

Lefty or Righty? PET Highlights "Mirror Image" Drug Differences



Roger Stoutenburgh D5642022

Yu-Shin Ding

New positron emission tomography (PET) imaging studies at BNL are helping scientists to understand how a drug's "handedness" affects its performance in the human body, which may lead to the development of more effective pharmaceuticals.

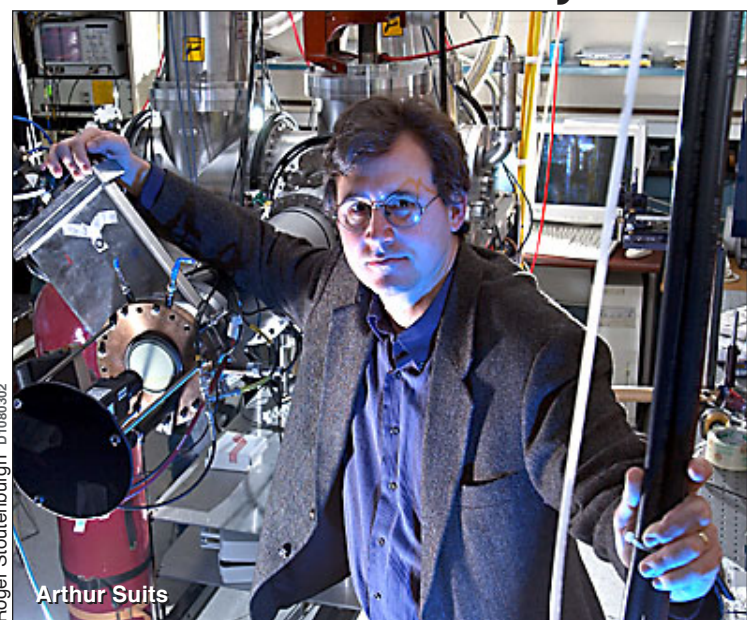
Like people, drug molecules can be "lefties" or "righties," a property determined by the spatial orientation of their atoms. Mirror images of each other, each version of a particular drug molecule contains the identical atoms and identical chemical and physical properties, but can have different effects in the human body.

"Our body's proteins can distinguish the difference between left- and right-handed molecules and react accordingly," said Yu-Shin Ding of the Chemistry Department. "The results can be quite dramatic."

Most drugs are mixtures of the lefty and righty versions of the same molecule. In the case of Ritalin, known also as methylphenidate, Ding and her research team found that the right-handed version is only responsible for the therapeutic effects of the drug. As a result, if the right-handed version were to be isolated and produced as a pharmaceutical drug, patients

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373rd Brookhaven Lecture, Tuesday, June 4 Suits Talks on Chemical Dynamics



Roger Stoutenburgh D1000202

Arthur Suits

Technological advances such as new lasers, detectors, and synchrotron radiation sources can reveal new insights into the underlying mechanisms of elementary chemical reactions.

One such advance is the ion-imaging technique. This method allows for simultaneous detection of the full velocity distribution for products of a photochemical or scattering event.

Ion-imaging studies reveal data important in understanding the dynamics of simple chemical reactions; in developing thermochemical scales used to predict chemical reactions, and testing theoretical methods in quantum chemistry. The technique also helps in understanding combustion as well as chemical interactions between interstellar gases and dust.

Taking advantage of the high-resolution capabilities of this imaging technique, BNL

scientists have developed a novel tool for studying ions that offers significant advantages over other methods, allowing them to "see" an ion's inner workings and determine its rotational and vibrational structure.

To hear more about this exciting new research, come to the 373rd Brookhaven Lecture, at which the Chemistry Department's Arthur Suits will present "Chemical Dynamics: Imaging the Intimate Lives of Molecules," at 4 p.m. on Tuesday, June 4, in Berkner Hall. Suits will be introduced by Jan Hrbek, Chemistry Chair.

Suits will highlight the use of imaging studies with specific examples in atmospheric chemistry, combustion, and interstellar chemistry. He will also introduce the newest application of the imaging method, known as "ion pair imaging spectroscopy,"

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Atmospheric Aerosols Brighten Clouds

Higher reflectivity may result in global cooling, partially offsetting greenhouse effect

Atmospheric scientists have long suspected that microscopic aerosol particles from industrial processes increase the brightness of clouds, resulting in greater reflection of sunlight and cooling of Earth's climate. However, this supposition is based on model calculations rather than observations, and these model calculations are uncertain, said Stephen Schwartz, an atmospheric chemist in the Environmental Sciences (ES) Department.

Now, Schwartz, Carmen Benkovitz, also of ES, and Harshvardhan of Purdue University, have combined satellite measurements of cloud brightness, water content, and other variables with model calculations of atmospheric aerosols to demonstrate that brightening does occur, and to develop a means to quantify it.

This effect, described in the February 19, 2002, issue of the *Proceedings of the National Academy of Sciences*, should be accounted for in assessing the magnitude of global climate change, Schwartz said.

"We're not saying that aerosols can counteract the greenhouse effect," said Schwartz, "but rather that we need to know how much of a cooling effect they have so we have a clearer picture of the greenhouse effect. To whatever extent aerosols are offsetting greenhouse warming, then the offset is the unseen part of the greenhouse 'iceberg,'" he said.



Roger Stoutenburgh D6554142

Carmen Benkovitz and Stephen Schwartz look skyward.

One difficulty in measuring the effect of aerosols is knowing their concentration. Aerosols such as sulfates result from emissions by fossil-fuel-burning power plants and other industrial processes. They are typically found in the three to four kilometers above Earth's surface and precipitate out of the atmosphere, typically in about a week.

"Because of this short residence time, aerosols are highly variable as a function of location and time, which makes it tough to measure their concentrations on a global scale," Schwartz says.

Schwartz's team has been working for more than a decade to develop and refine a "chemical transport model" to calculate aerosol distribution. The model uses archived weather data and weather prediction models to track the distribution of aerosols from industrial sources to various parts of the atmosphere.

"This model is the key to knowing where and when to look for the aerosol effect," Schwartz said.

By analyzing data from the model, the BNL-Purdue team identified two 1-week episodes during April 1987 when the modeled concentration of sulfate aerosol over the North Atlantic Ocean — far from any local sources of aerosol emissions — increased significantly and then decreased over the course of each episode. These large variations in aerosol concentration and the fact that there were no high-atmosphere, obscuring clouds during these events made these episodes ideal for studying the effect of aerosols on cloud brightening.

The next challenge was to get the data on cloud brightness for that area over the same time period. For this, the scientists retrieved satellite measurements of radiance (how much light the clouds reflect) and optical depth

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Helping to Fuel Efficient Electric Vehicles

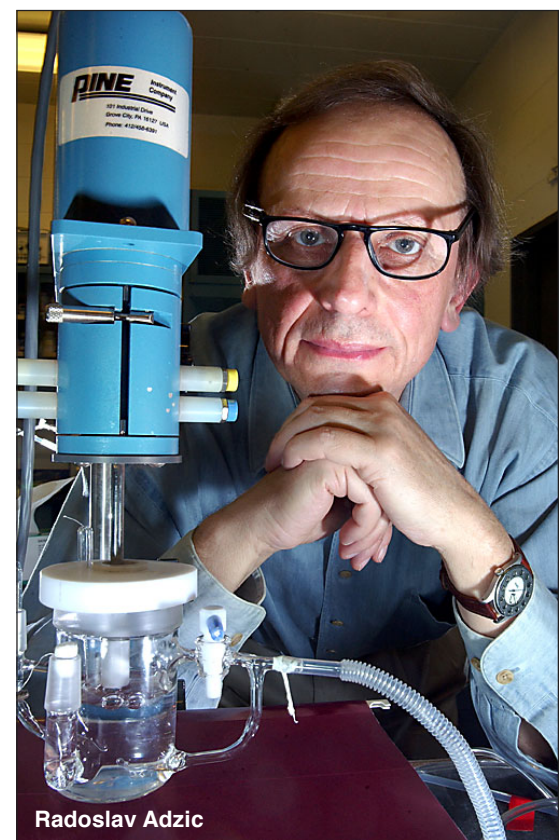
BNL scientists have developed a new method of creating catalysts that could allow the production of cheaper and more efficient fuel cells — highly efficient electrical energy sources that may one day replace cars' internal combustion engines.

Like a regular battery, a fuel cell produces electricity as a result of chemical reactions. Unlike a battery, however, a fuel cell does not require charging, but instead produces energy by feeding hydrogen and oxygen onto metal-based plates called electrodes. The chemical energy is converted into electrical energy as the electrons flow between the electrodes.

To maximize the chemical reactions inside the fuel cell, both electrodes contain a catalyst, or "electrocatalyst." One of the most efficient electrocatalysts is made of an alloy of platinum and ruthenium, but its efficiency is reduced by carbon monoxide deposits formed on the platinum as a by-product of the hydrogen-oxygen reaction.

The new method developed by the BNL team, led by Radoslav Adzic, a chemist in the Materials Science Department, reduces the amount of platinum present in the catalyst, thus limiting carbon monoxide accumulation and improving fuel-cell performance.

In the new method, platinum atoms are deposited on the surface of tiny ruthenium crystalline particles. In contrast, typical platinum-ruthenium alloy catalysts have platinum throughout.



Roger Stoutenburgh D5796402

Radoslav Adzic

"Our method very likely makes almost all of the platinum atoms available to react with the hydrogen," Adzic said. — Peter Genzer and Patrice Pages

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 —

Weekdays: English for Speakers of Other Languages Classes

Beginner, Intermediate, and Advanced classes. Various times. Learn English, Make Friends. For a complete schedule, see www.bnl.gov/esol/schedule.html. Jen Lynch, Ext. 4894.

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

Noon-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. in Bldg. 463, Room 160. 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.

Tuesdays & Thursdays: Aqua Aerobics

5:15-6:15 p.m. \$2 pool fee per class or use pool pass. Mary Wood, Ext. 5923.

Wednesdays: On-Site Play Group

9:30-11:30 a.m., Rec. Bldg. Parents meet while children play. Monique de la Beij, 399-7656.

Wednesdays: BNL Music Club

Noon, North Room, Brookhaven Center. Come hear live music. Joe Vignola, Ext. 3846.

Wednesdays: Weight Watchers

Noon-1 p.m., Brookhaven Center South Room. Mary Wood, Ext. 5923, wood2@bnl.gov.

Wednesdays: Yoga Practice

Noon-1 p.m., Brookhaven Ctr. 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

5-9 p.m. North Ballroom, Brookhaven Center. Marsha Belford, belford@bnl.gov or Ext. 5053, or www.bnl.gov/bera/activities/dance.

Science Discussion Group

12:30-1:30 p.m., Berkner Hall, Room A or D. Patrice Pages, Ext. 3270, pages@bnl.gov.

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

8-11:30 p.m., Brookhaven Ctr., social. Rudy Alforque, Ext. 4733, rudy@bnl.gov.

May is Asian Pacific American Heritage (APAH) Month

www.apaa.bnl.gov

— THIS WEEKEND —

Friday, 5/24

APAH Piano Recital

Noon, Berkner Hall. Piano Recital presented by Eric Sun. For more information about Asian Pacific American Heritage Month events, see www.apaa.bnl.gov/.

— NEXT WEEK —

Tuesday, 5/28

'March Into May' Spring Walk

Noon. The two-mile walk begins at Bldg. 438. Registration is not required. Mary Wood, Ext. 5923, wood2@bnl.gov.

Wednesday, 5/29

'March Into May' Mountain Bike Ride

Noon. The five- or eight-mile bike ride begins at the gazebo. Bike and helmet are required. Registration is not required. Mary Wood, Ext. 5923, wood2@bnl.gov.

*Music Recital

Noon, Berkner Hall. Concert of harp music played by Ruth Bennett.

BNL Awards Four Environmental Stewardship Winners

In honor of Earth Day, on April 25, Laboratory Interim Director Peter Paul presented four awards given annually by the Environmental Services Division to recognize BNL staff for their leadership in environmental stewardship.

"This year's winners understand the value of environmentally responsible operations and the conservation of natural resources," commented Paul, who also thanked all BNL employees who help the Lab to move forward with environmental stewardship.

"We cannot acknowledge each one of you, but we select a few each year to be recognized for their outstanding efforts," he said.

Each of the Earth Day winners received a framed award, a gift check, a certificate for dinner at a local restaurant, and a 2002 Earth Day shirt. The winners are:

- **Louis Gerlach**, a technician in the Energy, Environment & National Security (EENS) Directorate, was cited for outstanding efforts and leadership in handling legacy wastes. Gerlach spent the last two years cleaning legacy chemicals from multiple EENS buildings as part of the directorate's space-reduction project. When faced with unknown or unusual wastes, he obtained the appropriate professional assistance, and he disposed of 1,000 pounds of hazardous and industrial legacy waste in fiscal year 2001 and 46 cubic feet of radioactive and mixed wastes. This amounted to about 26 percent of EENS total waste for the year.
- **Tirre Farmer**, air conditioning shop supervisor in the Plant Engineering Division, was named for his outstanding efforts and accomplishments in BNL's environmental improvement initiatives. Farmer led the effort in replacing ozone-depleting substances. He was instrumental in purchasing recycling and recovery equipment and developed a refrigerant management plan to ensure that BNL complies with the Clean Air Act. Farmer is also implementing a Pollution Prevention Council project to retrofit air compressors with oil-water separators, which will eliminate oily discharges from compressor blowdown.
- **Ernie Lewis**, who is an environmental associate II in EENS, was recognized for his extraordinary efforts in the conservation of natural resources. Lewis, whose job typically keeps him

working at his computer, often spends his early mornings out bird watching, and he also helps in the task of banding birds on Fire Island. He has a good ear and has developed the ability to identify most birds by their songs. Lewis has taken the initiative in his spare time to assist with the Lab's bird surveys, his expertise ensuring that few birds escape his notice. His work has been important to BNL in helping to prevent gaps in data on natural resources.

- **Mark Toscano**, Special Assistant to the Facilities & Operations Directorate, was recognized for achievements and leadership involving energy efficiency and energy management. He led a PE committee in developing a plan to remove or replace 11 centrifugal chillers, which will allow more than 9,000 lbs. of class 1 ozone-depleting R-11 to be recovered. He also secured nearly \$4 million to fund the project. He made key contributions to the design and construction of the compressed natural gas facility and for the gasification of the Central Steam facility, which supported DOE's policy for increased use of alternative fuels and saved considerably on BNL's fuel costs. — Liz Seubert



Roger Stoulenburgh D0570402



Interim Laboratory Director Peter Paul presents four Environmental Stewardship Awards to (from top) Tirre Farmer, Ernie Lewis, Mark Toscano, and (not pictured) Louis Gerlach. Roger Stoulenburgh D0580402



Roger Stoulenburgh D0580402

Drug Differences (cont'd.)

may only have to take half of the current dose to get the same effect.

This kind of selective production can also help reduce unwanted drug side effects. L-dopa, used to treat Parkinson's disease, is one example of a left-handed molecule being used because the right-handed version has associated side effects.

Ding and her colleagues are currently studying a host of other drugs to determine the "handedness" effect. These include methadone; GVG, a drug that has shown promise in the treatment of addiction; and BPA, a drug used for the treatment of melanoma and brain tumors. — Peter Genzer

BNL Lecture (cont'd.)

and outline its use to study the spectroscopy of ions inaccessible through other techniques.

Suits earned his Ph.D. in physical chemistry at the University of California, Berkeley, in 1991. After his postdoctoral work at Cornell University, he joined Lawrence Berkeley National Laboratory in 1993 to oversee construction of a new chemical dynamics beam line at the Advanced Light Source.

In 2000, Suits took a joint appointment as associate professor in Stony Brook University's Chemistry Department and chemist in BNL's Gas Phase Molecular Dynamics Group.

Refreshments will be offered before and after the talk. To accompany the lecturer to dinner after the talk, call Jean Petterson, Ext. 4302. — Peter Genzer

BSA Distinguished Lecture, 6/12

Susan Quinn on Clinical Trials

Prize-winning author Susan Quinn will give a BSA Distinguished Lecture on Wednesday, June 12, at 4 p.m. in Berkner Hall. Titled "The Clinical Trial: Gold or Oversold?" the lecture will be based on Quinn's latest book, *Human Trials* (Perseus Publishing, 2002). Refreshments will be served before the lecture at 3:45 p.m., and a reception will follow the talk. Quinn will sign books at the reception. All are welcome.

BWIS Noon Lecture, 6/13

Quinn on Adversity in Two Women's Lives

On Thursday, June 13, at noon in Berkner Hall, Room B, Brookhaven Women in Science (BWIS) will sponsor a talk by Susan Quinn on "The Uses of Adversity: Learning from the Lives of Two Remarkable Women." Author Quinn will discuss her biographies of Karen Horney and Marie Curie. All are welcome. Attendees may bring lunch, and tea and cookies will be provided.

To join the speaker for lunch after the talk, call Stephanie LaMontagne, Ext. 7141.

Atmospheric Aerosols Brighten Clouds (cont'd.)

(a value related to how much light is transmitted through the cloud), and used these measurements to calculate the size of the cloud droplets and the liquid water path (the amount of liquid water in the cloud). The scientists were also able to analyze how these variables were related to one another.

The findings show that, for a given liquid water path, cloud reflectivity was indeed higher on the days with higher aerosol content than on the days with lower aerosol levels.

"If the effect is as widespread as we think it is, it would produce quite a substantial cooling effect on climate," Schwartz said.

"This new study," he added, "provides a method of quantifying the phenomenon globally over the past 15 years using archived satellite data. Once this is done, we will have a much bet-

ter idea of the true magnitude of the greenhouse effect."

Could aerosols be deliberately employed to offset the greenhouse effect?

"Although this is an attractive thought," Schwartz said, "it cannot work in the long run — because aerosols are so short-lived in the atmosphere, whereas greenhouse gases accumulate over time. An ever-increasing amount of aerosols would be required. We'd never solve the long-term problem."

Also, says Schwartz, the aerosol effect may have a different geographical distribution from the greenhouse effect, and "the consequence of this mismatch is unknown." One key to assessing the overall impact of aerosols, he said, will be further development of the satellite-based measurements.

— Karen McNulty Walsh

Arrivals & Departures

Arrivals

Kathleen Robinson Info. Serv.
Stanimire Tomov Info. Tech.

Departures

Randall McNally Biology
Michael Ponticel Plant Eng.
Ralf Prigl C-A

COMPUTER TRAINING

LabVIEW Training

The Information Technology Division has scheduled LabVIEW Basics I and II training classes, which will meet August 26-30, 2002, from 8:30 a.m. to 4:30 p.m. at a cost of \$2,000 per student. To register, send an ILR for the appropriate amount to Pam Mansfield, Bldg. 515, by June 28.

PC Training Classes

The following PC training classes have been scheduled for June/July/August:

6/12 & 13	Access	beginner
6/17 & 18	Project	intermediate
7/25 & 26	Word	advanced
7/31	Excel	intermediate
8/1 & 2	Access	intermediate

To register for the PC training classes listed, or to register your interest in a future class, submit a training request form and an ILR or web requisition for the appropriate amount to Pam Mansfield, Bldg. 515. When the form is received your name will be placed on a waiting list. All classes are scheduled based on the number of requests received. For more information, registration forms, and class schedules, visit www.bnl.gov/itd/training.

Here's Toasting the BERA Toastmasters' Club

Are you able to speak well in public?

Most people know at least one excellent, unself-conscious speaker who presents well-organized material so naturally that listeners readily understand the topic and are not distracted by endless apologies for the speaker's lack of confidence.

At the Lab, many people want to improve their speaking skills because they are often called on to present their work, they are nervous or want help in organizing their speeches, or need practice in speaking English. Other people find they enjoy the challenge of holding an audience with an interesting speech. All have an excellent option available — to become involved with the BNL Toastmasters Club.

A warm welcome greets visitors to Toastmasters, and all guests soon realize that, in this friendly group, the goal of better public speaking is combined with having a great deal of fun.

As visitors and new members discover, the club is run on guidelines set out by Toastmasters International (TI). This parent organization offers a network of clubs, and regularly held conferences and contests. The members of BNL Toastmasters, which has been a Brookhaven Employee Recreation Association (BERA) club since 1991, find it helpful to follow TI meeting programs and use the TI manual on preparing speeches, as well as other educational material.

Meetings are held at 5:30 p.m. on the first and third Tuesdays of the month, and at noon once each quarter. At a typical



Attending a noon meeting of the BNL Toastmasters' Club are (from left) Ronnie Evans, treasurer; Nancy Manning, club vice-president for education and co-editor of Edge, the club newsletter; Beth Lin, sergeant-at-arms, who sets up the room and makes sure that each member and guest is welcomed; Margaret Foster, club president; Mari Rubin, Kim Pellechi, and Nand Narain, club members. Other club officers who were not present are: Margaret Conover, vice-president for public relations and membership, and Amy Halsted, secretary and co-editor of Edge.

meeting, the Toastmaster of the Day is host. He or she first introduces the Table Topics Master, who chooses appropriate subjects for impromptu speaking and calls on each member to speak extemporaneously for one to two minutes. The atmosphere is so friendly that visitors are often relaxed enough to join in and make one of these off the cuff unprepared talks.

After the table topics, members give prepared speeches which have a time limit. These have specific objectives, such as to introduce yourself, explain a procedure, or inspire an audience. The TI manual has guidelines for the different types of

speeches. In the photo of a Toastmasters meeting (above), member Mari Rubin was scheduled to give a talk on the history of the traditional Japanese kimono, so she wore and described her own heirloom kimono that day, elegantly satisfying the speech project requirement to show what you mean.

Different people are assigned each week to give feedback on the strong points of these speeches given by members and indicate areas that could be improved. As new members find out, this learning experience is very helpful because the group is so supportive. Everyone remembers their own first at-

tempts and shares what they have learned and attempted while improving their own skills.

In addition to honing their speechmaking skills in home-ground meetings at BNL, the Lab Toastmaster members work toward TI standards and educational goals, and enter TI-sponsored national and international competitions.

Last year, because of the number of members who had fulfilled these goals, BNL Toastmasters were awarded President's Distinguished Club status, the highest national level of distinction in TI. The club is expecting to achieve this same distinction this year as well.

In addition, many members have made the ten speeches of the Toastmasters' basic manual and thus achieved Competent Toastmaster standing. One noteworthy 2001 club member, Kim Pellechi, who is deaf, achieved this distinction after attending meetings at BNL by communicating through a sign-language interpreter.

"We are very proud of Kim's and all our members' achievements," said Margaret Foster, who founded the club at BNL in 1991 and is the current Club President. "Participating in Toastmasters is always stimulating, not only because you are improving your skill in communicating or helping others to do the same, but also because you meet interesting people and talk about new and different subjects each time you attend a meeting. We certainly hope that more Lab members will join us."

For more information, go to www.bnl.gov/bera/activities/toastmstr/default.htm.

Healthline Workshop

Learn to Cook Low-Fat Salsa, Sauces, 6/6

Marlisa Brown, registered dietitian and certified diabetes educator, will give the next Healthline cooking workshop, "Tasty Low-Fat Salsa, Sauces and Marinades" on Thursday, June 6, from noon to 1 p.m. in the large conference room, in Medical, Bldg. 490.

Brown, who is president of Total Wellness, Inc., a nutritional consulting company, will teach creative ways to make food tastier. During her 20 years of culinary experience, she has often appeared on television, including five years on the award-winning "On Long Island," about international healthy cooking.

All are invited to the workshop. Bring your lunch and enjoy it with the drinks and salad that will be provided. To register, complete and return the form sent to all employees to Mary Wood, Health Promotion Coordinator, Bldg. 490, before June 6. For more information, contact Ext. 5923 or wood2@bnl.gov.

Keep May 28-31 Open For the Great Outdoors!

All are asked to keep May 28-31 open at noon to help celebrate the end of the March Into May activity program, with the following events:

Tue., 5/28	Spring Walk
Wed. 5/29	Mountain Bike Ride
Thur. 5/30	Golf Workshop
Fri. 5/31	Tennis Workshop

**Hospitality Committee
Manhattan Bus Trip**

The Hospitality Committee invites all BNLers to take a bus trip to Manhattan on Sunday, June 2. Bus departs from the Lollipop House at 9 a.m. Tickets at \$10 per adult, \$5 per child ages 2-12, can be purchased at the Rec. Bldg. on Tuesday and Wednesday, May 28 & 29, from 11 a.m. to noon. For more information, contact Nora Robles, 345-5259, or Mimi Luccio, 821-1435.

Aqua Aerobics

Register for the next session of aqua aerobics, which starts on Tuesday, May 28, and Thursday, May 30. BNLers can register for Tuesday and/or Thursday classes, which are held from 5:15 to 6:15 p.m. at the pool. Participants must pay a \$2 pool fee per class, or have a pool pass. To register, contact Mary Wood, Ext. 5923, or wood2@bnl.gov.

American Nuclear Society Meeting, 6/5

The next meeting of the Long Island Chapter of the American Nuclear Society (LIANS), will be on Wednesday, June 5, at the Brick House Brewery and Restaurant in Patchogue. Ralph James, Associate Director for Energy, Environment & National Security and Chair of BNL's Counter-terrorism Working Group will discuss x-ray and gamma-ray sensors for national security, space, and medical applications.

At \$20 per person, appetizers will be served at 6 p.m. and dinner at 7 p.m. James's talk will begin at 8 p.m. Reserve by Monday, June 3, by leaving a voice-mail message with Arnie Aronson, Ext. 2606.



Harpist Ruth Bennett Performs 6/29

Ruth Bennett, a senior music performance major at the State University of New York at Potsdam, will give a BSA-sponsored concert on Wednesday, May 29, at noon in Berkner Hall, exploring the rich, but little-known solo works for concert harp. All are welcome.

Bennett won the New York American String Teachers Association Senior Division Competition last November and, last summer, tied for third place in the American Harp Society National Competition. She also won the Crane Concerto Competition and performed in the Aspen Music Festival.

Earlier this year, after hearing her perform at a workshop, the touring Chamber Orchestra Kremlin changed their Potsdam concert program to include Bennett.

Noon recitals are free and the public is welcome.

Calendar

(continued)

Thursday, 5/30

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.

BWEN Brown-Bag Lunch Meeting

Noon-1 p.m., Berkner Hall, Room C. For more information on the Brookhaven Women Engineers Network, contact Arlene Zhang, Ext. 5369, arling@bnl.gov.

'March Into May' Golf Workshop

Noon at the ball field by the gazebo. Registration is required. Mary Wood, Ext. 5923, wood2@bnl.gov.

Friday, 5/31

'March Into May' Tennis Workshop

Noon at the tennis courts. Registration is required. Mary Wood, Ext. 5923, wood2@bnl.gov.

APAH Dinner & Cultural Performances

\$20 per person or \$15 group rate, for a group of 20 people or more. 5:30-9 p.m., Berkner Hall. Buy tickets from the BERA Sales Office, or Achyut Topé, Ext. 5672; Hai-Dee, Ext. 2062; Beth, Ext. 3372; Susan, 7988; Casper, Ext. 3469; Rudy, Ext. 4733; or Ila, Ext. 2206. For more information about Asian Pacific American Heritage Month events, see www.apaa.bnl.gov/.

Sunday, 6/2

Bus Trip to Manhattan

\$10 per adult, \$5 for children ages 2-12. Bus departs the Lollipop house at 9 a.m. Tickets are available at the Rec. Bldg. from 11 a.m. to noon on Tuesday and Wednesday, May 28 and 29. For more information, contact Nora Robles, 345-5259, or Mimi Luccio, 821-1435.

— WEEK OF 6/3 —

Tuesday, 6/4

*373rd Brookhaven Lecture

Arthur Suits, BNL Chemistry, will present the 373rd Brookhaven Lecture, "Chemical Dynamics: Imaging the Intimate Lives of Molecules," at 4 p.m. in Berkner Hall. Refreshments before and after the lecture. See also page 1.

Thursday, 6/6

*Healthline Cooking Workshop

Noon-1 p.m., Large Conference Room, Bldg. 490. Marlisa Brown, a registered dietitian and certified diabetes educator, will present "Tasty Low-Fat Salsa, Sauces, and Marinades." Check your mailbox for registration forms.

An Evening of Acoustic Music

\$3 per person. 7 p.m., Berkner Hall. Guitarist Bruce MacDonald and Singer/Songwriter Michelle Monte' will appear in concert, the third in a series presented by the BNL Music Club. Purchase tickets at the BERA Sales Office, Berkner Hall, weekdays from 9 a.m. to 3 p.m. For more information, call Ext. 3846.

— WEEK OF 6/10 —

Wednesday, 6/12

Rifle & Pistol Club Meeting

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

Thurs. & Fri., 6/13-14

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.

— WEEK OF 6/24 —

Monday, 6/24

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.

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. Please enter the 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.

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.

LABORATORY RECRUITMENT - Opportunities for Laboratory employees.

NS2865. SR. TRAINING SPECIALIST (A-8) — Requires a bachelor's degree in education or related field and a minimum of five years' experience developing training programs in radiological and/or industrial safety. Excellent interpersonal, writing, and editing skills are necessary. Must be proficient with computers, including presentation, graphic design and web page development software. Experience in the development of computer-based training, including programming skills, and video script-writing highly desirable as is an advanced degree and/or application in advanced training technologies. Responsibilities include the development and delivery of classroom, on-the-job training, and computer-based training programs. Will oversee radiological training program and participate in radiological field assignments. Training & Qualifications Program Office.

TB8063. SR. OFFICE SERVICES ASSISTANT (CW-3) — Requires an AAS in secretarial science or equivalent experience, excellent communication and interpersonal skills and a thorough knowledge of Laboratory policies and procedures. In addition, must have PC experience, Windows, Outlook, PeopleSoft experience and the ability to make numerous travel arrangements. Knowledge of Excel and Access is desirable. Duties will include answering the telephone, stocking supplies, mail distribution, and filing. Will also be responsible for maintaining the database on PC training and property management. Information Technology Division.

OPEN RECRUITMENT — Opportunities for Laboratory employees and outside candidates.

NS2110. RESEARCH ENGINEER I (P-9) — Requires BS in electrical engineering or physics, advanced degree preferred, with several years applicable experience. Strong skills in both analog and digital circuit design, fabrication, and testing, are necessary, as is particular analog emphasis on low-level signal conditioning, noise reduction, and rf techniques. Familiarity with programming DSPs and FPGAs is desired, as well as with the C, Matlab and LabView programming languages, and the UNIX operating system. Sufficient familiarity with electromagnetics and beam physics to permit rapid development of an understanding of the interaction between beams and instrumentation is helpful. Must be available for shift work as required for accelerator operations. Collider-Accelerator Department.

NS9033. ASSISTANT BUDGET ANALYST (A-4) — Requires a bachelor's degree in accounting or business administration, several years of related work experience and excellent communications and analytical skills. Knowledge of Word, Excel, and PowerPoint is highly desirable; knowledge of PeopleSoft financial systems (i.e., budgeting and forecast) and utilization of queries is desirable. Under general supervision, will be responsible for the financial/budgetary administration, coordination, and oversight of assigned support organizations. Utilizing PeopleSoft queries, will prepare complex analyses and supporting data for senior staff. Will provide assistance in the maintenance of various PS financial processes and prepare monthly and quarterly reports/reconciliations. Budget Office.

Independent Auditors Will Soon Assess BNL's Environmental Management System

These crib notes will help you answer questions

BNL's Environmental Management System (EMS) is being independently evaluated during June 4-7. Lab employees must be prepared to answer questions on how BNL's EMS policy commitments apply to them and what they do during their workday to support those commitments.

Remember: BNL's Environmental Stewardship policy includes commitments to pollution prevention, compliance, cleanup, community outreach, and continual improvement. Below are typical questions and sample answers to help prepare employees. However, the actual answers should be specific to your own work.

Policy: BNL is committed to complying with applicable environmental requirements.

Q: What environmental hazards are associated with your work?

A: I use chemicals when I conduct benchtop experiments, and the waste chemicals are hazardous.

Q: How do you control those hazards?

A: By following lab procedures (like the SBMS Hazardous Waste Management Subject Area).

Q: What are your responsibilities for making sure these requirements are satisfied?

A: I store the waste properly in a satellite accumulation area, segregate it if needed, label the containers, and transfer it to a 90-Day area when ready for disposal.

Policy: BNL is committed to preventing pollution and minimizing waste generation.

Q: How do you minimize or eliminate pollution associated with your work?

A: By considering pollution prevention (P2) opportunities during experimental safety reviews, or other work planning activities.

Q: If you had an idea on how to prevent pollution, what would you do?

A: If it were a simple idea that I could implement, I would implement it. If it required planning assistance or funding, I would contact our environmental support staff for help in submitting a Pollution Prevention Proposal to my manager and the Pollution Prevention Council for funding consideration.

Policy: We will maintain a positive, proactive, and constructive relationship with and openly communicate with our neighbors, regulators, DOE, and other stakeholders.

Q: How does your organization communicate with community members or regulators on environmental issues?

A: The Community, Education, Government & Public Affairs directorate manages the programs for communicating on environmental issues, such as: public meetings, roundtable discussions, working groups, press releases, and direct interaction with stakeholder groups. Employees

within each BNL organization help support these efforts by: making presentations to local schools, organizations, or the Community Advisory Council; conducting tours of the BNL facilities during Summer Sundays, open houses and fairs; and talking with their neighbors about possible concerns.

Policy: BNL is committed to an aggressive cleanup of existing environmental problems.

Q: How do you support the cleanup effort of the Laboratory?

A: One way I help is by maintaining ownership of chemicals and radioactive materials from the time of purchase until final disposition, either through exchange via the Chemical Management System, proper disposal, or return to my home institution. My organization is also pursuing corrective actions on legacy problems identified during the Facility Review Project.

Q: What is your responsibility if a spill or inadvertent release to the environment occurs?

A: I report the spill by calling Ext. 2222, and then notify my supervisor and ESH staff.

Policy: We will work to continually improve our environmental management system and performance.

Q: What does this really mean to you and your organization?

A: Continual improvement is a regular part of my daily activities. We continually review our systems and processes to seek opportunities to do things better. As a part of the BNL team, I learn from our mistakes and successes and use that feedback and knowledge to improve.

For more information on environmental issues, contact your Management Representative on EMS or your Environmental Compliance Representative. For information on the upcoming ISO 14001 surveillance audit, contact George Goode, Ext. 4549.

Asian Pacific American Heritage Month Dinner and Cultural Performance, 5/31

Tickets still available

In celebration of the culture and achievements of Asian Pacific Americans and to support American values through cultural connections, BERA's Asian Pacific American Association (APAA), BNL's Diversity Office, the Asian American Faculty Staff Association, and Stony Brook University's Asian American Center Bridge are hosting a dinner and cultural performances on Friday, May 31, from 5:30 to 9 p.m. in Berkner Hall.

Tickets at \$20 per person, or \$15 each for groups of 20 or more can be purchased from Achyut Topé, Ext. 5672; Hai-Dee Lee, Ext. 2062; Beth Lin, Ext. 3372; Susan Wong, Ext. 7988; Casper Sun, Ext. 3469; Rudy Alford, Ext. 4733; Ila Campbell, Ext. 2206; or the BERA Sales Office in Berkner Hall.

An Evening of Acoustic Music, 6/6

On Thursday, June 6, from 7 to 9:30 p.m. in Berkner Hall, guitarist Bruce MacDonald and singer/songwriter Michelle Monté will appear in a concert presented by the BNL Music Club. All are invited to attend. Refreshments are available at intermission.

Tickets may be purchased at the door or in advance at the BERA Sales Office, Berkner Hall, weekdays, 9 a.m.-3 p.m. The suggested donation for tickets is \$3 each for adults. All proceeds will go to the Long Island Voices Foundation, a community youth Gospel choir.

This concert is open to the public and all BNLers are welcome. All concert-goers age 15 and older must have a photo ID to be allowed on site. For more information, contact the BNL Music Club, Ext. 3846 or diaz@bnl.gov.



Noon Recital Today

As part of the Asian Pacific American Heritage Month celebration, pianist Eric Sun, 14-year-old son of Caspar Sun, Waste Management Division, will play Beethoven, Chopin, and Ravel at noon in Berkner Hall today. All are invited.

Holiday Schedule

The Lab will be closed next Monday, May 27, in observance of Memorial Day. The following schedules will be in effect:

Food Services

The cafeteria will be open from 7:30 a.m. to 2 p.m. Saturday-Monday, May 25-27.

The Brookhaven Center Restaurant will be closed on Sunday, May 26, and will be open from 5 to 9 p.m. on Monday, May 27.

There is 24-hour access to the cold food, snack and soda vending machines that are located in Bldg. 179.

Credit Union

Closed on Monday, May 27.

Upton Post Office

Closed on Monday, May 27.

Research Library

Closed Saturday - Monday, May 25-27.

Gym and Pool

Closed Saturday - Monday, May 25-27. After Memorial Day, the gym will be closed on weekends until Saturday, September 14, 2002.