

General Tour for the General Counsel



Mort Rosen

J. Michael Farrell (second from right), the General Counsel for the Department of Energy (DOE), visited BNL on Tuesday and toured many of the major facilities. Following a Laboratory overview from BNL Director Nicholas Samios, Farrell's tour began at the National Synchrotron Light Source (NSLS). With him there are (from left) Jerry Bellows, Manager, DOE Brookhaven Area Office; Thomas Davin, Vice President — Corporate Affairs, Associated Universities, Inc.; Michael Knotek, NSLS Department Chairman; and Martin Blume, BNL Deputy Director. Other areas Farrell visited included the helium refrigerator for BNL's proposed Relativistic Heavy Ion Collider (RHIC); Bldg. 902, where magnet research and development takes place for both RHIC and the Superconducting Super Collider, a national effort; the High Flux Beam Reactor; and PETT VI. Farrell also received an update on technology transfer developments at BNL.



Mort Rosen

An Informal Approach to Math

Coupling its informality with its subject matter, the meeting of about 35 theoretical mathematicians that took place in the Applied Mathematics Department (AMD) on April 23-24 was dubbed the "Finite Element Circus." Five of the participants at this conference were (from left) James Douglas, University of Chicago; Ivo Babuška, University of Maryland; Charles Goldstein, AMD; Joseph Pasciak, AMD; and James Bramble, Cornell University. Twice a year over the past 17 years, similar gatherings held in varying locations have kept mathematicians abreast of developments in finite element theory. This "circus" was organized by Pasciak, who explained that finite element theory offers a way to approximate solutions of partial differential equations, which are important to computer models of physical phenomena. This meeting focused particularly on what has been proven over the past six months.

Inside Info

That there are six graduate students in the Biology Department who are affiliated with the State University of New York at Stony Brook is not surprising. What is unusual, however, is that these six took the initiative to organize a departmental seminar on May 8.

The six graduate students were Michael Blewitt, Mario Cerritelli, Stephanie Davidoff, Jennifer Grodberg, Larisa Rudenko and Xing Zhang. From their list of potential speakers, they chose William Hasel-

tine, the renowned biologist from Harvard University.

Haseltine accepted their invitation and, on May 7, he spoke about the structure and function of human retroviruses, which are responsible for Acquired Immunity Deficiency Syndrome (AIDS). He also talked about the statistics of the disease, both in his seminar and at a luncheon with the graduate students.

Grodberg, Rudenko and Davidoff work in the Biology laboratories of John Dunn, Richard Setlow and Marshall Elzinga, respectively, while Blewitt, Cerritelli and Zhang are all working with William Studier.

News Flash!

Light came out of the first of five Phase II beam lines at the National Synchrotron Light Source last week. On May 4, a focused infrared (IR) beam was obtained from beam line U-4 IR, the only Phase II beam line on the vacuum ultraviolet ring. It is the first infrared beam line at the NSLS and the only one currently operating in the world.

The light from U-4 IR is sharply pulsed and 100 to 1,000 times brighter than infrared light produced by any other IR source. Thus, U-4 IR will permit scientists to do a variety of new experiments. The new IR beam line is now being readied for experiments to study surface bonding to metals, and it will be used this summer to undertake a quark search.

U-4 IR is also the first second-story beam line at the NSLS. Five mirrors reflect the IR light around five bends in the beam line up to the platform.

The NSLS Phase II is a building and beam line expansion project, which is expected to be completed by the end of this year. The proposal to build an infrared beam line came from Physicist Gwyn Williams, and it was proven feasible by NSLS Project Engineer Mark Shleifer. Physicist Peter Takacs, Instrumentation, designed and aligned the optics.

The beam line was designed by Edward Smith, now retired, and assembled and installed last April by Edward McKenna and Robert Scheuerer, under the supervision of Theodore Lehecka. U-4 IR was commissioned by Eric Kneeder, Dennis Carlson and John Dunn.

The electronics for the beam line were designed by Robert Larson, and installed by Madeline Votta, who was supervised by Robert Best. Fred Reinert, Central Shops, welded the major units together.

BNL Lecture: Of Radio Sources And Relativistic Jets

At BNL, researchers at the National Synchrotron Light Source work with the intense beams of synchrotron radiation given off by electrons accelerated at relativistic energies — close to the speed of light. At BNL's "sister" laboratory, the National Radio Astronomy Observatory (NRAO), astronomers working at the Very Large Array (VLA), study the intense beams of synchrotron radiation ejected from the centers of such astronomical phenomena as galaxies and quasars.

Known as relativistic jets, these beams will be the subject of the 234th Brookhaven Lecture, to be given by NRAO Staff Scientist Alan Bridle. His talk on "Relativistic Jets and the Most Powerful Radio Sources in the Universe" will begin at 4:30 p.m. on Wednesday, May 20, in Berkner Hall.

nas, each 25 feet in diameter, distributed in a Y-formation with two branches 21 kilometers (km) long and one branch 19 km long. With its large telescope area, the VLA gives the most detailed radio images available to astronomers today.

One of the most exciting discoveries made at the VLA has been streams, or jets, of relativistic particles coming out of black holes in the centers of active, energetic galaxies and quasars (the most distant, brightest objects known). These jets generate natural radio sources, or transmitters. These sources, which are associated with regions hundreds of thousands of light years across, are the most powerful in the universe, in energy output as well as in physical scale.

Though these radio sources emanate from quasars and galaxies from a few million to ten billion light years away, astronomers at NRAO can "tune into" them using the VLA. In his lecture, Bridle will share some of what NRAO researchers have learned by tuning into this cosmic radio broadcast.

He will discuss ideas about the underlying physical properties of the relativistic jets and explain how astronomers expect to look into these processes more deeply, using the NRAO's Very Long Baseline Array (VLBA). To be completed in the early 1990's, the VLBA will be an array of ten radio telescopes distributed across a huge expanse — from Hawaii to St. Croix, from the Canadian border to southern Texas.

Born in England, Alan Bridle completed his Ph.D. in radio astronomy at Cambridge University in 1967. Until 1983, he was a Professor of physics at Queens University, Kingston, Canada, and did most of his research with NRAO telescopes. He joined the NRAO staff in 1983 and divides his time between his office at NRAO headquarters in Charlottesville, Virginia, and the VLA in New Mexico, where he does most of his research.

All those interested in getting together after the lecture are invited to go with the lecturer to a restaurant off site. Anyone who would like to be part of this group should call Les Fishbone, Ext. 5180.



Alan Bridle

Like BNL, NRAO is operated by Associated Universities, Inc. Also like BNL, NRAO maintains large-scale facilities where scientists can do research not possible at less well-equipped institutions. For NRAO, these facilities are radio telescopes, instruments that collect and amplify radio waves. To cover the cosmos, NRAO has several telescopes, each capable of detecting different wavelength ranges, at three sites: Green Bank, West Virginia; Kitt Peak, Arizona; and the Plains of San Agustín, New Mexico.

Situated on the Plains of San Agustín, the VLA is an array of 27 anten-

WIS Meeting

Louise Hanson, Brookhaven Women In Science (WIS) Coordinator and a Senior Chemistry Associate in the Department of Applied Science (DAS), will speak on "How Chlorophyll Influences the Early Stages of Photosynthesis," at the next WIS luncheon meeting.

As a physical chemist in the Porphyrin Chemistry Group of DAS's Chemical Sciences Division, Hanson has been studying chlorophyll's light-gathering and early electron-transfer processes since coming to BNL in 1977. At present, she is undertaking theoretical calculations to understand how the environment of the pigments influences their light absorption properties, their ease of donating or receiving electrons and their chemistry.

Hanson's talk will take place on Tuesday, May 19, at noon in Room A, Berkner Hall. All are invited; bring your lunch.

Retirement Notes — Caring is Sharing

The retirement years are often "golden" times when people enjoy their new opportunities to do things they had no time for before. But the years of retirement can also be tarnished by such things as a limited income, the pressures of running and maintaining a home, and the stress of being alone.

Robert Conard, who retired from the Medical Department in 1978, recognizes that his retirement is "golden." He also recognizes that for many of the 160,000-plus people in Suffolk County over age 60, this is not so. And he is doing something to help some of them get more out of their retirement years.

Conard is vice president of Elder-Share, a nonprofit, grassroots group that has had as its objective easing

Suffolk County's critical shortage of suitable housing for senior citizens.

Since he heard Elder-Share's president Hannah Severen speak two years ago, Conard has worked with other volunteers to raise money to buy a house which could accommodate seniors in a cooperative family setting. Now, they are about to see their efforts pay off, as they prepare to close the mortgage on a six-bedroom house in Mt. Sinai.

With a month or two, six to eight seniors should move into the house, which also features 4½ baths, living room, dining room, den, patio, swimming pool and "a nice yard, suitable for gardening," Conard says. A resident manager or couple will supervise the running of the house and prepare the evening meal. All costs, including



Robert Conard

food, mortgage payments, upkeep and utilities, will be included in the estimated monthly charge of about \$850 per person.

Some of the most important things that a resident will get are intangible. "They will be part of a family," says Conard, "sharing responsibilities and companionship. Freed from the pressures of keeping up their own homes and of being alone, they will be able to pursue intellectual and cultural interests and to volunteer in the community."

Elder-Share believes that the senior citizens they house will prove an asset to the community and recently presented their reasoning to the Brookhaven Town Zoning Board, from which they expect to receive a variance allowing the house to hold more than four unrelated people. Though concepts similar to Elder-Share have been successful in other parts of the U.S., including Nassau County, Conard says, "This will be the first house of its nature in Suffolk County."

Conard, a physician, retired in 1978. For 23 years he was in charge of the Medical Department's annual medical surveys of the people of the Marshall Islands who were accidentally exposed to radioactive fallout following a U.S. nuclear test in March 1954. Since his retirement, he has served as a consultant to BNL on the continuing work in the Marshall Islands and to others concerned with the effects of fallout from the Nevada nuclear testing sites and from the Chernobyl nuclear power plant accident in the U.S.S.R.

But Conard also leaves time for other activities. He plays tennis three times a week, swims and composes on the piano. "My advice for anyone who is planning to retire," he says, "is to get ready for it, get your hobbies lined up. It's wonderful to be able to do things you have always wanted to do but never had time to."

Central to Conard's feeling that "I am very fortunate in my retirement" is his family. He lives in Setauket with his wife Marion. Two of his four children also live in Setauket, so he is able to see his four grandchildren frequently.

The Conards try to repay some of their own good fortune by volunteering: She helps to feed the at-home elderly as a volunteer with Meals-on-Wheels; he is working towards providing some older people with a better home life.

The Mt. Sinai house is only the first step of what Conard expects to be a continuing and ever-improving effort. "We realize that, at the current cost per person, we cannot accommodate people with lower incomes — yet," said Conard, "but as time goes on, as we buy more houses and solicit more donations, we hope to be able to lower costs and serve a wider range of people."

Anyone who would like to make a tax-deductible contribution towards this goal, or perhaps live in the Mt. Sinai house, may write to: Elder-Share, Box 1039, Setauket, NY 11733, or call Hannah Severen, 751-1731.

BNL's Fabulous Forty

Performed by the BERA Theater Group on the stage of the BNL Theater 19 years ago, "Brookhaven/Facade" was an original musical revue written by Jere Austin, Sheila Buck and Ann Leonard with Martha Denes and Ron Peierls. Peierls was director, Charles Meinhold was producer and Gerhardt Friedlander was stage manager for the play, which traced BNL's history against a backdrop of world history.

As the curtain rose on Act Two, the audience witnessed a scene from "The Renaissance," when a "rather sinisterly beautiful lady opens [a palace] door to a gentleman . . .":

(Sung to "Bella Figlia Del'Amore.")
Gentleman: Lovely daughter of this citadel

I am here recruiting personnel
And I go wherever chemists dwell
And if you qualify, I'll take you to B.N.L.
I'm Don Giacomo

From Lake Ronkonkomo

Lady: Here in Venezia
They call me Lucrezia

But Lucrezia can't resist showing off her talents as a chemist and poisoning the recruiter, so she never makes it to Brookhaven.

"The Age of Discovery" takes place in the office of the "Review Letters," where two editors try to cut the verbose offerings of William Shakespeare. This is followed by a confrontation between a Hamlet-like theoretician and a Hotspur-like experimentalist:

Theor: To publish, or not to publish?

That is the question
Whether tis better, in the mind to
harbour

The graphs and equations of mine
imagination

Or to take arms against the
experimentalists,

And by opposing, silence them? To
publish: to declaim

My theory, and by this means tell the
world

That I have solved the riddle of the
Universe.

Ah! tis a consummation devoutly to be
wished . . .

Exper: Methinks this theorist doth protest too much. What, how now, fool? What lunatic mumbblings these?

Theor: Lunatic mumbblings, say you, knave? Indeed, my thoughts *would* reach the moon, but for the inadequacies of thy clumsy rockets.

Exper: A pox on all your theories. See what an apparatus I have built; it hath more substance than thy fairest imaginings.

Next, the play moves from the parody of a gavotte at the "Annual Newcomers' Ball" held during the "Age of Elegance" to "The Industrial Revolution," where Dr. Michael Faraway is inspired by Dr. Lolita Longago to build a new machine she saw in Monte Carlo: "It turns out statistics faster than you could possibly deal with them. No more grubbing for facts. They call their set-up a *factory* . . ."

The last scene take place in "The Future," at "the administration complex in the year 1997." The main characters are two computers: an Automated DATA Machine — ADAM — and Electronic Audio Verbalizing Equipment — EAVE. When EAVE is retrofitted with manipulators and a camera eye, she and Adam become aware of each other. When MAN becomes aware of their sin, he declares them obsolete:

Man: . . . you must leave this place forever. You are banished to the Brookhaven dump to wander in the wilds of Yaphank forever . . .

(ADAM and EAVE move upstage)

ADAM: EAVE, look. Take a last look. We must try to remember what it was like so we can tell our children . . . and they must tell their children . . . they must never be allowed to forget . . . how wonderful it was . . . in the beginning.

For the "Finale," the entire cast assembled on stage to sing a final verse of "Brookhaven/Facade's" theme, sung to the music of "Cat Ballou":

So our evening's work is done
And we've often poked some fun
At you and I and BNL
We've endeavored to explain
To amuse and entertain
And now it's time to say a fond farewell . . .
. . . Twenty-one glorious, glorious,
glorious years.



The Finale of "Brookhaven/Facade" brought the entire cast on stage: (from left) Joe Kahane, Ginny Sayre, Bruce Martin, Vicki Levis, Ed Sayre, Sheila Buck, Ben Lauthrop, Virginia Walker, Scott Andrus,

Richard Brown Jr., Shelby Jessup, John Binnington, Julie Peierls, Dick Brown, Lorraine Kahane, Charles Zavesky, Pat Campbell, Jackie Kelly, Geoffrey Hind, Elaine Rowland and George Counadis.

Garden Plots

Ten-foot-square plots for gardening are available now for on-site residents who wish to grow their own flowers and vegetables. Gardening equipment is also available. To secure a plot, contact Sharon Hall, Ext. 3032.

PSI News

Chiropractor Anna Andrews will speak on "Back Strain and Stress Tension on the Job," at the next monthly meeting of the Upton Chapter of Professional Secretaries International.

The meeting will begin at 6 p.m., on Thursday, May 21, in Berkner Hall, Room C.

Summer Theater At Stony Brook

More than three dozen international performers will appear on stage at the Fine Arts Center this summer when the State University of New York at Stony Brook presents its second annual International Theatre Festival.

The schedule includes:

Monday-Tuesday series

June 8-9 Gertrude Stein's *Birthday Book*.
June 15-16 Samuel Beckett's *Waiting for Godot*.

June 29-30 Bolek Polifka in *The Survivor*.
July 29-31 Edward Albee's *Zoo Story*.

Wednesday-Sunday series

June 10-14 Oscar Wilde's *The Importance of Being Earnest*.

June 17-21 William Shakespeare's *Macbeth*.

June 24-28 Jozef an den Berg in *The Beloved*.

July 8-12 Quebec's Théâtre Repère in *Dragon Trilogy*.

July 15-19 Ronald Rebman's *Cold Storage*.

Advance tickets are on sale now, as follows:

Day	Individual	Series
Mon., Tues.	\$9.00	\$28.00
Wed., Thurs.	\$9.00	\$35.00
Fri., Sat.	\$10.00	\$40.00
Sun.	\$10.00	\$35.00

All performances begin at 8 p.m. For more information and reservations, call the Fine Arts Center Box Office, 632-7230.

AA Meetings

Alcoholics Anonymous (AA) meetings are being held at the Lab every Tuesday at 5:30 p.m. All employees, others with current BNL identification cards and their spouses are invited to participate. To find out the location of the meetings, call the Employee Assistance Program, Ext. 2733. As participation in AA is confidential, you will not be asked to identify yourself when making the inquiry.

Arrivals & Departures

Arrivals

Michael J. Bebon Director's Office
James F. Gleason DAS

Departures

This list includes all employees who have terminated from the Laboratory, including retirees:

Joseph P. D'Aquisto Plant Eng.
Roy Garcia AGS
Richard T. Greves Medical
Joe V. Michael DAS
Jeffrey P. Zahradka Physics

Seventeen of the 27 BNL Roadrunners who completed either the Newsday Long Island Marathon or Half-Marathon.



Photo by Rosen

Runners' Corner

Twenty-five BNL Roadrunners were among the 6,877 finishers who completed the world's largest 13.1-mile race, the Newsday Long Island Half Marathon, on Sunday, May 3. Two BNL runners ran the full 26.2-mile marathon course, along with 1,033 others.

Marathon		
Peter Boni	2:31:16	3rd
Michael Seidman	4:26:30	761st
Half Marathon		
Ed Meier	1:24:03	208th
John Brodowski	1:24:27	216th
Dennis Nordstrom	1:30:37	501st
Gus Prince	1:34:54	823rd
Skip Medeiros	1:36:03	914th
Richard Thorp	1:37:33	1,056th
George Meinken	1:37:47	1,092nd
Ed Gill	1:38:34	1,167th
Tom Clifford	1:40:42	1,419th
Brian Morris	1:42:06	1,567th
Mal Tardd	1:44:09	1,822nd

Saed Mirzadeh	1:47:14	2,214th
Kevin D'Amico	1:47:23	2,244th
Joe Schuchman	1:49:07	2,545th
Sharon Zuhoski	1:53:32	3,229th
Mike Piraino	2:01:19	4,468th
Jack Laurie	2:02:32	4,594th
Jack Brennan	2:03:26	4,698th
Ralph Sanders	2:10:34	5,379th
Joan Congemi	2:26:45	6,308th
Kathy Norden	2:26:46	6,309th
Marilyn McKeown	2:30:15	6,414th
Ronnie Evans	2:47:52	6,684th

Official times and places were unavailable at press time for Art Harris and Tom O'Hare.

Twosome Five-Mile Race

You can still register for the annual BNL Twosome Five-Mile Race, to be held on site on Sunday, May 24, at 10 a.m. The race is dedicated to the memory of Ted Landry, the late, former president of the BNL Roadrunners who died in 1984.

Individuals and couples are invited to compete on the flat, fast course. Awards will be presented to the three fastest men, the three fastest women and the fastest couples with the combined ages of under 40, 40-59, 60-79, 80-99, 100-119 and over 120 years. As well, wheelchair racers are invited and will be awarded. This year, the race results will be computerized.

Registration fees are: \$15 per couple with T-shirts, \$7 without shirts; \$8 per individual with a shirt and \$4 without. If you register for a T-shirt by Monday, May 18, you will be guaranteed one.

If you wish an application, more information or to volunteer to help with the race, call Dean Chapman, Ext. 4744. Applications are also available in the men's and women's locker rooms.

At the BERA Store

Catch it on film! Most of us would like to have a filmed record of a wedding, graduation, birthday, anniversary or another big event that may be coming up. Keep in mind that The BERA Store, located off the lobby in Berkner Hall, is there to take care of all your film processing needs with no fuss or bother. As a special spring offer, Union Photo Company will give as a gift one free 5x7 enlargement with every roll of film brought in to be processed.

Rifle & Pistol Club

Attention clay bird shooters! The club shoots every Tuesday evening at 5 p.m. during the spring and summer months. If you are interested, please call Bill Dalton, Ext. 4428, or Otto Jacobi, Ext. 3471.

Just a reminder that club meetings are held on the second Wednesday of the month. Meetings begin promptly at 5:15 p.m. in Room 202, Bldg. 911B. There are no meetings held during the months of July and August.

Swim Club

The Swim Club will meet for its penultimate practice of the indoor season on Thursday, May 21, at 5:15 p.m. at the BNL pool. For more information, call Marsha Belford, Ext. 5053.

Cafeteria Menu

Week of May 18

Monday, May 18	
Cream of mushroom soup	(cup) .75 (bowl) .95
Baked quarter chicken w/1 veg.	2.75
Baked skinless chicken w/1 veg.	2.75
Pepper steak over rice	2.75
Hot deli: Pastrami	(bread) 2.45 (roll) 2.55 (hero) 2.65
Tuesday, May 19	
Beef barley soup	(cup) .75 (bowl) .95
Salisbury steak w/1 veg.	2.75
Fresh ham w/1 veg.	2.75
Hot deli: Roast beef	(bread) 2.45 (roll) 2.55 (hero) 2.65
Wednesday, May 20	
Split pea soup	(cup) .75 (bowl) .95
Yankee pot roast w/potato pancake	2.85
Eggplant Parmesan w/1 veg.	2.85
Hot deli: Corned beef	(bread) 2.45 (roll) 2.55 (hero) 2.65
Thursday, May 21	
Beef noodle soup	(cup) .75 (bowl) .95
Chicken Kiev w/1 veg.	2.85
Spanish macaroni w/1 veg.	2.65
Hot deli: Meatball hero	2.45
Friday, May 22	
Manhattan clam chowder	(cup) .75 (bowl) .95
Prime ribs of beef w/2 veg.	3.75
Broiled fish w/1 veg.	2.95
Hot deli: Turkey	(bread) 2.45 (roll) 2.55 (hero) 2.65

Note to Diners

The Cafeteria will be closed on Saturday, May 16. On that day, snack bar service will be available from 9 a.m. to 2 p.m. at the Brookhaven Center.



Paint a Picnic Poster!

The BNL 40th Anniversary Picnic will be held on September 19. Employees, retirees and their children are invited to enter a contest and submit posters that they have painted or drawn to advertise the event.

Make the poster as large, colorful and amusing as you can, and make sure that the date of September 19 and the words "BNL 40th Anniversary Picnic" stand out in some way.

Winning artists will get a prize, and their posters will be hung in buildings on site. Please *print* your name and telephone or extension number — and, for non-employees, the name of the BNL employee you're related to — on the back of your masterpiece! Children should put their ages, too. Take the posters to Rosalie Piccione, Bldg. 355, or Betty Pergan, Bldg. 179A, as soon as you can, but before the closing date, July 30.

BROOKHAVEN BULLETIN

Published weekly for the employees of BROOKHAVEN NATIONAL LABORATORY

ANITA COHEN, Editor
MARSHA BELFORD, Senior Reporter
LIZ SEUBERT, Reporter

35 BROOKHAVEN AVE., UPTON, N.Y. 11973
Telephone (516)282-2345

