

New York State Senate Honors Nora Volkow

Nora Volkow, Associate Director for Life Sciences, is one of two women from the first Senatorial District to have received the New York State Senate's "Woman of Distinction" award at a reception in Albany on June 5.

Created in celebration of Women's History Month, the award honors women throughout New York State whose accomplishments or contributions to society often go unnoticed.

Senator Kenneth LaValle chose Volkow and Sister Martha Winum, D.W., as the honorees from the First Senate District. Volkow is a world leader in research on addiction, and Sister Martha Winum, a member of the Daughters of Wisdom religious congregation, is the longest-standing health-care employee in New York State, with 68 years of service.

"There are scores of women among us who inspire us, are positive role models for our young people, and whose contributions to society make our world a better place," said Senator LaValle.

"I believe that Dr. Nora Volkow and Sister Martha

Winum are two such women. Their leadership, success and strength of character are admirable qualities truly worthy of recognition."

Volkow said, "This honor means a great deal to me. I am glad that our community

recognizes the work that I do with my talented colleagues at Brookhaven National Laboratory and at Stony Brook University. My colleagues and I are making inroads into finding causes of addiction and other diseases of the brain, and we hope that we can find effective treatments for these diseases soon."

— Diane Greenberg



Nora Volkow with Senator Kenneth LaValle

SNO's Results Indicate Solution To 30-Year Solar-Neutrino Puzzle



Roger Stoulenburgh 6-17-01

At 3 p.m. on Monday, June 18, Richard Hahn (left), Chemistry Department, part of the Sudbury Neutrino Observatory collaboration, announced results to a packed audience in the Hamilton Seminar Room.

A solution to a 30-year old mystery — the puzzle of the missing solar neutrinos — was announced on Monday, June 18, by the Sudbury Neutrino Observatory (SNO) collaboration, which includes BNL scientists.

Since the late 1960s, experiments detecting neutrinos arriving on Earth from the Sun have observed only a fraction of the number expected from detailed theories of energy production in the Sun. This puzzling result meant that something was wrong with either established solar theory or the understanding of neutrinos.

Solving the Puzzle

The SNO collaboration of researchers from Canada, the U.K., and the U.S. has now found that the solution to the mystery lies not in the Sun, but in the characteristics of neutrinos.

"We now have high confidence that the discrepancy is not caused by problems with the models of the Sun but by changes in the neutrinos themselves as they travel from the core of the Sun to Earth," said Art McDonald, SNO Project Director and Professor of Physics at Queen's University in Kingston, Ontario.

Neutrinos are elementary particles of matter with no electric charge and very little mass. There are three types: the electron-neutrino, the muon-neutrino and the tau-neutrino. Electron-neutrinos, which are associated with the familiar electron, are emitted in vast numbers by the nuclear reactions that fuel the Sun.

"Earlier measurements had been unable to provide definitive results showing that this transformation from solar electron neutrinos to other types occurs," said McDonald. "The new results from SNO, com-

bined with previous work, now reveal this transformation clearly, showing that the total number of electron neutrinos produced in the Sun are just as predicted by detailed solar models."

The SNO scientists presented their first results in a paper submitted to *Physical Review Letters* on June 18 and in presentations at the Canadian Association of Physicists Annual Conference at Victoria, B.C. and at SNO Institutions in the U.S. and the U.K.

"It is exciting that the first fruits of our labors have turned out to be scientifically significant, after several years of intensive effort by more than 150 scientists to build this neutrino detector and get it operating," said Richard Hahn, Chemistry Department, head of BNL's Solar Neutrino Group, who announced the SNO results at BNL. "There is much more that we can do and plan to do in SNO over the next few years to continue to unravel the mysteries of the neutrino."

Hahn's group includes Chemistry's John Boger, Min Fang Yeh, and Keith Rowley. BNL's current role is to ensure that SNO's heavy water, a critical part of the neutrino detector, remains ultrapure and is not affected by environmental factors.

BNL Neutrino History

BNL's history of neutrino research dates to the late 1950s, when Maurice Goldhaber worked to determine the neutrino's helicity, or relation of spin to momentum. In 1968, Ray Davis's pioneering work in a South Dakota gold mine sent the world of astrophysics into an uproar by first documenting the missing electron neutrinos. Then, in 1986, a BNL team led by Hahn joined the interna-

(continued on page 2)

All Hands Meet Thursday, June 28

On Thursday, June 28, at 11 a.m., in Berkner Hall, Laboratory Director John Marburger will hold an all-employee meeting on the "State of the Laboratory."

A videotape of the meeting will run in the lobby kiosk the next day, and audiotapes will be available in the Research Library.

Celebrate Maurice Goldhaber's 90th Year, July 26

Brookhaven National Laboratory cordially invites all to celebrate the 90th year of BNL Distinguished Scientist Maurice Goldhaber, former Laboratory Director. The program will be held on Thursday, July 26, and will include a symposium from 1:30 to 6 p.m., followed by a dinner at 7 p.m. in Berkner Hall.

The symposium, to be chaired by Peter Bond, BNL (first session), and Martin Blume, BNL and American Physical Society (second session), will include the following speakers: BNL Director John Marburger, Harvard University's Norman Ramsey, Lawrence Berkeley National Laboratory's Stuart Freedman, Massachusetts Institute of Technology's Martin Deutsch, and BNL's Bill Marciano. Attendees will also present short "Maurice" stories. More details and a response form are available at www.bnl.gov/bnlweb/pubaf/mg90.htm.

Those who plan to attend the symposium or the dinner or both are asked to complete the response form and return it by July 10, to Lillian Kouchinsky, Ext. 2772, fax: 631-344-5803, kouchin@bnl.gov, or BNL, Director's Office, Bldg. 460, Upton, NY 11973-5000.

MARKAL Goes Worldwide



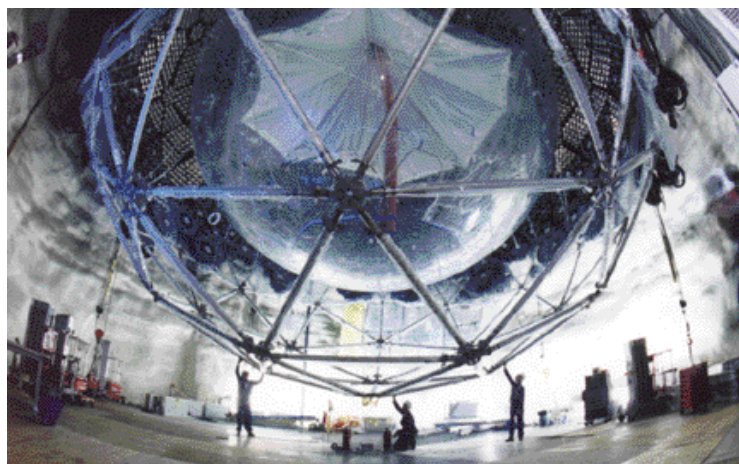
Roger Stoulenburgh 6-12-01

At the May 21-31 MARKAL workshop are: (front, from left) Feliz Henriquez, Panama; Mariza Castro, Honduras; and David Munoz, Panama; (back, from left) Gary Goldstein, instructor with BNL's International Resource Group; Angela Cadena, instructor from Colombia; Ismael Sanchez, El Salvador; Edgard Ayala, El Salvador; Wilfredo Giron, Honduras; Jaime Contreras, Panama; and John Lee, who heads MARKAL modeling in BNL's Energy Sciences & Technology Department.

In May, seven representatives from governments and universities of Honduras, Panama, and El Salvador attended the MARKAL Model Training and Development Workshop, one of the Energy Sciences & Technology (EST) Department's outreach activities. Sponsored by DOE and the U.S. Agency for International Development, the workshop enabled participants to develop their own national MARKAL models to help analyze and plan energy, environmental, and economic strategies in their respective countries.

MARKAL, short for MARKet ALlocation, is a computer-driven, dynamic optimization model that uses upwards of 10,000 equations and constraints to foster strategic energy planning. By integrating energy, environmental, and economic factors, the MARKAL model provides energy system solutions to support national planning and policy decisions.

Says John Lee, EST's principal investigator of MARKAL modeling activities, "The MARKAL model identifies costs and benefits (continued on page 3)



Sudbury Neutrino Observatory

The detector, seen here under construction, has an acrylic vessel filled with heavy water, fitted with photo sensors, and encased in concrete.

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 —

Tuesdays: Welcome Coffee

10-11:30 a.m. Rec. Bldg. Newcomers meet friends. Mimi Luccio, 821-1435.
— Hospitality event

Tuesdays: Yoga Practice Sessions

12:10-12:50 p.m., Rec. Bldg., free. Ila Campbell, Ext. 2206.

Wednesdays: On-Site Play Group

9:30-11:30 a.m. Rec. Bldg. Parents meet while children play. Free, drop in any time. Monique de la Beij, 399-7656.
— Hospitality event.

Wednesdays: Weight Watchers

noon-1 p.m., Brookhaven Center South Room, Mary Wood, Ext. 5923.

Tues. & Thurs.: Aerobic Dance

5:15 p.m., Rec. Bldg. \$4 per class or \$35 for any ten classes. Pat Flood, Ext. 7886; or Susan Monteleone, Ext. 7235.

Mon., Tues., Thurs.: Kickboxing

\$5 per class. Mon. & Thurs. noon-1 p.m. and Tues. & Thurs. 5:15-6:15 p.m. Registration required. Mary Wood, Ext. 5923, or wood2@bnl.gov.

June is Gay, Lesbian, & Bisexual Pride Month

The Diversity Office, in cooperation with BNL's Gay, Lesbian, or Bisexual Employees Club invites the Lab community to view a poster presentation in Berkner Hall. More information can be found at www.bnl.gov/bera/activities/globe/.

— TONIGHT, 6/22 —

Hospitality Picnic

5:30 p.m., Gazebo. See notice page 3..

— WEEK OF 6/25 —

Monday 6/25

Cooking Exchange

9:30 a.m.-12:30 p.m., Rec. Bldg. \$2 to cover ingredients. Marcia Leite, Ext. 1040, mhsleite@hotmail.com.

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.

Wednesday 6/27

*Noon Recital

noon., Berkner Hall. See notice on page 3.

*Brookhaven Advocacy Council Meeting

Open Session, 12:30-1 p.m., Berkner Hall, Room D. See story above. Nancy Warren, Ext. 7548.

Meet Brookhaven Advocacy Council Members — They Can Help

In response to recommendations from the Diversity Focus Group, formed as a result of the 1998 Employee Survey, the Brookhaven Advocacy Council (BAC) has been established as a key component of BNL's system of justice. Functioning as an independent council, the BAC reports directly to the Lab Director, advising and making recommendations on concerns and issues that involve BNL employees, guests, facility users, and the quality of life at the Lab. To facilitate the BAC's charge, the members will have access to all pertinent, uncensored information, within BNL guidelines regarding confidentiality, to assist in resolving concerns/issues.

To choose the 11 BAC members, the Lab Director selected a nominating committee composed of employees with experience on similar committees. Last February, this committee sent a memo to all employees explaining the BAC's charge and asking for candidate members; in addition, the committee called for candidates in The Bulletin of February 16.

From the resulting slate of recommendations, the Director selected the BAC members, with con-

sideration of representation by job classification, race, and gender, following the BAC by-laws.

BAC members serve for three years, with terms generally expiring on a staggered basis. The members' responsibilities include timely and confidential responses to concerns/issues reported to them.

The BAC will seek to resolve the concern/issue, if necessary reporting it to the Lab Director for review and action. After the concern/issue has been resolved, the individual involved will be contacted periodically to ensure that no acts of retaliation have occurred.



Roger Stoulenburgh CNE-122-01

Gathered at a recent meeting of the Brookhaven Advocacy Council (BAC) are members: (seated, from left) Secretary Mike Loftus, Co-Chairperson Dan Schiappa, and C.R. Krishna; (standing, from left) Patrice Benjamin, Ed Diaz, Chairperson Nancy Warren, Ed Kaplan, Brenda Thomas, and Samantha Lin. In separate photographs at left, above and below, respectively, are BAC members Pam Mansfield and Mary McGrath.

SNO Results Indicate Solution to Solar Neutrino Puzzle

(cont'd.)

tional GALLEX collaboration in Italy. Using gallium chloride as a neutrino detector from 1990 to 1998, the team showed that only 60 percent of the expected solar neutrinos could be observed.

"The determination that the electron neutrinos from the Sun transform into neutrinos of another type is very important for a full understanding of the universe at the most microscopic level," said U.K. co-spokesman David Wark of the Rutherford/Appleton Laboratory and the University of Sussex. "This transformation of neutrino types is not allowed in the Standard Model of elementary particles. Theoreticians will be seeking the best way to incorporate this new information about neutrinos into more comprehensive theories."

The direct evidence for solar neutrino transformation also in-

dicates that neutrinos have mass. By combining this finding with information from previous measurements, it is possible to set an upper limit on the sum of the known neutrino masses.

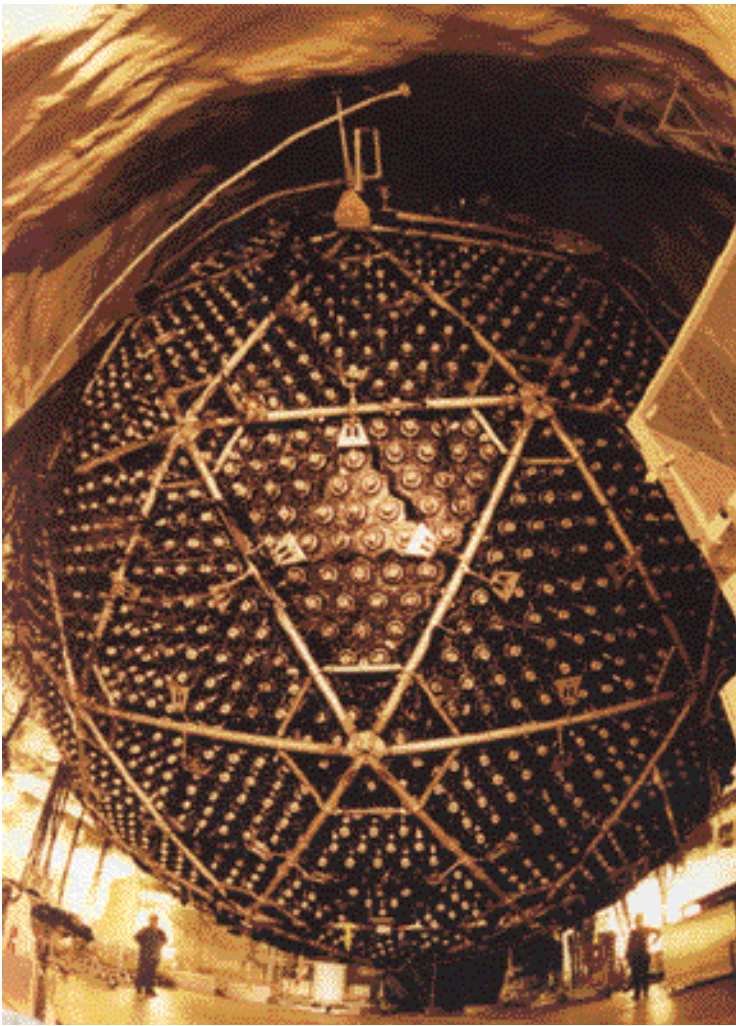
"Even though there is an enormous number of neutrinos in the universe, the mass limits show that neutrinos make up only a small fraction of the total mass and energy content of the universe," says Hamish Robertson, U.S. co-spokesman and Professor of Physics at the University of Washington in Seattle.

The SNO detector, which is located 2,000 meters below ground in INCO's Creighton nickel mine near Sudbury, Ontario, uses 1,000 tons of heavy water to intercept about 10 neutrinos per day. The results reported this week are the first in a series of sensitive measurements that SNO is performing.

From this initial phase, the SNO scientists report on an accurate and specific measurement of the number of solar electron neutrinos reaching their detector by studying a reaction unique to heavy water where a neutron is changed into a proton.

They combined these first SNO results with measurements taken at the SuperKamiokande detector in Japan of the scattering of solar neutrinos from electrons in ordinary water (offering a small sensitivity to other neutrino types), to provide the direct evidence that neutrinos oscillate, or change types, as they travel from the Sun.

At the beginning of June, the SNO scientists began the next phase of their measurements by



Lawrence Berkeley National Laboratory

View of the Sudbury Neutrino Observatory detector after installation of the bottom photomultiplier tube panels, but before cabling.

adding salt to the heavy water to study another neutrino reaction with deuterium that provides a large sensitivity to all neutrino types. Their further measurements can address the transformation of neutrino type with even greater sensitivity, and help scientists study other properties of neutrinos, the Sun and supernovae.

— Peter Genzer



Sudbury Neutrino Observatory

A drawing of the neutrino detector, which is located 2,000 meters underground and immersed in water within a cavity 110 feet deep.

Arrivals & Departures

Arrivals

Nicholas Camillone III Chem.
Shin'ichi Saito Biology

Departures

Joseph F. Domian C-A
Eva Emmerich C-A
Joseph C. Roecklei C-A
Lori B. Stiegle C-A
Dudley K. Vail C-A



Roger Stoulenburgh CNE-139-01

Decade of Volunteer Service Wins Thanks From BNL to Skin Specialist Lieblich

On May 10, Health Promotion Coordinator Mary Wood (above), of the Occupational Medicine Clinic, presented dermatologist Lawrence Lieblich with a plaque commemorating his 10 years of voluntary service to the BNL community. Lieblich’s last visit to BNL was on May 10 when he performed his 16th whole-body skin cancer screening workshop. He usually travels to the Lab once or twice a year to screen BNLeers. Lieblich, pictured above examining Wood during his last visit, has screened over 650 people and has made 119 referrals. Lieblich has a private practice in Miller Place and is expected to return to BNL next spring. Watch The Bulletin for more information.

Hospitality News

Both of the following Hospitality Committee events start at 5:30 p.m., at the Gazebo next to the apartments. For information on either event, call Nora Robles, 345-3204, or Luise Woltering, 244-7964.

Picnic Tonight, Friday, June 22: Join the fun of tonight’s picnic. Bring your own meat to cook and a side dish to share. The grill will be ready and there will be drinks and games for everybody.

Barbecue, Tuesday, July 3: Celebrate the eve of Independence Day with a barbecue. Hamburgers, hot dogs, and drinks will be offered — bring a side dish or dessert to share.

Garden Plots: The Hospitality Committee has BNL garden plots available. For information, call Rumiko Taketani, Ext. 1004.

MARKAL Used Worldwide (cont’d.)

of alternative energy scenarios for the future.” It also estimates the relative merits of specific technologies that can be applied in an energy system, he explained.

According to Lee, “The recent workshop was a first step in a multi-phased program in which BNL will continue to work with Honduras, Panama, and El Salvador to build up their energy-environmental-economic modeling capacity.” Later this year, Lee says, the outreach program will be extended to the rest of Central America.

Originally sponsored by DOE and the International Energy Agency, the MARKAL model was developed at BNL for energy-system modeling and analysis in the late 1970s. The model now has widespread international acceptance, with more than 40 countries using it to analyze a broad range of issues in energy planning and environmental policy formulation.

Now, scientists in the EST Department are conducting environmental analyses using MARKAL and international workshops on its use are regularly offered.

Since its inception, BNL researchers have transferred MARKAL from main-frame computers to the PC Windows platform. They also greatly expanded its analytical capabilities. For instance, DOE’s Office of Policy used MARKAL as the primary tool to analyze the impact of the Kyoto Protocol on the U.S. energy system. The Office of Energy Efficiency is using the model to evaluate new technologies and energy pro-

grams. The Energy Information Administration has recently selected the model for generating the annual *International Energy Outlook*, beginning in 2002. Also, at the U.S. Environmental

MARKAL integrates energy, environmental, and economic factors for energy solutions.

Protection Agency, a comprehensive program is being formed in which MARKAL will be used to study the benefits of greenhouse gas mitigation on the emission of certain pollutants.

BNL’s MARKAL modelers are also providing technical analysis for the 2001 climate change action plan to be released later this year by the interagency analytical team.

“Later this year, our international outreach program will begin modeling activities with Greater China [Mainland, Taiwan, and Hong Kong], India, and a few other developing countries,” said Lee.

In yet another project, BNL’s MARKAL team will help develop a world-linked MARKAL modeling system, which will examine issues involving greenhouse gas emission trading — an effort sponsored by the International Energy Agency.

Lee also plans on developing an inter-American MARKAL modeling system to assess cooperative energy programs for sustainable development in the Americas — a concept which is being promoted by the administration of President George W. Bush. — John Galvin



Noon Recital, Next Wednesday
The Long Island String Quartet & Alburtt Rhodes

The noon recital next Wednesday, June 27, in Berkner Hall, features the Long Island String Quartet and tenor Alburtt Rhodes performing music and poems from England. The program will include works for strings by Dowland and Britten, as well as two romantic, evocative settings of English poetry for tenor voice: compositions by Vaughan Williams and Samuel Barber respectively for A.E. Housman’s poem *On Wenlock Edge* and Matthew Arnold’s *Dover Beach*. Housman’s “A Shropshire Lad” was published in 1896 and the poems were quickly seen as deserving of a musical setting. Vaughan Williams skilfully captures the dramatic content of each poem: in the first poem, the stormy string passages reveal the poet’s turmoil, and later, a conversation involving a farmer’s ghost makes wry humor worthy of an operetta.



Tenor Alburtt Rhodes

Arnold’s *Dover Beach* ends with the lines:

*Ah, love, let us be true
To one another! for the world, which seems
To lie before us like a land of dreams,
So various, so beautiful, so new,
Hath really neither joy, nor love, nor light,
Nor certitude, nor peace, nor help for pain;
And we are here as on a darkling plain
Swept with confused alarms of struggle and flight,
Where ignorant armies clash by night.*

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

BNL Works With LIPA, NYPA
Eases Long Island Power Crunch

BNL has entered a joint agreement with the Long Island Power Authority (LIPA) and the New York Power Authority (NYPA) to help reduce the electrical demand on Long Island.

This summer, Long Island is expected to increase its electric demand to the point at which new sources of electric generation may not suffice. Although BNL purchases its electricity from NYPA, it is LIPA that actually delivers the electricity on their distribution system. Therefore, the Lab’s participation in LIPA’s program, which encourages electric-demand reduction during peak periods, will help to ease the burden on the distribution system.

The program is simple, and works like this:

- BNL agreed to reduce its electric demand on critical days when LIPA determines that customer demand is expected to meet or exceed the company’s available supply. In return, BNL will earn incentive payments for cooperation.
- The program is in effect from June 1 through September 30.
- Critical days will only be called on non-holiday weekdays.
- BNL is required to reduce electric demand for a four-hour period from 2 p.m. to 6 p.m.
- LIPA will provide the Lab with notification at least four hours in advance.
- BNL will receive \$6,430 for each megawatt (MW) reduced per critical day. (A megawatt is 1,000 kilowatts.)
- LIPA indicates that three or four critical days can be expected, although there may be more.

BNL has agreed to provide up to 12 MW of reduction, depending on the amount of research demand occurring at the time. However, even if the Lab is unable to reduce its electrical consumption by the full 12 MW, any demand reduction will be beneficial. Reducing demand by 12 MW represents more than 10 percent of the entire LIPA curtailment program.

All incentives received as part of this program will be redistributed to those departments/divisions that reduce their electrical demand during the critical days. The electrical reduction of each will be calculated through BNL’s electric meters. (Some smaller buildings are not metered.)

“In order to maintain the integrity of the LIPA electric system, it is imperative that everyone reduce as much electricity as possible — without negative impact on programs — during each critical day period,” says Mark Toscano, manager of the Energy Management Group in BNL’s Plant Engineering Division. He continues, “The Lab is ‘conservation minded’ and I am sure that everyone will participate in this effort regardless of the financial incentives. Participation is in our own best interests, as well as those of our neighbors on Long Island.”

Calendar

(continued)

Thursday, 6/28

**Women Engineers’
Lunch Networking Meeting**

Noon, Berkner Hall, Room A.
Arlene Zhang, Ext. 5369.

— WEEK OF 7/2 —

Tuesday, 7/3

Spirit Dinner Cruise

Cruise around Manhattan, dine and enjoy entertainment. Bus leaves the Brookhaven Center at 4 p.m. \$75 includes bus, buffet dinner, entertainment. Andrea Dehler, Ext. 3347.

Hospitality Barbecue

5:30 p.m., at Gazebo near apartments. Hamburgers, hot dogs, drinks provided. Bring a side dish or dessert to share. Nora Robles, 345-3204, Luise Woltering, 244-7964.

— WEEK OF 7/9 —

Thursday, 7/12

Money Talks Seminar

“Financial Strategies for Single Parents” More information to follow. Joyce Wund, Ext. 7516.

BERA Bridge Club

7 p.m., Berkner Hall cafeteria
Morris Strongson, Ext. 4192,
mms@bnl.gov.

Friday, 7/13

New York Mets Bus Trip

\$40 includes upper-level box seats for the N.Y. Mets vs. Boston Red Sox and bus transportation. Bus leaves promptly at 4:15 p.m. Andrea Dehler, Ext. 3347.

— WEEK OF 7/16 —

Wednesday, 7/18

**Divorced & Separated
Support Group**

noon-1 p.m., Berkner Hall,
Room D. Mary Campbell, Ext.
4776, maryc@bnl.gov.

Thursday, 7/19

***Brookhaven Advocacy
Council Meeting**

Open Session, 12:30-1 p.m.,
Berkner Hall, Room D. Nancy
Warren, Ext. 7548.

BERA Bridge Club

7 p.m., Berkner Hall cafeteria
Morris Strongson, Ext. 4192,
mms@bnl.gov.

— WEEK OF 7/23 —

Monday 7/23

IBEW Meeting

Thursday 7/26

***Celebration of Maurice
Goldhaber’s 90th Year**

1:30-6 p.m., Large Seminar
Room, Bldg. 510. See notice on
page 1.

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/JOBS/jobs.html.

OPEN RECRUITMENT – Opportunities for Laboratory employees and outside candidates.

MK2248. ASSISTANT SCIENTIST (S-1) – Requires a Ph.D. in solid-state physics or a related field and several years experience with neutron scattering. This position is with the Neutron Scattering Group, which is interested in the study of forefront problems in condensed-matter physics utilizing the unique capabilities of neutron scattering. Current topics of research in the group include high-temperature superconductivity, correlated-electron phenomena, low-dimensional magnetism, ferroelectrics, and shape-memory alloys. Individual will be expected to develop a complementary independent research program and to participate in instrumentation development projects. Research includes neutron experiments at NIST, ORNL, and elsewhere; as well as the development of a spectrometer design for the Spallation Neutron Source. Under the direction of J. Tranquada, Physics Department.

NS8316. APPLICATIONS ANALYST (I-4) – Requires a bachelor's degree or equivalent experience; demonstrated expertise in one or more PeopleSoft modules; the ability to write Query reports; excellent communication and customer service skills; and the ability to work well with a diverse user population. A strong desire and the ability to learn PeopleSoft programming are also required. Will be assigned as an applications programmer on PeopleSoft business applications and be responsible for analyzing events and business processes and providing technical solutions. Business Systems Division.

DD2089. ADMINISTRATIVE SERVICES ASSISTANT (A-2) – Requires a BS or BA degree and strong writing and interpersonal skills. Computer training in MS Office and prior experience with computer case analysis is highly desirable. Will manage NIH projects in terms of funding and expenditures, subject recruitment and outreach for studies. Will act as liaison between Imaging Research Group and Institutional Review Board, assist scientists and research associates with project related matters, organize and maintain databases, assist principal investigators in completion of progress reports for ongoing projects and coordinate project flow. Medical Department.

Softball Standings as of June 1			
League E1		League M1	
Phase Out	4-0	Happy Hour	3-1
System	4-0	Gour-Mets	2-2
Blue Jays	3-1	Sting Rays	2-2
Gas House Gorillas	2-2	OER Wellheads	1-3
Hammerheads	2-2		
Mesocyclones	2-2		
ScramBats	2-2		
Hy Tech	1-3		
Sure Fire	0-4		
Survivors	0-4		
League E2		League M2	
Bombers	2-1	Ansky	3-1
Chemically Imbalanced ..	2-1	Guzzlers	3-1
Medical	2-1	Hounds & Foxes	2-2
Ten Samurai	0-3	Diamond Dawgs	1-3
		Here For The Beer	1-3
		Jello Shots	0-4

Ride to Work Day, 7/18

National 'Ride to Work Day' is Wednesday, July 18. Bring your bike and join BNL's motorcycle club, the Cyclotrons, from noon to 1 p.m. at the gazebo by the softball fields. For more information, contact Charles Gardner, Ext. 5214, or Frank Dusek, Ext. 2022.



Community Involvement

FIGHT AGAINST CANCER - walkers needed to form team in "Relay for Life", 6/29 & 6/30, Rocky Point High School. Mike, Ext. 5891.

H.O.G. AGRICULTURE - community-supported, organic vegetables, flowers & herbs, avail for 25 wks. Lisa, 342-3475.

LONG ISLAND SCIENCENTER - will open this summer in downtown Riverhead, science & engineering activities/exhibits, volunteers needed to build & design exhibits & programs. Peter, Ext. 2824 or 7687 or www.lisciencecenter.org.

ORGANIC COMMUNITY FARM - located in Brookhaven Hamlet, weekly food pickups through Fall. Kathy, Ext. 3578 or 751-1035.

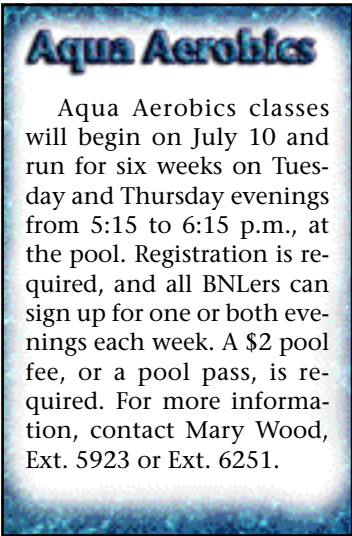
In Appreciation

To all my friends at BNL's C-A magnet group & BWIS. Thank you for a wonderful farewell party and best wishes.

— Eva Emmerich

To all my Lab friends and Upton postal patrons. Thank you for all of your concern, thoughts, and prayers: you wished me alive and well, and I'm getting better. I say special thank-yous to all the lifesavers involved; to the BNL Police and Fire/Rescue — thanks for your very prompt and professional response; to my friend Sheryl Carey — thank you for being my very brave buddy; and to my Ralph — I am so sorry that I scared you, but I am glad that you are always there for me no matter what I do.

— Pat Rogers



**Foxwoods Casino Trip
Rescheduled for 8/18**

The BERA-sponsored trip, originally planned for July 14 has been rescheduled for Saturday, August 18. The trip includes bus, ferry, and bus to Foxwoods Casino, Connecticut. The bus will leave at 8:15 a.m. and return at about 8:15 p.m.

Tickets are available at the BERA Sales Office, weekdays from 9 a.m. to 3 p.m., at \$39 per person, which includes a \$10 food voucher, two free Keno plays and a \$10 match table play. For more information, call Andrea Dehler, Ext. 3347, or M. Kay Dellimore, Ext. 2873.

BERA Summer Bash

Join BERA's Summer Bash on Friday, August 10, at the Rock Hill Country Club, Manorville. The party will begin at 6 p.m. Tickets at the BERA Store at \$15/ person include the hot buffet and DJ. There will be a cash bar.

**SixFlags
GREAT ADVENTURE**

Tickets for Six Flags Great Adventure and Hurricane Harbor water park are now available at the BERA Sales Office, weekdays from 9 a.m. to 3 p.m., in Berkner Hall. Early Bird tickets, which must be used by June 29, cost \$26 and include the park and safari, but do not include Hurricane Harbor.

After June 29, park tickets cost \$35 and include park and safari. This is approximately \$10 savings for BNLers. Children's park tickets cost \$25. Hurricane Harbor tickets cost \$24 (offered at a \$6 savings to BNLers). For more information, contact Andrea Dehler, Ext. 3347.