BROOKHAVEN BULLETIN
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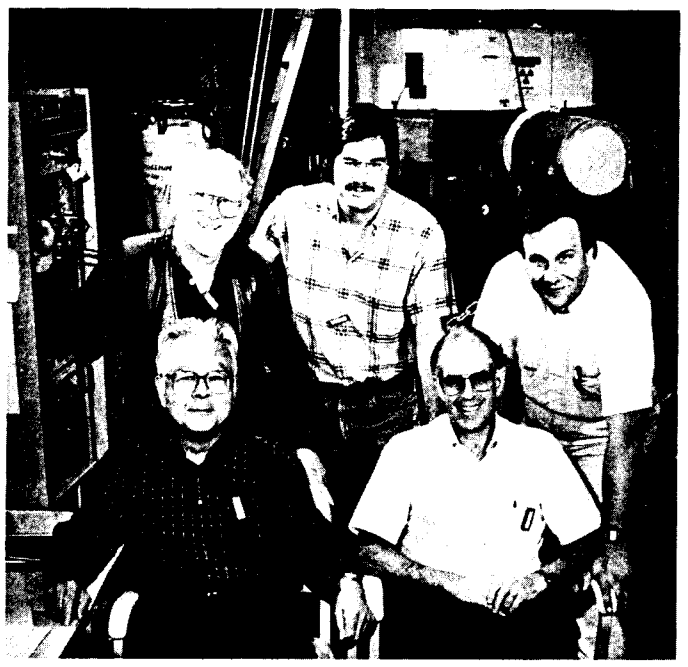
BROOKHAVEN NATIONAL LABORATORY

BNL Researchers Are Winners in DOE Competition

Two groups of BNL researchers are among the nine winning teams in the Department of Energy's (DOE) 1988 Materials Sciences Research Competition.

Recently cited for outstanding scientific accomplishment were:

- John Tranquada and Gen Shirane, both of the Physics Department, along with Robert Birgeneau and Marc Kastner, guest physicists from the Massachusetts Institute of Technology. The four were honored in the category of solid state physics for their studies of "Spin Dynamics in High-T_c Superconductor Systems."
- John Larese, Chemistry Department, and Stephen Shapiro, Physics Department, along with Simon Moss, University of Houston; Bing Xing Yang, formerly at BNL and now at the University of Western Ontario; Dominique Schryvers and Lee Tanner, of Lawrence Livermore National Laboratory (LLNL). This group was noted in the category of metallurgy and ceramics for their research into "Premartensitic Behavior of the β_2 Phase in $Ni_{62.5}Al_{37.5}$."



Roger Stoutenburgh

Both groups of researchers who were winners in the 1988 DOE Materials Sciences Research Competition did experiments at BNL's High Flux Beam Reactor. Shown at beam line H-7 are (front, from left) Gen Shirane and Stephen Shapiro, (back, from left) Simon Moss, John Tranquada and John Larese.

High T_c Spin Dynamics

At critical temperatures (T_c), certain materials lose all resistance to electricity and become superconducting. Until two years ago, the only materials known to become superconducting did so only at a very low T_c — around 23 kelvins (—418°F). In January 1986, however, the discovery of new materials that achieve superconductivity at 35 kelvins ushered in the new era of high T_c superconductor systems.

What accounts for the superconductivity of these new materials? Many theories — such as the one proposed by BNL physicist Victor Emery — require the presence of antiferromagnetic correlations between copper (Cu) atoms in the copper-oxygen (CuO_2) planes that are a common structural element in superconductors with T_c greater than 30 kelvins. Antiferromagnetism occurs when the magnetic moments, or spins, of neighboring atoms point in opposite directions.

In work begun last year, Tranquada, Shirane, Birgeneau, Kastner and their colleagues demonstrated that such interactions do indeed exist and are likely to be important for superconductivity in these systems.

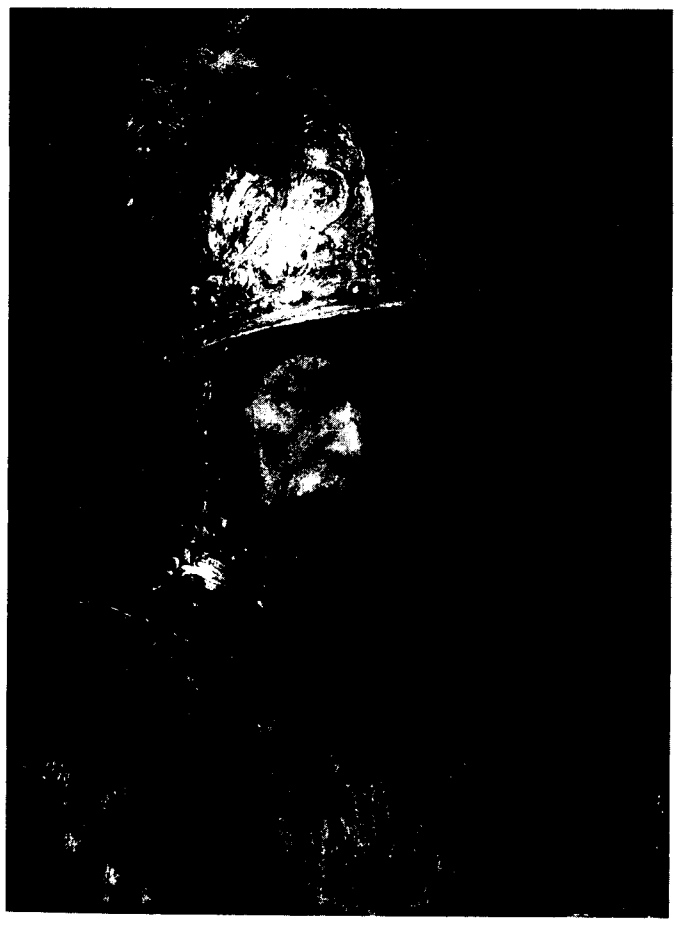
To demonstrate this, they used neutron scattering techniques at BNL's High Flux Beam Reactor (HFBR) to characterize the novel antiferromagnetic behavior of the Cu atoms in single crystals of two superconductor systems. They also showed that the magnetism is strongly two-dimensional and that the Cu and O atoms couple with unusual strength within the planes. Further, their research revealed that the two-dimensional antiferromagnetic correlations survive in the absence of long-range order.

Premartensitic Behavior

At certain temperatures, metals can undergo structural phase transitions

(Continued on page 2)

17th Century Art Meets 20th Century Science



Special thanks to:
- *Ted Teichmann, Department of Nuclear Energy, for translating from the German.*
- *The Paintings Conservation Department, Metropolitan Museum of Art, for permission to reprint the paintings shown.*

The Man in the Golden Helmet

The *Man in the Golden Helmet* is *not* a Rembrandt? Who says so, and how can they tell?

According to the recent report of the Prussian Cultural State Museum's art gallery in Berlin, West Germany, the world-famous *Man in the Golden Helmet* is no longer believed to have been painted by Rembrandt van Rijn.

This new appraisal is the result of an examination of the painting done at the Hahn-Meitner-Institut, Berlin, using the BNL-developed technique of neutron activation autoradiography.

Man in the Golden Helmet is one of the best-loved, most-visited paintings in West Germany. The golden light on the metal of the helmet, reflecting its glow onto the thoughtful face beneath in dramatic contrast to the shadows of clothes and background, seems to typify much of Rembrandt's style.

In the 1960's, some art historians expressed doubts of its authenticity, but investigations using techniques such as x-radiography, which shows only pigments containing lead, gave no decisive evidence either way.

New Way to Study Art

Then, in August 1969, in BNL's Chemistry Department, Edward Sayre and Heather Lechtman, working with Pieter Meyers, developed a new way to study paintings — neutron activation autoradiography.

Among other BNL staff who worked with them were Tom Holmquist, Mike McKenna and Dave Rorer, at the Medical Research Reactor, and John Warren and Ira Still of the Instrumentation Department.

In neutron activation autoradiography, a beam of slow neutrons irradiating a painting causes the different materials in the paints, the canvas and its stretcher to form radioactive isotopes. Isotopes each have a characteristic half-life, the amount of time it takes for half of their radioactivity to decay.

When the painting is removed from the beam and set in contact with photographic film, the isotope decaying most rapidly at that moment sensitizes the film. This makes a radiograph that shows the position of that pigment in the painting.

Gamma rays are also emitted and are measured separately, as a check on which elements are present and in what quantity.

Usually, nine autoradiographs are made of one painting, which takes up to 55 days while all the radioactivity decays.

Explained Garman Harbottle, Chemistry Department, a former colleague of Sayre and his group, "An autoradiograph made in the first 24 hours after a painting's removal from the beam will locate manganese, which has a half-life of about 2.6 hours. That's valuable knowledge in a painting by Rembrandt, who used a tremendous amount of umber and dark ocher pigment, which both contain manganese."

Another chemical element, phosphorus, has a half-life of 14.3 days. Harbottle explained that phosphorus is found in bone black, which Rembrandt sometimes used to make preliminary sketches directly on the canvas. Thus, autoradiographs taken from eight to 30 days after irradiating Rembrandt's paintings show these underlying sketches.

The Hidden Self-Portrait

"The first paintings worked on at the Lab were by American artists, like Blakelock and Ryder," remembered Harbottle. "In June 1976, the Metropolitan Museum of New York sent out a van Dyck — *Saint Rosalie Interceding for the Plague-Stricken of Palermo.* The group got some very interesting results, such as the sketched self-portrait of Van Dyck that appeared upside-down under the main painting."

The autoradiographs of *Saint Rosalie* were so successful that the Metropolitan Museum obtained funding from the Rowland Foundation, Inc., to examine about 30 paintings attributed to Rembrandt, as well as those of other artists including Jan Vermeer and Franz Hals, in a cooperative research project with BNL.

(Continued on page 3)

Saint Rosalie Interceding for the Plague-Stricken of Palermo

Shown here upside down is the eighth autoradiograph of the *Saint Rosalie* painting, which clearly shows a self portrait of Anthony van Dyck that is underneath

Six New team safety Winners

Congratulations to the teams pictured here — all Team Safety* program winners as of September 26!

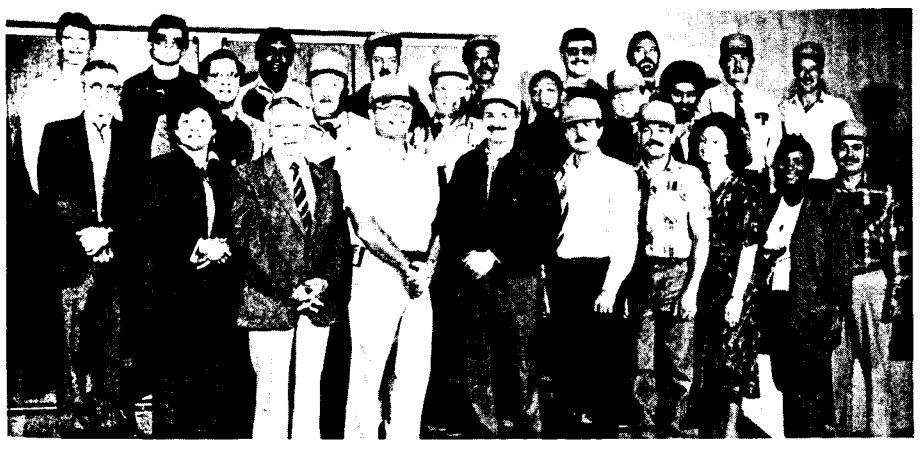
Week eleven has come and gone, and, unfortunately, one team has been called out at the plate. Plant Engineering's Refrigeration & Air Conditioning Team has had its second lost-time injury. This time, a back case sent them to the showers until December. Let's go team! The food is too good to miss!

Elsewhere on the circuit, all teams are still at bat, and, if all goes safely, there will be ten winners on Monday, October 10. Room B is getting to be a very popular spot. Rumor on the field is that some players better start counting calories. These luncheons are definitely not dietetic.

**Twenty-five teams are participating in the Lab's Team Safety Program. As a team reaches its time goals without any lost-time injuries, team members are being rewarded for their safe practices with a pizza or deli luncheon. Time goals range from eight to 12 weeks, depending on the team's previous lost-time frequency.*

Central Shops Division — Welding/Sheet Metal/Metal Cutting Shops Team: (front, from left) Carl Gardner, Richard Savoy, Sheila Land, Robert Lucas, Anthony DiSena, Anthony Spina, Steven Farrell; (center, from left) John McCaffery, Ezekle Bell, Frederick Reinert, John Leckmanski, James Megna, Thomas Imperial, Mark Cohen, James Gordon; (back, from left) Gene Sorensen, Ernest Lindevald, Charles Vogel, Joseph Sullivan, Robert Geib, Ronald Brewer, Art Rosenka and Walter Ducoing. Not pictured: Ralph Rathjens.

Supply & Materiel Division — Central Receiving Team: (front, from left) Mary Reddick, Elizabeth Mill, Patricia Jencius, Janet Baulch, Harriet Allen, Donna Cunningham; (center, from left) Barbara Boerjes, Mary Sowiak, Marge Weltz, Jerome Quigley, Bob Hannel, John Blydenburgh; (back, from left) Wenzel Rowan, Lamar Gardner, Steve Schroder, James Pittman, Frank Chandler, Brian Mayo and Steve Pendola. Not pictured: Rosalie Alongi and Charles Seaton.



Central Shops Division — Support Group Team: (front, from left) Christine King, Enrique Jiminez, Walter Powell, John Aloi, Robert Lamb, Victor Gonzalez, Rosemary Taylor, Carol Bell, Pilar Alverio; (center, from left) Edward Jackle, Albert Valasco, Albert Farland, Ernest Jochen, Deidre Brown, Michael Palumbo, Bhupinder Bawa; (back, from left) Frederick Wahlert, Bart Giuliano III, James Bell, Daniel Mahalic, Alvin Vestal, Christopher Robertson, Dennis Malloy, Richard Spellman, Nicholas Satterley. Not pictured: Marge Alexoff, Angelo Crisci, Edward Harmer, Jeri Lastuvka and Joseph Zeneski.

Supply & Materiel Division — Central Stores Team: (front, from left) Heriberto Rosado, Barbara Langhorne, MaryEllen Hubner, George Dioguardo; (center, from left) Vanette DeJesus, Harold Bolling, Mattie Brown, Clarence Wilkins, John Scharpeger; (back, from left) Shelby Williams, Fletcher Johnson, Carl McKeever, Mildred Bennett and Joe Modjeska. Not pictured: Phylis Bates, Arthur Coone, Frank Haibon and Anthony Mercer.

Plant Engineering Division — Custodial Group B: (front, from left) Elias Escobar, Gonga Ghimiray, Junior Santiago, Tony Shane, Terry Strelecki, Zaida Rosado, Regis Saitta, Victoria Goldborough, Doreena Victoria, Joe Cherunto, Pete Cancel, Jeff Raynor; (center, from left) Bob Metz, Virginia Randall, Arthur Harris, Dhruba Ghimiray, Randy Logan, Barbara LeMaire, Brian Davis, Madeline Stawski, Diane Langhorne (above), Sue Dobzeniecki, Tom Serra, Walter Pinkston, Walter Saunders; (back, from left) Mike Piccione, Arthur Schultz, Ron Harding, Joe Tullo, Jeff Davis, John Van Gelder, Mike Curley, Henry Jones, Walter Going, Ron Bellucci, Bob Tooker, Ray Mayo, Wayne Cummings and Jeff Tobacco. Not pictured: Charlie Edwards, Bessie Gardner, Hugh Rhodus, Zeke Rowan, Jean Sells, Bob Sneed and John Van Etten.

Plant Engineering Division — Custodial Group A: (front, from left) Laura Gaetan, Pat Bounauito, Maryellen Savoca, Linda Bodenmiller, Karen Green, Marco Denno, Muriel Olenick, Milton Jones, Judy Wilson and Brenda Catapano; (back, from left) Tim Comstock, Izzy Garcia, Lewis Jackson, Bob D'Angelis, Greg Thompson, Mike Hickey, Milton Saunders, Phil Baker, Frank Snell, Jeff Mirando, Jim Sorohan, Felix Thompson, Troy Mayo and Ed Carapezza. Not pictured: Sally Calbrese, Wanda Cole, Patria Cortes, Louis Jackson, Tony McGill and Debbie Squires.

—photos by Horton

To Your Health

Did one or both of your parents have a drinking problem? If so, their problem may continue to affect you as an adult. "Adult Children of Alcoholics" is the topic to be addressed at the next Health Promotion Seminar, on Thursday, October 13, from noon to 1 p.m., in Berkner Hall. Joel Rosinsky, an alcoholism counselor at South Oaks Hospital, Amityville, will be the speaker, and all are invited to attend.

Bowling

Red/Green League

High games were bowled by K. Riker 256/218/649 scratch, H. Arnesen 226, E. Meier 224, J. Mayeski 222, N. Parrinello 208, H. Marshall 206, J. Morris 205/203, H. Dawson 203, E. Sperry IV 202.

Purple League

Paul Callegari had a 204, Betty Jellett 191.

White League

Sharon Smith rolled a 197, Mary Scheidet 186.

DOE Competition (cont'd)

from one crystal structure to another. Such a transition may, in general, be accompanied by large fluctuations and be preceded by changes known as signatures.

Other natural phase transitions, such as the freezing of water, are not accompanied by fluctuations, and they are called first order, or discontinuous, transitions. The structural transitions in metals may also be discontinuous but may still demonstrate some premonitory signature that helps in understanding why they happen and how they can be promoted.

With this in mind, Larese, Shapiro, Moss and Yang have used the HFBR to look at this premartensitic behavior in the common beta-2 structure of a nickel-aluminum alloy.

Over the past two years, their neutron scattering results have shown that, in the premartensitic phase, selected lattice vibrational modes of the alloy soften and become somewhat unstable before the system changes. The same modes that soften also tend to condense into local embryos of the low-temperature structure.

These findings correlate nicely with the electron diffraction work done by their LLNL colleagues, which shows, in real space, the premonitory structure imposed on the otherwise regular arrangement of the atoms.

In addition to adding to the basic store of knowledge about metallurgical phase transitions, these results are important to the metals industry's ability to manipulate the martensitic transition in materials such as steel or to tailor-make other ones. They will also add to the understanding of the mechanism whereby alloys can exhibit the property called "shape memory," in which a metal returns to its original shape on heating, after room-temperature deformation.

HFBR: A Nuclear Historic Landmark

The American Nuclear Society (ANS) has designated BNL's High Flux Beam Reactor (HFBR) a Nuclear Historic Landmark. ANS President Gail de Planque will formally present the award at a ceremony and luncheon on Monday, October 17, at noon, in the Brookhaven Center. To make reservations, at $14 per person, call Pat Durcan, Ext. 2380, by October 10.

17th Century Art (cont'd)

In December 1977, Maryan Ainsworth of the Metropolitan Museum became Principal Investigator of the project, visiting BNL regularly to collate all the new technical data with the art-historical findings, which were published in 1982 in the book *Art and Autoradiography: Insights Into the Genesis of Paintings by Rembrandt, Van Dyck and Vermeer.*

Recalled Ainsworth, "The new method allowed us to study the substructures of paintings in great detail. Changes in the original conception or differences in brush-stroke technique could show clearly. In being able to examine and compare so many examples of Rembrandt's work, we were able to enrich and extend our knowledge in a way that was impossible earlier."

Ainsworth also spoke of the importance of the interdisciplinary nature of the group working on the project — art historians, paintings conservators and scientists were all represented. "We could approach the results in a well-rounded way." she said. "We all asked different questions and enlightened each other, revealing new aspects of the results."

Once the project was complete, the physical results — the autoradiographs — were all stored at the Metropolitan Museum. The study technique, however, has spread.

Not a Rembrandt

For example, the Smithsonian Institution in Washington, D.C., performs autoradiography and, since 1983, has Sayre on its staff. And, in West Germany, the Hahn-Meitner-Institut Laboratory adapted its reactor to allow the Berlin collection to be examined there — only to find that their favorite Rembrandt was not a Rembrandt.

In coming to this conclusion, however, Henning Bock wrote for the Prussian Cultural State Museum, "The artistic value of the picture is neither affected nor reduced.... Those with eyes to see can see this for themselves." [Translated from German.]

And Ainsworth points out that, in the considered opinion of the expert project team, at least two of the Rembrandts at the Metropolitan Museum were believed to be unquestionably authenticated by the new technique. Yet a group of experienced scholars forming the Rembrandt Research Committee have carefully studied the same autoradiographs and drawn a different conclusion.

Said Ainsworth, "So the whole endeavor remains a matter of connoisseurship. But the wealth of new material that will become increasingly available as a result of the Berlin and other studies using this technique will be an invaluable addition to our knowledge of art and artists."

— Liz Seubert

Coming Up

The 1988-89 BERA Concert Series will begin on Wednesday, October 19, with a performance by one of today's premier flute soloists, Carol Wincenc, and the acclaimed harpsichordist, Kenneth Cooper.

The program will begin at 8 p.m. in Berkner Hall, where tickets can be purchased at the door: $9 for general admission, $6 for students and those over 65, and $5 for those under 18.

Block tickets, good at any concert can also be purchased at this performance, at a price of $6 each for a minimum purchase of five tickets.

Learn the Language Of C Programming

Programming knowledge is a prerequisite for a course in the C programming language being offered by Scientific Computing Support Services (SCSS), within the Computing & Communications Division (CCD).

CCD's David Stamph will be the lecturer for the eight-session course, which will run on Tuesdays and Fridays, from October 11 through November 4. Each session will go from 10 a.m. to noon and be held in the seminar room on the second floor of Bldg. 515.

The C programming language is a general purpose computer language that features economy of expression, modern flow control, data structures and a rich set of operators. Its lack of restrictions and its generality make it more convenient and effective for many tasks than more powerful languages.

To register or obtain more information, call Ron Wittlock, SCSS, Ext. 4112.

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A Hot Idea for Fire Safety Week

Roger Stoutenburgh

Next week is Fire Safety Week, but fire safety training can take place any week at BNL — at the request of your Department or Division's safety coordinator to the Safety & Environmental Protection Division (S&EP).

About every other week, S&EP's Fire & Rescue Group runs a scheduled, fire-extinguisher demonstration and practice. Last Tuesday, for example, six Contracts & Procurement Division (C&PD) staffers learned fire-extinguisher techniques, at the request of C&PD safety coordinator Jack Russell.

"As we purchase all the extinguishers for the Lab, I thought it was especially important that we learn what using one was like," explains Russell.

Behind the firehouse, Tracy Ryan (second from left), Sharon Atkins and Bill Koncelik watched as Nate Carter, S&EP's representative for C&PD, practiced using an extinguisher to put out a gasoline fire in a halved 55-gallon drum. Other C&PD'ers who were at the session that day were Karen Sampson, Tom Smith and Jack Russell.

They are supervised by Probationary Firefighter Timothy DeVine (second from right) and Fire Captain Russell Dunn (back, right).

During Fire Safety Week, look in Berkner Hall for pamphlets on smoke detectors, fire-protection planning and fire extinguishers.

Softball Champs

Photos by Peter Horton

The Spacekadets (shown at right) met the challenge in League IV: (front, from left) Ali Lopez, See Meng Wong, Jim Guppy, Carmen Falkenbach, Darcy Mallon, Ron Webster; (back, from left) Paul Hale, Barry Karlin, Sandi Lane, Denise Miesell, Carl Falkenbach, Lois Marascia, Bob Marascia and Terry Sullivan. Not pictured: Sue Guppy, Mark Renner, Michiko Renner and Lydia Ryan.

The Snakebites' power was felt in League III: (front, from left) Gina Flippen, Larry Musso, Herbie Harris, Sheree Flippen, Nancy Harris, Juan Alvarez; (back, from left) John Niemczyk, George Oldham, Junior Santiago, Charlie Johnson, Mickey Haller, Isador Garcia, Barbara Simpson, Mike Furey, Dolly Johnson and Coleen Magee. Not pictured: Gary Magee.

The AMD team batted its way to victory in League II: (front, from left) Frank Teich, Bob Eich, Chris Neuberger, Curt Bergh, Chris Willms; (back, from left) Joe DePace; Jim McManus, Vinny Bonafede, Bob Schuman and Paul Kessler. Not pictured: John Bennett, Ed Brosnan, Ken Hammer, Don Litcher, Tom LoConte.

The Blue Jays, who flew to the top of League I, are shown here with Drakes, the team mascot: (front, from left) Louis Nieves, George Oldham, Dennis Hall, Juan Alvarez; (back, from left) Larry Witt, Gerry Shepherd and Larry Musso. Not pictured: Jim Forkin, Gerry Hobson, Bob Medina, Frank Palmeri, Nick Pisco, Bill Staker and Ken Wenger.

Golf

The end-of-the-season tournament and BGA awards dinner will be held on Tuesday, October 18, at the Rock Hill Country Club. Tee times, from 10:30 a.m. to 12:30 p.m., may be obtained by contacting Ron Webster, Ext. 2845, Bldg. 526.

Tournament fees of $22.25 for BGA members and $37.25 for nonmembers include greens fee, entry fee and dinner, but do not include electric cart rental. All fees must be paid by the sign-up deadline of Friday, October 14. Make checks payable to the BERA Golf Association.

Congratulations to all the winners in the Two-Person Scramble held at Indian Island on September 19:

- The A-flight team of John Usher and Les Lawrence (69) tied with the team of John Millener and Brandt Johnson; however, Usher and Lawrence prevailed in the card-matching tie-breaker.
- The B-flight defending champions Ron Webster and Don Cassidy (77) retained their title by winning a card match over the team of Eldon Schmidt and Bob Gallagher.
- Flight C was won outright by Bob Lofaro and Joe Carbonaro (80).
- Flight D was won by Mike Fulkerson and James Pontieri (87).
- The Flight E winners were the husband and wife team of Bob and Gail Schuman (91).

Film badges will be changed tomorrow. Please place your badge in its assigned rack space before leaving work today.

Rifle & Pistol Club

Meetings of the BERA Rifle & Pistol Club are held on the second Wednesday of the month at noon in Room 202, Bldg. 911B. The next meeting will be held on October 12.

On the top of the agenda will be organizing winter activities. Please attend; your input is welcome. For more information, call Otto Jacobi, Ext. 3471.

Arrivals & Departures

Arrivals

Robert A. Aikman Jr. ..... Plant Eng.
Pierrot Bichoneau ..... Physics
Emiliano Cabrera-Juarez .... Biology
I-Jy Chang ..... Chemistry
Ziping Chen ..... Physics
Andreas E. Gocksch ..... Physics
Inn S. Kim ..... DNE
Christopher Kushmerick ..... Biology
Hung Sui Lee ..... DAS
Frederick R. Lemke ..... Chemistry
Bruce E. Moskowitz ..... Physics
Oreste Piro ..... Physics
Per O. Spanne ..... DAS
German E. Valencia ..... Physics
Scott S. Willenbrock ..... Physics

Departures

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

Arthur H. Barnes ..... Central Shops
Jeffrey Colbert ..... Instrumentation
Frederick A. Goulette ..... Medical
Frances E. Healy ..... Sfgrds. & Sec.
Robert J. Isler ..... Reactor
Robert A. Jasaitis ..... AGS
Ralph F. Jones ..... DAS
Anne B. Katz ..... Biology
Mary T. Kosak ..... Applied Math
Antoinette C. Mauro ..... Personnel
Thomas E. O'Hare ..... DAS
Jose A. Otero ..... AGS
Michael R. Pennington ..... Physics
Claudio Rebbi ..... Physics
Maxine F. Santoro ..... Biology
Alfred H. Schatz ..... Applied Math
Chao Tang ..... Physics

Cafeteria Menu

Week of October 10

Luncheons

Monday, October 10

Soup: Shrimp bisque	(cup)	.75
	(bowl)	.95
Baked stuffed pork chops & veg.		3.10
Pasta w/turkey & veg.		2.95
Lite-line: Baked fish & veg.		3.10
Hot deli: Pastrami	(bread or roll)	2.85
	(hero)	2.95

Tuesday, October 11

Soup: Chicken noodle	(cup)	.75
	(bowl)	.95
Curried lamb over rice		3.10
Taco bar & veg.		2.95
Lite-line: Baked chicken (skinless) & veg.		3.10
Hot deli: Steak & cheese sandwich		2.85

Wednesday, October 12 — Octoberfest

Soup: Potato chowder	(cup)	.75
	(bowl)	.95
Sauerbraten & potato pancake		3.10
Kassler Uberbacken (pork stew over potato pancake)		3.10
Lite-line: Roast beef au jus & veg.		3.10
Hot deli: Knockwurst or bratwurst w/sauerkraut & German potato salad		2.95

Thursday, October 13

Soup: Hot & sour	(cup)	.75
	(bowl)	.95
Southern-style chopped steak & veg.		2.95
Ziti w/meat sauce & garlic bread		2.95
Lite-line: Stir-fried swordfish Oriental over rice		3.10
Hot deli: Baked ham	(bread or roll)	2.85
	(hero)	2.95

Friday, October 14

Soup: New England clam chowder	(cup)	.75
	(bowl)	.95
Breaded turkey cutlet & veg.		3.10
Calamari sauce over spaghetti w/garlic bread		3.10
Lite-line: Roast turkey & veg.		3.10
Hot deli: Fish sandwich on bun		2.85

Breakfast Specials

Monday:	Corned beef hash & egg	1.50
Tuesday:	Ham & cheese omelet	1.70
Wednesday:	Blueberry pancakes & sausage links	1.50
Thursday:	Grilled croissant w/jelly & small fruit cup	1.45
Friday:	Two scrambled eggs & bacon	1.15

Any group wanting a soda machine installed should call the Cafeteria, Ext. 3541, for more information.

Classified Advertisements

Placement Notices

The Laboratory's placement policy is to select the best-qualified candidate for an available position, with consideration given to candidates in the following order of priority: (1) present employees within the department and/or appropriate bargaining unit, with preference to those within the immediate work group; (2) present employees within the Laboratory as a whole; and (3) outside applicants. In keeping with the Affirmative Action plan, selection decisions are made without regard to age, race, color, religion, national origin, sex, handicap or veteran status.

Each week, the Personnel Office lists new personnel placement requisitions. The purpose of these listings is, first, to provide open placement information on all non-scientific staff positions; second, to give employees an opportunity to request consideration for themselves through Personnel; and, finally, for general recruiting purposes. Because of the priority preference policy stated above, each listing does not necessarily represent an opportunity for all candidates. As a guide to readers, the listings are grouped according to the anticipated area of recruitment.

Except when operational needs require otherwise, positions will remain open for one week following publication date.

For further information regarding a placement listing, contact the Employment Manager, Ext. 2882.

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside applicants.

2960. LIAISON ENGINEER - Requires BS degree or equivalent in mechanical, marine or electrical engineering and 3 years' experience in plant or liaison engineering. Entails a project evaluation and the coordination of a variety of technical functions associated with water and electrical power distribution systems, electromagnets, radiation shielding and other equipment used to support the research program at the 33 GeV particle accelerator. Alternating Gradient Synchrotron Department.

2961. MAIN CONTROL ROOM OPERATOR - Requires a BS or equivalent in physics or electrical engineering. Primary duties, as part of a rotating shift team, will be the operation and troubleshooting of the AGS accelerator complex for the experimental physics program. Requires computer programming and good communication skills. Background experience in computer controls, high-power pulsed power supplies, and digital electronics desirable. Alternating Gradient Synchrotron Department.

Motor Vehicles & Supplies

87 CAMERO IROC - loaded, $15,500. 585-2084.

87 JEEP WRANGLER - 5-spd., a/c, p/s, p/b, soft top, hitch, 29k mi., $8,500. 585-4038.

87 TOYOTA PICKUP - long bed, extra cab, p/s, p/b, a/t, mint, $9,000 neg. Joe, Ext. 5213.

86 MERCURY - red, loaded, 28k mi., $9,600. Tony, Ext. 3988.

86 CAMARO Z28 - V-8 TPI, a/t, p/w, p/d, T-top, blue, a/c, 21k mi., $10,500. Mike, Ext. 3277 or 874-2989.

86 HONDA GYRO SCOOTER - low mi., 35 mph, rear basket & cover, excel. cond. 585-6518, 8 a.m.-5 p.m., M-F.

85 NISSAN MAXIMA WAGON - 43k mi., sunroof, fully loaded, excel. cond., $8,500. 473-8426 after 6 p.m.

85 MONTE CARLO SS - 45k mi., loaded, am/fm cass., alarm, a/t, 305, $9,500. 736-7603.

84 PONTIAC TRANS AM - 305 H.O., 5-spd., T-top, tinted glass, excel. cond., $7,800. 928-9109.

84 CAMERO Z28 - black ext., black/gray int., T-top, 5-spd., 350, p/s, p/b, low mi., clean, must sell, $6,000 neg. Tim, Ext. 5222.

84 MERCURY CAPRI - body in good cond., clean interior, needs engine work, asking $500. Dick, Ext. 4313.

83 CHEVY S-10 - 4-spd., very good cond., 325-0447 after 6 p.m.

83 DODGE AIRES - 4-dr., p/s, p/b, a/c, must see, $2,700. 331-2289 after 6:30 p.m.

81 HONDA ACCORD - 4-dr., p/s, p/b, 5-spd., stereo cass., excel. cond. 758-5659 eves.

81 SUBARU GL - station wagon, 4wd, s/t, new battery & exhaust, $1,875. Ext. 4144.

81 PONTIAC GRAND PRIX - V-6, looks good, clean & runs well, $3,500; '81 Suzuki GS450, low mi., w/helmet, excel. cond., $1,100. Ext 3888.

80 BUICK SKYLARK - 76k mi., rebuilt trans., good cond., $1,300 neg. Ext. 3851.

80 OLDS - good body & interior, needs engine, make offer. Ext. 2900.

80 TOYOTA CELICA ST COUPE - 5-spd., a/c, high mi., runs, needs work, $800. 368-8018.

79 MERCURY MONARCH - a/t, low mi., 2-dr., excel. cond., $1,000. 929-3924.

79 DATSUN 210 - 5-spd., 196k mi., some rust damage. Joe, Ext. 2214 or 924-7476.

79 FORD F250 CAB - solid, $400; rear end, $125; new grill, $125. Dick, Ext. 3499 or 589-9103.

79 BRONCO XLT - 4" lift, 35" tires, new brakes, clutch, running boards, 80k mi. 744-2204 weekdays.

79 BMW 733i - 4-spd., Benzi-type radio, all extras, red leather int., excel. cond., $11,000. 331-9792.

79 CHEVY NOVA - 6-cyl., a/t, p/s, sunroof, am/fm tape, good cond., $875. Ext. 5235 or 821-6821.

78 TOYOTA COROLLA - $300. 744-5069.

78 OLDS CUTLASS SUPREME - 8-cyl., fully equipped, new trans., excel cond., orig. owner. Ext. 4449 or 751-8403 after 6 p.m.

78 BRONCO - custom 4x4, runs well, needs some work, $1,000 firm. 395-3226 after 7 p.m.

78 FORD COACHMAN MOTOR HOME - sleeps 8, self-contained, good cond., $7,000 neg. Ext. 2214 or 369-2414.

78 PLYMOUTH HORIZON - 4-spd., needs nothing, great commuter car, good cond., $700. Ext. 4597 or 924-8213 eves.

77 FORD GRANADA - 6-cyl., a/c, p/s, good tires, reliable transportation, $400. Ernie, Ext. 3357 or Tim, 281-7873.

77 BUICK REGAL - a/t, p/b, a/c, sunroof, new tires, 80k mi., some rust, runs well, $500. 929-8912.

77 TOYOTA CELICA GT - 90k mi., very good mech. cond., some rust, $950. Rick, Ext. 3932.

77 MERCURY COUGAR - sedan, 4-dr., a/c, p/s, p/b, new tires, $1,000 or best offer. 736-7603.

77 TOYOTA CELICA - 5-spd., a/c, fm stereo, new batt., high mi., runs well, $390. Alain, Ext. 4563 or 4396.

77 BMW 530i - good cond. except for brakes & tune-up, $2,500. 821-0686.

76 CAPRI GHIA - a/t, 4-cyl., new tires, p/b, am/fm, 92k mi., runs well, asking $800. 929-8912.

75 PLYMOUTH RELIANT - good running cond., body rusted, $275; '70 pop-up camper, sleeps 6, must sell, $475. Pete, 286-4805.

Miscellaneous

LIVING ROOM FURNITURE - & assorted household items, lamps, desk, dishes, etc. 929-6898 eves.

BED - king-size, 5-yr.-old, $75 or best offer; right tuff box, 6-mo.-old, heavy duty, $60. 821-2875.

BUREAU - 45-56" wide. Elaine, Ext. 5329.

ROCKING CHAIR - maple, w/cushions, good cond. 325-0447 after 6 p.m.

MATTRESS - hi-riser, 2 bolsters, cover, like new, $75; metric chart. 475-1254.

BATHROOM ACCESSORIES - lucite, soap dish, toothbrush holder, towel bars, cabinet, matching light, 20" beveled mirror, new, best offer. Ext. 3315.

RANGE - LP gas, 36", gold, Roper auto cleaning oven, oven & storage compartment, good cond., $40. Ernie, Ext. 3357 or 281-7873.

WASHER & DRYER - Whirlpool, portable & stackable, 110 v., good cond., $350. Pete, Ext. 4100.

WASHER - portable, good cond., $75. Ext. 2673 or 744-8632 after 6 p.m.

AIR CONDITIONER - $60. 282-3072 before 9 p.m.

COMMERCIAL FREEZER - Unico, upright, double drs., 7" walls, new paint, serviced, 40 cu. ft., on casters, $100. Tom, Ext. 4084 or 878-1060.

LAWN VACUUM - & mulcher, w/bag, Sears, 3.5 h.p., used twice. Sheryl. Ext. 4400.

SNOW BLOWER - Sears, 32", elec. & manual start, used 2 yrs., $1,200 new, asking $550. Ext. 7904.

BLOWER - push-type, 5-h.p. Tecumseh engine, large-spoked wheels, low hrs., $100. 744-4611 after 7 p.m.

KEROSENE STOVE - Omni, 100,000 Btu, new, $64. Tony, Ext. 2462.

CONTROLLER - for lawn sprinkler system, Toro IC-4, 4-zone, $20. 744-5096.

TRACTORS - 2, B-275 diesel International & Farmall Super 'C' gas, plow & other access, $3,500 takes all. Jim, Ext. 4040 or 289-0876.

SNOW THROWER - Toro, 8-h.p. Briggs & Stratton engine, w/elec. starter, $475. 475-7366.

TOPSOIL - fine screened, delivered, $18/yd., also peat moss, sand, gravel, blend. 924-9427.

MOWER - 21", Jacobsen, self-propelled, old, $10. 286-8521.

LAWN TRACTOR - Craftsman, 8 h.p., 36" cut, w/snow plow. Don, Ext. 5329 or 878-2215 eves.

LAWN MOWER - Sears Craftsman, 3½ h.p., Eager 1, excel. cond., $65. Dan, Ext. 4987 or 698-7322.

COAL STOVE - large, brick-lined, $50. Frank, Ext. 2022 or 399-4480.

ROTTWEILER PUPS - 10-wks.-old, shots, AKC, $400. 281-7942.

U-PICK PUMPKINS - Fri., Sat., Sun., Mon., 9 a.m.-6 p.m., Beaver Dam Rd., Brookhaven Hamlet.

TICKETS - 2, Peter, Paul & Mary, at Westbury, Oct. 15, 8 p.m., $24.50 ea. George, Ext. 4453.

AIRLINE TICKETS - 2, round-trip, to Greece, won in drawing, $1,000 for both. Fred, Ext. 3155.

Free

RABBIT - male, 1½-yr.-old, white w/black patches, cage & accessories. Ext. 7505 or 689-8605.

ELECTRICAL PARTS - cleaning cellar, please pick-up. 475-1254.

OIL BURNER - Williams model 5010, runs well, 75% efficiency. 744-5096.

GIRL'S BICYCLE - 16" tires, semi-pneumatic, clean, no training wheels. Ext. 4475.

Lost & Found

FOUND - pair of prescription glasses in front of NSLS. Lynette, Ext. 5136.

Car Pool

BELLPORT - need 5th member for established car pool. Liz, Ext. 2346 or Ed, 286-7539 after 6 p.m.

Real Estate

Real Estate advertised for sale or rent is available without regard for the race, color, creed, sex or national origin of the applicant.

For Rent

BELLPORT - 4 bdrm., 3½ baths, Jacuzzi, walking distance of schools, bay & village, avail. unfurnished Oct. 1. 363-8936 eves.

MASTIC BEACH - 3 rm. furnished apt., priv. ent., single or couple only, $600 pays all. 281-6372.

MIDDLE ISLAND - apt. sublet, 1½ bdrm., 10 min. to Lab, across from TSS, avail. mid-Oct., $685/mo. Ext. 2211 or 345-5428.

N. SHIRLEY - 1 bdrm. apt., 5 min. to Lab, quiet, separate ent., $500/mo. incl. all. 281-3479 eves.

RIDGE - 3 bdrm. ranch, eik, l/r, den, 2½ baths, new carpeting, fenced yd., 5 min. from Lab, possible M/D, $1,200/mo. 744-8632 after 6 p.m.

ROCKY POINT - 3 bdrm., 2 full baths, newly remodeled house, priv., on ½ acre, new contemp. kitchen, avail. Nov. 1. 929-6898.

S. JAMESPORT - 1 bdrm. cottage, l/r, eik, bath, porch, partially furn., near beach. 25 min to Lab, no children or pets, $500/mo + util. Walt. Ext. 2907 or 698-0576.

S. SETAUKET - 4 bdrm. ranch, 2 baths, 3 Village school dist., mint, $1,100 + util. Ext. 2611 or 751-4098 eves.

YAPHANK - small 3 rm. bungalow, suitable for single, $400. 924-3946.

For Sale

BELLPORT - 3 bdrm. ranch, eik, 3-yr.-old burner, b/i ac, a/g 15'x4' pool, comp. fenced, 176'x75' yd., ½ mi. to golf & tennis, all village priv., SC dist., $123,000. 286-9321.

CENTER MORICHES - 3 bdrm. ranch, 1½ bath, full bsmt., garage & storage shed, ⅓ acre on cul-de-sac in prime area, price reduced, $143,990. Ext. 2674 or 878-0175.

MASTIC - 3 bdrm. contemp. ranch, new kitchen & bath, w/w carpet, new Andersons & heating system, bsmt., cedar siding & deck, 60'x200', asking $145,000. 281-5652.

MASTIC BEACH - new vacation home, 3 bdrm., 2 bath, f/p, jacuzzi, oak floors, 2 ent. decks, views of Great South Bay, Fire Island & Atlantic, boat slip, great buy, $217,000. Ext. 3430.

EAST MARION - 1-acre building lot, 140' road frontage, $86,000. Ext. 3434 or 744-0244.

PORT JEFFERSON - Harbor Hills, 4 bdrm. split ranch, d/r, eik, family rm. w/fp, brick patio, oak floors throughout, 24'x44' bsmt., $189,000. Ext. 4483 or 929-5699.

PORT JEFFERSON STATION - 5 bdrm. contemporary hi-ranch, M/D, 3 baths, 2 kitchens, gar., vinyl siding, fenced yard, ¼ acre, mint, $174,990. 331-1523 eves.

RIDGE - 2 bdrm. townhouse, central a/c, appl., 5 min. from Lab, avail. 1/1/89, $97,000. Ext. 4676.

SHOREHAM - 4 bdrm. Colonial, 2½ baths, encl. front porch, ⅓ acre, low taxes & heating bills, all appl., SWR schools, $178,000. 744-0960.

SHOREHAM - 3 bdrm. ranch, carpeted, pool, eik, wood/coal stove, priv. fenced backyd., 2½-car gar., low taxes, SWR schools, clean, move-in cond., $135,000 negotiable. 744-9677.

SOUND BEACH - 2 bdrm., loft, eik, cathedral ceiling, 3 skylights, bsmt., 2-car gar., Miller Place schools, $126,000, must sell. 821-6263.

Wanted

FEMALE VOLLEYBALL PLAYERS - for Mixed League II team. Kathy, Ext. 7661 or Carrie, Ext. 2073.

CHILD CARE - after school, for 8-yr. & 9-yr.-olds, can take bus from Setauket Elem. School, T.V. District. 751-8671.

MACHINE SHOP TUTOR - temporary, shop math, blueprints, layout, etc., few times weekly, reasonable. Miguel, Ext. 3884.

BASKETBALL REFEREES - H.S. training course, begins next week, earn $30-$50/game. Jack, Ext. 3164.

CAR COVER - John, Ext. 7671.

POLE LAMPS - good cond. Ext. 7192.

BABY SAFETY GATE - & safety cabinet hooks, good cond. 929-3795.

LAWN MOWERS - old, complete. Dan, Ext. 4987 or 698-7322.

CASH REGISTER - any cond. or make. Tony, 698-9274.

HOUSE TO RENT - Jan. 1 to June 30, 1989, mature scientist & wife seek 2 bdrm. furn. house. Helen, Ext. 3415.

CREW FOR RACING SAILBOAT - experience preferred. George, 744-2384 between 6 & 9 p.m.

TRAINS - Lionel, American Flyer, accessories, any cond., brings good price. Carole, Ext. 7100 or 924-4097 eves.

BABYSITTER - for 9-mo.-old infant, Mon. & Wed., 8:30 a.m.-5 p.m., seeking mature, experienced, refs., non-smoker. 929-8294.

OUTBOARD MOTOR - 15 h.p., short-shaft Evinrude or Johnson. Joe, beeper 925 or 728-1859 after 6 p.m.

Services

Services are listed as a courtesy to BNL employees. They are neither screened nor recommended by the **Bulletin**.

CHILD CARE - experienced nursery school teacher, learning & fun environment, fenced yd., Setauket area. 928-5684.

BABYSITTER - Middle Island mom will care for your child, 5 min. to Lab. 924-2205.

MATH TUTORING - NY certification. 821-0686.

HOME IMPROVEMENTS - design, drawings, blueprints, permits, custom design your renovation, also new homes. 475-6981.

HOME IMPROVEMENTS - licensed, insured. 874-2614.

SHEETROCKING & SPACKLING - reasonable prices, free estimates. Kevin, 563-9855.

BRICKWORK - patios, walks, swim pools, Belgium block, landscape ties, retaining walls, 20 yrs. exp., Lab discount. Tony, 698-9274.

ROOFER - new roofs, re-roofs & repairs, guarantee, licensed, insured, free est., Lab discount. 732-4679.

LAND CLEARING - using excel. rake on JD 450 track loader, $60/hr. w/operator. Tom, Ext. 4084 or 878-1060.

ROTOTILLING - gardens & lawns. Bob, 732-9517.

TREE STUMP GRINDING - Bob, Ext. 4434 or 727-2346.

TREE SERVICES - trimming & removal, concrete work, walks, driveway, patio, etc., free est. Jim, Ext. 4986.

FALL YARD CLEANUP - lawn maintenance & tree removal, in Wading River, Shoreham & Baiting Hollow, low rates. 929-8876.

KAYAK LESSONS - sea kayak, slalom, playboats, rolling, clinic, 5 lessons, $70. Ernie, Ext. 3357 or Tim, 281-7873.

WORD PROCESSING SERVICE - manuscripts, resumes, party banners, quality work, 12-yrs. exp. 924-2012 after 6 p.m.

Ads left out of this issue due to lack of space need not be resubmitted to appear in the next issue.