

## Four Win BNL's Engineering Award

At the BNL Employee Recognition Award Ceremony held on January 26, Michael Bebon, BNL's Deputy Director for Operations, presented the FY2005 Engineering Award of a plaque and \$5,000 to four employees, Ove Dyling, Joseph Harder, Alan Raphael, and John Skaritka.

The award recognizes distinguished contribu-

tions to BNL's engineering and computing objectives over one or more years. Contributions may be in any engineering or computing disciplines. Nominees are evaluated on the exceptional nature and level of difficulty of the contributions as well as their benefit to the Lab. The winners of the award are featured below.



Roger Stoutenburgh 00970105

**Ove Dyling**

Ove Dyling is a senior project engineer in the Project Coordination group of the Plant Engineering Division. He has worked as a licensed professional architect for 23 years, and has managed building and infrastructure design and construction activities for numerous major projects at BNL.

Dyling's outstanding achievements have been so successful that he is regularly assigned to manage BNL's most complex and technically demanding infrastructure and research support projects. He is cited for his architectural vision, which has provided a visible and long lasting benefit to BNL. An example of his work is the Science Education Center on Brookhaven Avenue, with its glass lobby and round lecture hall.

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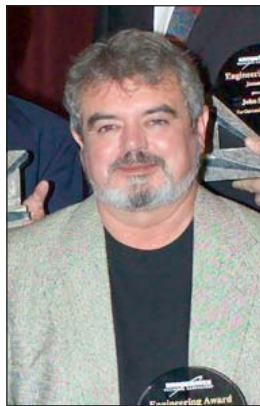


**Joseph Harder**

Joseph Harder, who is a research engineer I in the Instrumentation Division, is cited for his outstanding contributions in the area of electronic circuit design, particularly for development of analog and digital electronic circuits for high precision measurements.

Over a number of years, he has produced specialized circuits that have been recognized as landmark achievements in precision measurement. Among these were a fast time-to-digital converter for synchrotron radiation studies at the National Synchrotron Light Source, a dual-range flash analog-to-digital converter for the PHENIX experiment at the Relativistic Heavy Ion Collider (RHIC), and a gated baseline restorer and anode preamplifier for a 120 degree neutron

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**Alan Raphael**

Alan Raphael, a project engineer in the Engineering and Construction Services Group of the Plant Engineering Division, is recognized for his record of performance on some of the most challenging civil engineering projects at BNL. He has been instrumental in completing numerous projects including the Central Steam System Improvements, Central Chilled Water Facility, Waste Management Facility, numerous environmental restoration projects, and storm water flooding issues at the collider complex.

As an invaluable resource, Raphael is often specifically requested by departments to resolve critical civil engineering issues. He also serves as Chair of the BNL Site Development

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**John Skaritka**

John Skaritka, a project engineer I in the National Synchrotron Light Source (NSLS) Department, was cited for a body of work that contains seminal as well as sustained contributions. His many achievements speak collectively to outstanding breadth, creativity, drive and dedication in support of BNL missions.

Skaritka was the sole mechanical engineer for BNL's Accelerator Test Facility (ATF) for many years, making key contributions to the design of elements of the accelerator and experiments that were essential to the success of those projects. He contributed to the design of ATF Gun III and Gun IV, regarded now as standard in the world and running at many other facilities.

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## Copper vs. Copper at RHIC Middleweight matchup to provide control data in exploring new form of matter

Although budget news for 2006 is uncertain, present 2005 operations at BNL's Relativistic Heavy Ion Collider (RHIC) are in great form. In their search for evidence of a new form of matter not seen since the Big Bang, RHIC scientists have begun using a new experimental probe, collisions between two beams of copper ions. The use of these intermediate size nuclei is expected to result in intermediate energy density — not as high as in earlier RHIC runs colliding two beams of gold ions, but more than was produced more recently by colliding a beam of gold ions with much lighter deuterons.

"To completely understand the phenomena we are observing at RHIC, we have to look at what happens over a range of system sizes and collision energies," says Samuel Aronson, Physics Department Chair and an experimenter at RHIC, who will assume the Associate Laboratory Directorship for High Energy & Nuclear Physics on April 1.

RHIC scientists agree that the collisions of two beams of gold ions, called gold-gold collisions, have produced some very intriguing data that indicate the presence of a new form of matter — hotter and denser than anything ever produced in a laboratory. Furthermore, data from the deuteron-gold collisions confirm that the hot, dense matter the scientists are seeing in the gold-gold collisions is made in the collisions; that is, it is not an intrinsic property of the gold ions themselves, because it is not observed in the deuteron-gold collisions.

"The copper experiments will provide another control, or basis for comparison, that will help us understand how the new phenomena we are observing can be turned on and off, and under what conditions," Aronson says.

The copper physics run, which started on January 11, is expected to end on March 23. RHIC will then start polarized proton collisions at 100 billion electron volts of beam energy until June 25.

Meanwhile, RHIC scientists are still analyzing more than a million gigabytes of data gathered since RHIC started collisions in June 2000, much from the most recent gold-gold run conducted in 2004. These data should help scientists describe in more detail the properties of the new form of matter being observed in the gold-gold collisions, and perhaps settle on how best to characterize it.

— Karen McNulty Walsh

For more information, go to [www.bnl.gov/bnlweb/pubaf/pr/PR\\_display.asp?prID=05-05](http://www.bnl.gov/bnlweb/pubaf/pr/PR_display.asp?prID=05-05).



Peter Horton 019-97-98

Aerial view of the RHIC ring. RHIC is funded primarily by the Office of Nuclear Physics within DOE's Office of Science. Additional RHIC funders are at <http://www.bnl.gov/rhic/funding.htm>.

## New, Nondestructive Soil-Analysis Device Measures Carbon, More, In Situ

With funding assistance from DOE's Office of Science and the National Energy Technology Laboratory, Lucian Wielopolski of the Environmental Sciences Department (ES) has developed a device that can measure carbon and other elements in soils non-destructively and *in situ*.

The device is mounted on a cart and is field-deployable. It was created as part of the Lab's ongoing effort in carbon sequestration in the free-air CO<sub>2</sub> enrichment (FACE) facility, and could have national and international implications for both agriculture and the environment. Sudeep Mitra, also of ES, assisted Wielopolski in his research.

Housed on site at the Lab's newly constructed Soil Analysis Facility, Bldg. 487, that opened in December 2004, the instrument employs different methods of neutron activation to determine how much carbon is sequestered in soils. Over the past year, it has been undergoing modifications and field tests on site and at the FACE facility in North Carolina.

Plans call for it to be used jointly by scientists from the U.S. Department of Agriculture and DOE facilities in Alabama and from the University of Tennessee.

"In the past, soil carbon measurement was done by taking samples from small cores or large excavations back to the lab," Wielopolski said. "Now, with this device, we can sample a large volume at the site so that normal lateral fluctuations are smoothed out."

Unlike other soil carbon measurement technologies, which are destructive, Wielopolski's device allows for multi-elemental soil analysis. It can also be used in a scanning mode, allowing scientists to obtain average values of a large area.

The device

may be of particular interest to farmers worldwide, who have been switching in increasing numbers from conventional agriculture methods that turn the soil to what is called "no-till" farming. Since carbon generally improves soil fertility, it will allow farmers to determine when soil conditions are ideal.

There is another reason the farmers may want to keep track

of how much carbon is present in their soils.

"Photosynthesis sequesters carbon in the root systems of plants and finally in the soil," Wielopolski said. "Switching from till to no-till agriculture increases carbon sequestration and farmers will want to be able to verify the amount of carbon stored. Since carbon sequestration removes carbon from the atmo-

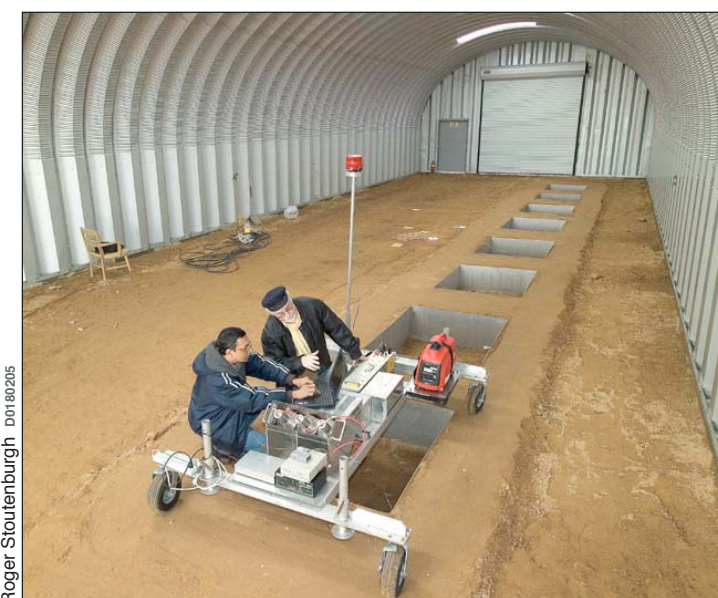
sphere, thus mitigating the global warming, this will allow the farmers to receive carbon credits."

Pursuant to the Kyoto Treaty on reducing greenhouse gas emissions, "carbon credits" will be available to farmers whose soil contains large amounts of sequestered carbon. Polluting industries are allowed fixed amounts of carbon dioxide emissions, after which they will have to buy carbon credits, now being actively traded on stock exchanges from Europe to Chicago.

The technology is also the subject of a CRADA with the XIA Company of California. In the future, Wielopolski and Mitra look forward to using tagged neutron beams by applying the associated particle neutron time-of-flight technique that could provide vertical profiles as well as the current total carbon in a volume of soil.

"It would be a quantum technological jump," Mitra said. "I have used this technique to measure carbon in live sheep."

— Kay Cordtz



Roger Stoutenburgh 00180205

Lucian Wielopolski (right) and Sudeep Mitra are seen in BNL's new Soil Analysis Facility with the new device that measures carbon and other elements in-situ and nondestructively.



## BNL's Internal Communications — E-Mail Workshops Expand the Lines

In a continuing effort to provide all employees with the skills needed to take advantage of e-mail and web technology, the Media & Communications Office in the Community, Education, Government and Public Affairs Directorate (CEGPA) partnered with the Information Technology Division (ITD) to establish e-mail accounts and conduct training sessions for employees who do not use those technologies as part of their standard work activities.

So far, 36 employees from the Plant Engineering Division's custodial staff and the Central Fabrication Services Division (CFS) have received e-mail addresses as well as web and e-mail training.

Says Christopher Manning, a CFS employee who recently received e-mail training, "My co-workers and I enjoy being able to read the Monday Memo and other BNL news and announcements on the Web. This is an important step in improving employee communications because it makes us feel more connected."



Roger Stoutenburgh 00050205

With Jane Koropsak (front, center) of the Community, Education, Government & Public Affairs Directorate and Laurie Pearl (right) of the Information Technology Division are some of the welders and employees from Central Fabrication Services, taking a break from their usual work duties to attend BNL's one-hour e-mail training session: (from left) John Wilson, Elizabeth Deazley, Thomas Imperial, Gary Steul, Walter Ducoing, Mark Cohen, and Rich Savoy.

Adds Laurie Pearl of ITD, "This has been an integrated effort and good experience for everyone involved — the em-

ployees are excited about gaining e-mail access and they appreciate the time we have taken to make this happen."

The training sessions will continue until all employees who have expressed interest have been trained. — Jane Koropsak

### Lunchtime Tour Today: Weather or Not? 2/18

Today, Friday, February 18, the Employee Lunchtime Tour will visit the National Weather Service, located on site. All are invited to meet at noon in the upper lobby of Berkner Hall. Lab buses will transport you to the tour, returning to Berkner by 1 p.m. The group will see various instruments and discuss the way the weather is forecast using the Doppler Radar. No reservations are needed. For more information, call Elaine Lowenstein, Ext. 2400.



### BSA Noon Recital, 2/23



Na-Young Baek and Yukiko Sekino

At the BSA Noon Recital on Wednesday, February 23, cellist Na-Young Baek and pianist Yukiko Sekino will perform in Berkner Hall. Both in Stony Brook University's graduate program, Baek and Sekino are each prize-winners as soloists before they joined in their present partnership.

All are welcome to this free recital, sponsored by BSA and open to the public. Visitors of age 16 and over must carry a photo ID.

### One-on-One Retirement Counseling

A TIAA-CREF consultant will visit BNL on Wednesday, February 23, Tuesday, March 8; Wednesday, March 9; Tuesday, March 22; and Tuesday, March 29, to answer employees' questions about your financial matters.

He will help you:

- Understand the importance of protecting your assets against inflation
- Find the right allocation mix for you
- Learn about TIAA-CREF retirement income flexibility
- Compare lifetime income vs. cash withdrawal options.

For an appointment, call Kathy Murphy, (866) 842-2053, Ext. 4625. (Note: not the on-site Ext. 4625.)

### Travel & Exercise Talk, 2/25

Join Jennifer Gatz, exercise physiologist, on Friday, February 25, noon-1 p.m. in Berkner Hall, Room B, where she will present the Health Promotion Program-sponsored talk, "Travel and Exercise." The talk will include descriptions and demonstrations of different types of exercises, as well as simple stretches that can be done while seated on a plane or in the office. Check your mailbox for registration forms for this talk. For more information, contact Michael Thorn, Ext. 8612, or mthorn@bnl.gov.

### Main Gate Traffic Flow Changes

As part of an on-going effort to improve traffic safety at the Main Gate, a permanent change to outbound vehicle speed and traffic flow (merging) will be implemented in February. The intent of these changes is to reduce the chance of injury to Safeguards and Security personnel, who must currently cross two lanes of westbound traffic to inspect outbound vehicles.

Permanent changes will be made to the posted outbound vehicle speed from the curve coming off of Upton Road (southbound) and entering onto Princeton Avenue (westbound), along with a permanent change to the outbound traffic flow pattern. Vehicle speed will initially be reduced from 35 miles per hour (mph) to 20 mph. As vehicles approach the security booth the speed will be further reduced to 15 mph. After exiting the booth and vehicle inspection area, the posted speed limit will rise to 35 mph. Along with the changes to the posted vehicle speed, traffic safety cones and signs will be placed that direct drivers to merge into the left lane as they approach the booth.

Some of these changes have already been implemented. However, over the next few weeks, employees will see permanent signage installed. New lane markers (pavement striping) will be installed when weather permits.

### Attn.: All On-Site Drivers Blue Stickers Required by March 1

All BNL employees must have a new, blue vehicle sticker displayed in their vehicle no later than March 1. Stickers are issued in Bldg. 30, the Brookhaven Center, Mondays and Wednesdays, from 8:30 a.m. to 5 p.m., and Tuesdays, Thursdays, and Fridays from 8:30 a.m. to 1 p.m. To obtain a sticker, employees must show their BNL ID badge, driver's license, and vehicle registration.

#### On-Site Service Station

Has your vehicle's timing belt been renewed? The on-site station, Upton Industries, Inc., will be glad to install a new one if needed. The station also offers battery checks, NYS vehicle inspections, oil changes, and all mechanical repairs, done while you are at work. Call Ext. 4034.

#### Benefits Office Reminder Student Status Proof

All medical/dental plan participants are reminded to submit an updated proof of student status to the Benefits Office, Bldg. 185, for the upcoming college semester. The Benefits Office will submit this to the insurance company on your behalf. To be eligible for benefits, children over age 19 must be unmarried, a full-time student, primarily supported by you, and attending an accredited college or university. For more information, call the Benefits Office, Ext. 2877 or 5126.

### Cradle of Aviation BERA Bus Trip, 3/5

All are invited on a bus trip to the Cradle of Aviation Museum and IMAX movie theater in Garden City on Saturday, March 5. The bus departs the Brookhaven Center parking lot at 9 a.m. and returns from Garden City at 5 p.m. Buy tickets at the BERA Store in Berkner Hall, at \$15 for adults, \$13 for children (ages 2 to 14) and seniors. Included is bus fare, museum fee, Mars Virtual Voyage ride, and an IMAX big-screen movie. For more information, see www.cradleofaviation.org.

### Bus Trip to NYC, 3/12

The Hospitality Committee invites all on a bus trip to Manhattan on Saturday, March 12, leaving the Recreation Hall in the apartment area at 9:30 a.m. and leaving the city at 5 p.m. The cost for adults is \$10, children 2-12, \$5; payment, in cash only, must be in advance. To arrange payment, contact Hanna Herman at haniaherman@yahoo.com or 849-2249.

## Calendar

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### Thursday, 2/24

#### \*Foot Screening by Appointment

9-11:50 a.m. Occ. Medicine Clinic, Bldg. 490. Also on March 4. Podiatrists Ben Dimichino and Brian Fanno. Schedule appointments with Michael Thorn, Ext. 8612 or mthorn@bnl.gov.

### Friday, 2/25

#### \*Travel & Exercise Talk

Noon-1 p.m., Berkner Hall, Room B. See notice below, left. Michael Thorn, Ext. 8612, or mthorn@bnl.gov.

#### \*Tsunami Relief Potluck Dinner Dance

6:30 p.m. - midnight, Brookhaven Center North and South rooms. Bring food to share with six people, and come and sing Karaoke and dance, etc. sponsored by many BERA clubs and BNL groups. See notice on page 4. Tickets, \$25, at the BERA Store. All proceeds will be donated to tsunami victims relief funds.

### Saturday, 2/26

#### \*Tsunami Benefit Concert

7 p.m., Berkner Hall. sponsored by the BNL Music Club, the concert will feature many local musicians, including some from BNL. See notice on page 4. All proceeds will be given to the American Red Cross.

### Sunday, 2/27

#### Spa Treatment at Gurney's Inn

Christine Carter, Ext. 5090, ccarter@bnl.gov.

## — WEEK OF 2/28 —

### Monday, 2/28

#### IBEW Meeting

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

### Thursday, 3/4

#### \*Foot Screening by Appointment.

9-11:50 a.m. See entry, February 24.

### Saturday, 3/5

#### Bus Trip to Cradle of Aviation Museum

9 a.m.-5 p.m. \$15/adult, \$13/seniors and children. BERA coach to museum in Garden City. See notice, below, left.

#### Gathering of the Slides Blues Concert

8 p.m., Berkner Hall. Featuring the Kerry Kearney Band, Little Toby Walker, and the Kane Daily Band. See notice, page 4. Tickets at \$10 each are at the BERA Sales Office in Berkner.

## — WEEK OF 3/7 —

### Wednesday, 3/9

#### BSA Noon Recital. 'Simply Gershwin'

Noon, Berkner Hall. Pianist Paul Bisaccia and tenor John Whitley perform music of George Gershwin. This free recital was previously scheduled in January, but postponed due to illness. All are welcome. Visitors to the Lab age 16 and over must carry photo ID.

### Saturday, 3/12

#### \*Hospitality Bus Trip to Manhattan

9:30 a.m. The Hospitality Committee invites all on bus trip to Manhattan. Luxury bus leaves from the Rec. Hall in the apartment area at 9:30 a.m. and leaving the city at 5 p.m. Adults, \$10; children 2-12, \$5; cash payment in advance only. To reserve and arrange payment, contact Hanna Herman at haniaherman@yahoo.com, or 849-2249.

## — WEEK OF 3/14 —

### Wednesday, 3/16

#### 402nd Brookhaven Lecture

4 p.m., Berkner Hall. Ben Burr of the Biolog Department will talk on "Genetic Engineering: What's the Fuss?" All are welcome to this free lecture, open to the public.

*Note: This calendar is updated continuously and will appear in the Bulletin whenever space permits. Submissions must be received by the preceding Friday at noon to appear in the following week's Bulletin. Enter information for each event in the order listed above (date, event name, description, and cost) and send it to bulletin@bnl.gov. Write "Bulletin Calendar" in the subject line.*

