

New Muon $g-2$ Measurement Deviates Further From Standard Model

The latest result from an international collaboration of scientists investigating how the spin of a muon is affected as this

type of subatomic particle moves through a magnetic field deviates further than previous measurements do from theoretical

predictions. The result strengthens the challenge this experiment, known as muon $g-2$, first posed to the so-called Standard Model of particle physics in February 2001 (based on data collected in 1999), and then backed with a more precise result in July 2002 (based on data collected in 2000).

The new measurement, which has been submitted to *Physical Review Letters*, was announced in a talk by Gerco Onderwater, University of Illinois at Urbana-Champaign and now at KVI, Groningen, Netherlands, on January 8, at BNL, where the experiment was conducted by scientists from Brookhaven and 11 other institutions in the United States, Russia, Japan, The Netherlands, and Germany.

The research was funded by the Office of High Energy Phys-

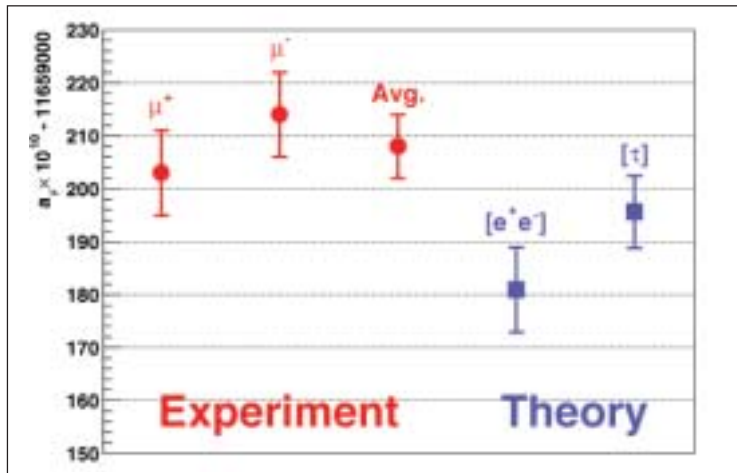
ics within DOE's Office of Science, the U.S. National Science Foundation, the German Bundesminister für Bildung und Forschung, and the Russian Ministry of Science, and through the U.S.-Japan Agreement in High Energy Physics.

Based on data collected in 2001, this is the first precise measurement of how negatively charged muons "wobble" in the magnetic field; the two prior results were for positively charged muons. The precision

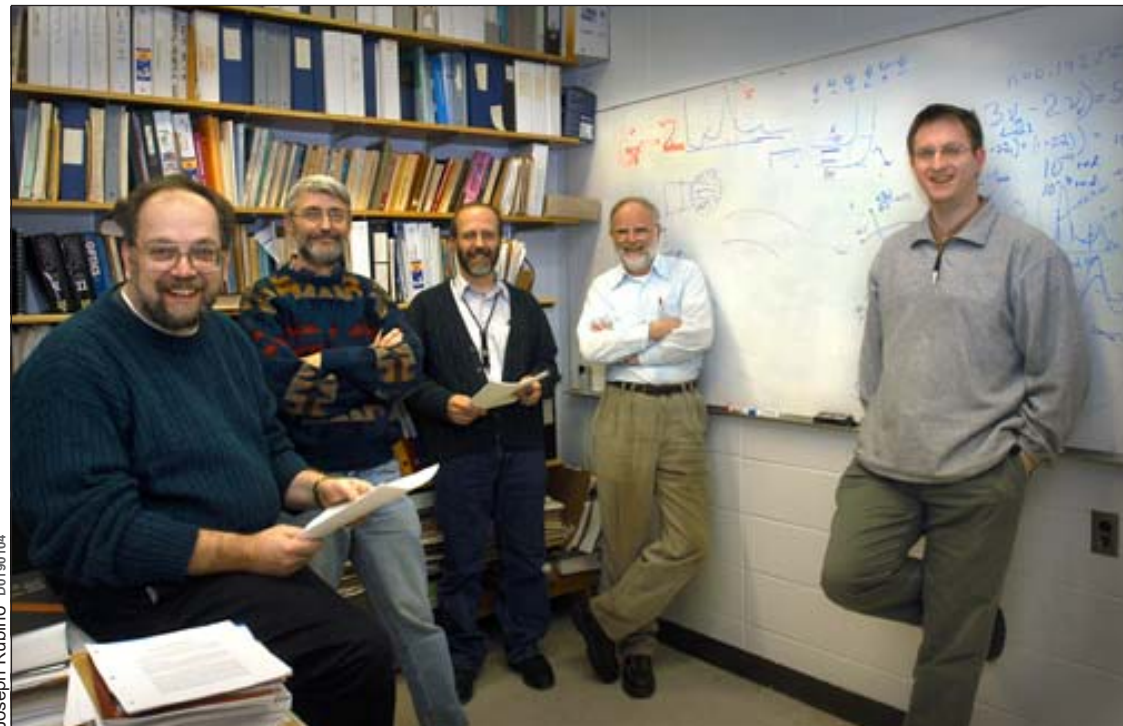
of the new result matches the combined precision of the previously reported results.

All three results are in good agreement with one another and with a long-standing theoretical prediction of what is called the PCT Theorem, that particles and antiparticles should wobble at the same rate in a magnetic field.

When compared with the latest Standard Model predictions for the $g-2$ value, however, (continued on page 2)



The results from E821 for the muon anomalous magnetic moment. Shown are the average of three measurements for the positive muon, the new result for the negative muon, and their combined value. Also shown are the direct (e^+e^- based) and indirect (τ -based) theory values taken from Davier *et al.*, *Eur. Phys. J. C31*, 503 (2003).



Four members of E821, the muon $g-2$ experiment at the Alternating Gradient Synchrotron, from an international team of 60 physicists from 11 institutions, celebrate the latest result from the negative muon data taken in 2001: (from right) Gerco Onderwater, University of Illinois at Urbana-Champaign and now at KVI, Groningen, The Netherlands, who reported on the experiment at the January 8 colloquium; and William Morse, Yannis Semertzidis, and Gerry Bunce, all of BNL's Physics Department. At left is theorist Bill Marciano, also of Physics, who works closely with the $g-2$ experimentalists.

390th Brookhaven Lecture

'Making High-Temperature Superconductors Work,' 1/28

High-temperature superconductors — materials that conduct electricity without resistance and without being cooled to very low temperatures — were discovered in the late 1980s and the early 1990s. Useful high-temperature superconductors for utility applications are those which lose their resistance above the boiling temperature of nitrogen,

at approximately 77 Kelvins. However, to make these materials into forms long and flexible enough for winding magnets and cables proved to be very difficult because these materials are oxides — the chemical term for ceramics — and thus very brittle.

Now, however, the "first generation" conductors, made of bismuth-strontium-calcium-copper-

oxides, are available in long lengths. The latest developments are in what are called the second generation conductors, made of yttrium-barium-copper-oxide.

Mas Suenaga, Senior Metallurgist in the Materials Science Department and an internationally known expert in the superconductor field, will give the 390th Brookhaven Lecture, on "Making High-Temperature Superconductors Work." The talk will begin at 4 p.m. in Berkner Hall on Wednesday, January 28. Suenaga will be introduced by James Misewich, Chair of the Materials Science Department.

In his talk, Suenaga will tell the story of the development of electric conductors utilizing high critical temperature superconductors for high-current (continued on page 3)

To join Suenaga for dinner at an off-site restaurant after the lecture, call Liz Seubert, Ext 2346.



Mas Suenaga

Gen Shirane of Physics Awarded For Outstanding Neutron Science

At the third annual meeting of the Japanese Society for Neutron Science, held December 11, 2003, in Tokai, Japan, senior physicist Gen Shirane of the Physics Department was honored with a medal and citation for his internationally known work in neutron scattering techniques.



Gen Shirane

In presenting Shirane with his award, Yasuhiko Fujii of the University of Tokyo's Neutron Science Laboratory in the Institute of Solid State Physics said, "We honor Gen Shirane for his outstanding scientific accomplishments in solid state physics by neutron scattering and his great contribution to the Japanese community by training Japanese scientists at Brookhaven National Laboratory for nearly 40 years."

Said Shirane, "Brookhaven gave me the opportunity to conduct research and experiments that have gone far beyond the expectations I had when I first came here in the 1960s. BNL has also supported my collaboration with Japanese scientists, which has been a gratifying scientific and personal experience."

Doon Gibbs, BNL's Interim Associate Laboratory Director for Basic Energy Science, added, "Gen Shirane is the best neutron scatterer in the world, and among BNL's and the DOE's most distinguished scientists. It's a pleasure to acknowledge his many contributions to condensed matter physics over 40 years."

Shirane received his Ph.D. in physics from the University of Tokyo in 1954. He first came to BNL in 1956 as a visiting scientist while working for Westinghouse Research Laboratories and formally joined the Lab in 1963. Over the course of his 50-year career, he used neutron scattering techniques as probes of solid-state physics and has published approximately 500 papers in the field.

Shirane did his first neutron research using the Brookhaven Graphite Research Reactor. Later, at the High Flux Beam Reactor, he conducted experiments that gave insight into the structure and bonding of atoms and spins in solids. His work has had a strong impact on the understanding of the nature of high-temperature superconductors.

Shirane has received many honors, including the 1973 American Physical Society Buckley Award and the 1993 Brookhaven Distinguished Research & Development Award. He was also elected to the National Academy of Sciences in 1989.

— Jane Koropsak

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 Carter, 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. Hall) is located in the apartment area.
- Contact names are provided for most events for more information.
- Calendar events flagged with an asterisk (*) have an accompanying story in this week's Bulletin.

— EACH WEEK —

Mondays: BNL Gospel Choir

5:15-7 p.m. Berkner Hall. All faiths are welcome. www.bnl.gov/bera/activities/choir/.

Weekdays: Free English for Speakers of Other Languages Classes

Beginner, Intermediate, and Advanced classes. Various times. All are welcome. Learn English, make friends. See www.bnl.gov/esol/schedule.html for schedule. 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. Christine Carter, Ext. 2873.

Mon., Thurs., & Fri.: Tai Chi

Noon- 12:45 p.m., Brookhaven Center North Room. Adam Rusek, Ext. 5830 or rusek@bnl.gov.

Tuesdays: Welcome Coffee

10-11:30 a.m. Rec. Hall. Hospitality event. Come and meet friends. The first Tuesday of every month is special for Lab newcomers and leaving guests. Hospitality Chair Monique de la Beij, 399-7656.

Tuesdays: BNL Music Club

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

Tuesdays: Singles Club

5:15 p.m., Brookhaven Center. Contact: Jean, Ext. 4391.

Tuesdays: Jiu Jitsu Club

6:30-7:30 p.m. in the gym. All levels, ages 6 and above. \$10 per class. Tom, Ext. 4556.

Tuesdays: Toastmasters

1st and 3rd Tuesday of each month, 5:30 p.m., 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. Hall. Pat Flood, Ext. 7886.

Tuesdays & Thursdays: Aqua Aerobics

5:15-6:15 p.m. Christine Carter, Ext. 2873.

Tues. & Thurs: Upton Nursery School

9-11:30 a.m. in the Rec. Hall. For 3 & 4 year olds. Alison Tilp, Ext. 4465, or tilp@bnl.gov.

Wednesdays: On-Site Play Group

10 a.m.-noon. Rec. Hall. An infant/toddler drop-in event. Parents meet while children play. Cindy Otteman, 821-4482.

Wednesdays: Weight Watchers

Noon-1 p.m. Michael Thorn, Ext. 8612.

Wednesdays: Yoga Practice

Noon-1 p.m., Brookhaven Center. Free. Ila Campbell, Ext. 2206.

Wednesdays: Open Chess Night

5-8 p.m., Rec. Hall. Christine Carter, Ext. 5090.

Fridays: Family Swim Night

5-8 p.m. at the BNL Pool. \$5 per family.

Fridays: BNL Social & Cultural Club

6-9 p.m. North Ballroom, Brookhaven Ctr., dance lessons, 9-11:30 p.m. general dancing. Rudy Alforque, Ext. 4733, rudy@bnl.gov.

— NEXT WEEK —

Monday, 1/19

BNL Holiday

The Lab will be closed in observance of Martin Luther King, Jr. Day. No Bulletin will be printed this week.

Wednesday, 1/21

EcoQuest International Demo

11 a.m.-2 p.m., Berkner Hall. Representatives from EcoQuest International will present BNLers with special offers on their various air- and water-purification products and services. Mel, 476-0027, Ann, 744-5344.

Thursday, 1/22

BERA Bridge Club

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

Friday, 1/23

Podiatry: Foot Screening, Consultation

9-11:45 a.m. in the Occupational Medicine Clinic, Bldg. 490. Podiatrist Ben Dimichino. No more space available. Linda DiPierro, dipierro@bnl.gov.

Healthfest 2003 — A Week of Health, Fitness and Safety

Stretching from October 20 to 24, BNL's annual celebration of personal health, fitness and safety again drew a large turnout from the BNL community. This year 500-plus people attended at least one Healthfest event. More than 80 BNLers volunteered to help run these events, and exhibitors from many different groups and organizations offered displays, demonstrations, and screening over two days in Berkner Hall.

For having the highest overall percentage of its staff involved in various events, the Fiscal Division earned the fourth annual Healthfest Participation Award.

Healthfest began on Monday with 320 completing a two-mile fitness walk that was kicked off by Laboratory Director Praveen Chaudhari. The stretch clinic before the event drew a crowd of over 50.

On Tuesday, enlivening music over a loudspeaker gave a festive atmosphere to the preparations of 98 runners gathered in front of the Biology building, who set off on the five-kilometer course of the fitness run. Terry Sullivan, the fastest man, had a time of 17:16:7 and Zhou Weimin, the fastest woman, had a time of 21:36:0.

Then, on Wednesday and Thursday, more than 650 BNL community members attended the Healthfest fair, sampling information and activities in Berkner Hall offered by some 35 outside organizations and 12 Lab departments, divisions, and offices. Three hundred BNLers also participated in the drinking-water taste-test.

During the fair, 97 had their blood pressure taken by an OMC registered nurse, 27 had their cholesterol checked, 72 were checked

for diabetes, and 72 had their body composition analyzed. Massage and or Reiki were experienced by 74 participants. Also, because the fair coincided with the annual open enrollment for health-care benefits, attendees had a chance to speak with representatives from Aetna, CIGNA, HIP, and Vytra who were showcasing their services at Berkner Hall on the day of the fair.

Meanwhile, demonstration exercise classes throughout the week were a great success. On Tuesday, 16 had a Jazzercise workout, while on Thursday, 30 experienced Belly Dancercise and Pilates gave 26 a good stretch.

Finally, on Friday, some 99 enthusiasts pedaled mountain bikes five to eight miles to an exhilarating finish.

T-shirts were distributed to 950 Healthfest participants, exhibitors, and volunteers, and

over 90 health-related raffle prizes were given away.

According to the more than 100 evaluations received by Healthfest co-chairs Michael Thorn and Denise DiMeglio, the event was very worthwhile. Many participants were inspired to renew and improve their personal health, fitness, and safety programs. One participant noted the inspiration of the "spirit of everyone participating." Many respondents reported learning new information that would cause them to make life-style changes. The feedback obtained will be used in future Healthfest and other program planning.

Said Thorn and DiMeglio, "We thank the 80-plus volunteers who made our 11th annual Healthfest successful, and we look forward to next year's event."



Roger Stoutenburgh D1611103

Terry Sullivan ¹	17:16.7	Joe Nasta	22:09.0	Dennis Reichhold	25:27.0	Stephen Shapiro**	28:45.9
David Phillips ²	17:53.5	Kevin Corbett	22:11.6	Lisa Jansson**	25:27.5	Michael Jenson	28:55.4
Bob Kujawski ³	18:02.4	John P. Young	22:14.6	Robert J. Lee	25:48.7	Philip Harrington	29:17.3
Donald MacKay**	18:10.8	Gene Van Buren	22:21.6	Peter Kohut	25:53.0	Heather Hartmann	29:30.1
Youri Filippov**	18:49.8	John J Bohenek	22:31.5	Robert McGraw	26:22.3	Kathleen Tuohy	29:37.4
Mike Mapes**	19:12.1	Randy Smith**	23:02.0	Wendy Morrin (Spaeth)**	26:27.7	Tom Clifford	29:50.7
Paul Geiger**	19:20.8	Alistair Rogers	23:05.4	Diana Teich	26:34.8	Wailin Litzke	29:58.9
Victor Usack	19:27.6	Seth Nemesure	23:07.6	Mark Opisso	26:35.7	Jack Guthy	30:04.2
Lance Cooley**	19:41.2	Anthony Kuczewski	23:11.3	Sheryl Carey**	26:41.3	Ken Mohring	30:06.9
Paul Montanez**	20:09.2	David Graham	23:26.4	Yugang Tan**	26:46.8	Jeff Landgraf	30:23.2
Brian Boyer	20:12.2	Michael Sivertz	23:50.9	Marie Van Buren	26:49.1	Tammy Heinz	31:07.5
Wolfgang A. Caliebe	20:20.1	Robert Lake	23:58.9	Ken Perkins	26:54.0	Luhong Wang	32:22.2
Nikolay Filippov	20:26.5	Lisa Zimmerman ⁵	24:02.3	Charles S. de la Parra	27:00.6	Ping He	32:37.8
Roger Davis	20:44.9	Alice Cialella ⁶	24:02.6	Robert Todd	27:01.4	Jack Russell	36:34.0
Chris Homes	21:01.7	Neil A. Wade	24:21.0	Leif Ahrens	27:04.9	Renat Yakupov	36:40.5
Ed Haas	21:05.2	Werner Vogelsang	24:23.5	Christine Brakel**	27:18.4	Don Lynch	37:23.9
Greg Rakness	21:11.7	Philip Pile	24:26.5	Stephen Perlstein	27:23.0	Brian Oerter	41:43.9
Tim Morrin	21:28.7	D. John Millener	24:26.8	George Walczyk**	27:31.4	David Alburger**	42:58.0
Ron Gill	21:29.5	Augie Hoffmann	24:28.4	Millie Laster	27:34.0		
Weimin Zhou ⁴	21:36.0	Patrick Moylan	24:34.0	Michael Seidman	27:36.9		
Mark Pidkowich	21:42.8	Richard Sanniola	24:36.2	Les Fishbone	27:40.8		
Shai Vaday	21:43.2	Garry Hubbard	24:38.3	J. Adams	28:03.7		
Jim Anselmini	21:45.6	Dardo Tomasi	24:39.1	John Warren	28:09.6		
Neville W. Williams	21:47.2	Ed Sierra	24:43.6	Richard Wagener	28:12.2		
George Mahler	21:51.2	Joseph Tuozzolo	24:46.3	Doug Ports	28:12.7		
Vincent Racaniello	21:51.9	Betty Elder**	25:13.3	Kelly A. Warren**	28:26.2		
Al Della Penna Jr.	21:54.7	John Flannigan	25:24.0	Kurt Vetter	28:39.6		

the new experimental result differs from the most direct theory calculation by 2.8 standard deviations, and from a somewhat more indirect theory calculation by 1.7 standard deviations, making this the most significant deviation to date between experiment and theory. When the positive and negative muon results are combined, the result differs from the direct theory calculation by 2.7 standard deviations, and from the indirect theory calculation by 1.4 standard deviations.

The two theoretical predictions are in significant disagreement with one another and have been under close scrutiny

by the theory community for several years. The related theory issues are gradually being clarified and may get fully resolved soon.

Boston University physicist Lee Roberts, spokesperson for the muon g-2 experiment, said, "The measurement of this property, the anomalous magnetic moment of the muon, is a very sensitive test of the validity of the Standard Model, and is also sensitive to new physics beyond the Standard Model." The Standard Model seeks to describe the effects of three of the four known forces on all subatomic particles. "The fact that our measurement continues to de-

viate from what that theory predicts may be an indication that we are seeing new physics beyond the Standard Model," Roberts said.

While physicists have known for some time that the Standard Model is incomplete, the correct extension to this theory is still a matter of speculation, with one leading candidate being supersymmetry — a theory that predicts the existence of yet-to-be-discovered companion particles for all the known subatomic particles. "One reason there has been so much interest in our experiment is that the rate at which muons wobble in a magnetic field would be af-



The 1995 photograph above shows many members of the world's largest superconducting magnet team at BNL's Alternating Gradient Synchrotron for the

Exercise, Weight Lifting Facility Marks Three-Year Anniversary

Three years ago, on January 23, 2001, the BNL Exercise & Weight Lifting Facility opened after extensive remodeling. Funding from BSA had provided a 650-square-foot mezzanine and new exercise equipment.

Since that day, the new facility has drawn many new participants. In 1992, the gym had 45 members; now 518 exercise enthusiasts come to use the equipment.

Said Charles Gardner, president of the BERA Exercise & Bodybuilding Club (BBC), "The club's mission is to promote fitness and health through exercise. We have worked hard since 2001 to obtain new equipment such as a Lat Pull-down machine, a shoulder and chest press combination, an elliptical trainer, a chest fly/rear deltoid machine, a recumbent bike, and a stairmaster."

The club has also added stability balls for resistance training and a brand-new sound system that includes a television and CD player.

All employees and Lab visitors, guests, and their families are invited to join BBC. Each



In the BNL Exercise & Weight Lifting Facility in the gym with Lisa Zimmerman (right) are: (from left) Patrick Moylan, Mark Pidkowich, and Kelly Warren.

user pays \$25 yearly to help with expenses for maintenance and equipment upgrades. Users are issued a membership number that interfaces with a card-reader system. A one-time complimentary visit can also be arranged for those wishing to try the facility be-

fore paying the full fee.

In addition to providing equipment, membership with the BBC also allows for access to a certified "personal trainer" at an additional cost. To find out more details, or if you are interested in joining or visiting the club, go to the club

website, at www.bnl.gov/bera/activities/bodybldg/, or contact club officers Charles Gardner, Ext. 5214 or chuckg@bnl.gov, Elliott Levitt, Ext. 2495 or levitt1@bnl.gov, David Dale, Ext. 2976 or dale@bnl.gov, Firoza Zaroni Ext. 4532 or firoza@bnl.gov.

Get to Know Your Lab!

Fast Chemistry With LEAF

On Friday, January 30, all are invited to visit the Laser Electron Accelerator Facility, LEAF, located in the Chemistry Department. Meet at noon in the upper lobby of Berkner Hall. Elaine Lowenstein of Community Involvement will take the group to LEAF where Trevor Sears of Chemistry will explain how, using this electron accelerator, incredibly fast chemical reactions can be measured. The group will return to Berkner by 1 p.m.



Brookhaven Lecture, January 28 (cont'd.)

applications, such as high field magnets, power transmission cables and transformers in electric utilities. He will describe some of the large-scale demonstrations in the U.S. using second-generation conductors, and innovations required to overcome certain difficulties. The story will include BNL research that contributed to the present developments.

Suenaga joined BNL in 1969 as an assistant metallurgist having earned a B.S. and an M.S. in

electrical engineering and a Ph.D. in metallurgy from the University of California at Berkeley in 1962, 1964, and 1969, respectively. His field of expertise at the Lab is the materials science of superconducting materials and the electromagnetic characterization and fabrication of superconductors.

Brookhaven lectures are free and open to the public. Refreshments are offered before and afterwards. Visitors to the Lab ages 16 and over must have photo identification.

Retirement Counseling

A TIAA-CREF representative will visit BNL on Friday, February 6, Friday, February 13, and Tuesday, February 24, to answer employees' questions regarding the TIAA-CREF retirement plan. Questions might include, for example, differences between TIAA and CREF, allocating funds between TIAA and CREF, options, flexibilities with TIAA-CREF, and retirement options.

For a 45-minute appointment, call Valerie James, (800) 842-2733, Ext. 7980 (not the on-site Ext. 7980).

Arrivals & Departures

Arrivals

Masafumi Fukuto NSLS
Edward Phillips Plant Engr.

Departures

Sheeba Arnold Medical
Abhay Deshpande Physics
Ming Tan Chemistry

In Memoriam

Abraham Sampson, who had joined the Plant Engineering Division on July 7, 1980, as a stationary engineer and, as a senior stationary engineer, had left the Lab on long-term disability on August 15, 1989, died on August 31, 2003. He was 75.

Ronald Peierls, who had first come to BNL as a visiting assistant scientist on July 30, 1962, had joined the Physics Department on July 1, 1963, as an associate physicist, and had retired from the Department of Applied Science on March 31, 1998, died at age 67 on September 2, 2003. He had been named physicist with tenure in 1966, senior physicist in 1972, and had chaired the Applied Mathematics Department from July 1979 to September 1988. For many years, he also played a leading role in the BERA Theater Club. After retiring, he had continued as a guest consultant until December 31, 2002.

Need a 2004 Resolution?

Please remember to give to the BNL Food Drive.

affected by the presence of new physics, such as supersymmetric particles, if they exist," said Roberts. "Historically, muon g-2 has provided an important constraint on new theories. Our experiment is now 14 times more precise than the experiment done at CERN [the European laboratory for particle physics] in the 1970s. This precision places important restrictions on potential new theories."

Added William Marciano, senior theoretical physicist in BNL's Physics Department, "The recent g-2 result strengthens the case for new physics effects with supersymmetry, a leading candidate, but it is by

no means definitive. Continued scrutiny of theory and further running of the experiment are imperative."

For more information, including history of previous g-2 results, go to www.bnl.gov/bnlweb/pubaf/pr/2004/bnlpr010804.htm.

— Karen McNulty Walsh

Got the Coil on a String. In May 1992, the third coil for the g-2 magnet was hoisted into its position with the two previously completed inner coils.



Members of the muon g-2 team gathered around the third coil, which, 15 meters in diameter, was built at the experiment.

Calendar

(continued)

— WEEK OF 1/26 —

Monday, 1/26

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.

Wednesday, 1/28

*Brookhaven Lecture

4 p.m., Berkner Hall, Masaki Suenaga, Materials Science Department, will talk on recent developments in high-temperature superconductivity. All are welcome.

Friday, 1/30

BWEN Brown Bag Lunch Meeting

Noon-1 p.m., Berkner Hall, Room C. Brookhaven Women Engineers Network. Loralie, Ext. 2425.

WEEK OF 2/2

Tuesday, 2/3

Caring Friends Meet

Noon, Berkner Hall, Room D. An informal support group meets to serve as a resource for individuals experiencing grief and the many emotions following the loss of a loved one. Gatherings are on the first Tuesday of each month. All are welcome. For more information, call Pat Hein, Ext. 3962, or Gerry Van Derlaske, Ext. 3476.

Thursday, 2/5

BERA Bridge Club

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

— WEEK OF 2/9 —

Friday, 2/13

Blood Drive

9:30 a.m.-3 p.m., Brookhaven Center. BNLers from age 17 to 75, in good health, and weighing over 110 pounds are welcome. All donors must have photo identification and know their social security number. To make an appointment, contact Susan Foster, Ext. 2888 or donateblood@bnl.gov.

— WEEK OF 2/16 —

Thursday, 2/19

BERA Bridge Club

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

Fri., 2/20 - Sun. 2/22

*BERA Ski Weekend to Gore Mountain
Bus departs BNL on 2/20 at 5 p.m. and departs Lake George at 5 p.m. on 2/22. Ski all day w/transfers to Gore Mt. Trip includes deluxe motor coach and two nights hotel, welcome refreshments, several buffet-style meals, and parties scheduled for Fri., Sat., and Sun. nights. See notice on page 4 and www.adventureunlimited.com.

Saturday, 2/21

Lion King on Broadway

\$76 per person. Sold out. Christine Carter, Ext. 5090.

— WEEK OF 3/1 —

Thursday, 3/4

Eric Forsyth Talk on Latest Voyage

Noon, Berkner Hall. BNL retiree and yachtsman Eric Forsyth will talk and show slides of his latest voyage. All are welcome.

BERA Bridge Club

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

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 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.

