the Bulletin

BROOKHAVEN NATIONAL LABORATORY

Vol. 54 - No. 34 September 29, 2000

Tin Compound Relieves Bone Cancer Pain

About 75 to 80 percent of patients with prostate, breast, or lung cancer, whose cancers spread to bone, causing severe pain in the later stages of illness. Improving on earlier BNL inventions, Medical Department researchers Suresh Srivastava and George Meinken have refined formulations as well as the methods for making a tin compound that can be applied to pain management of metastasized bone cancer.

The BNL compound targets only the bone, sparing the marrow and soft tissue, but still delivers a highly localized dose of electrons to the tumors to ease pain without sedation.

In the early 1990s, BNL scientists began developing tin-117m DTPA as a possible addition to the arsenal of radiopharmaceuticals for bone-cancer pain relief. They used the High Flux Beam Reactor to

(continued on page 2)

Roger Stoutenburgh D0120900

(From left) Suresh Srivastava, George Meinken, and Zizhong Li, a postdoc who recently joined the group.

Central Shops Lends Key Support to BNL Science

Since 1947, the Central Shops Division (CSD) has played an integral role in BNL science.

In huge machine, welding, and sheetmetal shops or at various facilities on site, CSD workers manufacture one-of-a-kind mechanical parts, fabrications, and devices to meet the needs of the international scientific community. They provide non-destructive testing, x-ray inspection, and computerized measuring-machine capability. Many members of the group have special skills and institutional memory, a unique resource in deciding how to handle new designs and specifications.

"Our people are talented and flexible," says Richard Spellmen, CSD Manager since 1984. "We do a lot of prototypical projects, often to tight deadlines, and we're committed to producing our best efforts for all jobs."

Thomas Lambertson, Assistant Division Manager, is responsible for the overall production activities of the Division. He is assisted by Supervisors Fred Wahlert, Mike Palumbo, Al Farland, and Nick Satterley, and the rest of the production team.

At any time, CSD may have on hand some 125 jobs, each possibly involving from five to 100 blueprints. Three current CSD jobs being overseen by Lambertson are summarized in the following photo captions, below and on page 2.

— Liz Seubert

Roger Stoutenburgh CN8-276-00

Chris Cleary of BNL's Central Shops Division is measuring a snake magnet coil form. Each of these coil forms is made from an aluminum tube with grooves machined into it in spiral fashion. Currently, 96 coil forms are being machined in Central Shops. After coil patterns are installed into the grooves, and the coil forms insulated, they are incorporated into 12 helical magnets to be used in BNL's Relativistic Heavy Ion Collider (RHIC). These magnets are integral components of the spin-polarized proton program at RHIC (see story, right). The magnetic field produced by the spiral pattern causes the protons to spin in the same direction as they pass through the magnets. Each RHIC helical magnet contains eight snake-magnet coil forms.

All-Hands Meeting Monday, 10/2

On Monday, October 2, at 10 a.m., in Berkner Hall, Laboratory Director John Marburger will hold an all-employee meeting on the "State of the Laboratory." The agenda will include BNL's "Site Master Plan" and "Strategic Building Plan," as well as some budget news. All are invited.

D'Angio Retires

Robert D'Angio, who has headed the Human Resources (HR) Division, previously the Personnel Division, since 1981, is to retire on Friday October 13. He will join AUI at the National Radio Astronomy Observatory in Charlottesville, Virginia. Noted BNL Director John Marburber, "This is sad for us because Bob is universally liked and respected, and many people have benefited from his wise and sensitive handling of personnel issues at the Lab."

An article on D'Angio's contributions to BNL will appear in a forthcoming issue of The Bulletin.

Marburger announced that, after consulting with HR senior managers, he will appoint an acting HR Director and form a search committee for a successor. External as well as internal applications will be encouraged.

New Spin On RHIC

On Wednesday, September 20, the first two-week test of transferring, storing, measuring, and accelerating polarized protons at BNL's Relativistic Heavy Ion Collider (RHIC) was completed.

The run culminated in the successful acceleration of beams of polarized protons to the energy of 32 billion electron volts (GeV.)

A magnetic property, spin is an intrinsic angular momentum of elementary particles and nuclei.

Normally, the proton intrinsic spin direction is distributed randomly. To collect and then accelerate protons where most spins are in the same direction, a special source is needed, and then special equipment is required to keep the protons spinning in the same direction as they are accelerated.

A new polarized proton source was installed for the RHIC experiments, a new

(continued on page 2)

Calendar
of Recreational Events

Useful Information:

- *The BERA Sales Office is located in Berkner Hall. It is open on weekdays from 9 a.m. to 3 p.m. For more information on BERA events contact Andrea Dehler, Ext. 3347 or M. Kay Dellimore, Ext. 2873.*
- *Additional information for Hospitality Committee events can be found at the Lollipop House and the Laundry Room — both located in the apartment area.*
- *The Recreation Building is located in the apartment area.*
- *Calendar events flagged with an asterisk (*) have a longer story appearing in this week's Bulletin.*

Every Tuesday

Welcome Coffee
10-11:30 a.m. Recreation Bldg. Newcomers to BNL, come and make friends, learn about the Lab. — Hospitality event.

Every Wednesday

On-Site Playgroup
9:30 a.m.-11:30 a.m. Recreation Bldg. Parents can meet while children play. Free, drop in any time. Monique de la Bey, 399-7656. — Hospitality event.

*Yoga Practice Sessions
Free, 12:10-12:50 p.m.
Recreation Bldg.
First class: 10/11
More information: Ext. 3924.

Every Tues. & Thurs.

Aerobic Dance
5:15 p.m., Recreation Building $4 per class or $35 for any 10 classes. Pat Flood, Ext. 7886, Susan Montelone, Ext. 7235.

Every Mon., Tues., & Thurs.

Cardio Kickboxing
Day Classes, Mon., Thurs.
noon-1 p.m.
Evening Classes
Tues., Thurs., 5:15-6:15 p.m.
Mary Wood, Ext. 5923, wood2@bnl.gov.

— THIS WEEK —

Friday, 9/29

*Voicestream Wireless Demo
10 a.m.-2:30 p.m., Berkner Hall lobby. Richard Goll (516) 343-5900.

Softball League Party
5:30 p.m. Brookhaven Center Andrea Epple, Bldg. 51M.

—WEEK OF 10/2 —

Monday, 10/2

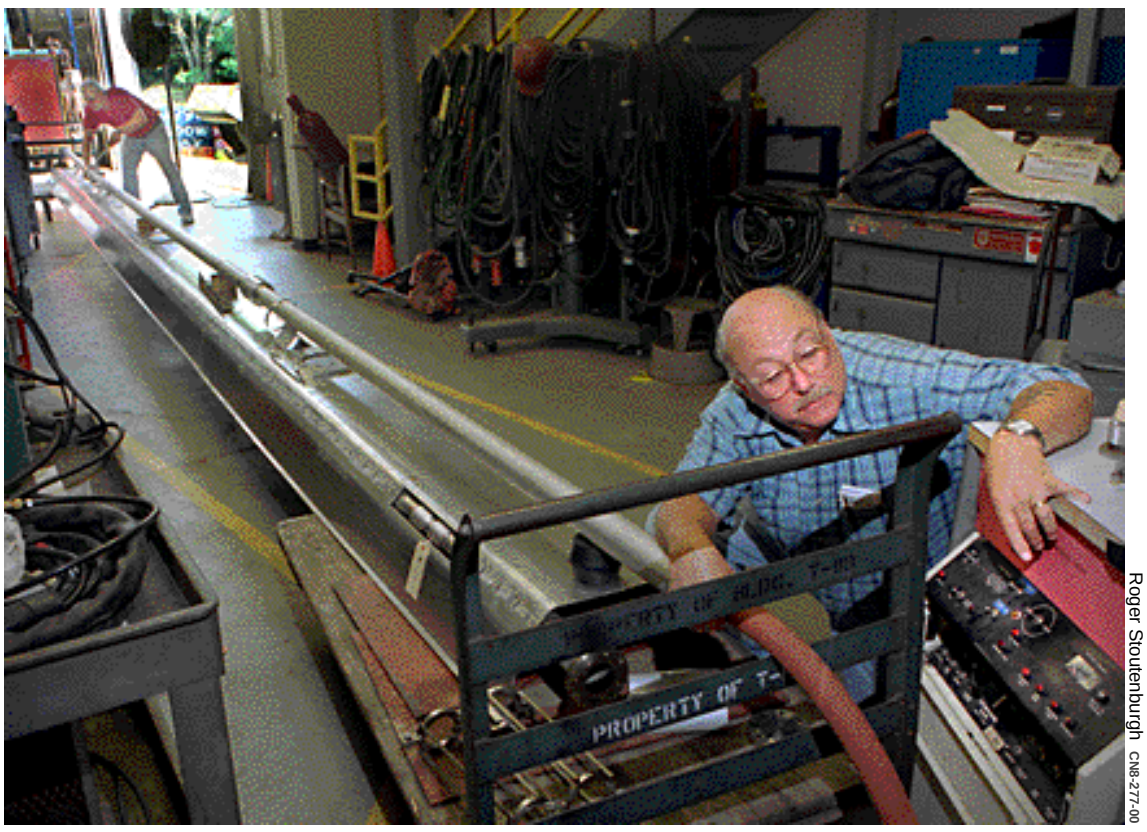
*EMT Refresher Course
$75 /Volunteers
$695 /Paid Responders
Mon., Wed., 7-10 p.m., Bldg. 490 Conference Room. George Glew, 395-4851.

— WEEK OF 10/9 —

Tuesday, 10/10

*BNL Toastmaster Club
Bldg. 643, Room 157
7-9 p.m.
2000 Humorous Speech and Table Topic Contest from the five clubs of Area 63. Free, all are invited.

BNL's Central Shops Lends Key Support *(cont'd.)*



Roger Stoutenburgh CN8-277-00

Sheet Metal and Welding Supervisor Al Farland (front) and Gene Sorensen, both of BNL's Central Shops Division, are conducting a vacuum leak check on a tube from a lower heat shield of a RHIC magnet. The beam pipe in which RHIC's ions travel is visible slightly below and to the left of Farland's right hand. This type of evaluation is an example of Central Shops' nondestructive, on-site testing capability.

Roger Stoutenburgh CN8-278-00

Elisabeth Deazley and Edward Losee, both of BNL's Central Shops Division, inspect a component of an exit chamber being manufactured in Central Shops as part of an upgrade to the x-ray ring at BNL's National Synchrotron Light Source (NSLS). The upgrade, which will result in a more intense beam, will cause an increase in temperature in the ring. Three new exit chambers will compensate for the heat increase. Over 12 feet long when assembled, the chambers must be constructed to an exacting five-thousandths of an inch tolerance. The first chamber will be incorporated into the ring in December.

Pine Barrens Forum Registration

The Lab community may register for a day of technical discussions and a half-day in the field at the 5th Annual Pine Barrens Research Forum, to be held at BNL on Thursday and Friday, October 12 & 13. Free and open to all, the forum is sponsored by the Central Pine Barrens Commission, the Long Island Groundwater Research Institute (LIGWRI), and BNL. To register, contact LIGWRI, 632-6912; fax 632-8820, or edoyle@notes.cc.sunysb.edu.

New Spin on RHIC *(cont'd.)*

device was installed in RHIC to measure the proton degree of polarization, and a special string of magnets was installed in RHIC to maintain the polarization through acceleration. The magnet string was invented at Novosibirsk, Russia, and was dubbed a "Siberian Snake" by Ernest Courant of BNL.

This test used polarized protons from the new source, accelerated the protons in the AGS, and transferred the protons to RHIC. The new polarimeter measured stable polarization at RHIC, at injection, and after acceleration. When the Siberian Snake was turned off, no polarization was seen after acceleration.

"This source, the new polarimeter, and the snake all worked beautifully," said Gerry Bunce, Co-spokesperson for the RHIC Spin Collaboration. "This was the first stored and accelerated polarized proton beam at these energies, and the first use of a Siberian Snake at high energy."

The ultimate goal is to collide spin-polarized proton beams together next year to yield insight into the spin structure inside the proton. RHIC is the first machine in the world capable of colliding such beams.

Both Thomas Roser, Spokesperson for the RHIC Polarized Proton Collider Project, and Bunce emphasize that this successful commissioning was due to many groups, from the Collider-Accelerator Department, the RIKEN BNL Research Center, the Instrumentation Division, and the Superconducting Magnet Division at BNL, and to many groups worldwide, including RIKEN, KEK, ITEP-Moscow, Argonne, Universities of New Mexico and Indiana, and members of the STAR and PHENIX collaborations. Funds for the Siberian Snake and polarimeter were provided by RIKEN, Japan.

Tin *(cont'd.)*

turn regular tin (tin-117) into the isotope tin-117m, then attached diethylenetriaminepentaacetic acid, or DTPA, which helps the tin reach the bone without being sidetracked by interactions with the blood or being taken up into soft tissue. After initial tests, the researchers assessed the therapy in animals and then in human patients in an initial clinical trial.

The improved formulations and methods . . . minimize potential side effects.

Because the compound emits a weak gamma ray, it also allows physicians to use sophisticated imaging equipment to pinpoint where in the body it has traveled.

As described by U.S. Patent 6,004,532, the improved formulations of tin-117m and improved methods for making the tin compound reduce the amount of unchelated DTPA administered to the patient, minimizing potential side effects caused by the presence of unchelated DTPA in the patient's body.

Because unchelated DTPA is soluble, that is, free to attach to other molecules in the body, the researchers were intent on refining the formulations so that each molecule of DTPA could react with a molecule of tin, binding to the tin. As Meinken explained, "Excess amounts of DTPA can be toxic to the body."

The improved formulation delivers a lower amount of DTPA to the body, allowing for higher doses of the radiopharmaceutical to be used for cancer treatment.

This latest patent, issued in December of 1999, is the third in a series, showing continued research and development of the tin compound. The first patent was issued in 1985 to Srivastava, Meinken, and Powell Richards, and covered the tin-117m DTPA compound itself. Srivastava, Meinken, Harold Atkins, and Leonard Mausner hold a 1998 patent that describes pain palliation.

Higher doses can be used for cancer treatment.

All three patents are licensed by Diatide Research Laboratories, Division of Berlex Laboratories, Inc. Diatide and BNL also have had collaborative research and development agreements, or CRADAs, to work jointly on the tin compound.

The previous CRADA supported a Phase II clinical trial for bone pain palliation, as well as the development of the new chelate formulation. The current CRADA extends the research effort with tin-117m DTPA by evaluating its use in the treatment of primary bone cancer. — Mona S. Rowe

Toastmasters Club Hosts Humor, 10/10

The BNL Toastmasters Club will host the Toastmasters International Humorous Speech and Table Topics Contest on October 10, at 7 p.m. in the Biology Seminar Room, Building 463.

The contestants will be the contest winners of the five clubs that make up the local Toastmasters' area. First and second place winners will go on to compete in the Division F contest, October 12, 7 p.m., Metropolitan Life Building, Hauppauge. Entrance is free and open to all.

Toastmasters International is dedicated to helping men and women improve their public speaking and leadership skills.

The BNL Toastmasters Club, open to both employees and non-employees of BNL, holds three meetings each month at the Lab's Biology Department, Bldg. 463. For more information contact Beth Lin, Ext. 3372, or Nancy Manning, Ext. 5744.

Yoga Practice

The BERA Indo-American Society invites you to participate in Yoga Practice Sessions. Sessions will begin on Wednesday, October 11, and are held every Wednesday in the Recreation Building, from 12:10 to 12:50 p.m. A typical session will include Breathing Exercises, Sun Salutation, Asanas (postures), and relaxation. Wear loose clothing and bring a thick mat or blanket. Classes are free, but space is limited. Call Ext. 3924 for more information.

Voicestream Demo Today

Today, Friday, September 29, 10 a.m.-2:30 p.m. in Berkner Hall, Voicestream Wireless will discuss special rates for BNLers for digital PCS wireless services on the GSM network.

All service plans include free caller ID, voice mail, and SMS messaging. Other options include a new family plan for two phones, special international calling and roaming. For more information, call Richard Goll, (516) 343-5900.

NYS Emergency Medical Technician Refresher Course

The BNL Fire Rescue Group and the Shirley Volunteer Ambulance Company are hosting a New York State Emergency Medical Technician (defibrillator) refresher course. The refresher course will begin on Monday, October 2, and will be held on Monday and Wednesday nights from 7 to 10 p.m. in the Bldg. 490 conference room. The skills final exam is scheduled for December 7, and the written final on December 14. The registration fee, payable to Shirley Community Ambulance, is $75 for volunteers and $695 for paid responders. For more information contact George Glew, lead instructor at 395-4851.

BERA Golf Tournament

Join the BERA Golf Association (BGA) for its end-of-the-year golf tournament to be held at the redesigned Calverton Links on "Lucky Friday," October 13.

The format will be a 2-person best ball (with mulligans). The BGA member costs is $37, which covers golf, cart, a bag of balls, and $5 in the pro-shop toward prizes. Cost for non-members is $57. For more information, contact Jeff Williams, Ext. 5587, or jwilliams@bnl.gov.

Bravo, Instructor Rundlett!

Michael Herbert CN9-4-00

Buzz Rundlett (right), a BNL training instructor, became an official member of BNL's Training & Qualifications "10,000 Club" when he completed training his 10,000th employee, Cleveland Rountree, a subcontractor with the Plant Engineering Division.

Cleveland Rountree, a subcontractor employee with the Plant Engineering Division received a surprise when he attended BNL's General Employee Radiation Training on September 5. Buzz Rundlett, the training instructor for the course, was waiting to present an award to his 10,000th training participant, and Cleveland had signed in seventh, which secured him that spot. Buzz, a familiar face in the Lab classroom since joining BNL's safety and health training staff in 1993, presents a variety of industrial safety and health training courses, including the site's orientation program, in which he welcomes new staff to the site. To mark this occasion, Cleveland received a box of candy, and Rundlett was inducted as an official member of BNL's Training and Qualifications 10,000 Club.

2000 Healthfest BNL Health, Fitness & Safety Fair

The Lab's eighth Healthfest is being sponsored by the Director's Office to encourage BNLers to take personal responsibility for their individual and family's health, fitness, and safety. The hope is that employees and retirees who attend Healthfest 2000 — scheduled for Monday through Thursday, October 23-27 — 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 23**, the festivities will begin with the **2-mile Fitness Walk**. Rain or shine, it will start at 12:05 p.m. and leave from the Science Education Center, Bldg. 438. The first 200 registered participants will receive a Healthfest 2000 T-shirt. Contact: Renée Flack, Ext. 3316, or Patti Bender, Ext. 3145. Before the walk, an **Aerobic Stretch** will be offered by Health South, 11:45 a.m.-12:05 p.m. Contact: Pat Flood, 7886. Then, on **Tuesday, October 24**, the pace will be picked up with a **5-kilometer (3.1-mile) Fitness Run**. Organized by the BNL Road-runners Club, the run will start at the Biology Department, Bldg. 463, at noon, rain or shine. It will also be preceded by an **Aerobic Stretch**, 11:45 a.m.-12:05 p.m. The first 100 registered participants will receive a Healthfest 2000 tee-shirt. Contact: Laura Miller, Ext. 3259, or Peter Pohlot, Ext. 5600.

The two-day **Health, Fitness & Safety Fair** will be held 11 a.m.-2 p.m. on **Wednesday and Thursday, October 25 & 26,** featuring displays, demonstrations, and health screenings. Registration is required for massage, for foot screening, and a hearing test. At noon on **Wednesday, October 25**, a **Mountain Bike Ride** through the fireroads of the Lab will start at Bldg. 438, with bike and helmet required. Contact: Augie Hoffmann, Ext. 3884, or Peter Pohlot, Ext. 5660. Also at noon, the ANIMA ensemble will play Brazilian folk music in Berkner Hall. On **Thursday, October 26,** 11:30 a.m.-1:30 p.m., a **Tennis Skills & Play Workshop** will be given with prizes. Registration is required. Contact Joe Carbonaro, Ext. 5139. A lecture on stress management will be given at Berkner at noon that day also. Contact: Dianne Polowczyk, Ext. 4567. On **Friday, October 27**, improve your golf game with a Golf Skills Workshop. Registration is required: contact Jeff Williams, Ext. 5587.

To register, use the form below or the form recently mailed to all employees. For more information, contact Mary Wood, Ext. 5923.

Arrivals and Departures

Arrivals

William C. Dawson
Collider-Accelerator Department

Departures

John M. Fish
Reactor Division

Joseph B. MacKenna
Reactor Division

William C. Pemberton
Radiological Control Division

Klaus Schroer
Biology Department

2000 Healthfest BNL Health, Fitness & Safety Fair

Registration Form

Name _____
Life # _____ Ext. _____
Dept./Div. _____ Bldg. _____
e-mail _____

I would like to participate in the following (please check):

- ❑ **Aerobic Stretch** (rain or shine) Monday, October 23, 11:45 - 12:05 p.m.
- ❑ **2-mile Fitness Walk** (rain or shine) Monday, October 23, 12:05 - 1 p.m.
- ❑ **Aerobic Stretch** (rain or shine) Tuesday, October 24, 11:45 - 12:05 p.m.
- ❑ **5k Fitness Run** (rain or shine) Tuesday, October 24, 12:05 - 1 p.m.
  Sex: ❑ female ❑ male
  Age on day of run: _____

Podiatry Foot Screening
- ❑ Wednesday, October 25, 11 a.m. - 2 p.m.
- ❑ Thursday, October 26, 11 a.m. - 2 p.m.

Hearing Screening
- ❑ Wednesday, October 25, 11 a.m. - 2 p.m.
- ❑ Thursday, October 26, 11 a.m. - 2 p.m.

Massage
- ❑ Wednesday, October 25, 11 a.m. - 2 p.m.
- ❑ Thursday, October 26, 11 a.m. - 2 p.m.

- ❑ **Mountain Bike Ride** Wednesday, October 25, noon - 1 p.m.
- ❑ **Stress Management** Thursday, October 26, noon - 1 p.m.
- ❑ **Tennis Skills / Play Workshop** Thursday, October 26, 11:30 - 1:30 p.m.

Golf Skills / Clinic
Friday, October 27
- ❑ 11:30 - 12:30 p.m.
- ❑ 12:30 - 1:30 p.m.

Please return this completed form by Friday, October 13, 2000 to: Mary Wood, Bldg. 490

Calendar *(continued)*

Wednesday, 10/15

Noon Recital
Award-winning pianist Leon Livshin, SUNY Stony Brook, will play at Berkner Hall , noon-12:45 p.m. Free, all welcome.

Friday, 10/13

*Golf Tournament
BERA Golf Association tournament. Contact: Jeff Williams, Ext. 5587, jwilliams@bnl.gov.

Saturday, 10/14

N.Y.C. / Planetarium
$19 /person
Do your own thing, or visit the Planetarium, or the American Museum of Natural History. Bus will stop: (1) North side of Museum at West 81st Street. (2) Rockefeller Center area. Departs: Brookhaven Center 11 a.m. Returns: 7 p.m. — BERA event.

Sunday, 10/15

Walk to Fight Breast Cancer
Walk on the Jones Beach Boardwalk for the American Cancer Society in "Making Strides Against Breast Cancer." Information, volunteer registration packets are available in the BERA Sales Office. — BERA event.

— WEEK OF 10/23 —
**Healthfest this week.*

Monday, 10/23

*Healthfest 2000 Walk
12:05 p.m.
(Stretch at 11:45 a.m.)

Tuesday, 10/24

*Healthfest 2000 Run
12:05 p.m.
(Stretch at 11:45 a.m.)

Wednesday, 10/25

*Healthfest Health Fair
11 a.m. - 2 p.m.

*Mountain Bike Ride
noon

Brazilian Folk Music Recital
noon recital
8 p.m. concert
Berkner Hall
ANIMA ensemble performs traditional Brazilian, early music.

Thursday, 10/26

*Healthfest Health Fair
11 a.m - 2 p.m.

*Tennis Fitness Workshop
11:30 a.m.-1:30 p.m.

Friday, 10/27

*Golf Fitness Workshop
11:30 a.m. - 1:30 p.m.

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

2000 Softball Champions

Roger Stoutenburgh CN9-30-00

The Blue Jays of League E1 flew off as winners for the second year in a row, quenching the Magnuts. The Blue Jays are: Pat Browne, Tirre Farmer, Larry Musso, and captain Gerry Shepherd. Not present are: John DiBiase, Jim Forkin, Bill Fox, Ed Gavin, Keith Greiner, Dennis Hall, Paul Infranco, Chris Ingoglia, Alan Jones, Bob Medina, Mike O'Connor, George Oldham, and Jim Rowehl.

Roger Stoutenburgh CN9-34-00

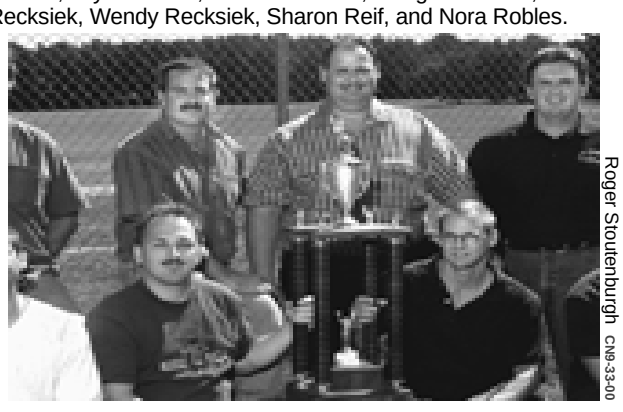
Team Sure Fire sure could be sure of carrying off the League E3 championship — its fourth year running! The Sure Fires include: (front, from left) Greg Stawski, Anthony Mantone, co-captain Jim Lacy, and co-captain Joe DeVoe; (back, from left) Andy Salamone, Mike Rao, Denis Joyce, Captain Steve Eckhoff, and Steve Springsteen. Not present are: John Berry, Dan Carneiro, Bob Danowski, Jerry Magee, Phil Marino, Greg Meyer, Boyze Singh, Frank Trapani, John Willi, and Don Zaharatos.

Roger Stoutenburgh CN9-31-00

Happy Hour of League M1 took its time and beat the Gour-Mets. The Happy Hours include: (front, from left) Debbie Brudban, Dolly Johnson, Joanne McNaught, captain Phil Baker, Claudia Jones, and Izzy Garcia; (back, from left) Mike Caruso, Kathy McNeely, Jay Caruso, Lyn Fountaine, co-captain Tierre Farmer, Tony Begley, and Sue Cataldo. Not present are: Tage Carlsson Jr., Linda Farmer, Chris Hanson, and Alan Jones.

Roger Stoutenburgh CN9-32-00

Hounds & Foxes hunted victory in League M2 over the Guzzlers. They include: (front, from left) Kimberly Pellechi, captain Onarae Rice, and Darcy Mallon; (back, from left) Kay Conkling, Pat Moylan, and Leonare Dudzick. Not present are: co-captain Bob Colichio, Alexis DiMaio, Troy Emberton, Andrew Gifford, Bryan Horan, James Jandine, Doug Marsteller, Lee Micheal, Pete Recksiek, Wendy Recksiek, Sharon Reif, and Nora Robles.



Roger Stoutenburgh CN9-33-00

The Hammerheads team pounded the Gas House Gorillas to win in League E2. The Hammerheads are: (front, from left) Rob Scott, co-captain John Hale, Mark Renner, and Reggie Sanchez; (back, from left) Tom Roberts, Dennis Ryan, Greg Herman, and captain Pat Moylan. Not present are: Al Boerner, Joe Casey, Bob Colichio, Craig Diaz, Jim Meier, and Dorian Mergan.

Classified Advertisements

LABORAT0RY RECUITMENT - Opportunities for Laboratory employees

DD7382. OFFICE SERVICES POSITION (Term Appointment) - Requires an AAS degree in secretarial science or equivalent experience, excellent typing and communication skills, knowledge of Microsoft Word and the Records Management Database. Will act as an assistant to the Reactor Division's Records Representative by conducting the inventory process, updating the Records Management Database, performing other various records management tasks and functions such as packing record boxes. Extensive lifting and climbing required. May be asked to provide support to other groups of the Reactor Division as needed. Reactor Division.

OPEN RECRUITMENT – Opportunities for Laboratory employees and outside candidates.

MK8390. ASSOCIATE SCIENTIST POSITION – Requires a Ph.D. in Chemistry with extensive background in environmental sciences. Specific knowledge of DOD and DOE environmental issues and research programs, including natural attenuation though microbial bio-reduction, radioactive waste treatment, thermodynamic modeling, how the geochemical separation of a metal influences its transport and fate in the geologic systems, groundwater remediation and the phytoremediation. Environmental Sciences Department.

MK9004. SCIENTIST – Requires a Ph.D. in biochemistry or biophysics and experience in macromolecular crystallography. Will be responsible for developing, operating, and maintaining a National Synchrotron Light Source beamline devoted to work in this field. In addition to these responsibilities, will support a user program, develop a program of original or collaborative research that effectively utilizes the facility's capabilities, be responsible for supervising support staff, and preparation of grant applications, reports and publications. Under the direction of R. Sweet. Biology Department.

MK9006. SCIENTIST - Requires a Ph.D. in biochemistry or biophysics and experience in macromolecular crystallography. Will develop and operate a program for remote measurement of data for research in this field and provide specialized user support within the consortium for macromolecular crystallography formed by Biology Department and the National Synchrotron Light Source Department. In addition, will be expected to develop a program of original or collaborative research that effectively utilizes the facility's capabilities, be responsible for supervising support staff, and preparation of grant applications, reports and publications. Under the direction of R. Sweet. Biology Department.

MK8633. POSTDOCTORAL RESEARCH ASSOCIATE – Requires a Ph.D. in physics, chemistry, or materials science and a strong background in instrument development. Experience with neutron scattering is highly desirable. Position is with the Center for Neutron Science to work on the design and development of a triple axis spectrometer at the new cold source at the HFIR in Oak Ridge, Tennessee. Under the direction of J. Hastings. National Synchrotron Light Source Department.

DD8619. DIAGNOSTIC TECHNICIAN POSITION – Will work in a small group constructing and testing custom VME based laboratory instrumentation. Responsibilities range from prototyping to final testing and installation of controls and diagnostic equipment. Work will be done under the direction of a group supervisor while working closely with engineers and physicists. Work involves feedback systems, high-speed precision data acquisition, and timing controls. Requires a thorough knowledge of digital and analog electronics. Familiarity with high-speed analog and RF techniques is desirable. Must be able to use standard test equipment and work from schematics, rough sketches and verbal instructions. BSET preferred. National Synchrotron Light Source Department. (Reposting)

TB9046. RESEARCH SERVICES POSITION (Term Appointment) - Requires 18-24 months prior experience in laboratory setting to perform routine laboratory procedures. This includes preparation of buffer solutions for biochemical assays, chromatography, work-up of animal tissues for determination of radioactivity by liquid scintillation counting and gamma counting, and data input into computer applications. Medical Department.

the Bulletin

Published weekly by the Media & Communications Office for the employees, facility-users, and retirees of Brookhaven National Laboratory.

LIZ SEUBERT, editor
JOHN GALVIN, reporter
ROGER STOUTENBURGH, photographer

On the World Wide Web, the Bulletin is located at www.pubaf.bnl.gov/bulletin.html. A Weekly Calendar listing scientific and technical seminars and lectures is found at www.pubaf.bnl.gov/calendar.html.

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