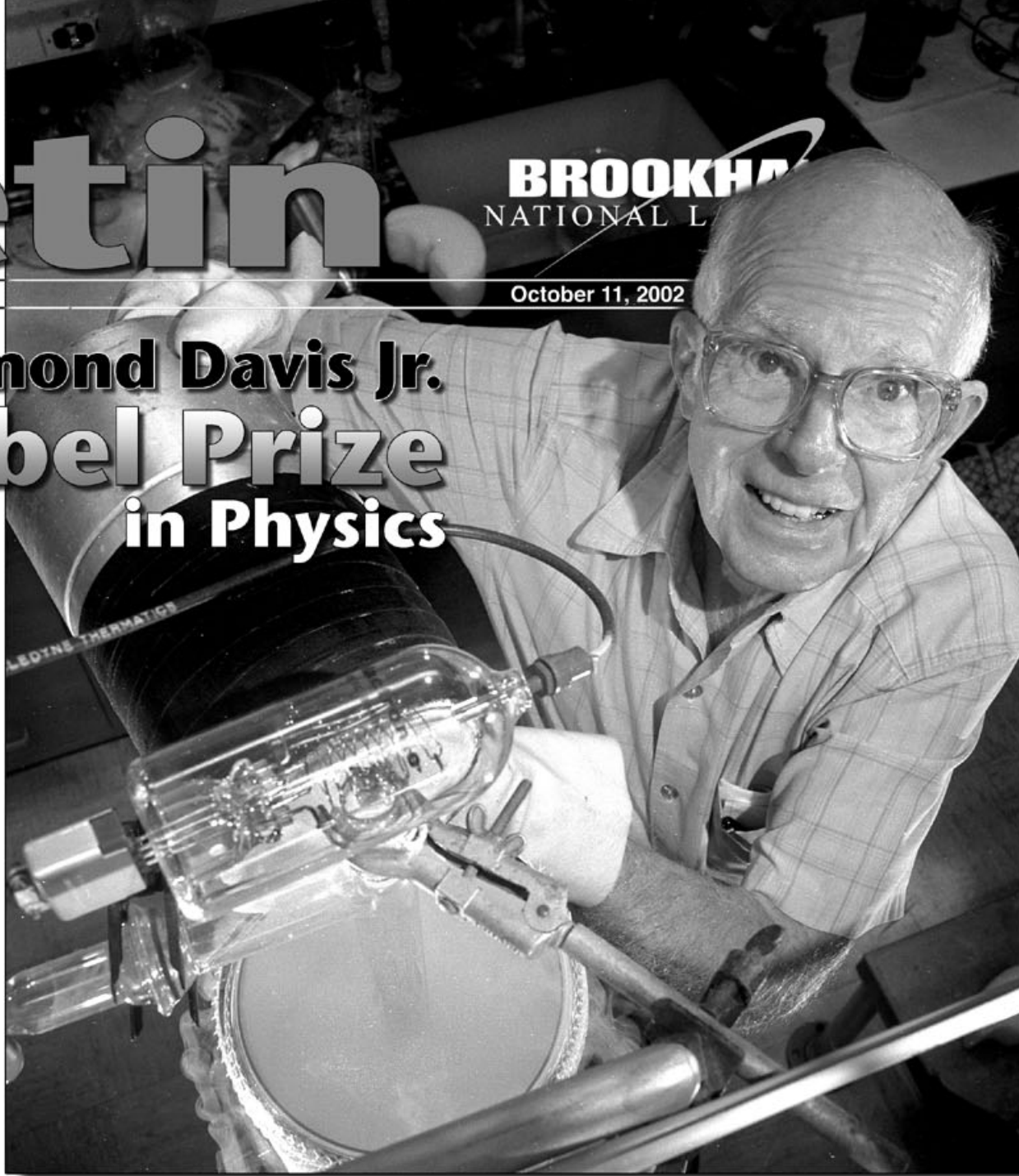


Brookhaven's Raymond Davis Jr. Awarded the Nobel Prize in Physics



Roger Stoutenburgh CN10-818-99

Raymond Davis Jr., a BNL retired chemist, has won the 2002 Nobel Prize in Physics for detecting solar neutrinos, ghost-like particles produced in the nuclear reactions that power the sun. As announced on October 8, Davis shares the prize with Masatoshi Koshiha, Japan, and Riccardo Giacconi, U.S.

In awarding the prize to Davis and Koshiha, the Royal Swedish Academy of Sciences cited both "for pioneering contributions to astrophysics, in particular for the detection of cosmic neutrinos." Giacconi was cited "for pioneering contributions to astrophysics, which have led to the discovery of cosmic x-ray sources."

Said Davis, "I was very surprised by the news that I had received the Nobel Prize. I had a lot of fun doing the work. I could never have done it without the aid of colleagues all over the world, especially at BNL, the Homestake Mine, and the University of Pennsylvania."

The Nobel laureates will be awarded their prizes at a ceremony in Stockholm, Sweden, on December 10. The prize consists of a diploma, a medal, and 10 million Swedish kroner (roughly 1 million U.S. dollars) shared among the recipients.

"Neutrinos are fascinating particles, so tiny and fast that they can pass straight through everything, even Earth itself, without even slowing down," said Davis. "When I began my work, I was intrigued by the idea of learning something new. The interesting thing about new experiments is that you never know what the answer is going to be."

Davis was the first scientist to detect solar neutrinos, the

signature of nuclear fusion reactions occurring in the core of the sun, using a method to detect solar neutrinos based on the theory that the elusive particles produce radioactive argon when they interact with a chlorine nucleus. To protect it from cosmic rays, Davis's first solar neutrino detector was constructed 2,300 feet below ground in a limestone mine in Ohio (see photo, page 2), in 1961. Building on this experience, he mounted a full-scale experiment 4,800 feet underground, in the Homestake Gold Mine in South Dakota.

In research that spanned 1967-1985, Davis consistently found only one-third of the neutrinos that standard theories predicted. His results threw the field of astrophysics into an uproar, and, for nearly three decades, physicists tried to resolve what is called the "solar neutrino puzzle."

Experiments in the 1990s using different detectors around the world eventually confirmed the solar neutrino discrepancy. Davis's lower-than-expected neutrino detection rate is now accepted by the international science community as evidence that neutrinos can change from one of the three known neutrino forms into another.

This characteristic, called neutrino oscillation, implies that the neutrino has mass, a property that is not included in the current Standard Model of elementary particles (in contrast, particles of light, called photons, have zero mass). Davis's detector was sensitive to only one form of the neutrino, so he observed fewer than the expected number of solar neutrinos.

BNL's Interim Director Congratulates BNL's Newest Nobel Laureate

"The award of the Nobel Prize to Dr. Ray Davis for his work on the detection of solar neutrinos over the last 40 years is richly deserved and most timely. Ray discovered, in an incredibly daring experiment lasting several decades, that distinctly fewer neutrinos emitted from the sun reach the Earth than predicted by the best nuclear physics models of the sun. This discrepancy was only recently explained in a second experiment headed by one of the co-winners, Dr. Koshiha from Japan, when it was confirmed that neutrinos change their particle type on their way from the sun to the Earth. Some of the glory of Dr. Davis' Nobel Prize reflects also on BNL and its tradition of daring, unfettered research. Brookhaven's mission for multidisciplinary research and DOE's funding of it made it possible for a nuclear chemist to make this most fundamental discovery on elementary particles, which has increased our understanding of the universe.

On this historic day [October 8, 2002], I am sending my heartfelt congratulations to Ray Davis. The Laboratory celebrates his achievement with him."

— Peter Paul

Raymond Davis Jr. earned a B.S. and an M.S. from the University of Maryland in 1937 and 1940, respectively, and a Ph.D. in physical chemistry from Yale University in 1942. After his 1942-1946 service in the U.S. Army Air Force and two years at Monsanto Chemical Company, he joined BNL's Chemistry Department in 1948. He received tenure in 1956 and was named senior chemist in 1964.

From 1971 to 73, Davis was a member of the National Aeronautics & Space Administration's Lunar Sample Review Board and was involved in the analysis of lunar dust and rocks collected by the crew of Apollo 11 on NASA's historic first flight to the moon.

Davis retired from BNL in 1984, but has an appointment in the Chemistry Department as a research collaborator. In 1985, he joined the University of Pennsylvania (UP) to continue experiments at the Homestake Gold Mine with Kenneth Lande. Davis has an affiliation with UP as a research professor emeritus.

A member of the National Academy of Sciences and the American Academy of Arts and Sciences, Davis has won numerous scientific awards, including the 1978 Cyrus B. Comstock Prize from the National Academy of Sciences; the 1988 Tom W. Bonner Prize from the

American Physical Society (APS); the 1992 W.K.H. Panofsky Prize, also from the APS; the 1999 Bruno Pontecorvo Prize from the Joint Institute for Nuclear Research in Dubna, Russia; the 2000 Wolf Prize in Physics, which he shared with Masatoshi Koshiha, University of Tokyo, Japan; and the 2002 National Medal of Science.

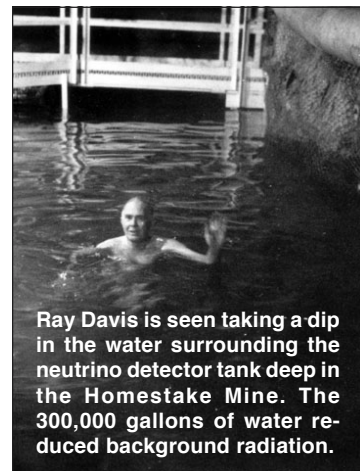
Davis's Nobel Prize is the fifth one in physics won by scientists connected with BNL. Three of the four previous prizes were awarded for discoveries at the Lab's Alternating Gradient Synchrotron (AGS).

Experiments at the AGS resulted in the discovery of the muon-neutrino, for which the Nobel Prize was awarded to Leon Lederman, Melvin Schwartz, and Jack Steinberger in 1988; the discovery of CP violation by James Cronin and Val Fitch, who shared the 1980 prize; and the co-discovery of the J/psi particle by Samuel Ting at BNL and Burton Richter at the Stanford Linear Accelerator at Stanford University, who shared the prize in 1976. T.D. Lee and C.N. Yang shared the 1957 Nobel Prize in Physics for a theoretical breakthrough on parity violation, work that was done at BNL.

BNL's solar neutrino research at the Homestake Gold Mine was funded, in succession, by

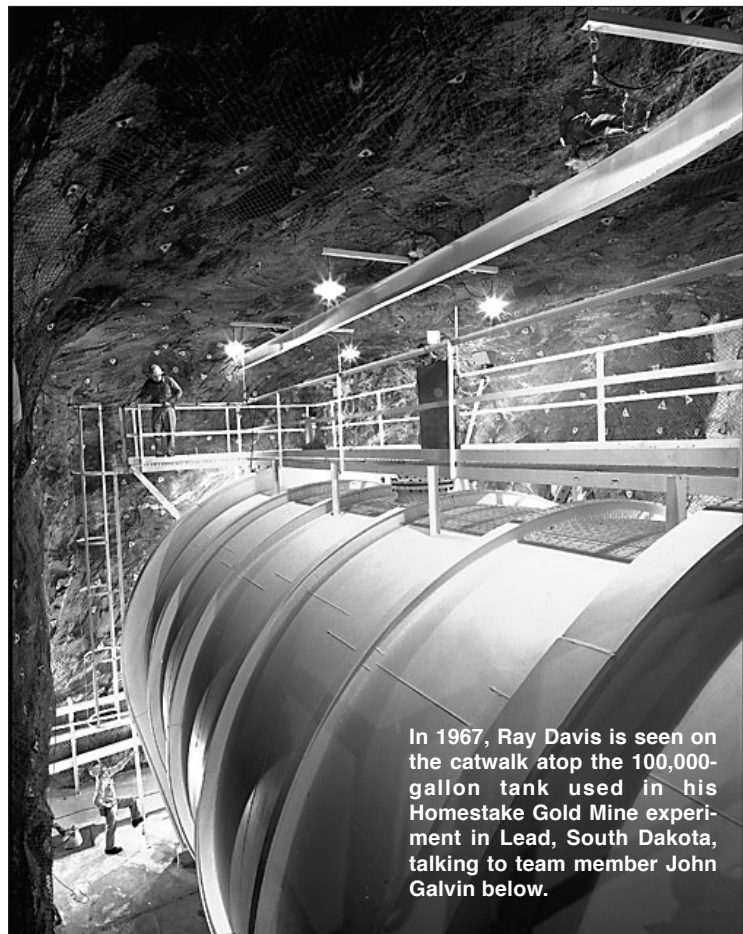
the chemistry office of the Atomic Energy Commission, the Energy Research & Development Administration, and then by DOE's Division of Nuclear Physics. BNL scientists have continued to make important contributions in the field of neutrino physics, first with the GALLEX experiment in Italy and, more recently, with the experiment run by the Sudbury Neutrino Observatory (SNO) in Canada. BNL's participation in GALLEX and SNO has been supported by DOE's Office of High-Energy & Nuclear Physics under the Office of Science.

— Mona S. Rowe



Ray Davis is seen taking a dip in the water surrounding the neutrino detector tank deep in the Homestake Mine. The 300,000 gallons of water reduced background radiation.

Note: See inside for reminiscences by friends of Ray Davis and an outline of the experiments that finally solved the solar neutrino puzzle that Davis had identified.



In 1967, Ray Davis is seen on the catwalk atop the 100,000-gallon tank used in his Homestake Gold Mine experiment in Lead, South Dakota, talking to team member John Galvin below.

Mort Rosen 11-76-67

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. 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: 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. 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.

Mondays: BNL Dance Club Ballroom, Latin & Swing Practice

5:30-7 p.m. North Ballroom, Brookhaven Center, except Lab holidays. Jean Logan, jlogan@bnl.gov or Ext. 4391.

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 Monique de la Beij, 399-7656.

Tuesdays: BNL Music Club

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

Tuesdays: Aqua Aerobics

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

Tuesdays: BNL Dance Club Individual & Couples Instruction

5-11 p.m. North Ballroom, Brookhaven Center. Ron Ondrovic, ondrovic@bnl.gov or Ext. 4553.

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. Bldg. Pat Flood, Ext. 7886.

Wednesdays: On-Site Play Group

10 a.m.-noon. Rec. Bldg. An infant/toddler drop-in event. Parents meet while children play. Svetlana Agafonova, 205-5065.

Wednesdays: Farmer's Market

11:30 a.m.-1:30 p.m., Berkner Hall parking lot

Wednesdays: Hispanic Heritage Club

11:30 a.m., Berkner Hall, Room D. All are welcome. Carmen Narvaez, Ext. 3254, or www.bnl.gov/bera/activities/hispanic.

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: Exercise 101

5:15-6 p.m., Rec. Bldg. \$4 per class or \$35 for 10 classes. Stretching, low-impact aerobics, and other exercises. Pat Flood, Ext. 7886.

Wednesdays: Dance Club Group Lessons

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

Thursdays: Science Discussion Group

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

Fridays: BNL Social & Cultural Club

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

Saturdays: BNL Dance Club Monthly Ballroom Dance Social

8-11:30 p.m. Ballroom, Latin & swing dancing. North Ballroom, Brookhaven Center. 11/9, Tuesday 12/31, 1/25, 2/15, 3/15, 4/12, 5/17. Marsha Belford, belford@bnl.gov or Ext. 5053.

— THIS WEEKEND —

Friday, 10/11

Healthline Lecture

Noon, Berkner Hall. Howard Adler, Attending Surgeon, Professor of Clinical Urology, and Medical Director of the Prostate Care Program at Stony Brook University Hospital, will present "Prostate Cancer: What Every Man Should Know." Adler will answer questions and his talk will be taped and available in the library. Check your mailbox for registration forms. Mary Wood, Ext. 5923.

GLOBE Meeting

The Gay, Lesbian, and Bisexual Employee Club at BNL will hold its monthly meeting. For the meeting's time and location, contact Debbie Bauer, Ext. 5664, or Mike Loftus, Ext. 2960. For more information about the GLOBE club, see www.bnl.gov/bera/activities/globe.

Solar Neutrino Experiments

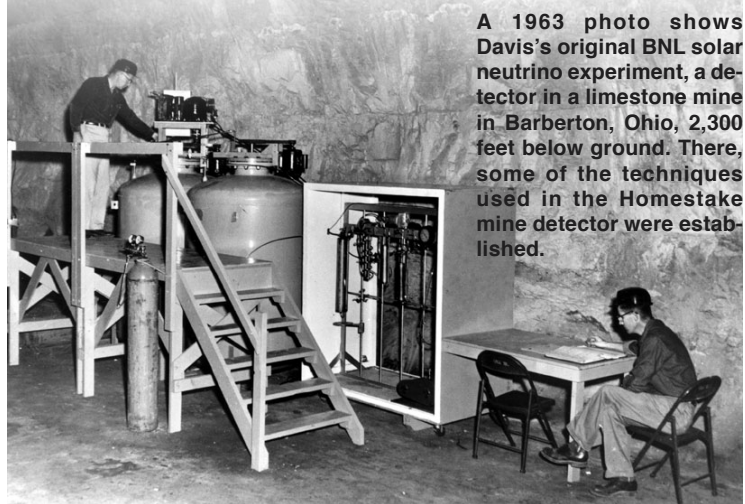
Neutrinos are ghostlike particles that were postulated by Wolfgang Pauli in 1930 on purely theoretical grounds and, until recently, were believed to have zero mass. Solar neutrinos are thought to be produced in the nuclear reactions that provide the sun's energy. They rain down on each square inch of the Earth at the rate of about 400 billion per second.

In the 1950s, Raymond Davis Jr. started investigating neutrinos that were produced in Brookhaven's Graphite Research Reactor and at a reactor at the Savannah River Plant in South Carolina. But these experiments were really the prelude to Davis's major triumph, which came in the early 1970s, when he successfully detected solar neutrinos in a new experiment based in Lead, South Dakota.

A solar neutrino was expected to produce radioactive argon when it interacted with a nucleus of chlorine. Davis developed an experiment based on this idea by placing a 100,000-gallon tank of perchloroethylene, a commonly used dry-cleaning chemical and a good source of chlorine, 4,800 feet underground in the Homestake Gold Mine in South Dakota and developing techniques for quantitatively extracting a few atoms of argon from the tank.

The chlorine target was located deep underground to protect it from cosmic rays. Also, the target had to be big because the probability of chlorine's capturing a neutrino was ten quadrillion times smaller than its capturing a neutron in a nuclear reactor. Despite these odds, Davis's experiment confirmed that the sun produces neutrinos. But only about one-third of the number of neutrinos predicted by theory could be detected.

This "solar neutrino puzzle" gave birth to different experiments by scientists around the world, all working to confirm the solar neutrino deficit. First came Kamiokande in Japan, then SAGE in the former Soviet Union, GALLEX in Italy, and then Super Kamiokande. Finally, in 2001-2002, scientists working at SNO, the Sudbury Neutrino Observatory in Ontario, Canada, found strong evidence that the neutrino has the ability to oscillate, or change form, among its three known types: the electron, muon and tau neutrinos.



A 1963 photo shows Davis's original BNL solar neutrino experiment, a detector in a limestone mine in Barberton, Ohio, 2,300 feet below ground. There, some of the techniques used in the Homestake mine detector were established.

Chemistry Retirees Reminisce About Ray Davis

Gerhart Friedlander

BNL retiree, Chemistry Department Chair, 1968-77

Much credit for launching the Homestake experiment belongs to Richard Dodson, chair of the Chemistry Department when Ray proposed the experiment. From the outset, Dodson had given Ray a free hand to pursue his scientific interests — that was his management style — and so it was natural that Dodson gave the solar neutrino project his wholehearted support.

Also crucial was the funding provided by Alexander Van Dyken of the AEC [Atomic Energy Commission], who courageously supported the project at a time when it was not generally thought to promise success.

Dodson sent Morris Perlman and me — both chemists — to the mine in 1967 to check things out. That's because when Ray started to get his first results, they indicated a problem — too few neutrinos. Dodson thought we'd better have some independent judgment. We found that everything was fine.

People through the years suggested many alternate explanations for Ray's data, but he painstakingly disproved them one by one until he was, after many years, able to convince most of the doubters that he was correct. His results have absolutely stood up for the past 30 years. Through that time,

major scientific collaborators were Don Harmer, John Evans, Dutch Stoenner, Keith Rowley, Bruce Cleveland and, of course, John Bahcall on the theory side.

It was all an heroic chemistry experiment. Fishing out a few atoms of argon from a hundred thousand gallons of perchloroethylene is the ultimate radiochemical experiment. It's a kind of job only chemists can do. And not many chemists would have had Ray's persistence to do it.

N. Blair Munhofen

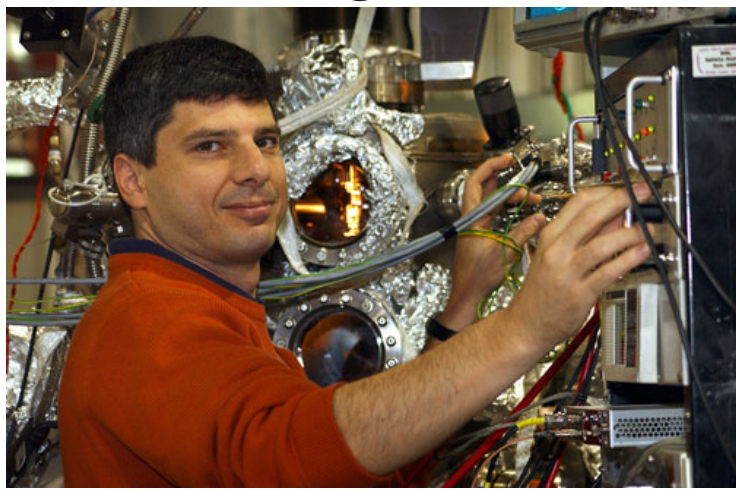
BNL retiree, Chemistry Department Administrator, 1953-90

I was more in the business of getting things done, installed, etc. It took some time to construct the experiment. You had all the parts to order and put together. It was a big operation.

One of the problems that had to be solved was how do you thoroughly mix the helium with the perchloroethylene. We had help from people on site in nuclear engineering, who came up with the use of eductors. Ray and I had never heard of such a thing. We wanted to test this out, so, at Brookhaven, we had a ten-foot diameter Plexiglas ring built, which we placed in the Lab swimming pool. Ray, John Galvin, and I had to get certified to use scuba gear to test the eductors under water. [Munhofen is shown during these tests in the photo at right.]

377th Brookhaven Lecture, 10/16

NSLS's Elio Vescovo Talks On Thin Magnetic Films



Roger Stouthenburg 03/20/02

Over the past few years, scientists have developed new materials for information storage applications, often in the form of thin-layered films.

The technology has evolved to the point where individual layers may be only a few nanometers — literally just tens of atoms thick. Such multilayered structures not only promise to go beyond the limits of the memory density of current computers, but also display a variety of complex magnetic properties that scientists are only beginning to understand.

For example, scientists can assemble many layers of ultra-thin films, creating structures with electrical properties that can dramatically change depending on the values of an applied magnetic field, a phenomenon called giant magnetoresistance. Another puzzling property is the co-existence, in some ultra-thin magnetic films called half-metallics, of both metallic and insulating properties.

Elio Vescovo, physicist at the National Synchrotron Light

Source (NSLS), has been investigating the properties of these intriguing ultra-thin magnetic films for the last five years. He uses a technique called photoemission, for which x-rays generated by the NSLS are projected toward a sample of thin films, and electrons ejected from the sample are further studied to reveal its properties.

Vescovo will describe these properties in more detail and present his latest results at the 377th Brookhaven Lecture, "Magnetism in Ultra-Thin Films," on Wednesday, October 16, at 4 p.m. in Berkner Hall.

Vescovo is currently responsible for the spin-resolved photoemission program at NSLS beam line USUA, where he has been working since 1995. Vescovo received his Ph.D. in nuclear engineering and a Ph.D. in physics from the Polytechnic Institute of Milan, Italy.

Brookhaven Lectures are free and open to the public. Refreshments are offered before and after the talk. — Patrice Pages

In those days, everything was fun at the Lab. People did their work, they enjoyed it, they loved it.

The Goldhabers were always interested in the experiment. Whenever Maurice [Brookhaven Director, 1961-73] saw me on the street, he would always ask about the mine. Gertrude said that it would be a lot more exciting if you didn't have what they predicted. And that was the gist of it.

J. Keith Rowley

BNL retiree, Chemist in the Chemistry Department, 1953-99

I made 25 trips to Homestake, staying one or two weeks at a time. The local folks, especially the miners, all knew us because of the publicity surrounding the experiment. Their standard greeting was, "Catch any today?"

It was about 90 degrees [Fahrenheit] underground. Remember that the center of the Earth is molten, so it's hotter as you

go deeper. Usually, we went down before 7 in the morning and left by 9:30 at night. We had to get out before the last restaurant closed. All meals were social occasions, and there was a lot of discussion about what had been done, what we were going to do, and gossip in the solar neutrino field.

The space outside the detector was filled with water, to slow down any neutrons coming from the rock walls of the chamber. These neutrons could lead to a series of reactions that could produce argon, which would increase the signal. So it would be a higher signal, but a false signal. The water was certainly warm enough to swim in, but I never did.

Ray was very generous, always offering his help. People came to him asking for space in the mine to do their experiments. That's how Ken Lande from Penn came to set up his counters in the mine, although some of the other experiments were not even related to neutrinos. Ray always bent over backwards to help people.

Early on, we'd brought back samples to BNL for counting, hand-carrying them in glass containers through airport security. You probably couldn't do that today. — Mona S. Rowe



An experiment in BNL's swimming pool.

Symposium to Honor Memory Of Richard W. Dodson, 11/8

On Friday, November 8, the Chemistry Department will host a symposium, reception, and dinner to honor the memory of its founding chairman, Richard W. Dodson, who died on June 13.

At the symposium, which will be held in the Hamilton Seminar Room, Bldg. 555, 2-5:30 p.m., friends and colleagues will give short talks highlighting Dodson's contributions and the important role that he played in launching several areas of Chemistry research. A reception will follow at 5:45 p.m. and dinner at 6:30 p.m., in Berkner Hall. The event will conclude with an hour of chamber music.

In addition, the organizers are soliciting letters and old photographs from Dodson's friends and colleagues, to be combined in a memorial book that will be presented to his family. Send material for this book to Lois Caligiuri, Chemistry Department. Some letters may be read on November 8, if time permits. If you would like to speak briefly, inform Caligiuri, Ext. 4397.

To attend the dinner, send a check for \$50, made payable to Brookhaven Science Associates, to the Chemistry Department, attention Lois Caligiuri, no later than October 14.

Research Library News Science Citation Index Expanded

The Information Services Division announces that ISI's Web of Science — Science Citation Index Expanded (SCIE) — is now available from the Research Library's home page, www.bnl.gov/isd/reslib.

SCIE covers more than 5,900 multidisciplinary science and technical journals. It provides cited reference searching to help evaluate the impact of published research, verify the accuracy of references, investigate the application of a concept, and track an item backward to 1991. In cases where the Research Library has a site license subscription with the publisher, SCIE will also link to the full text of journal articles.

BNL has made additional funding available to the Library to increase electronic access to journals, based on input from users, patrons, and the Research Library Advisory Committee. These new journals should be available in January 2003.

For more information about SCIE, contact Michiko Tanaka, Ext. 7761, for brochures and/or to schedule an orientation session.

COMPUTER TRAINING

The following PC training classes have been scheduled for October/November:

October 21	HTML – Level 2
October 22	FrontPage – Level 2
October 28 & 29 *	Access – Level 2
November 1	Excel – Level 3
November 4	Excel – Level 2
November 5	PowerPoint – Level 2
November 6	Outlook – Level 2
November 7 & 8 *	Project – Level 1
November 12 & 13 *	Access – Level 1
November 14	PowerPoint – Level 2
November 15	FrontPage – Level 1
November 18 & 19 *	Access – Level 2
November 20	Excel – Level 1
November 21	Windows – Level 2
November 22	Word – Level 3

* Two-day class

The training fee for the on-site classes listed above is \$151 per day of training. BNL employees can also register for classes at the New Horizons Computer Learning Centers located in Commack and Westbury. To register for on-site or off-site classes, view class outlines and additional schedules, and obtain other information, go to the Information Technology Division Website, www.bnl.gov/itd/training, or contact Pam Mansfield, pam@bnl.gov, or Christine Herbst, herbst@bnl.gov.

Tread Safely

The Safety Shoe office will be closed during the week of Monday, November 4, and will reopen on Tuesday, November 12.



The Daedalus String Quartet, 10/16

The Daedalus Quartet, an exciting new string quartet formed in the summer of 2000 by participants at the Marlboro Music Festival, will present a noon recital on Wednesday, October 16, in Berkner Hall.

The Quartet is quickly making a name for itself in the chamber music world. The group has performed in recitals in New Jersey, on Long Island, and at Columbia University, and has been coached by such renowned pedagogues as Donald Weilerstein and Peter Salaff. Members of the Daedalus Quartet have studied at the Juilliard School, the Curtis Institute of Music, Harvard University, and the Cleveland Institute of Music. In addition to the Marlboro Festival and Musicians from Marlboro tours, the members have participated at the Taos, Aspen, Banff, and Angel Fire Festivals.

Following their performance at BNL in August last year, the quartet traveled to the Banff Centre to participate in the International String Quartet Competition, where they were awarded first prize.

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



Donate Cell Phones To Seniors' Program

Three BNLeers are taking part in the Village of Patchogue's "Cell Phones for Seniors" program: Karen Adelwerth, Office of Management Services; Joann Palumbo, Safeguards & Security Division; and Joe Perry, Fire Rescue Group, are collecting old cell phones that will be reprogrammed and distributed to seniors who live alone. The phones will allow the seniors to call for emergency assistance.

BNLeers can donate old cell phones at Berkner Hall, the Brookhaven Center, and the Upton Post Office. Or, package them securely and send to Karen Adelwerth, Bldg. 527. For more information, contact Adelwerth, adelwerth@bnl.gov.

Hospitality Committee Cruise News

The rain held off on August 28, and 90-plus cruising enthusiasts from the Lab, sponsored by the Hospitality Committee, set sail with other passengers on the Port Jefferson ferry's "Sunset Cruise to Nowhere."

Gusty winds blew chairs about the deck, but the rollicking singalong led by Banjo Bob and Crazy Henry lured many cruisers to brave the weather and eat their picnic suppers outside. As the ferry left Bridgeport to return to Port Jeff, a pink glimpse of the advertised sunset emerged through the clouds.

The Hospitality Committee hopes that even more members of the Lab community will join their next ferry trip, in August 2003. No guarantees on the sunset, but the 2002 cruisers agree that the great time and price would be hard to beat.

TGIF Socials

Start at 5:30 p.m. from 10/18

Now that the weather is cooler, the BNL Social & Cultural (S&C) Club will start holding its Friday "TGIF" dance socials earlier, beginning next Friday, October 18, in the North Ballroom of the Brookhaven Center, as follows:

- 5:30-8:15 p.m.: hustle, salsa, swing, lindy-hop, freestyle disco, and hip-hop.
- 8:15-11 p.m. smooth ballroom, Latin, and Argentine tango

In addition, S&C will occasionally offer complementary dance lessons during its socials. On October 18, the lesson schedule is:

- 6:30-7:15 p.m. Jitterbug Stroll line dance taught by Jen Witham of Swing Dance Long Island
- 7:30-8:15 p.m. beginner salsa taught by Alexis James of the Stony Brook University Ballroom Dance Team.

Since the S&C dance-for-fitness-and-fun social is open to the public, everyone is welcome to socialize with friends and neighbors. No partners are required. An added attraction is that, at the Center bar & grill, you may purchase drinks and enjoy the complementary Friday night buffet.

For more information, contact Rudy Alforque, rudy@bnl.gov or Ext. 4733; or Jack Guthy, 929-8287.

Arrivals & Departures

Arrivals

Jan Bording	.....	Mat. Sci.
Charu Choudhari	.....	Env. Sci.
Lance Cooley	.....	Mat. Sci.
Istvan Dioszegi	.....	Applied Sci.
Daniel Medina	.....	Chemistry
Charles Mercurio	.....	Staff Svcs.
Yarema Prykarpatskyy	.....	EENS
Yuzhen Shen	.....	NLSL

Departures

Alan MacIntyre	.....	Reactor
Jo Anne Tallarine	.....	ES&T
Xiao-Ying Yu	.....	Env. Sci.

Get to Know Your Lab!

Take a 'Wilderness' Trek, 10/18

BNL ecologist Tim Green will take a walk on the wild side with BNLeers during the next employee lunch-time tour, scheduled for Friday, October 18. The group will meet in the upper lobby of Berkner Hall at noon. A Lab bus will transport participants to the Peconic River on BNL site, where Green will point out flora and any fauna that emerge. Birders may want to bring their binoculars. The group will return to Berkner by 1 p.m. For more information, call BNL Community Involvement's Elaine Lowenstein, Ext. 2400.



Peconic green frog.

Calendar

(continued)

Sat.-Mon., 10/12-14

BNL Camping Club Outing

2002 October Outing to Cherry Ridge Campground to enjoy the change of colors. Penny Lo Presti, lopresti@bnl.gov.

— NEXT WEEK —

Monday, 10/14

Take Our Sons to Work Day

Boys ages 11-15 who have preregistered for "Take Our Sons to Work Day" will join their BNL parents for the day to see what a career in science entails. This year, the Lab will also host boys from Little Flower School in Wading River. For more information, contact Susan Foster, Ext. 2888.

Wednesday, 10/16

*BSA Noon Music Recital

Noon, Berkner Hall. Daedalus String Quartet. See <http://music.bnl.gov>.

*377th Brookhaven Lecture

4 p.m., Berkner Hall. Elio Vescovo, National Synchrotron Light Source, will talk on magnetism in ultra-thin films.

Thursday, 10/17

BAC Meeting

12:30-1 p.m., Bldg. 902, Room 63. Brookhaven Advocacy Council Meeting, Open Session. www.bnl.gov/bac.

BERA Bridge Club

7 p.m., Brookhaven Ctr., South Rm. Morris Strongson, Ext. 4192, mms@bnl.gov.

Fri.-Sun., 10/18-20

Camping Club Halloween Weekend

\$5 per family for the weekend. Kids and adults Halloween fun. Denise Kranz, kranz@bnl.gov.

— WEEK OF 10/21 —

Thursday, 10/24

BERA Bridge Club

7 p.m., Brookhaven Ctr., South Rm. Morris Strongson, Ext. 4192, mms@bnl.gov.

— WEEK OF 10/28 —

Monday, 10/28

IBEW Meeting

6 p.m., Knights of Columbus Hall, Railroad Ave., Patchogue. A meeting for shift workers will be held at 3 p.m. in the union office. The agenda includes regular business, committee reports, and the president's report.

— WEEK OF 11/4 —

Thursday, 11/7

Adelphi University Demo

11 a.m. to 2 p.m., Berkner Hall. An admissions representative will visit BNL to present information on Adelphi's graduate and undergraduate programs. For more information, see www.adelphi.edu.

BERA Bridge Club

7 p.m., Brookhaven Ctr., South Rm. Morris Strongson, Ext. 4192, mms@bnl.gov.

Saturday, 11/9

BNL Dance Club Monthly Dance Social

8-11:30 p.m. Ballroom, Latin & swing dancing, North Ballroom, Brookhaven Center. Marsha Belford, belford@bnl.gov or Ext. 5053.

— WEEK OF 11/11 —

Wednesday, 11/13

BNL Dance Club Ballroom Dance Lessons: start of 2nd 8-week series

- 5-6 p.m. quick-start American cha cha & fox trot, 20 people max, 1 instructor, \$40/8 weeks
- 6-7 p.m. beginner mambo & merengue level I, 50 max, 3 instructors, \$30/8 weeks
- 7-8 p.m. Intro to Ballroom 102: beginner lindy, swing, hustle & West Coast Swing, 50 max, 3 instructors, \$30/8 weeks
- 8-9 p.m. International cha cha & samba technique, 30 max, 2 instructors, \$40/8 weeks.

Sign up ASAP. Marsha Belford, belford@bnl.gov or Ext. 5053.

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

**The BNL Music Club Presents
An Evening of Acoustic Guitar Music**

Friday, October 18, 8 p.m.

featuring

James O'Malley

'Little' Toby Walker



Long Islander James O'Malley is a singer and songwriter of contemporary acoustic folk music. He has performed on WUSB and WBLL, at cafes and recital halls over the Island and in New York City, and in college coffeehouses from New York to Tennessee to Michigan to South Carolina. Previously a member of The Braid group, he has recorded for ABC/Dunhill, and various artists have covered his published songs. His full-length CD is now available.

Admission is \$12, and the concert is open to the public. All visitors over age 15 must have a photo ID to enter the Lab site. For more information, contact the BNL Music Club, Ext. 3846 or jjv@bnl.gov.



The winner of the 2002 Memphis International Blues Challenge Award, Little Toby Walker is a guitarist, singer, songwriter, and storyteller who draws from traditional and contemporary blues, folk, ragtime, and country music. He has been featured in *The New York Times* and *Newsday*, and two of his articles were published in *Blues Review* magazine. Over the years, he has been a speaker and performer for the Sam Ash Music Workshop series.

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
TB3897. SR. OFFICE SERVICES ASSISTANT (CW-3/Term Appointment) - Requires a high school or equivalency diploma and a minimum of three years relevant work experience. Must have good communication skills, knowledge of office procedures and MS Word; knowledge of the Microsoft Office 2000 suite, MS Excel, MS Access, PowerPoint and PeopleSoft is desired. Will provide secretarial, administrative and/or clerical support to the Isotopes and Special Materials Group management and staff in the radioactive material (RAM) packaging and transportation administrative function. Will maintain close contact with Laboratory department/division personnel for shipping RAM off site as well as contacts at off-site facilities for licensing, authorizations, and handling customer questions and update DOE RAM shipment database using computer link. Position does not involve handling RAM. Safeguards & Security Division.

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside candidates.
NS7540. REGISTERED NURSE (A-4) - Responsibilities include routine nursing care, assisting with case management for Workers' Compensation cases, first aid, drug and alcohol testing, travel medicine, health education, immunizations and assisting with physical examinations. Experience in occupational medicine preferred; New York State Registered Nurse License required. Occupational Medicine Clinic.

Motor Vehicles & Supplies

01 ISUZU RODEO - silver, a/c, all power, 4-dr., 4wd, am/fm/cass., 6 cyl., 11K mi., must sell, \$19,995. 431-3231.
99 SUZUKI GSXR 600 - white/blue, 9,500 mi., many extras, \$5,500. Chris, 331-2356.

99 SUZUKI GSXR 600 QUAD - blue/white, 6,100 mi., good cond., adult owned, moving must sell, \$5,000 obo. Pat, Ext. 4988.

95 DODGE STEALTH - a/c, all power, 66K mi., mint cond., many extras, \$10,000. Donna, Ext. 4599.

94 HARLEY DAVIDSON SPORTSTER 1200 - 5-spd., 28K mi., fully chromed, performance work done to eng., 4K on motor, all Harley parts, \$8,500. Lou, Ext. 2238 or 399-6128.

94 PLYMOUTH GRAND VOYAGER - a/c, all power, 140K mi., tint, orig. own., heavy duty SUV, very good cond., \$3,200. Mark, Ext. 3172 or 281-5060.

94 VOLVO 940 - orig. own., garaged, excel. cond., burgundy/tan, 107K mi., \$5,800. Ext. 2347 or 929-6442.

93 DODGE GRAND CARAVAN - all power, rear a/c, 148K mi., 7 pass., 2 removable benches, reliable, good cond., \$1,000 neg. Victor, 580-1432.

93 MERCURY SABLE LS - a/c, all power, 124K mi., ABS brakes, leather, recent tune-up, \$2,700. Ed, Ext. 7251 or 765-4147.

92 MAZDA PROTEGE - 5-spd., a/c, p/s, p/b, 168K hwy. mi., excel. cond., very reliable, maint. records avail., \$1,700. Jav, Ext. 4317.

92 FORD CROWN VICTORIA LX - white, leather int., 8-cyl., 77K mi., orig. own., \$3,500. 924-7476.

91 HONDA ACCORD EX - fully equipped, a/t, sunroof, orig. own., new tires, v.g. cond., 120K mi., \$3,950. 325-0447 after 5 p.m.

91 MAZDA 626 DX - a/t, a/c, p/s, cruise, 120K mi., runs well, \$1,700 neg. Lynn, Ext. 3813 or 345-9046.

90 HONDA CIVIC - 5-spd., 2-dr., 115K mi., new exhaust system & rear brakes, runs well, \$1,750. Nick, 286-1816.

90 HYUNDAI EXCEL - a/t, a/c, 46K mi., orig. own., excel. cond., \$1,000. Donna, Ext. 4599.

90 NISSAN SENTRA - a/c, 4-spd., am/fm/CD player, 147K mi., good cond., \$700. Ext. 2835.

89 FORD TAURUS WAGON - 8 seat, 105K mi., 3.8 liter eng., runs excel., \$1,750. Dave, 689-1449.

89 FORD TAURUS - light blue, 6-cyl., 4-dr. sedan, 118K mi., all season tires, good body cond., \$850. E. Hu, Ext. 7113.

88 OLDSMOBILE - white, 2-dr., 96K mi., excel. cond., \$1,500. 281-7844.

87 MERCEDES BENZ 190E 2.3 - tan/leather seats, a/c, all power, 114K mi., sunroof, alarm, \$3,250. Louisa, 286-5932.

85 RENAULT ENCORE - 230K mi., runs, needs work, \$100 obo. Scott, Ext. 7110 or 874-3652.

84 FORD F250 XLT SUPERCAB - a/t, 2 wd, 79K mi., 2nd owner, hd tow package, good cond., \$1,999. Bill, Ext. 2095 or 286-7777.

85 MERCEDES - turbo diesel, outstanding engine, maroon, excel. cond., garaged, orig. owner, 114K mi., \$6,000. 751-3062.

84 PORSCHE 928S - silver, 5-spd., 69K mi., 310 hp, mint body and interior, a/c, all power, \$7,750. Dave, 689-1449.

Boat & Marine Supplies

25' CATALINA SAILBOAT - loaded, great cond., sail away or with slip, \$6,500. Joe, Ext. 5236.
19'6" AQUASPORT CUDDY - raised canvas top, 76, 110 h.p., Evinrude '87 w/trailer, power winch, VHF, DF, \$4,900. Mike, 567-9424.
SEADOO XP - '96, high performance jetski, trailer, low hours, \$3,800 obo. Frank, 277-0464.
TRAILER - Venture boat trailer, 18-20' single axle gal., 4 yrs. old, excel. cond., \$750. Rich, Ext. 4201 or 589-9103.
WAVERUNNERS - '97 Yamaha 760 matching set w/trailer, covers, low hours, mint cond., \$8,800. Vinny, 475-2068.

Furnishings & Appliances

CRIB - Bassett, dble drop side, 4-posit. mattress support, excel. cond., cost \$180, ask. \$80; mattress, Evenflo, like new, \$30; carseat, Fisher Price, one-step entry, like new, \$35; stroller, Graco, deluxe, \$70. E. Hu, Ext. 7113.
BEDROOM SET - dark wood, headboard, dressers, end tables, mirror, excel. cond., \$200. Frank, 395-1125.
FREEZER - GE chest model freezer, 15.3 cu. ft., old but runs well, \$25. Erich, 744-6423.
FURNITURE - cream colored couch, 2 gray chairs, brass/glass tables, drapes, twin headboard, bunk bed. Nancy, Ext. 4303.
LAMPS - Tiffany style, opaque stained glass shade, grape clusters on white background, metal base, 20" tall, like new, \$49/pair. Karen, Ext. 4262.
MICROWAVE - Sharp carousel, white, large capacity, like new, used 3 months. Donna, Ext. 2542 or 821-8435.
POANG CHAIR - IKEA, birch frame, high back, black leather, like new, \$40. Ext. 3082 or 758-2038.
REFRIGERATOR - Amana, side-by-side, water/ice dispenser, 25 cu. ft., \$250. Frances, 924-0185.

SELECT COMFORT BED - queen size, 11 years old, orig. \$1,100, ask. \$550. 363-7569.
SOFAAND LOVESEAT - by Rowe, 7-way hand tied, navy w/green, gold, burgundy design, 1 yr. old, like new, \$500/both. Ken, 281-5565.
STEREO CABINET - Ethan Allen, maple, 18" x 52" x 30" high, v.g. cond., \$75. Rita, Ext. 3320.
STOVE - Magic Chef dble. oven stove, ceramic cooktop, built in ventill., black/white, mint, estate sale, \$900. Ext. 7686 or 878-0897.

WALL UNIT - 3-pc. distressed fruitwood, incl. open bookshelves, glass cabinet, drawers and solid doors, \$150. Peter, Ext. 3535 or 689-2372.
WASHER/DRYER - Kenmore, electric, white, heavy duty/super capacity, used 6 mo., ask. \$450/set. Frances, 924-0185.

Tools, House & Garden

SNOW BLOWER - and wood chipper, both one year old, a/c, electric heaters, large mirror cabinet, moving. 516-909-3234.
STORM WINDOWS - triple track & picture, various sizes. Ron, Ext. 7588.
WOOD STOVE - all-nighter wood stove, model "mid moe", excel. cond., best offer. Andrew, Ext. 7014 or 281-8274.

Sports, Hobbies & Pets

BICYCLE - women's, 10 speed, 27", good cond., \$30; lawnmower, Snapper 21", no bag, \$25; Weedwacker, gas, \$25. 567-9025.
BICYCLE - BMX, Haro 4130, Gyro street tires, sun rims. Kevin, 369-1977.
HOCKEY GEAR - Bauer skates, size 11, helmet, gloves, leg and elbow pads, pants size 36-38, carry bag, all used, \$125/all. Chris, Ext. 2024 or 395-6112.
CROSS TRAINER - 175 lbs. steel weights, two station, arm press, butterfly, leg extension, more, needs assembly, \$150; weightlifting bench, incl. bar & 140 lbs. weights, \$75. Victor, 580-1432.
SKATING BOOTS - white, laced girl boots, size 13 1/2, used one season, in orig. box, \$26. Eugene, Ext. 7113.

Audio, Video & Computers

COMPUTER (486) - HP CPU w/Windows 95, Idas, keyboard, mouse, 13" color monitor, speakers, modem, b/w printer, \$250/all. Tirre, Ext. 3288 or 281-0360.
NINTENDO 64 GAME SYSTEM - 23 games, 2 controllers, 2 rumble packs, 1 regular and 1x4 memory card, \$300. Kiyoshi, 697-9204.
TURN TABLE - Realistic, model LAB430 direct drive, auto turntable for speeds 45 & 33, excel., \$35; AM/FM stereo radio dual cassette rec., excel. \$35. Pete, Ext. 5551 or 399-2813.

Miscellaneous

BABY'S ITEMS - baby crib, car seat, baby scale, bottle warmers, inter-phone, and more. 516-909-3234 cell.
LEATHER COATS - 1 shearling, 1 fur-lined bomber jacket, ladies' M. Nancy, Ext. 4303.

PLYWOOD - 1/2", \$8/sheet. Mike, 281-5160.
POOL COVER - solar, 15'x30' oval, blue, used 1 season, \$50 obo. David, 395-3484.
POOL COVER - solar, 15 ft. round pool, approx. 1 mo. old, excel. Toni, Ext. 5257.
PUPPY - Yorkshire Terrier, 5 mos. old, \$100. Miriam or Kim, 345-5492.
FIREWOOD - 1/4 cord, seasoned, you pick up, \$20. Tom, Ext. 3085 or 744-4535.
TELESCOPE - Meade, 6 in., \$300; air conditioner, Fedders, \$120; ski boots, Salomon, size 7 1/2-8, \$7; small tent, \$10; stroller, \$5. 821-4602.

Free

CAT - stray, 2 yr. old male neutered black cat found on site, very affectionate, needs loving home. Tim, 924-5798.
HAMPSTERS - 2 male Siberian Dwarf hamsters, cage, all access. Bob, Ext. 7204.
PLANTS - Flowering Yucca plants, you dig. Fred, 473-3792.

Wanted

CAREGIVER - after school care for 2 girls, 7 & 9 in my house, driving to/from activities, help w/homework, light housekeeping, approx. 15 hrs/week. Ext. 7787.
HOME FOR CAT - young, healthy, very friendly, all shots, fixed male. 929-8165.
RESEARCH VOLUNTEERS - healthy non-smoking men and women, ages 18 and over, are needed for MRI study. Strictly confidential, fee provided. 344-2773.
TRAINS - Lionel American Flyer & others, cast metal toys, high cash paid, also have some sets for sale. Bruce, 924-4097.
WHEELCHAIR - donated or very inexpensive, for impoverished invalid. Ext. 2346.

In Appreciation

On behalf of all BERA softball players, we thank our softball executive board members, Sue Cataldo, Laurie Pearl, Pat Moylan, Chris Neuberger, and Andrea Eppele, for their behind-the-scenes hard work and administration. You made the BERA softball season a success. Thanks. — Gerry Shepherd

Ads left out of the Bulletin will appear next week. Services offered by BNLers, ranging from dentists to housecleaners to long-term care insurance planners and much more are on the Web (address below) or available from Tiffany Minter, Ext. 2345.

2002 Healthfest
BNL Health, Fitness & Safety Fair

scheduled for Monday through Friday, October 21-25 — will not only use the information to improve their personal well-being, but also to decrease their risk of occupational injuries and illnesses.

On Monday, October 21, the festivities for employees will begin with the 2-mile Employee Fitness Walk. Rain or shine, it will start at noon and leave from the Science Education Center, Bldg. 438. Before the walk, an Aerobic Stretch will be held from 11:45 a.m.

Then, on Tuesday, October 22, the pace will be picked up with a 5-kilometer (3.1-mile) Employee Fitness Run. It will start at Biology, Bldg. 463, at 12:05 p.m., rain or shine.

The two-day Health, Fitness & Safety Fair will be held from 11 a.m. to 2 p.m. on Wednesday and Thursday, October 23 & 24 in Berkner Hall. The fair will feature many displays, demonstrations, and health screenings, including a drinking-water taste-test and sample testing, hearing screening, massage and Reiki healing demonstrations, and podiatry screening.

On Wednesday, October 23, Jazzercise will take place from noon to 1 p.m. in the Brookhaven Center, Bldg. 30, and cardio-kickboxing for beginners will be offered from noon to 1 p.m. in the gym, Bldg. 461. On Thursday, October 24, cardio-kickboxing for intermediates will be given from noon to 1 p.m. in the Brookhaven Center, Bldg. 30, and prostate cancer screening for male employees will take place from 1-4 p.m. in the Occupational Medicine Clinic.

Finally, on Friday, October 25, Healthfest features a 5 or 8-mile Mountain Bike Ride, starting at the gazebo by the ballfields, at noon.

To register for any or all of the athletic events and health screenings, submit the form below by Monday, October 14th. For more information, contact Mary Wood, Ext. 5923 or wood2@bnl.gov, or go to www.bnl.gov/ocmed/hpp/healthfest.htm.

2002 Healthfest
BNL Health, Fitness & Safety Fair

REGISTRATION FORM

Aerobic Stretch (rain or shine)
 Mon., Oct. 21, 11:45 a.m.

2-mile Fitness Walk (rain or shine)
 Mon., Oct. 21, noon - 1 p.m.

5-k Fitness Run (rain or shine)
 Tue., Oct. 22, 12:05-1 p.m.

sex: female male
age on day of run:

Podiatry Foot Screening
 Wed., Oct. 23, 11 a.m. - 2 p.m.
 Thu., Oct. 24, 11 a.m. - 2 p.m.

COMPLETE AND RETURN FORM BY MONDAY, OCTOBER 14TH TO: MARY WOOD, BLDG. 490.

Name: _____
Life #: _____ Ext.: _____
Dept./Div.: _____ Bldg.: _____
E-mail: _____
Hearing Screening
 Wed., Oct. 17, 11 a.m. - 2 p.m.
Massage & Reiki
 Wed., Oct. 23, 11 a.m. - 2 p.m.
 Thu., Oct. 24, 11 a.m. - 2 p.m.
Jazzercise
 Wed., Oct. 17, noon - 1 p.m.

Cardio-kickboxing/beginners
 Wed., Oct. 18, noon - 1 p.m.

Cardio-kickboxing/intermediates
 Thu., Oct. 18, noon - 1 p.m.

Prostate-Cancer Screening
 Thu., Oct. 24, 1-4 p.m.

Mountain Bike Ride
 Fri., Oct. 19, noon - 1 p.m.