

Booster Proves Its Worth As AGS Gets Intense

The Alternating Gradient Synchrotron (AGS) has bested itself once again, setting a record for the intensity of its proton beam over the July 4th weekend.

With the help of the recently constructed Booster and other improvements, the beam delivered 2.36×10^{13} protons per pulse (p/p) to experimenters. Only two weeks ago, it broke the 2.2×10^{13} barrier for the first time, going beyond the intensity expected for all of 1993.

As of now, both the Booster and the AGS hold the intensity records among the high-energy proton synchrotrons in the world.

"This is a major milestone on the way to even greater efforts," predicted AGS Department Chairman Derek Lowenstein. "The AGS Holy Grail for the past several years has been to break the 2×10^{13} p/p barrier. With the Booster and the new AGS subsystems, the machine rapidly worked its way up in intensity and now chugs along at these new levels."

Lowenstein said high-energy physicists looking for rare phenomena need the beam intensity. "In order to look at these rare processes, you have to have enough beam intensity to produce and detect them in a finite period of time," he said.

Cooperation Is the Key

Lowenstein credited the achievement to cooperation among staff in many BNL groups, including AGS, RHIC Project, Physics Department, and Plant Engineering and Central Shops Divisions.

"This has taken the efforts of hundreds of people, and thousands of work-years worth of effort," Lowenstein said. "You have to remember that when the AGS was built it was supposed to accelerate 1×10^{10} protons, but now we're 2,000 times more intense, and hopefully we'll get to three times the present record [6×10^{13} p/p]."

"A significant increase in the intensity of a machine after decades of intensity tuning doesn't just happen," said Leif Ahrens, Associate Head of the AGS Accelerator Division. Many recent improvements aided in achieving the present record.

First among these is the Booster, which was completed and first accelerated beam in 1991 under the leadership of AGS Accelerator Division Head Bill Weng. The Booster was subjected to a two-month dedicated study this spring, a major subject of which was the correction of "stopbands."

AGS Physicist Christopher Gardner and others spent many shifts pinpointing these unavoidable beam-



Recent record-smashing proton intensities at the Alternating Gradient Synchrotron (AGS) topped 2.36×10^{13} at presstime, due in part to the newly constructed Booster. Tuning the AGS to achieve these high intensities are AGS Main Control room personnel: (left to right) Keith Zeno, physics associate; Bob Diem, senior operator; Henry Ashby, operator; and Neville Williams, operations coordinator.

draining resonances and counteracting them using correction magnets. Following the study period, the Booster beam was both higher in intensity and smaller in size, thus allowing much more beam to get across to the AGS.

"By May of this year, the Booster could already transfer twice the beam needed for this record," Ahrens explained. "But, to accelerate higher intensities in the AGS, we have to hold on to it efficiently."

In anticipation of this challenge,

AGS Physicist Mike Brennan and his group finished commissioning a new low-level radio frequency (rf) system, while AGS Research Engineer Jon Sandberg and his team upgraded the hardware and controls of the main magnet power supply.

Future Holds Even More Goals

New rf "gymnastics" executed on the old rf system, plus some essential "tuning" developed by the machine operators allow the high-intensity beam to survive with little loss the tricky moment in the acceleration cycle known as transition, according to Ahrens. A new transverse damper, developed under the guidance of AGS Physicist Thomas Roser, also helps guard against horizontal and vertical instabilities at these high intensities.

AGS accelerator experts are proud of their accomplishment, but they aren't resting on their laurels. New goals for accelerating protons, heavy ions and polarized protons are on the horizon, as are new AGS rf power amplifiers that won't be overwhelmed by the ever-increasing intensities.

In addition to being able to handle much more intense beams, the new AGS rf system is also needed to meet the stringent beam-quality requirements for heavy-ion injection into the Relativistic Heavy Ion Collider (RHIC) when it comes on line toward the end of the decade.

— Kara Villamil

New Manager, Inspector Head Police Group

Recent changes in BNL's Police Group (PG) have elevated two former Patrol Officers to the helm of the Lab's security forces.

Alfred Berretta has been appointed Police Group Manager, Leonard Butera replaced Berretta as PG Inspector as of May 1.

In his new position, Al Berretta plans, organizes, manages and directs the activities of approximately 75 officers and support staff in the Police Group, which is charged with protecting U.S. Department of Energy (DOE) and BNL security interests. He replaces Russel Reaver, who had been promoted to Manager of the Safeguards and Security Division (S&SD) in January.

Berretta started work as a BNL patrol officer 30 years ago, on July 1, 1963. He was promoted to Sergeant in 1974, Police Captain in 1977 and Police Inspector in 1984. He served as PG Acting Manager from January 1 until his present appointment became effective in March.

A Ribbon for Heroism

Berretta had served in the U.S. Marine Corps from 1955-59. He then worked for a year at Republic Aviation and, afterwards, became a construction contractor. "Some hard winters made me think about a career change," he said.

He attended Suffolk Community College's Criminal Justice Program, and, since coming to BNL, he has taken at least 20 on-the-job training courses, from DOE's crisis management and management development courses to an FBI course on interrogation.

Berretta has received 25 formal certificates of congratulations from DOE, BNL and other organizations for exceptional on-the-job performance. In addition, he has been awarded all six ribbons for which PG staff are eligible. Issued by BNL, the ribbons recognize excellence in various aspects of police work.

Along with Patricia Cahill, who today is an assistant security specialist in S&SD, Berretta was the first Patrol Officer to receive a ribbon for heroism.

Berretta explained, "I was leaving the Lab after working an evening shift at about 12:30 a.m. on December 20, 1976. We had a storm that day, and I saw some heavy branches blocking the incoming road at the Lab entrance. I pulled over, and walked over to that lane to pick up the branches, but, to my surprise, I saw a car buried underneath them.

"A person was hemmed in the car, and gas was leaking from the tank," Berretta continued. "I immediately drove to the front gate and asked Pat Cahill, the patrol officer there, to notify the fire and police groups, and to help me extricate the car's driver. The two of us were able to get her out of the car unharmed."

Berretta reflected on his recent advancement: "I'm the



Police Group Manager Alfred Berretta (seated) with Inspector Leonard Butera.

only person who worked through the ranks from Patrol Officer to Police Group Manager. It was one of my goals, and I worked hard for it. I think it is morale-building for other patrol officers to know that this is a possible career path for them."

In the position of PG Inspector, Leonard Butera supervises the daily operations of the PG. He assists in the planning, organizing and executing of PG activities.

Butera began his career at BNL as a Patrol Officer in 1986. He was promoted to Lieutenant a year later, and about a year-and-a-half afterwards, became Captain. In 1992, he became Supervisor of S&SD's training, a position he maintained until he was appointed Inspector. After earning a bachelor's degree in criminal justice from C.W. Post College, Butera worked as an insurance investigator and as a private investigator, 1978-86.

"In spite of a decrease in DOE security programs staff, there continues to be a heavy emphasis on protective forces in evaluating security systems. Therefore, I think my new position will continue to be challenging," Butera said.

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

Construction Along Ring Road

If you're planning to walk, jog or bike along Ring Road, inside the Relativistic Heavy Ion Collider, be aware that construction is now going on to fill in the 10 and 12 o'clock experimental facilities and to complete the magnet enclosure.

Bulldozers and other heavy excavation equipment will be sharing the road for about two years, so be careful as you pass through this area.

A³ Continues Mission of Equality



Continuing their effort to assure the Lab's commitment to equal employment opportunities and affirmative action, members of the Affirmative Action Advisory Committee, also known as A³, meet monthly. Each of the committee's nine members is appointed to a three-year term by the Laboratory Director; the Chair is elected by the Committee.

Over the past year, the group has remained committed to an ongoing review of the equal opportunity efforts of each of the Lab's departments and divisions. Committee members interview each department chairman or division head, and discuss their affirmative-action efforts. The committee also schedules follow-up meetings to review their progress.

During committee meetings, interactive discussions take place on cultural diversity, women's issues, the Americans With Disabilities Act and other current equal-employment opportunity issues. Monthly minutes are sent to the Directorate, who also receive and discuss the committee's annual report. In addition, for the past several years, the Committee has coordinated a Career Awareness event for area high school students.

Pictured at their May meeting are: (standing, from left) newly appointed member Hue-Anh (Ann) Pham, Alternating Gradient Synchrotron (AGS) Department; Glenn Jennings, Assistant to the Director for Equal Opportunity, ex-officio; newly re-elected Committee Chair Sandra Sullivan, Department of Nuclear Energy (DNE); Committee Secretary Nanci Hoey, Office of Equal Opportunity (OEO); Frances Ligon, OEO, ex-officio; (seated, from left) Barbara Pringle, Contracts & Procurement Division; Marsha Kipperman, Personnel Division, ex-officio; Greg Bagley, RHIC Project; and newly appointed member Myron Strongin, Physics Department. Missing are: Randolph Church, National Synchrotron Light Source Department; Juanita Heyliger, Management Information Systems Division; Bruce Penn, DNE; William Sells, Safety and Environmental Protection Division; and Women's Program Coordinator Victoria McLane, ex-officio.

Software Demo

Merritt Jones from the IBM Federal Systems Company will give a presentation on distributed computing on Thursday, July 15, at 10 a.m. in the CCD seminar room, Bldg. 515. He will discuss high-performance computing, high-speed networking, high-performance file serving and visualization interfaces. For information, call Ken Hammer, Ext. 7311.

Volunteers Needed

Volunteers are needed for a fee-paid, brain-imaging study. Participants must be healthy males, ages 18-50, without a history of substance abuse. They must also have a parent and at least one sibling with a past or current alcohol problem.

Anyone interested in volunteering should call Naomi Pappas, Ext. 2694.

Science Is Fun on Summer Tours



A young visitor confronts his image at BNL's Science Museum.

Photos in this issue by Roger Stoutenburgh

If you work at BNL, you may think you know the place pretty well. But did you know there's somewhere on site where whispers travel around corners, hair stands on end, shadows linger on walls and everyone has fun while learning?

All of that and more happens at the BNL Science Museum, which, beginning next Sunday, July 11, will welcome visitors for eight consecutive Summer Sundays.

Medicine, crystallography, nuclear science, physics, chemistry and BNL's history all come alive in the museum's free Summer Sundays tours. A multimedia visual display and a guided bus tour of the site also highlight Brookhaven's world-class

scientific research.

BNL employees and summer visitors, and their families, are welcome to join the general public on the tours, which enter their 16th season as a Lab tradition this year.

On Sundays from July 11 through August 29, tours will start at Berkner Hall every 15 minutes between 10 a.m. and 3 p.m. They last about two hours, giving you as much time as you want to explore the Science Museum. Tour guides will be stationed throughout the museum, guiding visitors and leading exciting, participatory demonstrations of the fascinating properties of sound, static electricity and carbon dioxide.

— Kara Villamil

On-Site Service Station Under New Management

The signs aren't up yet, but Upton Industries — the new name for the on-site service station — is open for business. Since July 1, the station has been operated by a new contractor, Bill Widmer, a former New York City policeman who has been in the auto repair business since 1957.

Working with Widmer is master technician Ed Beedenbender, who comes to this station after 14 years with Toyota. Also on board is Widmer's son Jason, to whom he is "teaching the business."

This crew is ready now to service your automobile with "top quality stock at low prices," said Widmer, who also promised "top quality diagnosis and service with no hidden costs." And they're ready to pump Gulf gas, which Widmer said is priced competitively with local stations. For example, on July 6, Upton Industries' official opening day, regular gas was priced at \$1.19⁹ per gallon.

At the moment, the station cannot do New York State inspections, although that license is expected around the end of this month. Widmer explained that he was able to apply only after the contract was signed, just a few days before it became effective, and the process is being expedited.

By today, Widmer and his crew expected to be sporting their new uniforms, and he anticipates the arrival of signs and credit card machines within a few weeks. Widmer will also be working with the Staff Services Division to upgrade the station's overall appearance.



Service Awards

The following employees celebrated their BNL/AUI service anniversaries during June 1993:

- Forty-Five Years**
 Andrew Brems Jr.....Ph. & Gr. Arts
Thirty-Five Years
 Albert M. Roberts.....Physics
Thirty Years
 Barry S. Arbeit.....Comp. & Comm.
 Henry G. Bornbusch.....Plant Eng.
 Frank DeVito.....Comp. & Comm.
 Ralph C. Helmig.....Physics
 Randolph Philips.....S&EP
 Harold W. Sauter.....Physics
 Richard J. Tache.....Reactor
Twenty-Five Years
 Antoinette M. Fridae.....App. Science
 Patrick R. Gilleeny.....Instrum.
 Richard T. Imossi.....AGS
 Thomas J. Reisig.....Sup. & Mat'l.
Twenty Years
 Elinor Adams.....AUI
 Richard R. Froelich.....Plant Eng.
 Joyce M. Robinson.....S&EP
Ten Years
 Peter J. Abrams.....Plant Eng.
 Josephine Fanizza.....Adv. Tech.
 Diane R. Hatton.....Chemistry
 Linda M. McCarthy.....S&EP
 Doris E. Tooker.....Dir. Off.

Arrivals & Departures

Arrivals

- David J. Albinus.....Saf. & Env. Prot.
 Elliott A. Eklund.....Physics
 Richard A. Scott.....Reactor
 Arthur Stiegler.....Saf. & Env. Prot.
 Ping Wu.....Chemistry

Departures

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

- Charles E. Anderson.....RHIC
 Joseph Cherunto.....Plant Eng.
 Rosemary C. Cohen.....Tech. Info.
 Michelle K. DiMartino.....Reactor
 Steven Gottlieb.....Physics
 Robert B. Gottschalk.....RHIC
 Christian H. Harbach.....RHIC
 Jack E. Insinga.....RHIC
 Frank G. Kedenburg.....Sup. & Mat'l.
 Robert Kowalski.....RHIC
 Keith M. Kraemer.....AGS
 Antonio Mazzola.....RHIC
 Kenneth G. Morton.....RHIC
 Francis J. Mottl.....RHIC
 John N. O'Brien.....Adv. Tech.
 Erno A. Ostheimer.....RHIC
 Andre J. Sollowen.....RHIC
 Joanne E. Thuilot.....Sfgrds. & Sec.
 Ku-Ding Tsuei.....Physics
 Yaw-wen Yang.....Chemistry



On June 21, Janet Tempel (center), Head of the Tour Program and the Science Museum of the Public Affairs Office, led members of the Long Island Museum Association (LIMA) on a tour of the interactive children's programs in the Science Museum. Tempel is the president of LIMA, a corporation of museums and historic sights. Here, she helps some LIMA members peer through Wentzscopes, which are powerful microscopes used in the museum to examine L.I. beach sand and ticks carrying the Lyme disease microbe. Also featured in the Exhibit Center/Science Museum are vivid displays outlining BNL's many contributions to science, a whisper tube that can send soundwaves soaring across the room, and the Van de Graaff which is sure to shock even the most daring souls. When asked if the LIMA members enjoyed themselves Tempel said, "They had a marvelous time! They took away a lot of information." This is proof positive that science can be fun for children of all ages.

— Adrienne Beasley

'Let's Run One For Gus!'

"Let's run one for Gus!" That was the call issued by the BNL Roadrunners Club on June 10. Approximately 30 people answered that call and proceeded to run, led by Gus, along a route which both began and finished at Bldg. 703.

Who is this man causing all the commotion? Augustus Prince is his name and running has been his game for over 20 years. A nuclear physicist in the Department of Nuclear Energy, Prince had been a BNL employee since 1966.

A dynamic runner in his own right, Prince was one of the original founders of the Roadrunners Club as well as its unofficial coach. And, as Roadrunners president Skip Medeiros pointed out, "He also provided the inspiration and motivation for many BNLers to begin and continue running. These are among the many reasons warranting the 'running tribute' prior to Prince's retirement on June 11."

Prince and the Roadrunners have tread many miles together, and he's sure to travel many more. Although his presence will be sorely missed, Medeiros said, "BNL's Running Club will not soon forget his sharing, competitive and inspirational spirit." — Adrienne Beasley
Adrienne Beasley is a student contributor to the Bulletin.



Weight Watchers

To meet in air-conditioned comfort, the on-site Weight Watchers group has moved to Room A, Berkner Hall, for the summer months. If more information is needed, call Mary Wood, Ext. 5923.

Swimarathon '93 — Sign Up ASAP

Both swimmers and helpers are needed at the Lab pool on Saturday, July 17, during Swimarathon '93, sponsored by BERA to benefit the American Cancer Society (ACS).



Individual swimmers and teams of up to 12 members will put in as many laps as they can between 9 a.m. and 9 p.m. — with rests allowed. After signing up sponsors, each swimmer will earn tax-deductible contributions to the ACS and a T-shirt.

Helpers are needed to check-in the swimmers, count laps, and assist with entertainment and refreshments. So sign up as soon as possible, using the forms available at the pool, Bldg. 478; the BERA Sales Office, Berkner Hall; or the Recreation Office, Bldg. 185.

Afro-American Culture Club 12th Annual Picnic

For all BNLers and their families



Tickets:
Adults — \$5
Children under 12 — \$3

Purchase tickets from:
April Donegain, Ext. 2459; Pauline Dixon, Ext. 2164; Sarah Ebron, Ext. 2232; Barbara Kponou, Ext. 5104.

Defensive Driving Course Offered

Until July 15, registration will be accepted for the two on-site, after-work defensive driving courses to be offered this month to BNL employees and their dependents. For a cost of \$29 per person, each course consists of two, 3-hour sessions: Course 1, July 20 and 22; and Course 2, July 26 and 28. Both classes will be offered from 6 to 9 p.m.

Those who take such a course are entitled for three years to a 10 percent reduction on their premiums for liability, no-fault and collision auto insurance. Approximately 300 BNLers and their family members have completed one of the 11 defensive driving courses that have been sponsored so far by the Health Promotion Program of the Occupational Medicine Clinic and the Training Section of the Safety & Environmental Protection Division.

For information, call Ronnie Zambelli, Ext. 7132, or Mary Wood, Ext. 5923.

Defensive Driving Course Registration

Name: _____ Bldg.: _____ Ext.: _____

- Course 1:** Tuesday, July 20, and Thursday, July 22, 6-9 p.m.; number participating _____
- Course 2:** Tuesday, July 26, and Thursday, July 28, 6-9 p.m.; number participating _____

Return completed to Ronnie Zambelli, Bldg. 129A, by Thursday, July 15.

Golf Tournaments

The fourth BGA golf tournament of 1993 will be held Monday, July 19, at Timber Point Golf Course under stroke-play rules. Players need a Suffolk County "Green Key" for reservations. Call John Usher, Ext. 2096, for details and sign-up.

Following are results from two recent tournaments, with low gross and low net winners named respectively:

- Indian Island Golf Course, 5/17**
- **Flight A** — 18 holes, Steve Heald, Vinnie Racaniello; front 9, John Usher, Ron Webster; back 9, Mike Losquadro, Bob Mills.
 - **Flight B** — 18 holes, Bob Meier & Curt Bergh (tie), Jim Petro; front 9, Bryan Culwick, Dennis Malloy; back 9, Jack Detweiler, Hank Arnesen.
 - **Flight C** — 18 holes, Andy Warkentien, Russ Burns; front 9, Roy Marlow, John Bigrow; back 9, Wayne Vacey, Norm Fewell.
- Bethpage-Blue Golf course, 6/10**
- **Flight A** — John Usher, Vinnie Racaniello & Eldon Schmidt (tie).
 - **Flight B** — Curt Bergh, Jim Petro.
 - **Flight C** — Bob Brown & Russ Burns (tie), Bob Eich.
 - **Flight D** — Glaister Fraser, Jim Yerry
- Longest drives were attained by John Vandenkieboom on hole #8 and Hank Arnesen on #16. Closest-to-the-pin honors went to Bryan Culwick on hole #3 and Sandy Litcher on #17.

Sign-Up Deadline For Tennis Tourney

Attention summer visitors and students, all guest appointees, employees and their spouses and daughters: Sign-up for the annual BERA Tennis Tournament ends at noon on Tuesday, July 13. Play will begin on July 17, and all matches will be completed by August 12.

To compete in singles, doubles or mixed doubles, sign up and pay \$3 per category entry at the BERA Sales Office in Berkner Hall, where tournament rules are available. For more information, call Om Singh, Ext. 5332, or Ken Perkins, Ext. 2147.

Cafeteria Menu

Monday, July 12	
Soup: Thyme-scented lentil	.80/1.10
Entree: Baked pork chops	3.75
Fitness: Vegetable lasagna w/veg.	3.35
Carvery: Sliced pastrami sandwich	2.95
Grill: Reuben platter	2.95
Fitness Salad: Tuna platter	
Taster's Bar: Potato skins	(oz.) .25
Tuesday, July 13	
Soup: Minestrone	.80/1.10
Entree: Spaghetti w/red clam sauce	3.45
Fitness: California chicken w/veg.	3.65
Carvery: Hot roast beef sandwich au jus	2.95
Grill: Spanish omelette w/fries	2.35
Fitness Salad: Chef's seafood	
Taster's Bar: Wing dings	(oz.) .25
Wednesday, July 14	
Soup: Beef & vegetable w/rice	.80/1.10
Entree: Shrimp chow mein over rice	4.25
Fitness: Oven-crisp chicken w/veg.	3.45
Carvery: Baked Virginia ham sandwich	2.95
Grill: Italian cheesesteak w/fries	2.95
Fitness Salad: Fruit w/lowfat cottage cheese	
Taster's Bar: Pasta bar	(oz.) .25
Thursday, July 15	
Soup: Mulligatawny	.80/1.10
Entree: Baked liver & onions w/veg.	3.45
Fitness: Vegetarian green peppers	3.45
Carvery: Sliced corned beef sandwich	2.95
Grill: Monte Cristo platter	2.95
Fitness Salad: Cantaloupe bowl	
Taster's Bar: Wings of fire	(oz.) .25
Friday, July 16	
Soup: Seafood chowder	.80/1.10
Entree: Beef w/green peppers & onions	3.85
Fitness: Display cooking special entree	
Carvery: Hot roast turkey sandwich	2.95
Grill: Fried clam boat	3.25
Fitness Salad: Grilled chicken platter	
Taster's Bar: Baked clams	(each) .60

Scoop of the Week

The first Scoop of the Week for this sixth contest season goes to Skip Medeiros, Director's Office, for suggesting a photo and caption on Gus Prince's retirement run.



During the summer, if you can scoop all the of the Bulletin's informed sources with a hot tip and if the Bulletin publishes a story based on your idea for news or a feature, then you too may win a Scoop of the Week, an official certificate, suitable for framing or for redeeming at the Cafeteria for a free frozen dessert of your choice, compliments of Service America Corporation.

To enter the ontest, send your hot tips to the Brookhaven Bulletin, Bldg. 134, or call Ext. 5053.

Classified Advertisements

Placement Notices

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

Each week, the Personnel Division lists new placement notices. The purpose of these listings is, first, to give employees an opportunity to request consideration for themselves through Personnel, and, second, for general recruiting under open recruitment. Because of the priority policy stated above, each listing does not necessarily represent an opportunity for all people.

Except when operational needs require otherwise, positions will be open for one week after publication.

For more information, contact the Employment Manager, Ext. 2882, or call the JOBLINE, Ext. 7744 (282-7744), for a complete listing of all openings.

SCIENTIFIC RECRUITMENT - Candidates may apply directly to the department representative named.

JUNIOR SCIENTIST - Trained in the physical sciences, to join an expanding research program involving both basic and applied research in an optical spectroscopy laboratory. Areas of research will include time-resolved chemical dynamics, optical spectroscopy (UV/Vis, fluorescence, Raman), pulsed-dye laser systems, associated data-acquisition instrumentation, and computer interfacing using Macintosh and LabVIEW software. Contact: Carl Chen or Arthur Sedlacek, Department of Advanced Technology.

SENIOR RESEARCH ASSOCIATE - Trained in physics, with postdoctoral experience in charged-particle beams and ultrahigh vacuum techniques, to assume responsibility for the operation of a multi-user positron-beam facility. Experience in electrical and mechanical design is required. Familiarity with positron beam and positron annihilation techniques is desirable. Contact: Kelvin Lynn, Physics Department.

POSTDOCTORAL RESEARCH ASSOCIATE - Trained in synthetic organic chemistry, to join the Cyclotron-PET Program, to develop and evaluate new radiotracers to measure the functional activity of the dopaminergic system using positron emission tomography. Experience in medicinal chemistry and pharmacology is desirable. Contact: Joanna Fowler or John Gatley, Chemistry Department.

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Classified Ads (cont'd)

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside candidates.

NS 5770. ENGINEERING POSITION - Requires BSEE, MSEE preferred, and comprehensive knowledge of analog and digital circuit design fundamentals and practice. Experience with simulation, analysis, measurement (including VLSI and FPGA), electronic design-automation processes and tools, IEEE standard bus systems architectures, and behavior of high-speed signals in a transmission-line environment required. Experience involving radiation-detector systems desired. (reposting). Instrumentation Division.

Motor Vehicles & Supplies

91 MERCURY TRACER LTS - 10k mi., 4-dr., a/t, ac, alloy wheels, 1991 Road & Track 10 best list, \$9,000. Eric, Ext. 5875.

90 TOYOTA MOTOR HOME - 23', loaded, 8k mi., mint cond., \$23,000 or best offer. Pat, Ext. 7705.

90 TOYOTA COROLLA DX - 4-dr., 5-spd., white, new tires, ac, stereo; '84 Delta 88 Olds, V-8, a/t, ac, 2-dr., all power, tape, am/fm. Jack, Ext. 4037.

90 NISSAN 4x4 PICKUP - dark blue, 5-spd., ac, p/s, p/b, am/fm cass., 40k mi., tinted glass, \$7,700 neg. Keith, 588-1929.

89 CHEVY S10 BLAZER - sport pkg., 78k mi., \$9,200. 924-3414.

88 HONDA ACCORD DX - white, 4-dr., 5-spd., ac, am/fm cass., maint. record, orig. owner, excel., \$5,000 or best offer. Cheryl, Ext. 2272 or 732-7634.

88 VW GOLF GL - 4-dr., sunroof, ac, am/fm tape stereo, champagne, 48k mi., \$4,850 neg. Hurst, Ext. 3844 or 475-8252.

87 SUZUKI SAMURAI - 29k mi., Wrangler radio, alarm, 4wd, am/fm cass., very clean, \$2,800. 325-2707, leave message.

87 SABLE - p/s, p/b, ac, cruise, am/fm cass., v.g. cond., \$3,500. Mike, 751-4174.

87 TOYOTA TERCEL - h/b, a/t, ac, p/s, p/b, mint cond., \$2,955. Vinnie, Ext. 5005 or 821-6499.

86 1/2 TOYOTA SUPRA - 62k mi., blue/blue int., 5-spd., p/seat, ac, am/fm cass., very clean, asking \$6,500 neg. Mike, Ext. 3985 or 878-6859.

86 KAWASAKI MOTORCYCLE - 750 cc, Vulcan, 6.1k mi., mint cond., \$2,500 for bike, \$3,000 w/all access. Fred, Ext. 5319.

85 BUICK CENTURY - new tires, low mi., p/s, p/b, ac, a/t, runs well, must see, \$1,500 neg. Penny, 447-5063.

85 CJ7 - 6-cyl., a/t, hardtop, stereo, Benzi box, new brakes, tires, excel. cond., must sell, \$3,295. 929-4439 after 7 p.m.

82 PROWLER - 23', \$7,000; '77 Dodge Maxivan, camper equipped, \$4,000; both for \$10,000, many extras, must see. John, Ext. 5813 or 667-1407.

82 YAMAHA YZ 490 DIRT BIKE - rebuilt eng., new clutch, 2 hrs. on motor, asking \$400. 821-2854, leave message.

81 BUICK REGAL - V-6, new engine, trans., runs well, \$850; '76 Chevy pickup, 3/4-ton, 350 eng., 4wd, needs cab mounts & body work, \$1,000. 363-8543.

81 BUICK CENTURY - a/t, 95k mi., good cond., must sell, \$600 neg. 981-4518 after 6 p.m.

81 TOYOTA COROLLA - new starter, oil pump & battery, 4-dr., ac, runs well, inspected 5/23, \$500. Xue, 395-4366.

79 FIREBIRD 301 - a/t, new paint & int., p/w, p/l, sunroof, spoiler, hood scoops, 90k mi., \$2,500. Terry, 727-8020, 10-5 weekdays.

79 CHEVY NOVA - 4-dr., 6-cyl., runs well, \$500. Mauro, 265-6542.

78 DODGE DIPLOMAT - 318 V-8, 4-dr., a/t, 100+k mi., rebilt. trans., new rad., needs rear-end work, \$150. Don, Ext. 7237 or 744-2921 after 5:30 p.m.

77 TOYOTA CELICA GT - \$600; bed liner for Nissan pickup, \$130. Mike, Ext. 3639.

74 VW SUNBUG - runs, \$625. 286-0001.

68 MUSTANG - \$2,000. 473-1456.

86 CAMARO - parts, Rob, Ext. 4661 or 395-4521.

TIRES - 2, Goodyear, P225/75R14; 2, Uniroyal, P225/75R15; 1, Firestone, P215/70 14, like new, \$25 ea. Tony, 698-9274.

TIRES - radial, P205/75R14, good to excel. cond. Susan, Ext. 7647.

WHEELS - 15" for LeSabre, 14" for Monte Carlo, \$5 ea. Oster, Ext. 4647.

YAMAHA YZ 125 - mint cond., asking \$600. Mike, 878-1617 after 4 p.m.

CYLINDER HEAD - rebuilt, never used, '83 VW Rabbit, includes intake manifold, \$150. Henry, Ext. 3413.

Boats & Marine Supplies

32' LHURS CLASSIC CRUISER - 1964, 225 Gray engine, dinghy, ob., gen., elect. heat, toilet, sink, refrig., electronics, \$5,000. 878-1561.

22' STAR-CLASS 6210 SAILBOAT - all glass, dbl. hull, 2 sets sails, sail cover, 3-h.p. Yamaha ob., trailer, meas. cert., \$3,500. Bernice, 472-1735.

22' MARSHALL CATBOAT - freshwater-cooled Yanmar diesel, VHF radio, depth sounder, Danforth compass, head. Gordon, 477-2269.

19' 4-WINNS - 1987, cuddly, canvas, 190-h.p. FWC i/o, low hrs., \$6,000 neg. Michael, Ext. 2081 or 878-9384.

19' MFG C.C. - 1976, 85-h.p. Johnson, runs well, '90 Magic roller trailer, p/winch, Coast Guard pkg., \$2,400. Joe, Ext. 7160.

18' BAJA - 115-h.p. Evinrude, very fast, \$3,200; 20' fg boat, 85-h.p. Mercury, needs work, \$175; Sunfish, good cond., \$500. 878-2577.

18' HOBIE CAT SAILBOAT - 1990, hardly used, w/trailer, \$3,500. 473-1456.

12' CATAMARAN AQUACAT - new tramp, sail, excel., includes trailer, ready to sail, \$799 complete. Ron, Ext. 4553.

12' CANOE - comes w/molded plastic seats, paddles & life jackets, \$125. Rich, Ext. 7013 or 698-5294 eves. & wknds.

7'2" SAILING CANOE - Old Town Tripper, w/Old Town sailing rig, complete w/mast, sails, rudder, leeboards, \$600. Bob, 261-3890.

SUNFISH - v.g. cond., w/trailer, \$800. Ext. 7286.

CONTROLS - Mercury Morse, top mount, like new, \$125. Mike, 878-1617 after 4 p.m.

DEPTH/FISH FINDER - Si-Tex Chromascope CVS-106 w/color, speed, water temp., 2 marine compasses, all used 2 mos. Harvey, 281-7568.

Furnishings & Appliances

ANTIQUE SCHOOL DESK - wrought iron frame, \$50; trestle table, w/6 chairs, 5'x7', two 8" leaves, \$150; GE washer, \$150. Nancy, Ext. 5744.

BEDROOM - complete, Bennington, pine, queen size bed, 2 dressers, \$350. 878-2577.

CABINET - Hoosier, oak, restored, good cond., 69"H x 43"W x 27"D, \$475. Wink, 874-2762.

CHAIRS - 4, thatched seat, ladderback, new, \$35/ea. Theresa, 289-0898.

COOK TOP - GE, designer series, white glass, w/solid electric disc, almost like new, \$75. Naomi, Ext. 2694 or 726-6184.

DINING ROOM - 7-piece, blond, w/hutch, will deliver locally, \$125. Bill, 878-6016.

DINING ROOM - antique, solid oak, square table, 4 cane chairs, 2 leaves, excel. cond., \$900. Joe Russo, Ext. 2809.

DISHWASHER - Sears, 18", almond, portable, needs new hoses, \$100 firm. Oster, Ext. 4647.

DRESSER - antique, oak, 1910 dresser, 5 drawers, v.g. cond., \$350. Joe, 281-8943.

DRESSER - pecan/black trim, 6 drawer, \$25; 4 drawer chest, \$20; night table, \$10; \$50 takes all. Pete, Ext. 3297 or 821-9547.

FREEZER - Whirlpool, upright, white, \$200 neg.; Sharp Carousel II microwave/convection oven, moving must sell; \$200 neg. Joe, 395-5813.

FREEZER - Gibson, upright, reas. 363-7032.

KITCHEN CABINETS - Formica & birch, white, v.g. cond., price neg. Sharon, Ext. 5058.

LIVING ROOM - couch, 2 chairs, end tables, lamps, pine, nice, \$150 neg. Allison, 369-4922.

LOVE SEAT - early Amer., coffee table, lamp table, excel. cond., make offer. Esther, 821-2619.

MOVING SALE - beds, twin, double, queen, w/Art Deco bureau; walnut desk, \$350; antique bookcase, \$250; coffee table; butcher block. 261-3890.

ROCKERS - 1 upholstered, 1 slat back; 84" sofa, like new, red/green/white; rocker, green; best offers. Sharon, Ext. 3995.

RUG - 9'x12', maroon, Oriental design, \$45; small butterfly table, \$40. 475-4199.

RUG - dark blue, Oriental style, area rug, almost new, 6'x9', \$25. 751-1884.

SOFA & LOVESEAT - IKEA, \$65; 2 sling backs, \$30/ea.; queen box spring, mattress, frame, \$95. bathroom sink, \$15. Klaus, Ext. 3677 or 924-2062.

TABLE - Child Craft, dressing table, white, asking \$40. Steve, Ext. 2897.

TOASTER OVEN/BROILER - Black & Decker, hardly used, \$20; Hamilton Beach 7-spd. blender, hardly used, \$15. Mike, Ext. 7941.

WASHER - Norge, heavy duty, lg. cap., works well, \$90; Caloric stove, nat. gas, w/light, wood cabinet, \$50. Vita, 277-0464, or Frank, Ext. 7519.

WATER BED - Soma, queen, regular sheets, \$400. 924-3414.

WASHER/DRYER - Sears, portable, 2 yrs. old, white, excel. cond., \$400/both. Mauro, 265-6542.

Tools, House & Garden

BATH/SHOWER SEATS - one 20"Wx14"H, w/back, nonadjustable, \$15; one 19"Wx14"H, w/o back, adjusts to 21"H, \$10. Bob, Ext. 2514.

CEMENT MIXER - gas powered, 1/2 sack, w/detachable tow bar, \$575. 281-6378.

JALOUSIE DOOR - 15 glass louvers, screen, 80"x36", excel., \$100. Gerhard, Ext. 2043.

DOOR - exterior rear entry, 9 light, solid core, w/heavy-duty deadbolt, great shape, 30"W, \$60. Ray, Ext. 3680.

GLIDER - aluminum, w/cushions, excel. cond., 81" long; chaise, alum., w/cushions; plant shelf, 40"L x 24 1/2"H x 9 1/2"D. Sharon, Ext. 3995.

LAWN MOWER - Jacobsen, 21" reel, self-propelled. Bill, Ext. 4774.

LAWN TRACTOR - riding, 11-h.p., 36" cut, elect. start, headlights, manual, \$500. 878-1617 after 6.

MAPLE TREES - Japanese red, \$10-\$45+; Sears riding tractor, 12-h.p., 4' deck, snow blower, battery start, tow trailer, excel. Mauro, 265-6542.

WATER FILTRATION SYSTEMS - 2, Culligan, iron & water softener, pH neutralizer, auto backwash, \$500/ea. or \$800 both. Mike, Ext. 3639.

WINDOWS - 2, vinyl, double-hung, double pane, 36"W x 38"H, \$90/both. Biays, Ext. 2946.

Sports, Hobbies, & Pets

BIKE - mountain, Trek 7000, 20", alum. frame, bar ends, pump, kickstand. 473-3151.

BICYCLES - 2, 19", Panasonic, 10-spd., 27" alloy wheels, excel. cond., \$125 & \$150. 286-9389.

BICYCLE - man's, 27", 10-spd. Raleigh Grand Prix, \$40. Dom, 475-6909.

BICYCLE - man's, black, w/baskets on rear fender; exercise bike, like new. Sharon, Ext. 3995.

ELECTRIC SCOOTER - Rascal, like new, \$600; Sunbeam elect. lawn mower, double insulated, w/bag. \$60. 281-7844 eves.

EXERCISE BIKE - DP, \$20. Richie, Ext. 2175 or 734-7342 after 6 p.m.

GUITAR AMP - GK 250 GL, \$200; wireless system, Nady 201, \$225. Doug, Ext. 4661 or 434-7812.

HOME GYM - Soloflex, excel. cond., asking \$625. Marty, 354-3938.

KEYBOARD - Crumar Orchestrator, \$100. 473-6432.

PIANO - elect., digital, Yamaha Clavinova CLP-560, 88 keys, 2 yrs. old, mint cond., w/bench, \$1,800. Shige, Ext. 3889.

POOL - 24', round w/deck & fence, Lomart filter, best offer. Theresa, 289-0898.

The Brookhaven Bulletin is printed on paper containing at least 50 percent recycled materials, with 10 percent post-consumer waste.



POOL SAFETY LADDER - used 1 season, excel. cond., \$50. Ext. 2910 or 698-6259.

POOL VACUUM - auto., used once, works well, orig. \$500, ask. \$250. Ady, Ext. 4531 or 331-3785.

PUPPY - mixed black Lab, male, shots, 8 wks., very affectionate, adores young children, \$50. 298-8657.

PUPPIES - Labrador Retriever, AKC registered, black, females, parents on premises, great family pets. Ext. 4315 or 929-4993.

ROTTWEILERS - AKC champ. bloodlines, 2 generations on premises, shots, wormed. 654-1146.

RUNNING SHOES - woman's, Nike Air Pegasus, size 6, worn twice, orig. \$69, now \$30. Elaine, Ext. 3876 or 286-8720.

SADDLE - 16 1/2", Stubben, all-purpose English, w/fittings, \$375; Birnbaum's Guide to Disney, \$6. Pat, Ext. 5406.

TELESCOPE - 3 1/2", Questar, standard, complete, case, \$1,200. 589-3608.

Audio, Video & Computer

CALLER ID - 100-call memory, used 1 mo., orig. \$40, ask. \$30. Rich, Ext. 4446.

CAMERA - Olympus OM25, 50mm lens, 35-140mm lens, shoulder/hip carrying case, Sunpack flash, auto 433D, \$225. Neil, Ext. 4688.

COMPUTER - Apex plus, GW Basic software, IBM color graphics, dual 3 1/2" disk drives, games, no keyboard, make offer. 821-2854.

COMPUTER - 286 PC, coprocessor, extended memory, high-resolution color display, mouse, \$600. Ext. 3922.

COMPUTER - Zenith, 286E, laptop, 1 meg, 20 mg hd, backlit VGA, 1.44 FD, \$550 neg. Ed or Bob, 385-8075 after 5 p.m.

STEREO - Panasonic, rack sys., dig. am/fm, equal., dual cass., turntable, \$75; IBM PC compat., 10 meg HD, CGA mon., \$150. Richie, Ext. 2175.

STEREO - Mitsubishi, 110W, CD, tape, tuner, equalizer, 2 Bose 210 speakers, \$650. 924-3414.

TV - Quasar, color, 25", contemporary console, stereo, cable ready, remote, excel. cond., \$200. Mary, 399-4857.

Miscellaneous

ENCYCLOPEDIA - Britannica, 11th edition, excel. cond., slim line, \$350 neg. Ext. 7761 or 331-7917.

FORMAL DRESS - rich fall green taffeta, knee length, fitted waist, puff sleeves, bowed back, size 8/10. Ext. 5938.

GOWN - teal blue, size 10, good cond., \$20. 744-5871.

Free

CAT - 8 yrs. old, all black, female, needs caring home. 473-6904.

CHINA CABINET - walnut finish beige sofa. Rich, Ext. 2386.

COMPUTER - VIC-20, w/many games, cassette drive. Ext. 5030 or 821-4083.

DOG - Jack Russell terrier, 8 mos. old, house trained, loves children, to good home. Lois, Ext. 3315 or 929-4753.

KITTENS - 2, precious gray & black tigers, potty trained, well behaved, need loving homes. Michele, Ext. 2907 or 369-5920.

MOTOR - Chrysler 3.5-h.p. outboard, vintage 1962, for parts, gas tank rusty. Sandy, Ext 3369.

STOVE - cast iron, wood burning. 286-0682.

Car Pools

ELWOOD/E. NORTHPORT/COMMACK - on time, seeks 2 additional drivers. Paul, Ext. 4156.

Services

Services are listed in the first Bulletin of every month as a courtesy to BNL employees. They are neither screened nor recommended by the Bulletin. Services forms are available in the Bulletin lobby, Bldg. 134.

ALTERATIONS - men's & women's clothes, call for estimate. Theresa, 289-0898.

ANIMAL SITTER - animal-loving 10 yr. old will treat your pets like my own while you're away, bunnies my specialty. Kate, 929-5945.

AUTO REPAIR - most types of repair work, reasonable prices. Brett, 929-4753.

AUTO REPAIR - basic, reasonable price, free estimates. Rob, 395-4521.

AUTOMATIC LAWN SPRINKLERS - professional layouts, repairs, alterations, additions, prompt courteous service, free estimates. Lou, 928-7042.

BABY-SITTING/MOTHER'S HELPER - teenager looking for summer jobs, good w/all ages, available all days & times. Vicki, 281-7568.

BABY-SITTING/MOTHER'S HELPER/NURSES AIDE - will clean, food shop, cook, sensitive and reliable. Lorraine, 929-3910.

BAND MUSIC - experienced 6 pc. band for wedding reception, cocktail, ceremony, popular music 40s to 90s, prof. emcee. Henry, 399-6947.

BAND - The Rockaholics are ready to play danceable classic rock at your next party, reasonable rates. Phil, 654-3732.

BRICKWORK - masonry, patios, walks, swimming pools, retaining walls, landscaping ties, Belgium block, 25 yrs. exp., Lab disc. Tony, 698-9274.

CARPENTRY - extensions, dormers, fin. base-ments, garages, decks, windows installed, Sheetrock, roofs, free est.. Dennis, 395-6055.

CARPET/UPHOLSTERY CLEANING - spot, pet stains, odor removal, auto interior, fabric protector, free est., Lab discount. Jerry, 924-6019, days.

CATERING - homemade pastas & Italian dishes, all types of food, call for menu. Luisa, 395-6055.

CENTRAL AIR CONDITIONING - installation, quality equipment & workmanship, low rates. John, 467-5827.

CHILD CARE - part-time, when child has off from school & other unexpectd circumstances, Sept.-June. Vera, 878-1468 after 5 p.m.

COUNSELING - exp., licensed CSW, individual, marital or family problems, confidentiality guaranteed, ins. reimbursable. Linda, 929-5860.

CUSTOM FORMICA - specializing in bdrm. furn., kit vanities, tables, wall units, countertops, etc., quality work, Lab discounts. Ralph, 696-0404.

DOG/CAT GROOMING - 689-1539.

DJ/MC - party & dance music from 40s-90s, all occasions, music & entertainment personalized for your affair, BNL refs. Lou, 698-8210.

ELECTRICIAN - complete line of electrical work, residential, comm., lic., insured, attic fan special \$149.95 comp., Lab disc., free est. John, 654-9142.

ELDERLY CARE - on weekends in their home, I give TLC and stay overnight, a break for the family, reasonable. Susan, 286-4225 eves.

FLOORS - waxing, stripping, carpet & upholstery shampooed, house cleaning, windows, free est. Leo, 447-6522.

HANDYMAN - experienced handyman in plumbing, electric, carpentry, etc., vehicle maintenance & shaping, cleans up after. 281-7568.

HOME IMPROVEMENT - carpentry, drywall, spackling, painting, plumbing, tile, sheds, free est., Lab disc. Don, 744-2921 after 5:30 p.m.

HOME IMPROVEMENTS - quality work, honest prices, extensions, dormers, decks, kitchen, baths, etc., lic. & ins., ref., free est. Chris, 286-1348.

HOME INSPECTIONS - misc. structural, prior to purchasing, \$150 Suffolk, \$175 Nassau, all fully documented. Rich, 929-6986.

HOUSE CLEANING - reasonable, very efficient, references. Marty, 399-3496, any time.

JEWELER - special order, repairs, honest, affordable, no job too large or small. Kelly, 821-5239.

KAYAK LESSONS - touring, river playboats, \$80/5 hrs., equip. supplied, intro to Kayaks, \$25/2 hrs. Ernie, 281-7873.

KITCHENS - three styles for under \$3,000, incl. cabinets, top, installation. 698-9274.

LAND CLEARING - trees, stumps, brush removed, topsoil graded & raked w/450 loader, \$70/hr. Tom Muller, 878-1060.

LAWN MOWER REPAIR - also tractor, reasonable rates, have trailer will travel. Dan, 698-7322.

LOCKSMITH - sales & services, 10% Lab disc., keys cut during lunch. Pete, 399-2813 after 5 p.m.

NURSE'S AIDE - companion, private-duty care, excel. references upon request, TLC for your loved one. Deborah/Ron, 727-1835.

PAINTING - interior, exterior, p/washing, decks, staining, lic., insured. Cassella, 467-5661.

PAINTING - int., ext., sheetrock, taping, spackle, wallpaper, staining, polyurethane, gutter, roofing, p/wash, refs., insured. James, 399-4912.

PARTY TENTS - for rent, we set up & take down, call for info. Fred Kuehl, 588-2268.

PIANIST - for all occasions or parties, keyboard