the Bulletin

BROOKHAVEN NATIONAL LABORATORY

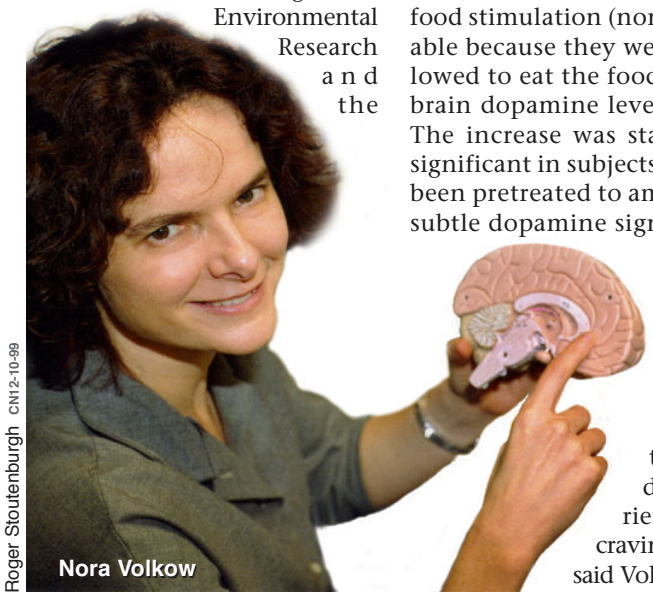
Vol. 56 - No. 24 July 19, 2002

Two New Studies Offer Clues About Obesity, Food Addiction

Research results published by a BNL team that has been investigating the neurological basis of drug addiction reveal that similar mechanisms may be at play in people "addicted" to food.

Last year, the team led by Nora Volkow, Associate Laboratory Director for Life Sciences, and Gene-Jack Wang, Medical Department, showed that, like people addicted to drugs, obese people have fewer receptors for dopamine, a brain chemical associated with reward and pleasure.

In two new studies, funded by DOE's Office of Biological & Environmental Research and the National Institute on Drug Abuse, these researchers show that the mere sight and smell of food cause dopamine levels to rise even in people of normal weight, and that obese people may be more sensitive to the rewarding properties of food.



In the first study, published in the June 1, 2002, issue of *Synapse*, the scientists used positron emission tomography (PET) scanning to measure dopamine levels in normal-weight, food-deprived research subjects who were shown their favorite foods and allowed to taste a small sample from a cotton swab. This "nonhedonic" food stimulation (non-pleasurable because they were not allowed to eat the food) caused brain dopamine levels to rise. The increase was statistically significant in subjects who had been pretreated to amplify the subtle dopamine signal.

"This anticipatory spike in brain dopamine may be similar to what addicts experience when craving drugs," said Volkow, "and may help us understand why some people overeat."

In the second study, published in the July 2, 2002, issue of *NeuroReport*, the scientists used PET to measure the metabolic activity in various parts of the brain in obese and normal-weight subjects.

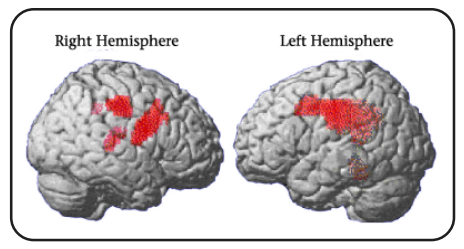
The PET scans revealed that, compared with normal-weight subjects, obese subjects had significantly higher metabolic activity in brain regions responsible for sensation in the lips, tongue, and mouth.

"This enhanced activity in brain regions involved with the sensory processing of food could make obese people more sensitive to the rewarding properties of food, and could be one of the reasons they overeat," said Wang.

— Karen McNulty Walsh

For more details on these studies and the previous study on obesity, go to www.bnl.gov/bnlweb/pubaf/pr/2002/bnlpr052002.htm; www.bnl.gov/bnlweb/pubaf/pr/2002/bnlpr062002.htm; and www.bnl.gov/bnlweb/pubaf/pr/2001/bnlpr020101.htm.

The images at right show the brain regions that has significantly higher metabolic activity in obese subjects compared with controls, as measured by PET scans and superimposed on an anatomical MRI image of the brain.



Vasilis Fthenakis Elected AIChE Fellow

Vasilis Fthenakis, a senior research chemical engineer in the Energy Sciences & Technology Department, has been elected a Fellow of the American Institute of Chemical Engineers. Founded in 1908, the Institute is a professional organization with more than 50,000 members, of which 1.7 percent are Fellows. Fthenakis is one of eight Fellows who were chosen in 2002.

Fthenakis's fellowship certificate reads: "This honor is in recognition and appreciation of superior attainments, valuable contributions, and service to Chemical Engineering."

"I am delighted to be honored as a Fellow of the American Institute of Chemical Engineers, which is a gratifying recognition of my 20 years of research on prevention and control of industrial accidents," Fthenakis said. "I am glad that the computer models that I have developed and the hazard assessments I have guided have wide applications in the photovoltaic, semiconductor, and chemical-process industries."

He added, "I am fortunate to work at BNL. The Lab fosters an environment where creativity flourishes, which was indispensably important during the years in which I was shaping my career, and it still is."

Fthenakis, who is an expert in chemical environmental and safety assessment, heads the National Photovoltaic Environmental, Health & Safety Assistance Center operated at BNL under the auspices of DOE. Photovoltaics refers to the conversion of solar energy to electricity. The Center fosters the safe and environmentally friendly operation of photovoltaics facilities and products.

In addition, as a chemical engineer, Fthenakis has served as a safety and environmental consultant for many oil and chemical corporations in the U.S.

A native of Greece, Fthenakis received his undergraduate degree in chemistry from the University of Athens in 1975. He received his master's degree in chemical engineering from Columbia University in 1978, and he earned his Ph.D. in fluid dynamics and atmospheric science from New York University in 1991, while working at BNL. Fthenakis joined BNL as a research engineer in 1980 and was promoted to senior research engineer in 1995. Since 1993, he has been teaching air-pollution engineering at Columbia University, and, in 1997, he was promoted to adjunct professor of environmental engineering.

Fthenakis has received commendations from DOE and the National Renewable Energy Laboratory for his outstanding work on environmental and safety issues related to photovoltaics. He serves on the editorial boards of the *Journal of Loss Prevention* and *Progress in Photovoltaics Research and Applications*, and he is the main author of the reference text *Prevention and Control of Accidental Releases of Hazardous Gases* (Van Nostrand Reinhold, New York, 1993), which is extensively used by the chemical industry, academia and regulatory agencies. Fthenakis also has written 165 peer-reviewed publications.

— Diane Greenberg

Bimetallic Compounds Can Reduce Sulfur Dioxide in Air

BNL scientists have found that certain compounds called bimetallics, made of two metals, can significantly reduce the amount of sulfur dioxide — a source of acid rain — released in the air by power plants, factories, and cars.

"Sulfur dioxide is produced when sulfur impurities that are present in crude oil combine with oxygen," explains Jose Rodriguez, Chemistry Department, who led the study with Jan Hrbek, Interim Chemistry Chair.

"Getting rid of sulfur from oil before it is released into the atmosphere has been our goal for the last five years," says Rodriguez. "Bimetallics are certainly one of the most successful compounds that we have seen so far."

How this happens is still an open question, Rodriguez admits, but one of the possibilities put forward by his team is that the two metals reinforce the action of each other. "What is very interesting," says Rodriguez "is that, when you make a bond between two metals that do not independently interact with sulfur, their combination can be very active with sulfur."

In research funded by DOE's Office of Basic Energy Sciences, the chemists used x-rays and ultraviolet light produced by the National Synchrotron Light Source at BNL to investigate the mechanisms by which various bimetallics attach to sulfur in oil.

(continued on page 3)

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 Chris Ronick, 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.*

— THIS WEEKEND —

Saturday, 7/20

Manhattan Bus Trip

Adults $10, Children 2-12 years old $5. Bus departs from the Lollipop house at 9 a.m. and leaves the city at 6 p.m. For more information, contact Lisa Fugleberg, 206-5128, or Joe O'Conor, Ext. 2212.

— WEEK OF 7/22 —

Monday, 7/22

IBEW Meeting

6 p.m., Knights of Columbus Hall, Railroad Ave., Patchogue. 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. Union members may take part in a raffle of the union car.

Wednesday, 7/24

***BSA Noon Recital**

Noon, Berkner Hall. Musical Director Paul Schenly presents three rising stars from Pianofest in the Hamptons. See http://music.bnl.gov.

Thursday, 7/25

BERA Bridge Club

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

— WEEK OF 7/29 —

Tuesday, 7/30

VoiceStream Wireless Demo

10 a.m. - 2:30 p.m., Berkner Hall. Special rates will be presented to BNLers on VoiceStream's wireless network. Richard Goll, (516) 343-5900.

Saturday, 8/3

BERA Fishing Trip

$49 per person. The *Captain Bob* leaves the dock in Mattituck at 8 a.m. and returns at 3 p.m. Tickets can be purchased at the BERA Sales Office on weekdays from 9 a.m. to 3 p.m. Directions to the dock are available at the sales office too. For more information, contact Andrea Dehler, Ext. 3347, or Sue Cataldo, Ext. 4461.

— WEEK OF 8/5 —

Wednesday, 8/7

***BSA Noon Recital**

Noon, Berkner Hall. Musical Director Paul Schenly presents three rising stars from Pianofest in the Hamptons. See http://music.bnl.gov.

Thursday, 8/8

BERA Bridge Club

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

Friday, 8/9

N.Y. Yankees Baseball Game

$55 per person includes ticket and bus transportation to Yankee Stadium to watch the Yankees take on the Oakland Athletics. Bus departs the Brookhaven Ctr. at 4 p.m. and will return at approximately 11:30 p.m. Tickets available at the BERA Sales Office, Berkner Hall, weekdays from 9 a.m. to 3 p.m. Andrea Dehler, Ext. 3347.

Saturday, 8/10

***Defensive Driving Course**

9 a.m.-3:30 p.m., Berkner Hall, Room B. To register, send a check for $26 per person, made out to Empire Safety Council, in care of Scott Zambelli, P.O. Box 670, Mount Sinai, NY 11766. Include your telephone number in case you need to be contacted. All checks must be received by August 2.

— WEEK OF 8/19

Thursday, 8/22

BERA Bridge Club

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

SBU Student Awarded Scharff-Goldhaber Physics Prize

Yiing-Rei Chen, a doctoral student in physics at Stony Brook University (SBU), has won the 2002 Scharff-Goldhaber Prize, which was presented to her by BNL Scientist Emeritus Maurice Goldhaber, on May 1.

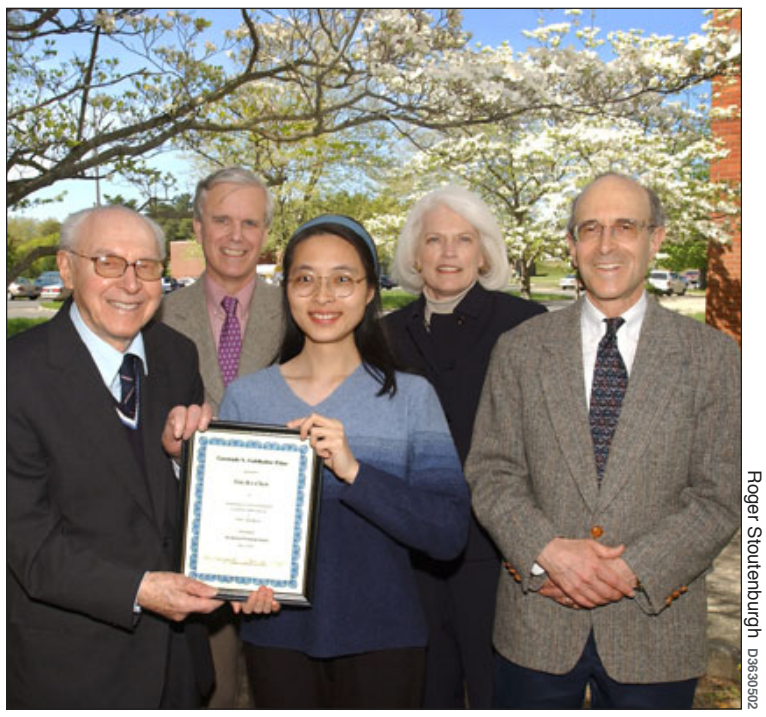
The $1,000 award was established to recognize substantial promise and accomplishment by women graduate students in physics who are enrolled at SBU or who are performing their thesis research at BNL.

Administered by Brookhaven Women in Science (BWIS), the prize honors the late nuclear physicist Gertrude Scharff-Goldhaber. In 1950, Scharff-Goldhaber became the first woman Ph.D. physicist appointed to the BNL staff, and, later, she became a founding member of BWIS.

An accomplished pianist, Chen developed her talent in music as well as her interest in physics for many years. She came to the U.S. from her native Taiwan to study piano at the Curtis Institute of Music in Philadelphia in 1992, but a hand injury prevented her from meeting her own high standards of performance.

Chen returned to her native country to pursue physics at National Taiwan University, where she earned a B.S. in 1997. She then came to the U.S. for the second time and attended the Manhattan School of Music. But in 1998, she decided to continue her scientific studies , and she enrolled at SBU as a graduate student in physics. After she earns her Ph.D., she expects to pursue a career in teaching and/or research.

At the award presentation ceremony arranged by BWIS, Chen gave a short seminar on her research, titled "Prediction of the Formation and Mid-Gap Features of Spin-Lattice Polarons in Electron-Doped $CaMnO_3$." — Diane Greenberg



Roger Stoutenburgh D3630502

Pictured are: (from left) Maurice Goldhaber, BNL Scientist Emeritus and widower of Gertrude Scharff Goldhaber; Philip Allen, Professor of Physics, SBU, and Yiing-Rei Chen's advisor; Chen; Pam Mansfield, BWIS Coordinator; and Alfred Goldhaber, Professor of Physics at SBU and son of Gertrude and Maurice Goldhaber.

55 BNLers Earn $200 Bonds for Perfect Attendance

On May 15, BNL held a celebration to recognize the full-time employees who have won $200-bond Perfect Attendance Awards.

Those of the 55 winners who were able to attend the afternoon event at the Brookhaven Center were welcomed by Compensation Manager Robert Kelly of the Human Resources Division. The winners were then warmly congratulated by Interim Laboratory Director Peter Paul, who recognized and thanked each person for his or her service and dedication on behalf of the Lab.

As in previous years, many awardees had achieved multiple years of perfect attendance: nine had won once before, seven had won twice before, seven had won three times previously, seven had won for the fourth time, eight for the fifth time, four for the sixth time, 11 for the seventh time, and one, Phyllis Tinsley-Smith of the Biology Department, was winning for the tenth time.

The Perfect Attendance award was first given in 1992, when 15 full-time weekly employees on the technical and clerical schedules were recognized for their perfect attendance during 1991. In 1995, these employees and those from the Paper, Allied-Industrial, Chemical & Energy Workers International were joined in being eligible for the award by BNL employees represented by the International Brotherhood of Electrical Workers. In 1998, the members of the Suffolk County Security Police Association in the Safeguards & Security Division also became eligible for the prize.

In addition to the bond and a certificate that had already been sent out before the reception, each winner received a T-shirt with the BNL logo on the front pocket, and the back stating "Mi$$ion Accompli$hed, Perfect Attendance, 2001."

The list below of this year's winners indicates how many times an employee has won this prize by the number following his or her name. The names with no following number indicate a first-year win. However, employees who became eligible for the prize after its inception have often served BNL with additional years of perfect attendance that are on record elsewhere. — Liz Seubert

Roger Stoutenburgh D6460602

Photographed at the celebration with Interim Laboratory Director Peter Paul (back, second from right) and Robert Kelly, Human Resource Division (back, right) are many of the 55 winners of the 2001 Perfect Attendance Award, whose names are listed below.

Biology Department - Phyllis Tinsley-Smith, 10

Central Shops Division - James Bell, 2; William Dalton, 5; Frank Flegar, 5; Randolph Seibel, 7

Collider-Accelerator Department -Nils Danielson, 2; Mitchell De La Vergne; John Moore, 2; Eugene Rup, 2

Emergency Services Division - Roy Barone, 7; Daniel Harrow, 3; Michael Hickey, 3; Lawrence Kunzig; Gary Schaum, 4

Information Services Division - Cornelius Jackson, 7; Alex Reben, 7

National Synchrotron Light Source Department - John Burke; Brian Kushner, 2; Joan Marshall, 4

Plant Engineering Division - Howard Bell; Kerry Botts, 4; Wayne Boyd; Robert Brady, 3; Herman Butts, 7; Patria Cortes, 6; Thomas Crews, 6; Susan Evans, 7; Francisco Gaetan, 5; Ganga Ghimiray, 2; Hubbard Harris, Jr., 3; Jerry Hobson, 5; Fernando Jaramillo; Dollie Johnson, 3; Richard Keane, 3; Richard Lutz, 7; William McPherson; Stephen O'Kula, 5; Peter Realmuto. 2; Dennis Renahan, 2; William Schmidt, 7; Kenneth Wenger, 3

Procurement & Property Management - Samuel Cortes, 6; Eva Esposito, 5; Ulises Feliciano, 4; Dhruba Ghimiray, 5; Thomas Johnson, 4; Joseph Modjeska, 7; Jerome Quigley, 7; Janet Soper, 3; Charles Whiting, 4; Shelby Williams, 7.

In Memoriam

Douglas Clareus, life number 719, who had come to BNL's Physics Department as a technician A on April 21, 1947, died on October 30, 2001, when he was 82. He had retired as Technical Associate I from the Instrumentation Division on December 31, 1983, after 36 years of service.

Lawrence Cook, who had joined the Medical Department as a technician C on July 7, 1958, and had retired after 33 years as a medical associate II on September 30, 1991, died on January 26, 2002, at age 72.

Ralph Giallorenzo, who had joined BNL on June 6, 1955, died on January 26, 2002, at age 79. After 31 years, he had retired as a senior designer from the Accelerator Department on June 30, 1986.

'March Into May' Results Are In

After compiling and analyzing data, the results are in for the "March Into May" Fitness Program. Registration surveys were sent to 449 employees. 415 employees returned the registration forms, and 404 participated in the 10-week fitness challenge. Of these 404 participants, 76 percent reached their personal end goals, and 86 percent reached at least 100 points by the end of the program. The average number of total points for all participants was 221.7. With one point equivalent to 10 minutes of physical activity, the average amount of exercise by participants was more than 30 minutes each day for 10 weeks. The top five scorers are as follows:

Name	Total points	Captain(s)
Tim Lyons	1,426	Pete Recksiek
Victor Cassella	1,316	Karen Johnson
Sheik Farooq	1,138	Frank Dusek
Henry Hauptman	881.5	Celeste Tymann
Syed Khalid	792	Claire Retundi & Ken Koebel

D.J. Greco, the Director's Office captain, and Jason Remien of the Environmental Services Division won the raffle of those turning in final points and evaluation forms.

Mary Wood, the March Into May Program Coordinator said, "Congratulations to all participants for successfully marching into May! I thank all those who took part in the challenge, and I extend a special thanks to the 37 team captains for devoting their time to this program."

To submit questions or comments, contact Wood, Ext. 5923 or wood2@bnl.gov.

Recital

'Pianofest' Piano Solos, 7/24

Pianofest Director Paul Schenly, who heads the Cleveland Institute of Music's Piano Department, brings three young pianists to BNL on Wednesday, July 24, to give a noon piano recital in Berkner Hall that has variety in performer as well as music performed.

Pianofest is a summer festival in the Hamptons which offers time for concentrated study to a small group of pianists selected by audition. The teaching at Pianofest stresses support rather than competition. In addition to developing their solo repertoire, students accompany each other in concertos and explore the duo piano literature. Many of Pianofest's students have gone on to make their mark both nationally and internationally.

Paul Schenly

Noon recitals are free and open to the public. Bring your lunch and come and go as you please.

Calendar

Saturday, 8/24

Bronx Zoo Trip

$32 per adult, $28 per child. Includes bus transportation and Zooventure tickets. (Zooventure includes general admission, zoo shuttle, Bengal Express, one-way Skyfari Cable Car ride, and the Children's Zoo.) Bus leaves Brookhaven Center at 8:30 a.m. and returns at approximately 6:30 p.m. Reservations can be made at the BERA Sales Office, weekdays, from 9 a.m. to 3 p.m. Andrea Dehler, Ext. 3347.

— WEEK OF 8/26 —

Monday, 8/26

IBEW Meeting

6 p.m., Knights of Columbus Hall, Railroad Ave., Patchogue. 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.

— WEEK OF 9/2 —

Tuesday, 9/3

U.S. Open Tennis Trip

$61 per person; includes ticket and round-trip bus transportation to the U.S. Open Tennis Championships. Bus departs from the Lab tennis courts parking lot at 8:30 a.m. and stops at the LIE exit 63 Park & Ride. Bus departs the National Tennis Center at 7:30 p.m. Prepaid reservations can be made at the BERA Sales Office in Berkner Hall, weekdays, from 9 a.m. to 3 p.m.

— WEEK OF 9/9 —

Thursday, 9/12

BNL Blood Drive

9:30 a.m.-3 p.m., Brookhaven Center. BNLers from 17 to 75 years of age, in good health, and weighing over 110 lbs. are welcome. All donors should have photo identification and know their social security number. Susan Foster, Ext 2888, donateblood@bnl.gov.

Friday, 9/13

Yankee Baseball Game

$55 per person, includes ticket and bus transportation. Bus leaves the Brookhaven Center at 4 p.m. for the 7 p.m. Yankees vs. White Sox game. Paid reservations can be made at the BERA Sales Office in Berkner Hall on weekdays from 9 a.m. to 3 p.m.

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.

For ITD customer & computer security

AUTHENTICATION NOW REQUIRED

to reset your password OVER THE PHONE

Contact the ITD HELP DESK Ext. 5522

8 a.m.-5:30 p.m.

NOTE: authentication is not required for other Help Desk services

To reset your password over the phone, you must now provide

- **life number**
- **birthday month & day**
- **home zip code**
- **last 4 digits of your ss# (if you have a ss#)**

OR

To reset your password in person, bring your BNL ID to the Account Management Office, Bldg. 459

HR's Immigration Group Helps Foreign Nationals With Visas

In the wake of recent world events, evolving visa policies and procedures have made it increasingly difficult and time consuming for foreign nationals to arrange travel outside the United States.

To answer questions and assist BNL staffers who are foreign nationals, Lorraine Barry, Leesa Allen, and Brenda Kirk of the Immigration Group in the Human Resources Division are here to help. Since these tasks take more time nowadays, those requiring the assistance of the Immigration Group are asked to be prompt in contacting its members regarding expected travel or other visa circumstances:

- **Lorraine Barry (Ext. 7814 or lbarry@bnl.gov):**

BNL-sponsored J-1 visas, or assistance with a B visas for guests and facility users

- **Leesa Allen (Ext. 2700, or leesa@bnl.gov):**

BNL-sponsored H1-B visa, Employment Authorization Document (EAD card), or TN status as a BNL employee, if your last name begins with the letters A to K

- **Brenda Kirk (Ext. 5877, or bkirk@bnl.gov):**

BNL-sponsored H1-B visa, Employment Authorization Document (EAD card), or TN status as a BNL employee, if your last name begins with the letters L to Z.

Foreign nationals must also note that upon returning from each trip abroad, they are required to see a member of the Immigration Group so that a photocopy of their current I-94 status can be added to their record.

In addition, immigration law requires that all foreign nationals, including lawful permanent residents, report each change of personal address and any new address to the Immigration and Naturalization Service on Form AR-11 within ten days of moving. This form is available at www.ins.usdoj.gov/graphics/formsfee/forms/ar-11.htm.

To see this article on the HR webpage and for more information, go to http://dev.bnl.gov/HR/Articles/Foreign_Nationals.htm.

Arrivals & Departures

Arrivals

Timothy Kidd ..... Physics

Departures

M. Kay Dellimore ... Staff Services

Jun-Suhk Suh ..... Physics

Meeting: Afro-American Culture Club, 7/31

The Lab community is invited to the next meeting of the BERA Afro-American Culture Club, which will be held on Wednesday, July 31, from 11:45 a.m. to 1 p.m. in Berkner Hall.

The club greatly regrets that the meeting called for on June 26 had to be cancelled at very short notice. The agenda for July 31 includes planning for future events and discussion of a membership recruitment drive. For more information, call Nicole Trent, Ext. 4956.

Get to Know Your Lab!

Roger Stoutenburgh DI030399

Q: When is science child's play?
A: At BNL's Science Museum!

The Lab community is invited to join the second employee lunchtime tour, which will be held on July 26.

Meet at noon in the upper lobby of Berkner Hall. The group will go by bus to the Science Museum to find out what makes it such a popular stop for more than 13,000 elementary school children each year: hair-raising activities in electricity, exploring magnetism, and other wonders of the scientific world.

No reservations are needed. For information, call Elaine Lowenstein, Ext. 2400.

COMPUTER TRAINING

LabVIEW Training

The Information Technology Division has scheduled LabVIEW Basics I and II training classes, which will meet from August 26 – August 30, from 8:30 a.m. to 4:30 p.m. The training fee for this class is $2,000 per student. To register, send an ILR for the appropriate amount to Pam Mansfield, Bldg. 515, by August 2.

For more information and schedules for all other classes, visit the ITD training pages at: www.bnl.gov/itd/training or contact Pam Mansfield, Ext. 7286 or pam@bnl.gov.

Bimetallics *(cont'd.)*

"These bimetallic systems could be used in many applications," Rodriguez says, "in particular in producing environmentally friendly combustion fuels for use in power plants, factories, houses, and transportation."

The team is now testing combinations of more than two metals, and also developing computer simulations to understand the chemical processes involved in oil sulfur removal at the atomic level.

"Ideally, we want to find a catalyst that completely removes sulfur from oil," Rodriguez says. "We are getting there, but we still have a lot of work to do." — Patrice Pages

Hospitality Committee Manhattan Trip, 7/20

Some seats remain for the Hospitality Committee-sponsored bus trip to Manhattan tomorrow, July 20. All are welcome.

The bus will depart from the Lollipop House at 9 a.m. and will leave the city at 6 p.m. Tickets cost $10 per adult and $5 per child ages 2-12. For more information, call Lisa Fugleberg, 205-5128, or Joe O'Conor, Ext. 2212.

Defensive Driving

A defensive driving course will be held on Saturday, August 10, 9 a.m.-3:30 p.m. in Berkner Hall, Room B, at a cost of $26 per person. See details in the Calendar on page 2.

SOS: Needed Today!

One Student Business Law 1

If one more participant can be found, a 3-credit course on business law will be offered on site during the fall 2002 semester by Suffolk County Community College (SCCC). No prerequisite is required, and this course will satisfy requirements for most SCCC degrees. A minimum of 12 students is needed to hold the class. Currently, 11 students are interested.

The course is BL71 Business Law I, an introduction to law: law as a social institution, its origin, development and administration. Law of contracts, employment, and governmental regulations of business are included.

BNL offers tuition advances or reimbursements of 75 percent for undergraduate courses. If you are interested or need information about tuition assistance, contact Starr Munson, munson@bnl.gov or Ext. 7631, by today, July 19.

Free Summer Sundays

BROOKHAVEN NATIONAL LABORATORY

Roger Stoutenburgh D1691201

This Sunday, July 21, tour BNL's Magnet Division

This Sunday, July 21, visitors to the Lab will visit BNL's Superconducting Magnet Division, where magnets are constructed for use in particle accelerators such as the Relativistic Heavy Ion Collider.

Summer Sunday visitors will learn about the characteristics that make superconducting magnets such a challenge to build.

Come see how the flow of electrical current through superconducting wires and cables energizes these electromagnets. Learn why superconducting magnets must be cooled to temperatures near absolute zero to reach the superconducting state.

In addition, a new hands-on exhibit called "Brain Teasers," a collection of 20 puzzles ranging from giant jigsaws to rope tricks, will challenge both children and adults. Also, local high school students will demonstrate the robots they built. Also, the "Whiz Bang Science Show" — popular with both adults and children — will be shown at 10:30 a.m., noon, 1:30 p.m., and 3 p.m. every Sunday during the summer program.

Tour hours are between 10 a.m. and 3 p.m. Admission is free and no reservations are needed, but to be admitted on site, all visitors age 16 and over must bring a photo ID.

Tours Continue Through August 25

Correction

In the Bulletin of July 12, 2002, the advertisement of the position as publisher for the American Institute of Physics (AIP) was inadvertently placed under an American Physical Society position headline. To see the job description, see the Bulletin at www.bnl.gov/bnlweb/pubaf/bulletin. html. For more information on AIP, go to www.aip hrmy@aip.org.

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/HR/jobs/default.htm.

OPEN RECRUITMENT – Opportunities for Laboratory employees and outside candidates.

MK2333. ASSISTANT SCIENTIST - (S-1, two positions) – Requires a Ph.D. in radiation biology, cell biology or molecular biology or related field and postdoctoral experience. Experience in cell culture and good communication skills and willingness to work with US and international investigators is essential. A strong background and/or experience in radiation biology and previous experience in accelerator-based radiobiology, or in carrying out research away from home institution, are desirable, and positions may lead to Continuing Appointments. As part of a NASA-sponsored project, will join a team of heavy ion beam line scientists providing expertise, support, and guidance to NASA-sponsored radiobiology investigators at the new Booster Accelerator Facility (http://server.ags.bnl.gov/bnlags/BAF/baf home.htm) and at the Alternating Gradient Synchrotron (http://bnlstb.bio.bnl.gov/biodocs/nasa/nasa_ags.htmlx). This new facility will provide charged particles from protons to gold for irradiation of biological specimens. Extended and irregular hours may be required; must live locally to provide off-hours support to Users, and must be willing to travel to national or international scientific conferences. Non-NASA funding may be available for individual research under the direction of B. Sutherland. For additional information see *Proc. Natl. Acad. Sci. U.S.A.* (2000) 97:103; *Nucleic Acids Research* (2002) 30:2800; *Radiation Research* (2002) 157: 611. Biology Department.

MK8514. POSTDOCTORAL RESEARCH ASSOCIATE – Requires a Ph.D. in physics or related field and a detailed understanding of beam physics and nonlinear dynamics. Position is with the Accelerator Physics Group and research will involve working on improving the performance of the Relativistic Heavy Ion Collider (RHIC), and the development of new accelerator projects. Work will also involve experimental and theoretical analysis of problems such as linear and nonlinear coupling, resonance compensation and beam-beam effects. Under the direction of D. Trbojevic, Collider-Accelerator Department.

MK3045. POSTDOCTORAL RESEARCH ASSOCIATE – Requires a Ph.D. in physics. Will work with one of the high energy physics experimental groups. Under the direction of H. Gordon. Physics Department.

MK2723. POSTDOCTORAL RESEARCH ASSOCIATE – Requires a Ph.D. in chemistry or chemical engineering with extensive experience in reaction kinetics, surface characterization, x-ray diffraction, and x-ray absorption spectroscopy. Will participate in studies of the structural, electronic and chemical properties of catalytic materials. Under the direction of J. Rodriguez, Chemistry Department.

MK3046. POSTDOCTORAL RESEARCH ASSOCIATE – Requires a Ph.D. in physics and experience in short pulse electron beam diagnostics; operations of electron linacs and operation of terawatt lasers is desired. Position is in the Accelerator Test Facility (ATF – www.atf.bnl.gov), which is a user's facility for advanced accelerator concepts and Free Electron Lasers research and development. Will support the ATF operations and take part in its experimental programs. Under the direction of I. Ben-Zvi, Physics Department.

MK3047. POSTDOCTORAL RESEARCH ASSOCIATE – Requires a Ph.D. in physics with experience in experimental accelerator physics; experience in simulation design and measurement of accelerator cavities and simulation and hands-on experience in electron beam transport lines is desired. Position is in the Accelerator Test Facility (ATF – www.atf.bnl.gov), which is a user's facility for advanced accelerator concepts and Free Electron Lasers research and development. Will support the ATF operations and take part in its experimental programs. Under the direction of I. Ben-Zvi, Physics Department.

NS7919. ADVANCED APPLICATIONS ENGINEER (I-7) – Requires a BS in computer science, atmospheric science, or meteorology, with five years' technical experience of which at least three years should be in web-based applications and relational databases. Experience in at least four of these technologies: Java, JSP, XML, Sybase, Perl, Apache are necessary. Responsibilities will include the design and implementation of scientific and administrative databases with web-based queries and input forms. External Data Center of the Atmospheric Radiation Measurement Program/Environmental Sciences Department.

MK2330. SR. LABORATORY TECHNICIAN (CW-3, term appointment) – Must possess a general knowledge of scientific work and have two years' experience in relevant work. Under general supervision will perform various assignments in carrying out research in support of scientific staff. Will participate in a research program using molecular ecological techniques to investigate the composition of microbial communities linked to poplar with special attention to microaerobic organisms. Biology Department.

TB8537. PRINCIPAL TECHNICIAN (TW-4, reposting) – Requires an AAS or equivalent in electronics technology; a Bachelor of Technology degree is highly desirable. In addition, experience with computer control I/O, process control hardware, and various software applications. Construction skills and familiarity with Programmable Logic Controllers (PLCs) and associated application configuration is highly desirable. Good communication skills and the ability to work in a group setting are important. Responsibilities will include maintenance, testing, fabrication, calibration, installation, documentation, and fault diagnostics of electronic, process control and helium refrigeration systems. Must be able to work mandatory overtime and be available for emergency call-ins during non-scheduled hours. Periodic shift work is required. Collider-Accelerator Department.

On the Wild Side

Roger Stoutenburgh D6650602

Walking through BNL woods, Lab Photographer Roger Stoutenburgh suddenly was dived at several times by a wood thrush, "probably to protect a nest," says Stoutenburgh. "But while he took time out to recharge his energy, I got a photo before leaving, so we both won."

the Bulletin

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JOHN GALVIN, reporter
ROGER STOUTENBURGH, photographer

On the World Wide Web, the Bulletin is located at www.pubaf.bnl.gov/bulletin.html. A Weekly Calendar listing scientific and technical seminars and lectures is found at www.pubaf.bnl.gov/calendar.html.

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