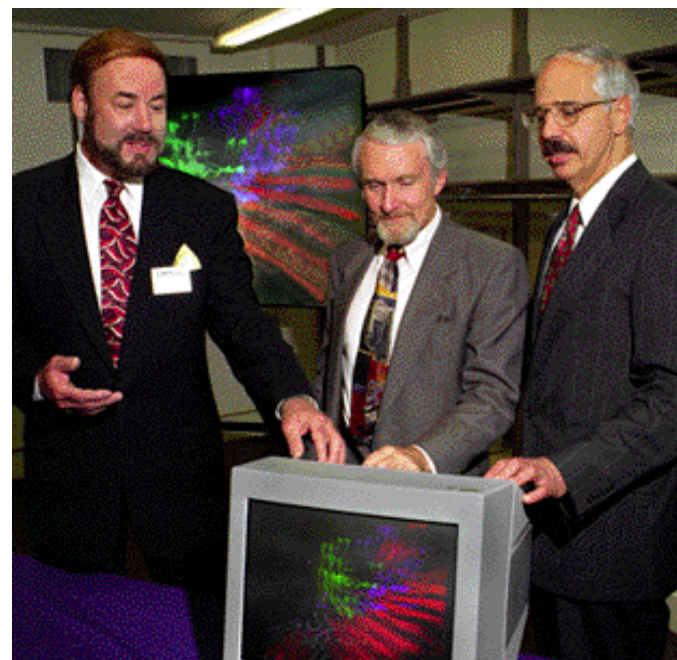
Said James Davenport, Department of Applied Science (DAT) Chair and Acting Director of the new Brookhaven Center for Data-Intensive Computing, "It's a two-way street — a vibrant software industry on Long Island adds to our scientific programs, which in turn drive further advances in software. We want to be part of the cycle, and LISTnet is key."

During the meeting, attendees heard about opportunities for businesses to work with BNL to develop new technologies and to transfer ideas from BNL laboratories to the private sector.

Adrian Roberts, Associate Laboratory Director for Applied Science & Technology, told the attendees that BNL is seeking new ways to put its technology to work to help the Long Island economy. Membership in and close cooperation with LISTnet-member companies is one important avenue for technology transfer, Roberts said. In fact, Dorry Tooker, BNL Manager of Technology Outreach, is already planning another LISTnet event at BNL in February 1999.

(continued on page 3)

At the LISTnet meeting, Ted Daniels (left), who manages BNL's Computing & Communications Division (CCD), discusses with (from left) Adrian Roberts, Associate Laboratory Director for Applied Science & Technology, and LISTnet Chairman Peter Goldsmith aspects of the novel stereoscopic viewing system constructed and maintained by CCD. Designed for ease of replication and high-speed network interaction, the display system is driven by a Silicon Graphics Onyx2 rack system. The stereo effect is achieved by projecting two polarized images on the screen, which are then viewed through polarized glasses by up to 30 people at one time. The 1280x1024 pixel resolution and viewing algorithm give an image of exceptional quality that appears to float into the center of the room, providing a degree of realism and sense of immersion comparable to that of far more expensive technologies. Among the application tools currently used are the Silicon Graphics Performer API and IBM Visualization Data Explorer.



Ritalin

(cont'd.)

Brain cells release dopamine in order to send various signals inducing feelings of pleasure or reward for a person's behavior.

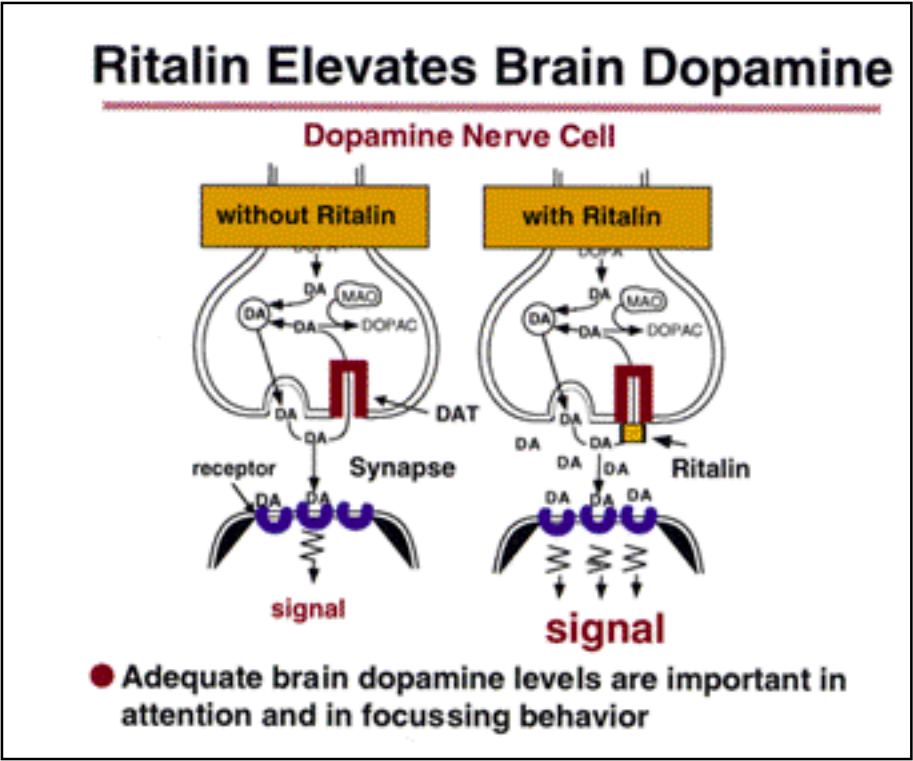
Normally, dopamine molecules are released by one brain cell, travel through a gap between cells known as a synapse, and dock on a neighboring cell in order to send their pleasure signal. Then, the molecules travel back through the synapse to their "home" cells, which they reenter through a gate known as a dopamine transporter.

When cocaine or Ritalin molecules enter the brain, though, they promptly take up residence on dopamine-producing cells, blocking the dopamine transporter "gates" and preventing dopamine from returning home.

As dopamine builds up in the synapse, the signal to the neighbor cell is sent repeatedly. This effect is thought to be largely responsible for the high feeling experienced by drug users.

Brookhaven scientists have shown that, in order for cocaine or injected Ritalin to make a person feel high, more than 60 percent of the brain's dopamine transporters must be blocked.

Until the current study, however, no exact measurement had been made of what percentage of transporters are blocked by oral Ritalin, or of the effect of typical oral doses on a person's feeling of high and other physical indicators.



More important, to understanding why Ritalin is not addictive, Volkow said, was the fact that it took an hour on average to reach the peak in Ritalin's blockade of dopamine transporters. This is in marked contrast to intravenous Ritalin, for which peaks are reached within eight minutes, and for cocaine, whose effects peak within five minutes after administration.

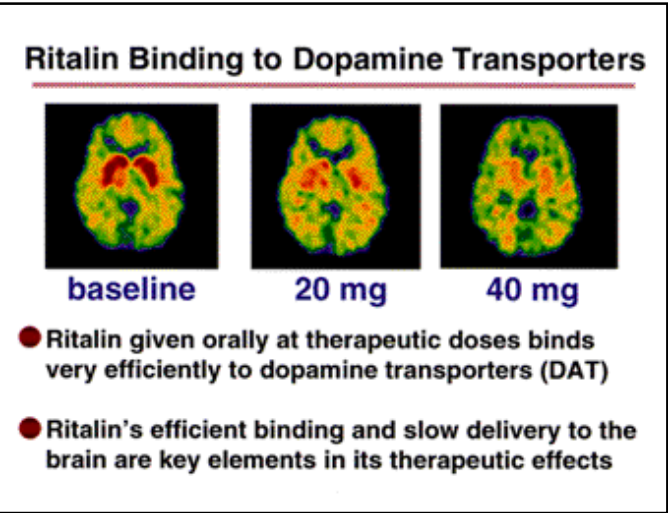
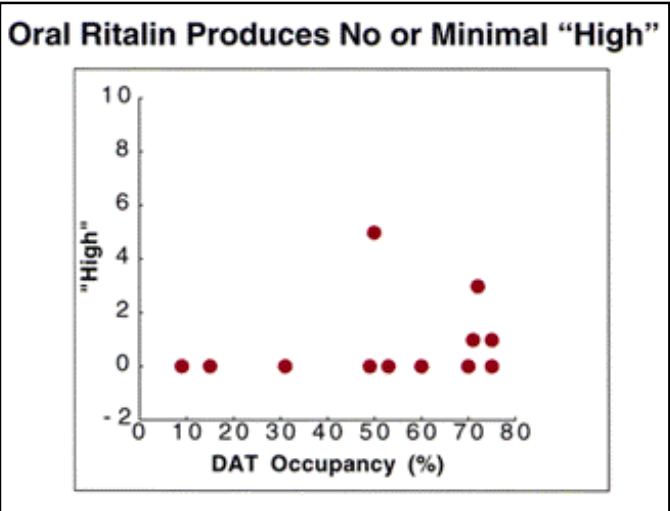
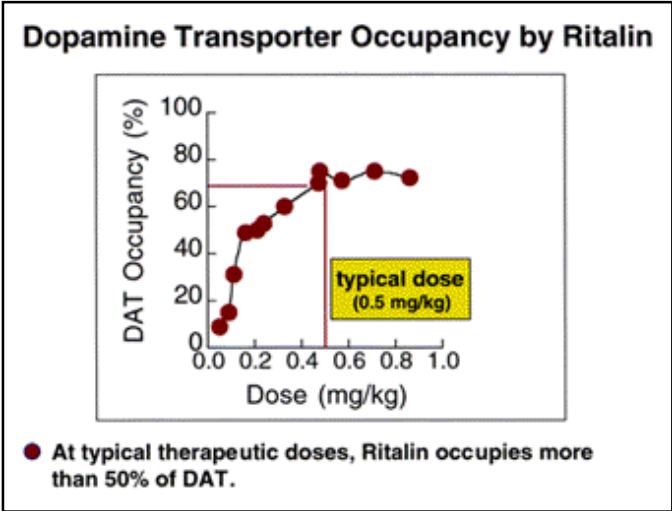
Because ADHD is a complex syndrome, the researchers recognize that there may be other chemical reactions going on that are not detected by PET. But their results are striking, nevertheless.

Said Volkow, "The slow-acting effect we've seen with PET gives us confidence that the low oral doses given to children with ADHD cannot cause the quick and intense feeling of reward that is necessary to reinforce the behavior of taking the drug."

This may also explain why medications such as the typically very addictive narcotic analgesics, when given orally, do not cause a high when used therapeutically.

The study's authors also included: Gene-Jack Wang, John Gatley and Naomi Pappas of the Lab's Medical Department; Joanna Fowler, Jean Logan and Yu-Shin Ding of Brookhaven's Chemistry Department; and Robert Hitzemann of the Department of Psychiatry at USB.

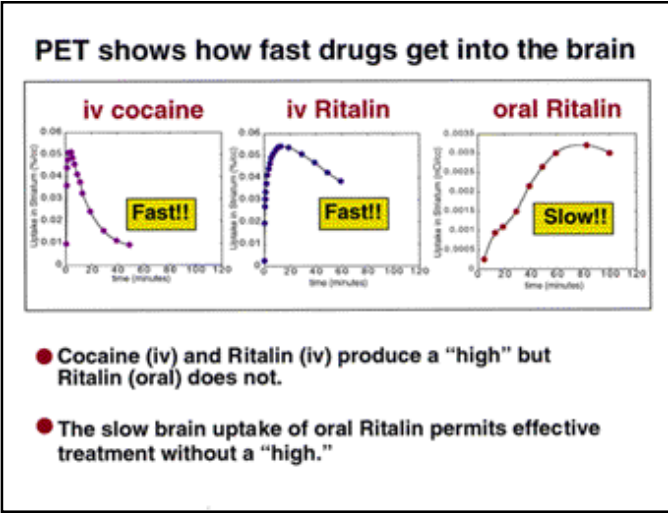
— Kara Villamil and Mona S. Rowe



In order to get that information, the BNL and USB team used PET to examine the seven young adults at Brookhaven's Center for Imaging & Neurosciences. The volunteers were each given a dose of Ritalin, calculated using their body weight to correspond to the doses given to children with ADHD. While the volunteers'

brains were scanned in order to see how many dopamine transporters were blocked, they were asked to rate their feeling of restlessness and high. Meanwhile, physicians monitored their blood pressure and heart rate.

The results showed that only one of the volunteers reported feeling only slightly high, and several said they were slightly restless.



Bowling

Red and Green League - 9/29

E. Meier 268/229/200/697 scratch series, R. Mulderig Sr. 254/223/223/700 scratch, R. Deem 231/210/207/648 scratch, R. Mulderig, Jr. 256/219/627 scratch, M. Meier 244/216/650 scratch, J. Griffin 233/209/600 scratch, K. Asselta 221/218/624 scratch, K. Koebel 211/200, N. Besemer 233, E. Larsen 233, G. Miltenberger 224, F. Wahlert 220, H. Dawson 214, L. Mulderig 212.

White and Purple League - 10/1

M. Meier 259/204/645 scratch series, B. Tozzie 204/192/182, G. VanSickle 201/181, J. McCarthy 196/183, C. Johnson 207, C. Holmstrom 204, B. Rothe 203, G. Mehl 200, A. Wynkoop 196, D. McCaffrey 192, E. Zukowski 192, J. Gormley 188, J. Addressi 186, D. Keating 172, J. Holmstrom 170, K. Conkling converted the 6/7/8 split.

Wanted: Full-Time Men Bowlers

The Tuesday evening Men's Bowling League needs two full-time bowlers, for games starting at 6:30 p.m. at the Port Jefferson Bowling Alley. If interested, then call Ron Mulderig, Ext. 3084, or Debbie Keating, Ext. 3888.

Atlantic City Bus Trip

The next BERA-sponsored bus trip to Atlantic City will be on Saturday, November 7. The hotel-casino on the Boardwalk and coin package are to be announced. The initial cost per person will be \$24. The bus will leave the Brookhaven Center promptly at 8 a.m. and return at approximately 10 p.m. Movies, games and free rolls or donuts will be provided; bring your own coffee and juice.

To reserve your seat, stop at the BERA Sales Office, Berkner Hall, Tuesday through Friday, 9 a.m. - 1:30 p.m. For more information, call Andrea Dehler, Ext. 3347.

Correction

In the photo essay on Energy Secretary Richardson's tour of BNL in the Bulletin of October 2, 1998, the caption for the third photo should have reported that David Cox and Evagelia Moshopoulou were discussing the application of neutron powder diffraction to determine the structure and magnetic properties of manganate systems, not that they had used this technique at the High Flux Beam Reactor.

Golf Outing

The BERA Golf Association will hold its end-of-the-year outing on Friday, October 16, at the Cherry Creek Golf Links in Riverhead, playing a modified Stableford competition.

The entry fee is \$40 for members and \$60 for nonmembers, and it includes a cart and barbecue lunch after play. Completed applications must be turned in no later than Tuesday, October 13. Non-Lab employees are welcome to join the play.

For more information, call Jeff Williams, Ext. 5587.

Register Your Vehicle

All employees and Lab guests who have not already done so must register the private motor vehicles that they use on site or renew their registration with BNL's Police Group of the Safeguards & Security Division (S&SD).

To obtain a current registration sticker, come to S&SD's Personnel & Information Security Office in the Brookhaven Center, Bldg. 30, weekdays during usual business hours. For more information, call Hank Raimondo, Ext. 7258.

Hospitality Committee

The following events are open to on-site residents and their friends. Details are posted in the apartment area laundry, on the door of the Recreation Building, and on the back of the Lollipop House. For more information, call Julie Kin-Zajonz, 929-0405.

Welcome Coffee

Newcomers and long-term residents are invited to mingle at welcome coffee, which is held every Tuesday, from 10 to 11:30 a.m. in Cottage 24.

Parent-Toddler Group

On-site residents with children between the ages of one and three are invited to bring their toddlers to play with other children their age at the next meeting of the parent-toddler group. For information about the time and place, call Sarah Zill, 821-2602.

LISTnet (cont'd.)

Later, the attendees learned about BNL technology from more than 15 demos and posters. They also took optional tours of the Computing & Communications Division (CCD), where they saw the theater for visualizing in stereoscopic three-dimensions and the RIKEN BNL supercomputer, then under construction by a staff from Columbia University, the RIKEN BNL Research Center and CCD. To be used for physics research, the supercomputer is capable of 600 billion calculations per second.

In Berkner lobby, CCD had organized displays of: network troubleshooting for personal-computer fault-isolation and analysis; new intranet applications; a World-Wide-Web call-tracking system; the on-site computer training program; WBNL, BNL's Web video, now up and running; and computer-aided design programs.

In addition to the four examples of BNL's scientific capabilities pictured, other displays included: from the Department of Advanced Technology, MARKALmacro, a computer program first developed at BNL in the 1970s for energy modeling, which has been adapted and used by 35 countries for

modeling applications such as carbon dioxide management; and image-recognition techniques, which were created for safeguards verification and tracking, and are now being developed in collaboration with Aquila Technologies, Inc.

DAS demonstrated a state-of-the-art earthquake computer model that assesses structures and piping systems, and software applications that map geographic information.

From the Biology Department were posters on: the 1987 and 1997 R&D-100 award-winning computer technologies for data acquisition, storage and analysis; the computer-intensive modeling used in Lyme disease vaccine research; and the innovative data-taking and analytical techniques used in neutron-irradiation experiments in materials science and biomedicine.

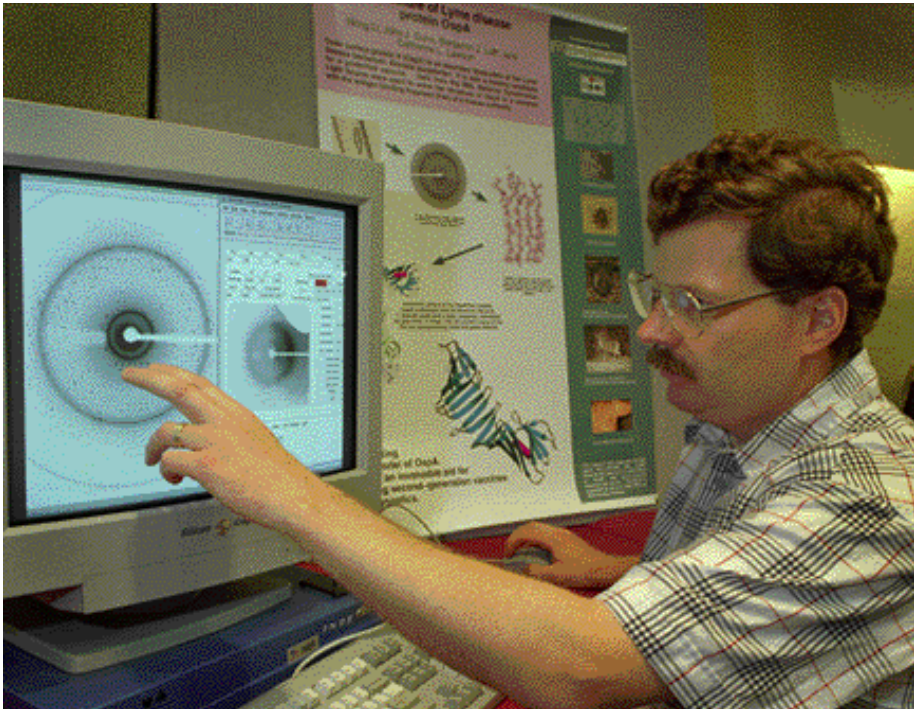
Said CCD Manager Ted Daniels, "Thanks to the effort of everyone concerned with setting up the demonstrations and posters illustrating Lab computing at the forefront, LISTnet members could get an appreciation of some of the pioneering work being done with computers at BNL. This is a first step in our joint effort to make Long Island a capital on the information-technology map." — Liz Seubert

As part of DAS's research on global change, DAS researchers Altat Mubarak (right) and his colleagues have developed an animated display of output from a computer model of aerosols. This model combines data on emissions such as sulfur with data on climate, weather and wind, to assess patterns of aerosol loading. This is technical term for how much of an emission is absorbed into the air. Because the model is animated, it clearly expresses the variability of the data reported in both space and time: for example, it is possible to see material as it builds up in emissions regions and then is transported by the wind. The animation also allows changing patterns of aerosol loading to be interpreted in terms of changing meteorological variables that control this loading.



(Left) Peter Vanier, DAT, displays a specialized computer board designed and built by DAT colleagues Peter Zuhoski and Cynthia Salwen for undertaking international treaty-verification measurements. With only three kinds of chips, the CIVET computer is powerful enough to acquire streams of data from a detector and perform sophisticated analyses to arrive at a simple conclusion: is the inspected item real or a fake? Yet the electronic hardware is so straightforward

that it can be easily inspected and determined to be capable of performing its assigned task and nothing else. This technology may help the process of negotiating international treaties requiring actual physical measurements of sensitive items to ensure that the terms of the agreements are being met. Vanier and Zuhoski plan to develop the next generation of inspectable computers in collaboration with a Russian institute.



John Skinner (above) and Robert Sweet, Biology Department, have designed World Wide Web-based remote-monitoring software that allows experimenters to monitor and control their experiments over the Internet. The goal of this effort is to reduce collaborators' travel by facilitating interactions between researchers visiting BNL and their colleagues at their home institutions. In the photograph, Skinner shows how he can interface with a protein-crystallography experiment being performed at beam line X12C at BNL's National Synchrotron Light Source. — Photos by Roger Stoutenburgh

Free Flu Shots

The Occupational Medicine Clinic (OMC) is offering free flu shots to Lab employees. For more information or to make an appointment to be vaccinated, call OMC, Ext. 3670.

BROOKHAVEN BULLETIN

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Healthfest 1998

Starts Monday

Healthfest '98 — the Lab's sixth celebration of personal health, fitness and safety — will kick off this Monday, October 12, with a 2-mile Fitness Walk, preceded by an aerobic stretch. The pace will pick up on Tuesday, October 13, with a 5-kilometer Fitness Run.

Featuring demonstrations, displays and health screenings, the Health, Fitness & Safety Fair will take place in Berkner Hall on Wednesday and Thursday, October 14 & 15, from 11 a.m. until 2 p.m. During the fair, at noon in Berkner auditorium, a stress management and relaxation techniques workshop will be offered on Wednesday, October 14, and a Reiki workshop will be conducted on Thursday, October 15.

To register for those events and health screenings that require registration, see the Healthfest flyer mailed to all employees, Healthfest brochures found around site, or call Health Promotion Specialist Mary Wood, Ext. 5923.

More Volunteers Needed

Volunteers are what makes Healthfest a success — and they are still needed. So, if you can help with the walk, run or stretch by registering participants, patrolling the courses, handing out water, etc., or during one or both days of the fair with such tasks as setup, door-prize registration, etc., then please call Health Promotion Specialist Mary Wood, Ext. 5923 .

BNL Food Drive



Pickup all next week.
No time to shop? Send personal checks to: BNL Food Drive, c/o Rita Kito, Bldg. 460; or Donna Wadman, Bldg. 129.

Service Awards

The following employees celebrated BNL service anniversaries during the month of September:

35 Years
Edward Byrne Budget
Arjun D. Chanana Medical
Helen M. Kalbach ES&H Services
Mary A. Kelley Instrumentation
Said F. Mughabghab Adv. Tech.
Erich H. Willen RHIC
Madeline P. Windsor Info. Services

30 Years
Gary E. Jayne Reactor

25 Years
Peter D. Horton Info. Services
Joseph P. Indusi Adv. Tech.
Robert Jeffries Plant Eng.
Samuel Krinsky NSLS
Francis J. Lepera CCD
Derek I. Lowenstein AGS
Iuliu Stumer Physics
William C. Thomlinson NSLS
Christopher N. Willms CCD

20 Years
Donald S. Barton RHIC
James W. Davenport Appl. Science
Michael A. Delph Safeguards & Sec.
Thomas F. Dilgen RHIC
Richard C. Fernow Physics
Joseph L. Funaro AGS
Barbara T. Langhorne ... Admin. Supp.
Thomas W. Ludlam RHIC
Daniel R. McCafferty AGS
Paul J. Ribaudó RHIC
Robin A. Scarola Physics

10 Years
Ilan Ben-Zvi NSLS
Lap-Yan Cheng Reactor
Cheryl Ann Eleazer Contr. & Proc.
Harry M. Hacker AGS
John W. McCaffrey Jr. RHIC
Louis P. Snyderstrup AGS
Edward M. Stein RHIC



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 complete list of all job openings; use a TDD system to access job information by calling (516) 344-6018; or access current job openings on the World Wide Web at <http://www.bnl.gov/JOBS/jobs.html>.

The following vacancies are exempt from the Director's hiring freeze.

LABORATORY RECRUITMENT - Opportunities for Laboratory employees.

NS7587. PROGRAMMER/ANALYST POSITION - (re-posting) Requires a BS in computer science, physics, or related field, with experience in database management and software development. Experience in a scientific environment is preferable. Creativity and good problem-solving skills needed to participate in database administration, data management, development of database interface tools, and other programming tasks for an accelerator-controls environment. Sybase experience desirable. Experience in C, C++, Java, or Perl languages is a plus. Alternating Gradient Synchrotron Department.

DD7868. DESIGN POSITIONS - (term appointments) Requires significant mechanical drafting/design experience on superconducting magnets, and proficiency in AutoCAD release 12 or later version; Mechanical Desktop release 2 preferred. Must be able to perform professional-level design functions. Background should include a thorough understanding of engineering fundamentals, machine design, machine shop procedures, Mil-Std 100E and ASME Y14, 24M-1989. Knowledge of RHIC Design Standard DS-1 is a plus. RHIC Project.

DD3225. TECHNICAL POSITION - Requires a BS in geography, cartography or geology, or equivalent experience. A working knowledge of UNIX, ArcView (any platform), and Adobe Illustrator or similar graphics package is highly desirable. Responsibilities include the design and production of maps for technical, management and community-relations staff; maintenance of an existing GIS link to an Oracle database; and provision of CAD support to staff hydrogeologists. Environmental Restoration Division.

DD7723. DESIGN POSITION - Requires the ability to perform mechanical design functions, with a working knowledge of: engineering fundamentals, machine design, shop practice, welding and vacuum systems. Must be familiar with ANSI Y14.5-1982. Will be responsible for projects from conceptual layouts to detailed working drawings. Experience with AutoCAD, Windows NT/Unix necessary. Knowledge of Pro-Engineer/Mechanical Desktop desired. Alternating Gradient Synchrotron Department.

Attn. BERA Members: Join USB's UA

When people come to work at the BNL site, they automatically become members of BERA, the Brookhaven Employees' Recreation Association. Therefore, BERA members include employees and retirees of BNL, BSA and the Brookhaven Group of the U.S. Department of Energy; BNL facility-users; and employees of permanent on-site contractors, such as those employed at the on-site post office, gas station, credit union, etc.; plus their immediate families.

Now, BERA members may expand their social and cultural horizons — and meet new friends in the process — by joining the University Association (UA) of the State University of New York at Stony Brook (USB).

Because of BSA's affiliation with USB, the BERA Board has established a relationship with the UA, to provide BERA members with additional opportunities. Formed in 1958, the UA is a social, cultural, educational, and service organization established to encourage a sense of community within the faculty and staff at USB through events, special-interest groups and scholarship fund-raising events. For the latest UA and BERA happenings, go to the BERA home page, at berahome.bnl.gov.

To find out more information about the UA and get a membership application, contact Margaret Culkin, 632-6255, or e-mail mculkin@notes.cc.sunysb.edu. Dues are \$20 per person per year, and members receive a monthly newsletter.

Party Hardy With BERA

Halloween Madness

Ghosts, witches, pumpkins and a whole lot of ghoulish fun lie in wait for everyone who flies in on their broomsticks to BERA's first annual Halloween Madness Costume Party. To be held on Friday, October 30, 6-11 p.m., at the Brookhaven Center, the party will feature dance music by E.T., door prizes, and awards for the best costumes. Admission is \$5 per person, and a cash bar and refreshments will be available.

Commit to the Holiday Bash

BERA has scheduled its annual Winter Holiday Party for 1998 on Friday, December 11, at the Rock Hill Country Club in Manorville. The bash will begin at 6 p.m. and feature a sit-down dinner and music by E.T., and everyone who will attend is asked to dress their holiday best.

While this date is two months away, BERA needs a commitment by the end of this month from an adequate number of BNLees to make this event a go. Once tickets go on sale, they will only be available in advance of the party.

Therefore, before Halloween, those interested in attending the BERA Winter Holiday Party are asked to send their names and the number of tickets that they will purchase to Charles Gardner, Bldg. 911A, or e-mail chuckg@bnl.gov.

Arrivals & Departures

Arrivals
Ramon E. Arcilla Jr. ... Adv. Technology
Christopher Dawson Physics
Christine E. Lafon Comm. Relations
Samantha I. Lin Director's Off.
William B. Kilgore Physics
Brian Montheard RHIC
F. Peter Recksiek Medical
Marcel Schlar Chemistry
Frederic Stichelbaut Physics
Rajagopal Venugopalan Physics
Alla N. Zelenyuk App. Science

Departures
Jamil E. Egdemir RHIC
Lan-Song Jin NSLS
Basim M. Kamal Physics
Braulio B. Matamoros Sr. Fin. Serv.
Edward McKenna NSLS
Krzysztof Polewski Biology
Deepak D. Poondi Chemistry
Carl E. Schwarz Adv. Technology
C. Lewis Snead Jr. Adv. Technology
Gary L. Stoner Plant Eng.
Robert J. Tozzie ES&H Serv.
Rodney J. Weber App. Science

Wanted: Fine Art

BNL's finest fine art is needed for the BERA Art Society's Fall Festival of Art, to be held November 23-25 in Berkner Hall. BNL employees, retirees, facility-users, on-site contractors and their family members 15 years and older may contribute. More than one piece may be entered by an exhibitor, to be shown as space permits. All pictures must be ready to hang.

To enter work in the show and have it listed in the catalog, obtain an entry form at the BERA Sales Office or see next week's Bulletin for a coupon.

Completed forms must be returned by Friday, November 6, to Robert Chrien, Bldg. 510A.