

'Dirty Bomb' Terrorism Meinhold Talks On ABC, CBS



Roger Stoulenburgh 3-517-91

BNL's Charles Meinhold, a guest scientist in the Nonproliferation & National Security Department and president of the National Council on Radiation Protection & Measurements (NCRP), was a featured expert on an ABC News "Nightline" segment on nuclear terrorism, December 5, 2001. He is scheduled to appear again this Sunday, February 3, between 9 and 11 a.m. on CBS's Sunday Morning News.

Meinhold, who retired from the Lab in 2000, is in high demand because of his role as NCRP president in preparing the Council's reports, in particular the report on "Management of Terrorist Events Involving Radioactive Material."

This report, funded by DOE, analyzes aspects of terrorist events involving radioactivity, including psychological effects and their implications for and impact on public communication, training, and response. It was published October 24, 2001, after two-and-a-half years of preparation.

U.S. intelligence officials were concerned about nuclear terrorism well before the terrorist attacks of September 11. The Nightline program featuring Meinhold and the NCRP report was focused on the threat of "dirty bombs" — ready-to-explode canisters of radioactive material mixed with conventional explosives. Groups like Al Qaeda have expressed interest in these weapons, and Osama bin Laden has publicly declared that his organization has such materials and that it is "a religious duty" to use them.

Meinhold and the other experts interviewed by Nightline agreed that the dirty bomb, also known as "the poor man's nuke," is too small to have much widespread radiological effect. Its real impact is expected to come from the fear it creates and the need to evacuate and clean up larger areas than would be affected by a conventional bomb.

"Is the average hospital or fire department in the average city well prepared for these incidents?" Nightline's Ted Koppel asked Meinhold.

(continued on page 3)

Coal-Purifying Bacteria Patented

Pushing the concept of "survival of the fittest" to the extreme, Mow Lin of the Energy Sciences & Technology (EST) Department, and EST retiree Eugene Premuzic have developed strains of bacteria able to live in harsh environments while chowing down on carbon-rich materials such as coal. The bacteria's digestive action removes potentially harmful pollutants and could be used to yield more-efficient, cleaner-burning coal.

"These bacteria can convert ordinary coal to an environmentally attractive resource," said Lin. He and Premuzic were recently awarded U.S. Patent No. 6,294,351 for this work.

Coal is one of Earth's most abundant fossil fuels. But burning it presents environmental problems, including the release of atmosphere-polluting sulfur and nitrogen oxides, and left-over ash containing toxic metals. While other scientists have attempted to use bacteria to remove impurities, they found that most microbes are unable to survive the harsh conditions present when processing coal.

Lin and Premuzic, who have previously developed bacterial strains that digest oil, decided to start with bacteria naturally adapted to extreme conditions and see if they could change the microbes' diet. The bacteria were

isolated from geothermal locations in the South Pacific and North America.

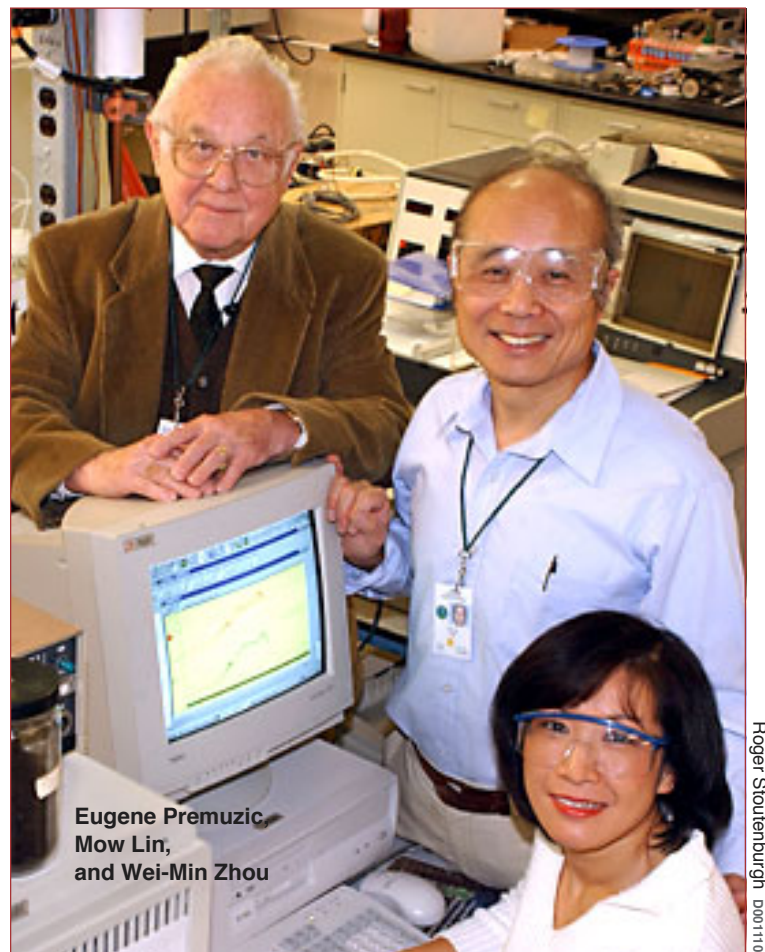
Using a technique called "challenge biosynthesis nutritional stressing," Lin and Premuzic first cultured the bacteria in a medium containing small amounts of crude oil, supplemented with other nutrients.

The bacteria that survived in the presence of oil were then transferred to a new culture medium with a higher concentration of oil and lower levels of other nutrients. This process was repeated in steps, gradually increasing the oil content and eliminating other nutrients, until the surviving bacteria could use oil as their only food source.

The scientists then used the same process to wean the oil-eating bacteria off oil while giving them increasing levels of coal.

"Essentially, we force the bacteria to adapt to the new food source," said Lin.

By gradually altering environmental variables such as temperature and acidity in a similar fashion, the BNL team has developed several strains of coal-adapted bacteria that can survive under a variety of extreme conditions. When combined with a slurry of coal, these new microbes break down the coal's complex molecules to form simpler ones, and concurrently remove sulfur and heavy-metal



Eugene Premuzic,
Mow Lin,
and Wei-Min Zhou

Roger Stoulenburgh 00011101

contaminants. The resulting cleaner coal can be burned or converted to liquid or gaseous fuel much more efficiently than untreated coal, while producing fewer environmentally undesirable by-products.

"The best results can be achieved by using a combination of the newly adapted organ-

isms, wherein each is very efficient at degrading one or more of the desired sites within the complex structure of coal," said Lin. "This mixed-culture approach permits us to tailor the microbial package to transform different types of coal and other carbon-containing materials."

— Karen McNulty Walsh

New Property Discovered — Zeolites That Expand Under Pressure

Most materials get compacted or fall apart under pressure," says Thomas Vogt, Physics Department. But he and a team of international collaborators recently discovered some materials with a property they call pressure-induced expansion: they expand when squeezed.

"This is not supposed to happen," said Vogt. "Normally, when you squeeze something, it's supposed to get smaller. This stuff gets bigger."

These unusual materials may have applications as "molecular sponges" for soaking up chemical pollutants or even radioactive waste.

The idea, according to Vogt, is that you squeeze a fluid into tiny

pores in the material, thereby increasing its volume. This extra volume can also allow slightly larger molecules or atoms, such as pollutants, to enter the expanded pores. "When the pressure is released and the material contracts, the pollutant would be trapped inside," he said.

Vogt and his collaborators — Yongjae Lee, a postdoc in Physics; John Parise, a Stony Brook University chemist; Joseph Hriljac, formerly of BNL and now a chemist at the University of Birmingham, England; and Gilberto Artioli from the University of Milan in Italy — describe one such material in the December 19, 2001 issue of the *Journal of the American Chemical Society*.

The materials are all zeolites — solids containing aluminum, silicon, and oxygen with a three-dimensional structure containing regularly spaced pores. These nanopores, which are on the order of billionths of a meter, make zeolites very useful for taking up small molecules, ions, or gases — just like a sponge soaking up water.

In fact, the pores are normally filled with positively charged ions, such as calcium and sodium, as well as water molecules. So zeolites are said to be hydrated. Many are currently used as water softeners and in detergents.

Previous studies elsewhere suggested that some zeolites

have unusual properties under pressure. The collaborative team was investigating these properties when they discovered that one zeolite could suck up twice the normal amount of water — a superhydrated zeolite.

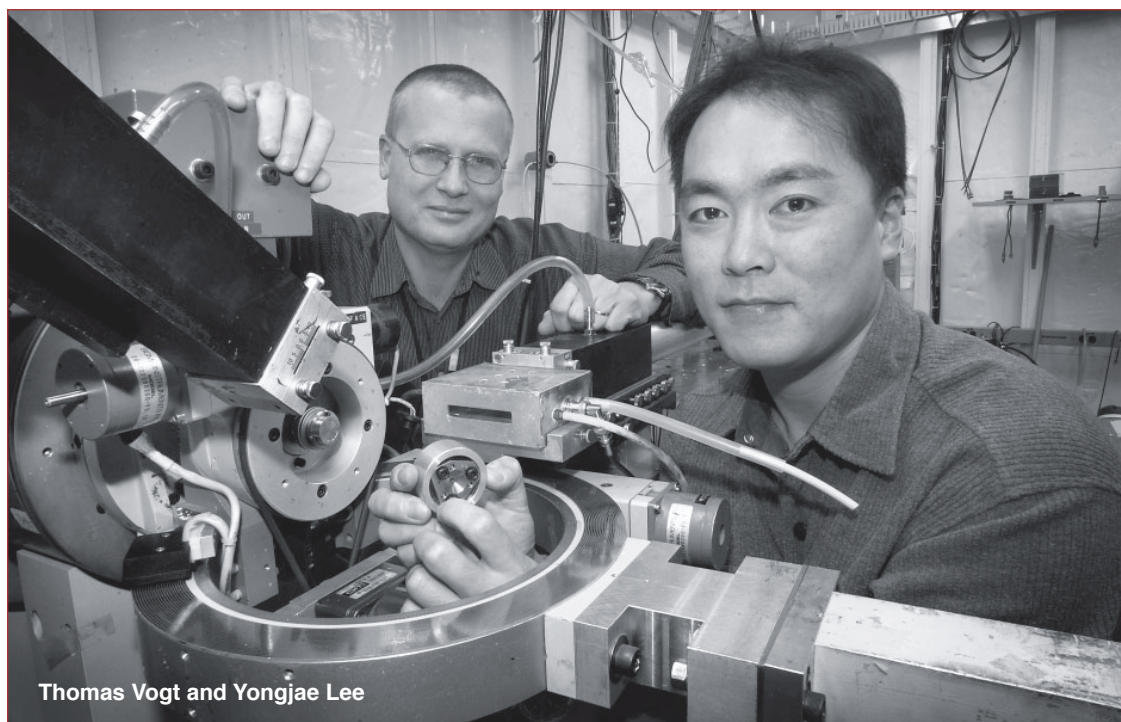
Using a technique called powder diffraction at BNL's National Synchrotron Light Source (NSLS), the team has deciphered the zeolite's molecular structure, which for the first time explains this unusual property and shows where the extra water goes.

Vogt and his colleagues have suggested several ways to take advantage of pressure-induced expansion, found in only certain zeolites. One would be to set up a "trap door" mechanism for locking up chemical or radioactive pollutants.

"When you increase the pressure and the material gets bigger, the pores get bigger, too," Hriljac said. "So we can try to get bigger ions or molecules in there, such as hydrocarbons, mercury, lead, or even radioactive strontium. Then, when you release the pressure, the pore would get smaller and trap the pollutants inside."

The scientists plan to continue their studies on the expanding zeolites to see if this approach will work.

— Karen McNulty Walsh



Thomas Vogt and Yongjae Lee

Roger Stoulenburgh 00011101

For more information about the zeolites that expand under pressure, go to www.bnl.gov/bnlweb/pubaf/pr/2001/bnlpr121301.htm. For more information about the coal-eating bacteria, go to www.bnl.gov/bnlweb/pubaf/pr/2001/bnlpr121101.htm.

Calendar
of Laboratory Events

- The BERA Sales Office is located in Berkner Hall and is open weekdays from 9 a.m. to 3 p.m. For more information on BERA events, contact Andrea Dehler, Ext. 3347; or M. Kay Dellimore, Ext. 2873.
- Additional information for Hospitality Committee events can be found at the Lollipop House and the laundry in the apartment area.
- The Recreation Building (Rec. Bldg.) is located in the apartment area.
- Contact names are provided for most events for more information.
- Calendar events flagged with an asterisk (*) have an accompanying story in this week's Bulletin.

— EACH WEEK —

Mondays: BNL Gospel Choir
5:15-7 p.m. Berkner Hall. www.bnl.gov/bera/activities/choir/.

Mon., Tues., & Thurs.: Aqua Aerobics
5:15-6:15 p.m. \$2 pool fee per class or use pool pass. Mary Wood, Ext 5923.

Mon., Tues., & Thurs.: Kickboxing
\$5 per class. Mon. & Thurs. noon-1 p.m. in the gym; Tues., 5:15-6:15 p.m. in the gym; Thurs., 5:15-6:15 p.m. in Brookhaven Ctr. Registration is required. Mary Wood, Ext. 5923, or wood2@bnl.gov.

Mon., Tues., & Fri.: Tai Chi
12:15 - 12:45 p.m., Rec. Bldg. Scott Bradley, Ext. 5745, bradley@bnl.gov.

Tuesdays: Welcome Coffee
10-11:30 a.m. Rec. Bldg. Hospitality event. Come and meet friends. The first Tuesday of every month is special for Lab newcomers and leaving guests. Hospitality Chair Mimi Luccio, 821-1435.

Tuesdays: Toastmasters
Meetings are 1st and 3rd Tuesday of each month at 5:30 p.m.; 4th Tuesday at 12:05 p.m. in Bldg. 463. Guests, visitors always welcome. www.bnl.gov/bera/activities/toastmasters/default.htm.

Tuesdays & Thursdays: Aerobics
5:15-6:30 p.m., \$4 per class. Rec. Bldg. Pat Flood, Ext 7886.

Tues., Wed., Thurs., & Fri.: English for Speakers of Other Languages Classes
Various times. Rec. Bldg., 2nd Floor. Learn English, make friends. Jen Lynch, Ext. 4894.

Wednesdays: Weight Watchers
noon-1 p.m., Brookhaven Center South Room. Mary Wood, Ext. 5923.

Wednesdays: Yoga Practice
noon-1 p.m., Rec. Bldg. Free. Ila Campbell, Ext. 2206.

Wednesdays: Stretch
5:15-6:15 p.m., \$4 per class. Rec. Bldg. Pat Flood, Ext 7886.

Wednesdays: BNL Ballroom, Latin & Swing Dance Club Lessons
6-9 p.m. North Ballroom, Brookhaven Center. Marsha Belford, belford@bnl.gov or Ext. 5053, or www.bnl.gov/bera/activities/dance. Register now for series 3; see listing for 2/6.

Thursdays: Falun Dafa Class
noon-1 p.m., Free. Rec. Bldg. Falun Dafa refines the body and mind through exercises, meditation. www.falundafa.org.

Fridays: BNL Social & Cultural Club
7-11:30 p.m., Brookhaven Ctr., Dance Social. Rudy Alforque, Ext. 4733, rudy@bnl.gov.

February Is Black History Month
See the Black History Month poster exhibit and origami creations on display during the month of February in Berkner Hall lobby.
For a complete list of events, see page 4.

— NEXT WEEK —

Tuesday, 2/5

Workshops: Cholesterol & Hypertension

- Cholesterol workshop: 11:30 a.m.-12:15 p.m. Bldg. 490, small conference room. Participants must register in advance to have blood work done prior to the workshop.
- Hypertension workshop: 12:30-1:15 p.m. Bldg. 490, small conference room. Topics will include nutritional foods, healthy dining out, easy cooking, travel monitoring for success. Program will be facilitated by a registered dietitian. For registration information, contact Mary Wood, Ext. 5923, wood2@bnl.gov.

Dosimetry badges will be exchanged today, Friday, February 1. Remember to place your badge in its assigned rack space before leaving work today.

Photos on this page

All photos on this page are by Roger Stoutenburgh. Additional photos of the service awards event may be seen on this week's Bulletin PDF on the Web at www.bnl.gov/bnlweb/pubaf/bulletin.html.

BNL Toasts Laboratory VIPs



Interim Laboratory Director Peter Paul (top, right) invited 210 Very Important Persons (VIPs) to the Service Award Reception he hosted in their honor in Berkner Hall on the evening of December 13, 2001. In congratulating the VIPs on the

many years of service they had provided BNL, Paul emphasized the extraordinary value to the Lab of so much expertise acquired over the years, which later generations may use to "cut through a learning curve" and achieve results more efficiently.

Star VIP Seymour Rankowitz (top, second from right), Instrumentation Division, had worked for 52 years at BNL as of 2001; and not far behind is Elinor Norton, not present, congratulated by the Chemistry Department on her 50th BNL year this

past summer. In addition, 11 of the 2001 VIPs are BNLeers of 41-49 years' vintage, ten had observed 40-year anniversaries, 65 had completed 36-39 years, 22 had served for 35 years, 16 had arrived 30 years ago, and 84 had celebrated 25 years at BNL.

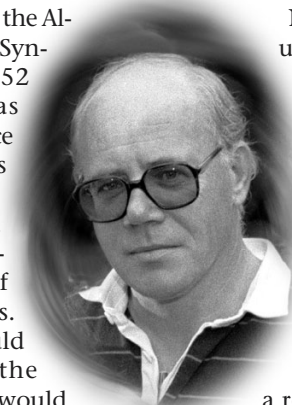


In Memoriam: Hans Willutzki

Physicist Hans Willutzki of the Physics Department, who had joined BNL on April 2, 1986, died on December 12, 2001. He was 58.

Willutzki earned his Ph.D. at Hamburg University, Germany, in 1973. After his arrival at BNL, he spent most of his effort on E852 experiment at the Alternating Gradient Synchrotron. The E852 collaboration was looking for evidence of new, rare particles called exotic mesons, which would contain an unusual combination of gluons and quarks. These mesons would be forbidden in the quark model, but would be allowed by the Standard Model, the central theory of modern physics, as bound states of both quarks and gluons.

Willutzki was the E852 project manager and, eventually, a co-spokesperson for the experiment. His contributions helped lead to a collection of rich data, which resulted, among other observations, in



the discovery of two exotic meson particles.

Willutzki's colleague, Suh-Urk Chung, comments: "Hans had a rare intuitive judgment of what good physics should be, and everyone around him benefited from his thoughtful remarks."

More recently, Willutzki joined the BNL team working on the D-Zero experiment at The Fermi National Accelerator Laboratory, contributing significantly to the installation of the upgraded detector systems.

Hans Willutzki was a resident of Coram. In his memory, friends and colleagues are gathering today, Friday, February 1, at 4:30 and 6:30 p.m. in the Physics Department lounge area. Refreshments will be served. If you plan to attend, notify Debbie Kerr, Ext. 3857 or dkerr@bnl.gov; or Bob Hackenburg, Ext. 2088 or hackenburg@bnl.gov as soon as possible. — Liz Seubert

Service Awards

The following employees celebrated BNL service anniversaries during the month of November 2001:

40 YEARS	
Manfred Thomas	NSLS
35 YEARS	
Siegfried Naase	C-A
30 YEARS	
Marion Biennau	ES&T
David McChesney	Magnet
Gisella Murphy	Staff Services
Joseph Skelly	C-A
Claire Lamberti	CDIC
Linwood Johnson	Staff Services
25 YEARS	
Joseph DePace	ITD
Jae Jo	ES&T
Anthony Salvo	PPM
Arup Ghosh	Magnet
Robert Wieser	Env. Sci.
John Barry	C-A
Leon Lawrence	ISD
Howard Bell Jr.	Plant Eng.
20 YEARS	
Philip Pile	C-A
Barry Siskind	NNS
Thomas Johnson	PPM
Walter Bay	Plant Eng.
10 YEARS	
Edouard Kistenev	Physics
Kenneth Koebel	NSLS
Donald Farnam	Rad. Ctrl.
Richard Gonzalez	Magnet
Richard Deem	ES&T
Richard Przybylinski	C-A
Patrick Harris	Magnet
Marita Berndt	ES&T
Marjorie Chaloupka	Physics
James Vaz	ES
Albert Boerner Jr.	NSLS
Sabrina Parrish	Chemistry
Donna Wadman	S&H Svcs.
Robert Marascia Jr.	C-A

BNL Dance Club Lessons Start February 6th Attn. Beginners: Learn to Hustle, Merengue, Mambo & Samba

- **Who?** You! Individuals or couples.
- **What?** Learn to dance these hot Latin dances with the BNL Dance Club! Lessons by a former U.S. Ballroom champion.
- **Where?** North Ballroom, Brookhaven Center.
- **When?** Starting Wednesday, February 6th, 6-7 p.m.
- **Why?** Because it is fun! Good exercise! Meet new people! Impress your family, friends — and yourself! Good activity for



couples and singles.

- **How?** Register now for Introduction to Ballroom 104: you will learn the hustle, merengue, mambo & samba (two weeks per dance).
- **How much?** \$30 per person for eight weeks.
- **How to register?** Contact: Marsha Belford, belford@bnl.gov or Ext. 5053; or Sue Perino, perino@bnl.gov or Ext. 2483. Or go to www.bnl.gov/bera/activities/dance/.

LDRD Proposal Deadline, 4/2

The Laboratory Directed Research & Development (LDRD) Program has started soliciting new proposals for the beginning of fiscal year 2003. By now, all scientists should have received a memo from the LDRD Office requesting proposals, which should consist of an abstract and a three-page description of the proposed activity, to be submitted by the deadline of April 2, 2002. The budget allocation for the program is scheduled to be increased from \$7 million to \$8 million, so, as a consequence, an increased number of new starts should be made. Details on the LDRD program and the Performance Information Questionnaire form can be obtained at <https://sbms.bnl.gov/ld/ld03/ld03d011.htm>.

Proposals will be considered in all areas that fit into the mission of the Laboratory, including advancements in physics, chemistry, biology, medicine, energy and environmental sciences, and in the utilization of the user facilities that include accelerators for particles, heavy ions, and synchrotron light. New initiatives that might receive emphasis include: isotope research, structural biology, energy-recovering linacs, atmospheric and energy sciences, and counter-terrorism activities. For more information and assistance, contact Leonard Newman, Scientific Director for LDRD, Ext. 4467 or newman@bnl.gov.

Daffodil Sale

BERA will sell daffodil bouquets, at \$7, to benefit the American Cancer Society.

Paid reservations are being taken at the BERA Sales Office. Reserved daffodils may be picked up on Tuesday, March 19, at the BERA Sales Office. Daffodils will also be on sale Tuesday, March 19, in the Berkner Hall lobby, from 11:30 a.m. to 1:30 p.m. For more information call Andrea Dehler, Ext. 3347; or M. Kay Dellimore, Ext. 2873.

Arrivals & Departures

Arrivals	
Magalie Bruneus	Medical
Tanhong Cai	Chemistry
Justin Gullotta	C-A
Neiza Hernandez	Env. Sciences
Joseph Labas	Quality Mgmt.
Jennifer Lynch	Reactor Safety
Lesliam Quiros	S&H Svcs.
Pattanathu Rahman	ES&T
Zilu Wu	NSLS

Departures	
R. Bruce Klemm	ES&T
Paul Lang	Env. Svcs.
Marek Malac	Mat. Sciences
Allyson Nguyen	Biology
Richard Watson	Physics

Healthline Lecture

Money Matters — When Illness Strikes: A Legal Update, 2/12

George Roach will present "Money Matters — When Illness Strikes: A Legal Update" on Tuesday, February 12, from noon to 1 p.m. in Berkner Hall. All the Lab community is invited.

The lecture will cover the most recent changes in the Medicaid law and will explore the financial impact of illness in caring for elderly parents and loved ones. Basic estate planning will also be discussed. Questions from the audience will be answered as well.

Roach has been with the Legal Aid Society for the past 23 years, dealing exclusively with the problems of the elderly and the elderly poor. He is the attorney in charge of the Legal Aid Society of Suffolk County's Senior Division.

The program will be videotaped and audiotaped and made available on cassettes in the Research Library. Check your mailbox for registration details. For more information, contact Mary Wood, Ext. 5923 or wood2@bnl.gov.

One-on-One Retirement Planning

On Wednesday, February 27, during 30-minute one-on-one retirement planning sessions to be held between 9 a.m. and 5 p.m., BNLers may meet with a licensed representative of the Vanguard Group to discuss:

- Investing for long-term goals, such as retirement
- Selecting savings funds
- making the most of available services and investment tools

To schedule a 30-minute interview, call Vanguard, 1-800-662-0106, Ext. 69000.6, Ext. 69000.

COMPUTER TRAINING

The Information Technology Division has scheduled the following training classes, Monday through Friday, March 11-15:

Introduction to LINUX/UNIX
8:30 a.m.-noon
Perl Programming
1-5 p.m.
LINUX System Administration
8:30 a.m.-4:30 p.m.

These classes will be held in Bldg. 515, location to be announced.

Per student, the training fee for introduction to LINUX/UNIX or Perl Programming is \$460; the fee for the LINUX System administrator class is \$1,050.

To register for any of these classes, send an ILR for the appropriate amount, indicating for which class you are registering, to Pam Mansfield, Bldg. 515, by February 15. For more information and other class schedules, go to <http://training.bnl.gov/> or contact Mansfield, Ext. 7286 or pam@bnl.gov.

Calendar

(continued)

Wednesday, 2/6

*BNL Ballroom, Latin & Swing Dance Club series 3 starts

Series 3, 2/6-4/3 (no class 3/27), North Ballroom, Brookhaven Center

- 6-7 p.m. beginner Intro to Ballroom 104: see notice below.
- 7-8 p.m. intermediate American rumba & waltz IV (4 weeks per dance), \$30/person/8 weeks.
- 8-9 p.m. intermed./adv. International fox trot and American tango technique and principles (4 weeks per dance), \$40/person/8 weeks.

To register, contact: Marsha Belford, belford@bnl.gov or Ext. 5053; or Sue Perino, perino@bnl.gov or Ext. 2483.

Thursday, 2/7

*Microcomputer Presentation

noon-1 p.m., Berkner Hall, Room D. See notice at left.

Science Discussion Group

12:30-1:30 p.m., Berkner Hall, Room C. People who enjoy talking about science are invited to join this group to explore current scientific events and issues. Patrice Pages, Ext. 3270, pages@bnl.gov.

BERA Bridge Club

7 p.m., Brookhaven Ctr. South Room. Morris Strongson, Ext. 4192, mms@bnl.gov.

Friday, 2/8

GLOBE Meeting

The Gay, Lesbian, and Bisexual Employee Club at BNL will meet at 7 p.m. Implementation of domestic partner benefits will be discussed. Light snacks and table games will follow. For the meeting's location, contact Debbie Bauer, Ext. 5664, or Mike Loftus, Ext. 2960. www.bnl.gov/bera/activities/globe.

— WEEK OF 2/11 —

Tuesday, 2/12

Toy, Clothing Sale to Benefit Upton Nursery School

11 a.m.-1 p.m., Rec. Bldg. To benefit the Upton Nursery School. Donations can be made Tuesdays and Thursdays, 10-11 a.m., at the Rec. Bldg. Individuals can also sell items on their own at the sale; however, 20 percent of profits must be donated to the school. For table reservations, contact Lisa Fugelberg, 205-5128, or Simone Oppenheimer, 929-0043.

Healthline Lecture

Noon, Berkner Hall. George Roach will present an update on Elderlaw 2002 and discuss money matters when illness strikes. Mary Wood, Ext. 5923, wood2@bnl.gov.

Wednesday, 2/13

Rifle & Pistol Club Meeting

Noon, Conference Room, Bldg. 535. Jim Durnan, Ext. 5993, or www.bnl.gov/bera/activities/tpc/.

Thursday, 2/14

Noon Music Recital

noon-1 p.m., Berkner Hall. Free. Note unusual day. Vocals by Yvette Malavet Blum. See <http://music.bnl.gov>.

— WEEK OF 2/18 —

Wednesday, 2/20

Brookhaven Lecture

4 p.m., Berkner Hall. Susan Pepper of BNL's Nonproliferation and National Security Department will present the 370th Brookhaven Lecture. Title and additional information to follow in a future issue of the Bulletin.

Thursday, 2/21

Brookhaven Advocacy Council

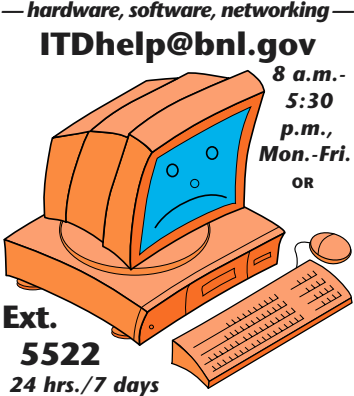
Open session: 12:30-1:00 p.m., Berkner Hall, Room C. See www.bnl.gov/bac. Nancy Warren, Ext. 4200.

Microcomputer Club Presentation 2/7

On Thursday, February 7, BNL Microcomputer Club President Steven Stein will present "HP Jornada 820 Handheld PC: Hardware and Software" at noon in Berkner Hall, Room D.

For more information, contact Stein, Ext. 5694, or see www.bnl.gov/bera/activities/bnlmcc/.

Computer problems getting you DOWN?
Call the
ITD HELP DESK
for fast, efficient service
— hardware, software, networking —
ITDhelp@bnl.gov



Love Notes to Your Valentine



In the interest of true love’s running smoothly, and because the Bulletin editorial staff’s steely exterior conceals a marshmallow heart, the deadline for tasteful late-breaking Valentine messages for publication on February 9 will be extended until 10 a.m., Monday, February 4. So, stop by Bldg. 134 or e-mail to bulletin@bnl.gov.

Classified Advertisements

Placement Notices

The Lab’s placement policy is to select the best-qualified candidate for an available position. Candidates are considered in the following order: (1) present employees within the department/division and/or appropriate bargaining unit, with preference for those within the immediate work group; (2) present employees within the Laboratory; and (3) outside applicants. In keeping with the Affirmative Action Plan, selections are made without regard to age, race, color, religion, national origin, sex, disability or veteran status. Each week, the Human Resources Division lists new placement notices, first, so employees may request consideration for themselves, and, second, for open recruitment. Because of the priority policy stated above, each listing does not necessarily represent an opportunity for all people. Except when operational needs require otherwise, positions will be open for one week after publication. For more information, contact the Employment Manager, Ext. 2882; call the JOBLINE, Ext. 7744 (344-7744), for a list of all job openings; use a TDD system to access job information by calling (631) 344-6018; or access current job openings on the World Wide Web at www.bnl.gov/JOBS/jobs.html.

OPEN RECRUITMENT – Opportunities for Laboratory employees and outside candidates.

MK2349. CHAIR, MATERIALS SCIENCE DEPARTMENT — The successful candidate should have a Ph.D. in materials science, physics, or chemistry (or a related field) with an extensive record of scientific accomplishments and leadership. Responsibilities include the overall administration, future direction and management of the Department staff and programs. Specifically, the Chair will provide leadership and will be engaged in program planning and development, in forming links to other BNL Departments, in interacting with the DOE and other funding agencies, and in assuring implementation of the Laboratory’s environment, safety and health policies. BNL is actively involved in DOE’S Nanoscience initiative and is pursuing the establishment of a nanoscience research center; the Chair would be expected to take a leadership role in these activities. Finally, the Chair is encouraged to maintain his/her own research program. The Department has active research in materials synthesis and chemistry, molecular and biological materials, advanced functional materials, and development and use of advanced materials probes. The Department has on-going programs in magnetism, superconductivity, electron microscopy, and electrochemical and chemical processing of materials, and makes use of the National Synchrotron Light Source for characterization. Send applications and nominations to Dr. Richard Osgood, Associate Laboratory Director for Basic Energy Sciences, Brookhaven National Laboratory, Building 460, P.O. Box 5000, Upton, N.Y. 11973-5000. Director’s Office.

MK2323. ASSISTANT SCIENTIST (S-1) — Requires a Ph.D. in cell biology or closely related area and knowledge of DNA damage, recognition or repair in mammalian cells. Will develop a research program to identify mechanisms by which mammalian cells detect and respond to DNA damage including damage caused by ionizing radiation.

Will collaborate with existing Biology Department staff to identify the macromolecular components, including protein complexes, that detect DNA damage and that constitute signal transduction pathways leading to control of cell cycle progression and the repair of DNA damage, and to determine the structure of these components and complexes at atomic resolution. Under the direction of C. Anderson, Biology Department.

MK2345. POSTDOCTORAL RESEARCH ASSOCIATE — Requires a Ph.D. in chemistry and experience in electrochemistry and electrocatalysis. Experience in electrochemistry and electrocatalysis, and in-situ spectroscopic studies desirable. Research will involve new method of synthesis and characterization of novel bimetallic electrocatalysts for fuel cells with improved tolerance to CO in reformat H₂ fuel and improved activity for O₂ reduction. Electrocatalysts will be in the form of supported nanostructured catalysts or single crystal surfaces. Under the direction of R. Adzic, Materials Science Department.

MK2324. POSTDOCTORAL RESEARCH ASSOCIATE — Requires a Ph.D. in biochemistry or biophysics, with experience in x-ray crystallography, to work on projects to determine structures of glycerol/water channels. This work involves the study of the structural basis of selective permeability through glycerol channels and its homologous water channels. We use a multidisciplinary approach for purifying and crystallizing integral membrane proteins for structural analysis by x-ray crystallography. Our laboratory is well equipped with capabilities from molecular biology through membrane biophysics to structure biology of membrane proteins, and with direct accessibility to National Synchrotron Light Source. (<http://bnlstb.bio.bnl.gov/biodocs/structure/Fu.htmlx>) Under the direction of D. Fu, Biology Department.

MK2325. POSTDOCTORAL RESEARCH ASSOCIATE — Requires a Ph.D. in biochemistry or biophysics, with extensive experience in protein chemistry, to work on projects to examine the structure-function relationship in glycerol/water channels. This work involves the study mechanisms of selective permeability through glycerol channels and its homologous water channels. We use a multidisciplinary approach for purifying and crystallizing integral membrane proteins for structural analysis by x-ray crystallography (<http://bnlstb.bio.bnl.gov/biodocs/structure/Fu.htmlx>). Our laboratory is well equipped with capabilities from molecular biology through membrane biophysics to structure biology of membrane proteins, and with direct accessibility to National Synchrotron Light Source. Under the direction of D. Fu, Biology Department.

TB2326. BIOLOGY ASSOCIATE III (P-3, term appointment, ERAP eligible - \$1K) — Requires an MS in a biochemistry related field or BS with 3 years laboratory experience. Must have good communication skills in a group setting, extensive experience in DNA manipulation and protein purification, and the ability to use modern computerized instruments. Major responsibilities include performing experiments to express and purify recombinant proteins. Additional responsibilities will include maintaining lab instruments and managing purchases of materials and supplies. Biology Department.

Gospel Extravaganza Tomorrow, Saturday, February 2 7 p.m., Berkner Hall

To honor Black History Month, the BERA Afro-American Culture Club, with other interested BNL employees, will present a gospel concert on Saturday, February 2, at 7 p.m. in Berkner Hall. Featured will be:

- Long Island Voices Foundation Mass Choir (*photo below*)
- Gene Bridges and the Wings of Faith, Deer Park
- Joy of Life Ensemble, Eastern Long Island
- Rosemary Rogers, Southampton
- Spiritual Stars, Riverhead
- First Baptist Church Dance Ministry of Riverhead

Refreshments will be served.

Purchase tickets today at the BERA Sales Office, Berkner Hall, 9 a.m.-3 p.m. , Ext. 3347. Advance tickets: adults: \$12; children under 12, \$6. Tomorrow, at the door, adult tickets will be \$15.



Black History Month — Calendar of Events

Date	Time	Location	Event
2/1	noon	Berkner lobby	Gospel History/Sing Along
2/2	7 p.m.	Berkner Hall	Gospel Extravaganza
2/13	noon	Berkner, Room B	Lecture: “Black Presence in the Bible” presented by Beresford Adams, Faith Baptist Church
2/13	11 a.m.	Berkner Lobby	Black History Challenge
2/20	noon	Berkner Hall	Recital by Nnenna Ogwo who will present an encore performance of classical masterworks
2/27	11 a.m.	Berkner Lobby	Black History Challenge
2/27	noon	Berkner, Room B	BNL’s Diversity Recruitment Efforts — Progress Reports and Highlights From New Staff

See the Black History Month poster exhibit and origami creations on display during the month of February in the Berkner Hall lobby.

Valentine’s Day Blood Drive

There will be a Valentine’s Day blood drive on Thursday, February 14, from 9:30 a.m. to 3 p.m., in the Brookhaven Center. To schedule an appointment, e-mail donateblood@bnl.gov, or contact Susan Foster, Ext 2888.



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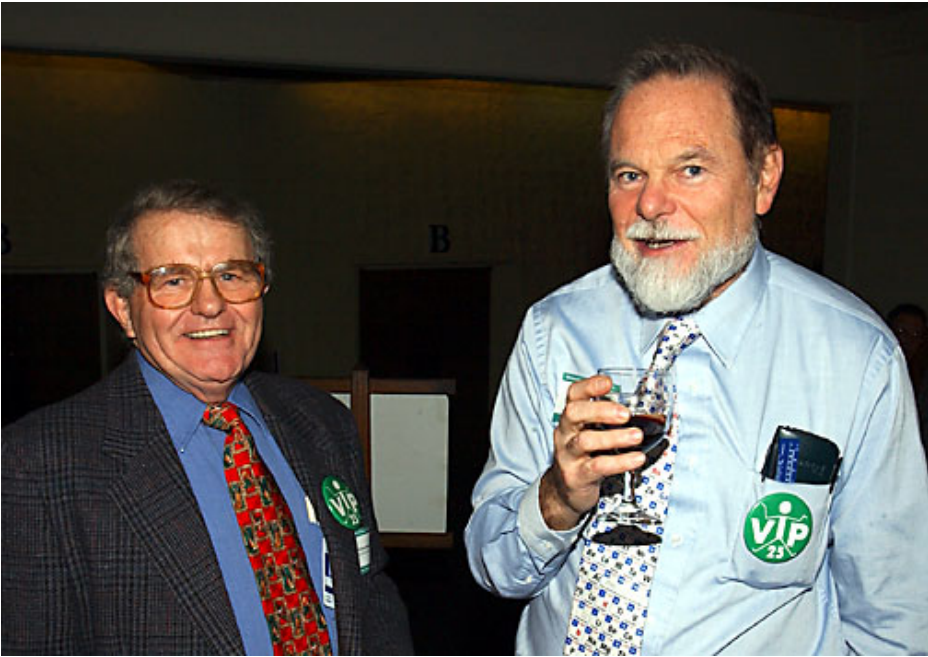
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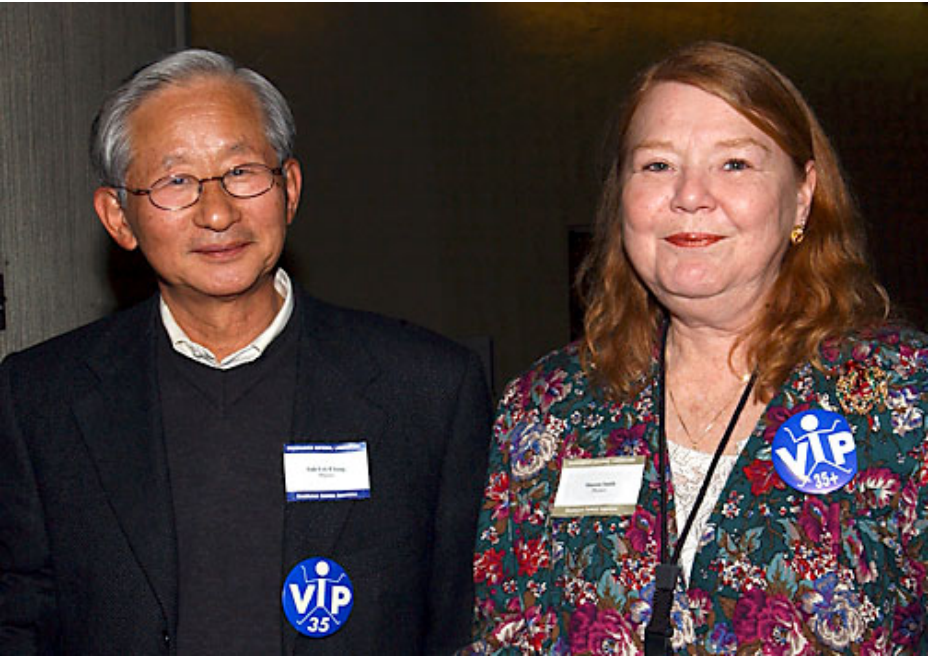
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