BROOKHAVEN BULLETIN
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BROOKHAVEN NATIONAL LABORATORY

BNL Lecture:
Biotechnology Without Genetic Engineering

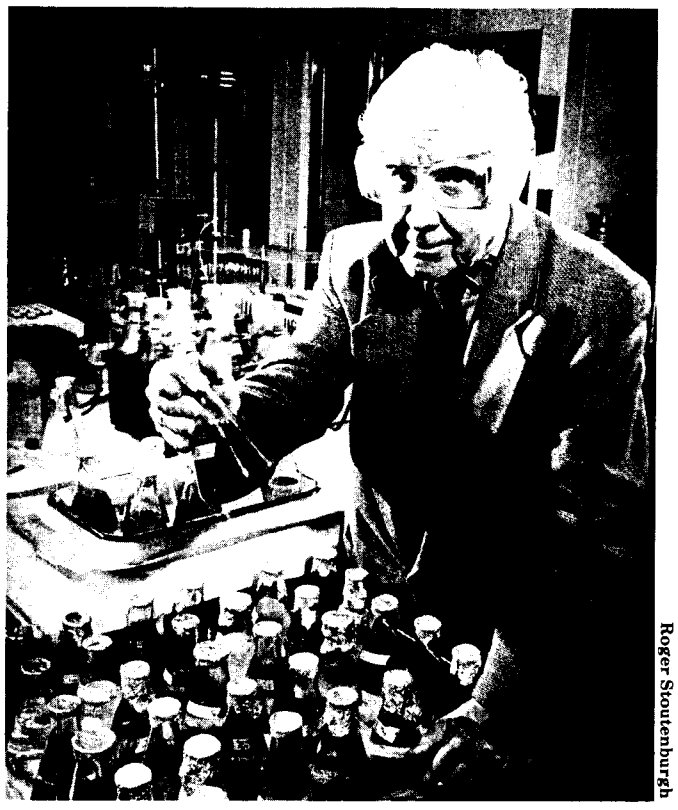
Since humankind's earliest days, wine making has been known to almost every culture that has had access to grapes and to yeasts — those tiny microorganisms whose hunger for grape skins induces the process known as fermentation, which ultimately yields wine.

Taking advantage of the voracious appetite of natural microorganisms is one of the earliest examples of biotechnology — using natural biology to achieve a desired technology.

Not to be confused with genetic engineering, in which molecular changes are introduced to the genetic makeup of microorganisms to make it possible for them to perform a desired biochemical step, one form of biotechnology draws on and enhances the inherent, natural traits and tendencies of microorganisms.

Eugene Premuzic, Deputy Head of the Biosystems and Process Sciences Division (BPSD) in the Department of Applied Science (DAS), has been probing the possibilities of such biotechnology for almost 30 years.

He will share some of his insights and advances in this field on Thursday, October 24, when he delivers the 272nd Brookhaven Lecture. His talk on "Biotechnology Without Genetic Engineering: the Use of Microbial Processes," will begin at 4 p.m., in Berkner Hall. Introducing the speaker will be BPSD Head George Hendrey.


Eugene Premuzic

Roger Stoutenburgh

After discussing the history of biotechnology and some of its uses throughout the ages, Premuzic will concentrate on two of the several uses that he and his BPSD group are now developing, only using microorganisms that are not harmful to humans.

In the first case, Premuzic will explain the use of microbial processes in detoxification of the brine produced in geothermal wells.

Geothermal energy is heat derived from deep beneath the earth's surface. When a hole is drilled into a steam or hot water reservoir, a superheated fluid emerges. In addition to releasing very useful energy, this fluid contains salts of such toxic metals as arsenic, chromium and copper. As hazardous wastes, these toxic metals must be transported and disposed — an expensive process.

From the expansive library of patented microorganisms that he and his group have developed in Bldg. 318, Premuzic will describe the ones that thrive on geothermal brines, solubilizing the toxic metals so that the liquid phase can be returned to the ground. A scaled-up, fully operational model of the equipment used in this process will soon be built on site to help refine this process.

In a second instance, some microorganisms are helping to recover hard-to-extract oils from oil reservoirs. Lighter, more fluid oils rise easily to the surface, but the heavy crude oils remain below, leaving over 50 percent of the world's oil reserves still in place. As Premuzic will relate, however, when his oil-devouring microbes work their way through the oil, they stir things up, creating a blend of heavy and light oils that is more easily pumped out.

During his talk, Premuzic will also summarize other biotechnologies that BPSD researchers are working on that are relevant to industries associated with power and energy production. These include treatment of residual sludges, removal of sulfur and trace metals from crude oils, biochemical processes for emulsification and treatment of emulsions, removal of PCBs, and biocorrosion.

Eugene Premuzic earned his B.Sc. in chemistry in 1954 and his M.Sc. in bio-organic chemistry in 1955, both

(continued on page 2)

Office of Educational Programs Seminar
How Will Minorities Fare In Science and Technology?

The inaugural seminar in a new series offered by BNL's Office of Educational Programs (OEP) will address the question "Changing America: How Will Minorities Fare in Science and Technology?"

To be presented by Johnnye Jones, a professor of biological sciences at Hampton University in Virginia and a member of the U.S. Department of Energy's (DOE) advisory committee for its Science and Engineering Research Semester Program, the seminar will take place on Wednesday, October 23, at noon, in Room B, Berkner Hall.

The OEP's seminar series was initiated as a result of DOE and BNL's increasing interest and involvement with science education, from kindergarten through graduate school. OEP seminars will be held during lunch in Room B of Berkner Hall, and the Lab community is invited to attend and bring a brown-bag lunch. Dates, times, topics and speakers for future lectures will be announced in the Lab's Weekly Calendar.

"Through this series, we will be bringing in outside experts to explore various aspects of science education, with the goal of extracting ideas for improving and expanding our own programs," explains OEP Head Donald Metz, whose office conducts about 50 educational programs at BNL throughout the year.

During the first seminar in this series, Johnnye Jones will discuss the educational challenges in science and technology facing minority students and the institutions at which they are educated.

Given that the composition of the American workforce is changing to mirror national demographic changes, more minorities must be recruited to enter scientific and technical fields to fill all the positions that will become available in the future.

Johnnye Jones

Since these are fields in which minorities have traditionally been underrepresented, the educational community must make a concerted effort to attract and retain minority students in these subject areas.

Jones will conclude by suggesting strategies for ensuring that minority students fare well in science and technology.

Johnnye M. Jones received her M.A. in biology education in 1970 and her Ph.D. in botany in 1979, both from Atlanta University in Georgia. During the summers of 1979 to 1981, she performed postdoctoral research in BNL's Biology Department.

In 1979, Jones came to Hampton as assistant professor of biological sciences. She was promoted to associate professor in 1984; while in that position, she held the endowed chair of University Professor of Biology, 1986-89. Jones was named to her present position in 1991.

For more information on OEP's seminar series, call Ext. 4503.

Saturday Night Live Physics Demonstration Show

Richard Mannix and D. Rae Carpenter

Looking for some live, not-too-late-night educational entertainment this Saturday?

If so, consider taking your Saturday night date or your whole family to the live Physics Demonstration Show, to be presented free of charge tomorrow, Saturday, October 19, from 8 to 9 p.m. in Berkner Hall.

The entire Lab community is invited to this production, which is being put on for the second northeast regional conference of the American Association of Physics Teachers (AAPT). Following the show, all are invited to a wine and cheese cast party and reception, in the lobby of Berkner Hall.

The show will feature some of the nearly 500 live physics demos developed by master demonstrators Richard Minnix and D. Rae Carpenter, both professors in the Department of Physics and Astronomy at the Virginia Military Institute.

For their work with physics demonstration, they have jointly received the Pegram Medal of the southeastern section of the America Physical Society, the Guy Forman Award of Vanderbilt University and the AAPT Distinguished Service Citation. Minnix holds a Ph.D. in physics from the University of North Carolina at Chapel Hill, and Carpenter has an M.S. in physics from Cornell University.

Healthline Lecture

Plan Your Financial Health

Financial planning is not only for the super rich and famous. It involves more than insurance policies and stock portfolios. And it is not just the concern of accountants and financial advisors.

In the next Healthline lecture "Financial Planning — From Soup to Nuts," Franklin Federmann, a certified public accountant (CPA) and the Chief Internal Auditor of Associated Universities, Inc., (AUI), will explain that financial planning is for everyone, and it is all about peace of mind — which is conducive to good health.

The lecture will take place on Thursday, October 24, at noon in Berkner Hall, and the Laboratory community is invited to attend.

According to Federmann, financial planning begins with personal introspection: Individuals must decide on their long-term financial goals, how they want to provide for their families, and how much risk they are willing to take with their money.

As Federmann will detail, the next step is collecting all pertinent documents — financial as well as some non-financial information such as medical records — and putting them in order. Once this is done, an individual's present financial situation can be assessed, and financial strategies for savings, investments, insurance, retirement, children's college tuition and estates can be developed. With finances taken care of, money worries will no longer be a source of stress.

Mort Rosen

Franklin Federmann

While individuals may proceed by themselves or seek professional advice and help along the way, Federmann will emphasize how taking care of one's financial health is related to one's emotional well being, and how individuals' financial health will benefit their families, especially in the event of severe illness or death.

Franklin Federmann earned his B.S. in accounting from Brooklyn College and his M.S. in taxation from the Graduate School of Business Administration of Long Island University, and has been a CPA in New York State (NYS) since 1969. After several years with a large New York City CPA firm, he came to AUI's Brookhaven office in February 1969 as a senior auditor and was promoted to his present position that July.

A member of the NYS Society of Certified Public Accountants, Federmann currently belongs to its Tax Division's committee on individual taxation; he had also chaired that division's exempt organizations commitee, 1985-87.

A frequent speaker on tax matters and member of the teaching faculty of the Foundation for Accounting Education, Federmann also belongs to the American Institute of Certified Public Accountants, Institute of Mangement Accountants, the American Accounting Association and the International Association for Financial Planning.

To register for this Healthline lecture, return the bottom portion of the flyer that was sent to all employees by Tuesday, October 22, to Health Promotion Specialist Mary Wood, Bldg. 490.

To learn more about the Health Promotion program of the Occupational Medicine Clinic and its Healthline lecture series, call Ext. 5923.

BNL Lecture (cont'd)

at the University of Birmingham in England. In 1967, he was awarded his D.Phil. degree in chemistry and biochemistry of organic natural products, from the School of Molecular Sciences at England's University of Sussex.

Prior to this, Premuzic did graduate studies in biochemistry and was a consultant in chemistry at the Royal Columbian Chemical Labs, Canada, 1954-55, and a senior lecturer at the University of British Columbia, Canada, 1955-65.

In 1967, Premuzic came to New England Institute for Medical Research as a senior research scientist. He moved to California in 1971, to become a senior scientist with the International Biotoxicological Center of the World Life Research Institute.

One year later, Premuzic joined New York Ocean Science as a senior research scientist. From 1973-74, he was also an adjunct professor of chemistry at Fordham University, and, in 1975, he began the appointment that he continues today, as a professor of chemistry at Southampton College.

Premuzic's first association with BNL was in 1976, when he became a consultant to DAS. He joined that department's staff as a senior research associate in 1977, becoming senior chemistry associate in 1981 and scientist in 1983. He was named BPSD Deputy Division Head in 1990.

After the lecture, those attending are invited to join the speaker for discussion and hors d'oeuvres. To join the lecturer for dinner at a restaurant off site, call Sharon Zuhoski, Ext. 3359.

Atlantic City Trip

The next BERA-sponsored, one-day trip to Trump Castle Hotel and Casino on the Marina in Atlantic City will be on Saturday, November 16. The initial cost will be $20, but the hotel-casino will give a $10 coin return, $4 towards food and a $5 deferred return bus voucher.

Tickets are on sale now at the BERA Sales Office in Berkner Hall weekdays from 9 a.m. to 2 p.m.

Drug Free and Proud

Tomorrow through Sunday, October 27, is the fourth annual national Red Ribbon Week for a drug-free America.

Organized by the National Federation of Parents for Drug Free Youth, the red ribbon campaign was originated after federal drug-enforcement agent Enrique Camarena was killed by drug traffickers in 1985. The first Red Ribbon Week was held in October 1988, and, just as yellow ribbons are used to symbolize support for the troops, red ribbons have been used since then to show support for healthy, drug-free living.

This year, President George Bush and First Lady Barbara Bush are chairing the national campaign. To eliminate the demand for drugs in America's neighborhoods, the 1991 Red Ribbon Week theme is Neighbors Drug Free & Proud. So, during the week, neighbors are encouraged to wear and display red ribbons showing that they are drug free and proud.

NATIONAL RedRibbon CAMPAIGN ™

Within its community of national laboratories, the U.S. Department of Energy encourages a drug-free workplace. According to BNL policy, employees within the Lab community are prohibited from being under the influence of alcohol or illegal drugs while on site or performing Laboratory business off site. In addition, employees are prohibited from possessing, distributing, buying, selling or using illegal drugs, and prohibited from abusing prescription and over-the-counter medications.

The Laboratory recognizes, however, that alcoholism and drug abuse are illnesses that can be treated.

Brookhaven is prepared to offer help to affected employees, through the Employee Assistance Program (EAP), Ext. 4567. Brookhaven also offers educational information on such topics through the EAP and the Health Promotion Program, Ext. 5923.

Attn: Retirees

Next month, the Bulletin will publish the annual Special Edition updating retirees' names and addresses, just in time for the holiday season.

We'd also like to include some "Retirement Notes" -- your messages, stories or reminiscences that are of interest to the entire BNL community.

To share your "Retirement Note," send it to the Brookhaven Bulletin, Bldg. 134, Brookhaven National Laboratory, Upton, NY 11973. To be considered for publication, your note must be received by Friday, November 8. Submittals may be edited and will be published as space permits.

ANS Meeting

Angelo Orazio, Chairman of New York State Low-Level Radioactive Waste Siting Commission and a former state legislator, will speak on "Low-Level Radioactive Waste Siting in New York State," at the next meeting of the Long Island Section of the American Nuclear Society (ANS), on Thursday, October 24, at the Three Village Inn in Stony Brook, at 8 p.m.

Following cocktails at 6 p.m. and dinner at 7 p.m., the speaker will be introduced by Eena-Mai Franz of BNL's Department of Nuclear Energy, who is a past LIANS president. To make reservations call Kathy Ratto at Ext. 7250.

Coming Up

Career Awareness Day

Next week, Tuesday, October 22, BNL will hold a Career Awareness Day for several hundred minority and female high school students from all over Long Island. The day's program will include a workshop on job-seeking techniques, a panel discussion on education, talks with BNL staff at information booths and a visit to the Science Museum.

The event is being organized by Frances Ligon, Office of Equal Opportunity, and is intended to encourage young people to pursue careers in scientific and technical fields.

BWIS Party

All are invited to this year's Wine & Cheese Party, sponsored free of charge by Brookhaven Women in Science (BWIS), on Wednesday, October 30, from 4:30 to 6:30 p.m., in the Recreation Building in the apartment area.

The informal get-together is held annually so all employees may get acquainted with BWIS officers and members, and learn about the group's accomplishments, which have benefited the entire Lab community.

For more information, call Dorry Tooker, BWIS membership chair, Ext. 2078.

Bluegrass Concert

Back for the third time by popular demand, the Fox Family Bluegrass will appear in concert at the Lab on Friday, November 1, at 8 p.m. in Berkner Hall.

Native of New York's Adirondack Mountains, the quartet is composed of a fiddler, a banjo player and two guitarists.

Tickets for the concert, which may be purchased at the door on the night of the performance, are $6 for adults and $3 for children under 12.

Read All About It

As part of its review of journal subscriptions and readership, the Research Library Advisory Committee is sending a survey to all scientific, engineering and technical staff, and it asks that all recipients respond by Friday, November 1.

The Research Library spends about half a million dollars annually on over 800 journal subscriptions; these do not include many journals subscribed to by department and division libraries. To ensure that its subscription dollars are being spent wisely, the committee decided to survey Research Library users for the first time. As a result of this survey, subscriptions to unread journals will be cancelled, and popular journals that are not subscribed to at present will be considered as additions to the collection.

Therefore, survey recipients are asked to check off the titles that they read and to write in any journals not listed but that they read regularly. Completed surveys should be returned to Arline Willsey, Bldg. 477A.

Arrivals & Departures

Arrivals

Michael Barriere.....Nuc. Eng.
Stephen McAlary.....NSLS
Costantino J. Posillico.....App. Sci.

Departures

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

Vili Benary.....Medical
Gertrude H. Neuhoff.....App. Sci.

Softball Champs

To take the League I title, the Phoubars defeated Cool 'n' Gang, taking two out three playoff games. The Phoubars are: (front, from left) Ed Meier, Keith Greiner, John Ingoglia, Guy Mastrion, Joe DeVoe, Kevin Verdi, Jim Desmond; (back, from left) Bob Brown, Steve Gushue, John DiBiase, Bill Fox, captain Gordon Smith, John Blydenburgh, Chris Ingoglia, Ken Rogers and Jim Rowehl.

In two out three games, Six Pax won the playoffs and the League II championship over Up & Atom. Members of the Six Pax shown here are: (front, from left) Walt Reams, Howie Bell Jr., Frank Gaetan, Andy Levine, Dan Martin; (back, from left) Bob Meier, Rich Meier, Joe DeCicco, Mark McNeill, Jim Meier, Emil Varrichio, captain Charles Bohnenblusch and co-captain Jim Leskowicz. Not pictured: Lou Cannizzo, Steve Donovan and John McCaffrey.

Phase Out phased in their League III victory over Sure Fire by winning the first two playoff games. Phase Out includes: (front, from left) Charles Gardner, John Rubino, captain Boyzie Singh, Joe Rubino, Ed Meier; (center, from left) Frank Thornhill, Gary Nintzel, Steve Hulbert, Ken Batchelor, John Bohner, Charlier Nielson, Jim Alduino; (back, from left) John Butler, Kenneth Riker and Joe Sheehan. Not pictured: Richard Biscardi and Steve Kramer. — photos by Roger Stoutenburgh

Brewers kept the sting out of Sting Ray by beating them 3-2 in their playoff game and taking the League IV title. On the Brewers are: (front, from left) Ron Webster, Kathi Barkigia, Micki Miura, Joe Hriljac, Alison Davenport; (back, from left) Denise Miesell, Tirre Farmer, Phil Baxter, captain Mark Renner, Paul Hale and John Willi. Not pictured: Linda Farmer, Karen Furenlid, Lars Furenlid, Gail Penny, Terry Sullivan and Russell Tonkyn.

Just 4 Fun had some fun in winning their League V playoff game, defeating Roustabouts 7-6. Just 4 Fun includes: (front, from left) Patti Bender, Janet Tempel, Joe D'Ambra, Mary Durham, Cheryl Miezianka; (back, from left) John Biemer, Judy Thompson, Rolf Beuttenmuller, Rich Scheidet, Mary Scheidet, Sue Peri and Ron Dobert. Not shown: Karen Adelwerth, Laura Chiampou, Ed Dale, Jack Feldman, Eric Larson, Sue Norton, captain Michael Schaeffer and Marilyn Zane.

MicroComputer Club

At the next meeting of the BNL Microcomputer Club on Thursday, October 24, in the conference room, Building 515, Ralph Fullwood of the Department of Nuclear Energy will present "Designing and Writing Uconcon 2."

Uconcon is the units conversion and constants program written by Fullwood. His demonstration and talk will describe the programming that was performed in Quick Basic, including the recent upgrade addition for relativistic calculations. A free copy of this program will be distributed on 5¼-inch disks at the meeting to all members.

All are welcome to attend; bring your lunch. For further details contact Irving Montanez at Ext. 2540.

Camera Club

The Camera Club will meet in Berkner Hall at 5:15 p.m.on Thursday, October 24, to change the pictures in the club's photo display. All photographs must be mounted and ready to hang. As always, nonmembers are welcome to attend and to contribute photos that meet the exhibit's display criteria. In addition, photographers may submit prints for the exhibit even if they are not able to attend this meeting.

For information, contact Lew Jacobson, Bldg. 134C, Ext. 5193; Ripp Bowman, Bldg. 911B, Ext. 4672; or Anne Baittinger, Bldg. 134, Ext. 5055.

Bowling

Red/Green League

K. Asselta had a 245, R. Mulderig 233, A. Warkentien 227, E. Meier 213, R. Eggert 209, E. Carter 206, R. Larsen 203/201, P. Ouvrard 202, N. Parrinello 200.

White League

Joe Sheehan had a 224, Tracy Ryan 223, Craig Diaz 204, Norman Sewell 204, Dick Larsen 203, Paul Callegari 201, Gerry Riker 199.

Purple League

Caryl MacDougall had 213, Sam Logan 210, Jim Goode 206, Kathy Griffin 187.

Cafeteria Menu

Monday, October 21	
Soup: Chicken noodle	.75/.95
Entree: Crispy baked chicken w/1 veg.	3.10
Entree: Beef goulash over noodles	3.10
Fitness: Chef's choice	3.10
Carvery: Hot pastrami sandwich	2.85
Grill: Sloppy Joe on a bun w/French fries	2.85
Tuesday, October 22	
Soup: Cream of turkey	.75/.95
Entree: Seafood Newburg over rice	3.10
Entree: Chef's choice	3.10
Fitness: Baked fish w/herbs & 1 veg.	3.10
Carvery: Hot roast beef sandwich	2.85
Grill: Reuben w/cole slaw & pickle	2.85
Wednesday, October 23	
Soup: Seafood gumbo	.75/.95
Entree: Turkey divan w/1 veg.	3.10
Entree: Linguini w/marinara sauce	3.10
Fitness: Moo goo gai pan w/rice	3.10
Carvery: Hot Black Forest ham sandwich	2.85
Grill: 3-D burger w/French fries	2.85
Thursday, October 24	
Soup: Beef barley	.75/.95
Entree: London broil w/gravy & 1 veg.	3.10
Entree: Chef's choice	3.10
Fitness: Beef and broccoli over rice	3.10
Carvery: Hot corned beef sandwich	2.85
Grill: Philly cheese steak w/cole slaw	2.85
Friday, October 25	
Soup: Manhattan clam chowder	.75/.95
Entree: Baked catch of the day w/1 veg.	3.10
Entree: Stuffed shells w/1 veg.	3.10
Fitness: Veal Marsala w/1 veg.	3.10
Carvery: Hot turkey sandwich	2.85
Grill: Fried fish fillet on a bun	2.85

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

35 Brookhaven Ave., Upton, N.Y. 11973
(516) 282-2345

Computer Compliance Cutoff Date Set

The Computing & Communications Division (CCD) has established compliance requirements for exporting files from its mainframe computers. Over the past several months, compliance has been defined and explained to those likely to be affected, and CCD has provided them with the means of making their computers compliant.

On November 1, CCD will stop exporting networked file systems to machines that are not compliant. Thus, those computers will not be able to mount file systems via the network from any CCD servers.

Anyone affected by these requirements whose computer is not yet compliant is urged to contact the HELP DESK at Ext. 4159.

In Memoriam

Charles H. Horn, who retired in from BNL in July 1981 as a tool & instrument maker in the Central Shops Division, died on September 30, following a long illness. He was 69 years old.

Horn began his Central Shops career on January 29, 1962, as a helper A. He was promoted to Machinist in July 1964, to Experimental Machinist in September 1966 and to his final position in April 1974.

A resident of Blue Point, Horn is survived by his wife Marialyse, their daughter Christine Donaldson, their son Charles Horn and five grandchildren.

Note to Employees:

Attendance at lectures, meetings and other special progams held during normal working hours is subject to supervisory concurrence.

Wanted: Artwork!

Original art and sculpture by BNL employees, guests, retirees and their families are needed for the Fall Art Show. Sponsored by the BERA Art Society, the show will be held at Berkner Hall, November 12-15. For more information, call Robert Chrien, Ext. 3903 and see next week's Bulletin.

Amateur Radio Club

The regular monthly meeting for the Amateur Club will take place in Berkner Hall, Room D, on Thursday, October 31, at noon.

All Lab employees, guests and licensed amateur radio operators are invited. For further information, contact Andy Feldman, Ext. 3264, or Gary Utz, Ext. 3580.

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.

The vacancies listed below have been exempted by the Director's Office from the current freeze on open requisitions.

LABORATORY RECRUITMENT - Opportunities for Laboratory employees only.

DD 8364. SECRETARIAL POSITION - (term position) Requires AAS in secretarial science or equivalent and a thorough knowledge of Laboratory policies and procedures. Duties will include preparation of technical reports and correspondence, arrangement of travel, processing of vouchers and maintenance of files. IBM PC experience is required; WordPerfect 5.1 is highly desirable. Department of Nuclear Energy.

MK 8016. ADMINISTRATIVE POSITION - Requires a BS in science or engineering, graduate degree preferred, significant experience and expertise in contract drafting and negotiating, excellent oral and written communication skills, and the ability to deal effectively with outside organizations. Will be involved in the negotiation and preparation of contracts with outside industries utilizing our user facilities, and the business and contractual aspects of work for others, use of facilities and cooperative research agreements. Office of Technology Transfer.

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside candidates.

NS 6099. TECHNICAL POSITIONS - Requires AAS in electronic technology or equivalent working experience and good communication skills. Troubleshooting experience in rf systems, pulsed power supplies and digital electronics desirable. Duties include operating accelerator systems, equipment troubleshooting, and maintenance and operations support. Rotating shift work required. (Reposting). Alternating Gradient Synchrotron Department.

LF 8328. ENGINEERING POSITION - Requires a BS or MS in mechanical or electrical engineering or related field, with 5-10 years' experience in design, test and operation of nuclear power plants. Must have knowledge of plant systems and equipment test and maintenance. Knowledge of probabilistic risk assessment and reliability practices is also desired. Duties will include research and technical assistance in the areas of equipment aging, manufacturing, systems design and operations. Department of Nuclear Energy.

DD 8101. TECHNICAL POSITION - Requires AAS in engineering or physical science or equivalent experience; AAS in health physics is highly desirable. Responsibilities will include routine radiation and contamination surveys. Participation in respirator, industrial hygiene and general safety training programs is required, as is the ability to obtain and maintain a security clearance and availability for shift work. Safety and Environmental Protection Division.

DD 8104. TECHNICAL POSITIONS - Requires AAS in engineering or physical science or equivalent experience; AAS in health physics is highly desirable. Responsibilities will include routine radiation and contamination surveys. Participation in respirator, industrial hygiene and general safety training programs is required, as is the ability to obtain and maintain security clearance. Safety and Environmental Protection Division.

DD 8105. TECHNICAL POSITION - Requires AAS in engineering or physical science or equivalent experience; AAS in health physics is highly desirable. Responsibilities will include routine radiation and contamination surveys. Participation in respirator, industrial hygiene and general safety training programs is required, as is availability for shift work. Safety and Environmental Protection Division.

Motor Vehicles & Supplies

91 JETTA - diesel, ac, cass., 5-spd., sunroof, 11k mi., 44 mpg, $10,000 neg. Gary, Ext. 7749.

89 DAYTONA ES - blue, ac, p/b, a/t, 34k mi., take over lease payments, 30 payments left. 821-3721.

88 PONTIAC GRAND PRIX SE - white, gray leather int., fully loaded, 2.8L, V-6, ext. warr., 33k mi., $10,500. 369-2716 after 6 p.m.

88 JEEP WRANGLER - a/t, 33" Mickey Thompsons, 3" suspension lift, 43k, $9,000. Pete, Ext. 2238.

87 MAZDA B-2600 4x4 - 5-spd., black, SE-5, 49k mi., good cond., $4,800 neg. Larry, Ext. 4666 or 874-4476.

86 NINJA 250 - red/black, good cond., garaged. Scott, Ext. 7110 or Cindy, 874-3652.

86 FORD XLT BRONCO - 69k mi., p/s, p/b, ac, cruise, alum. rims, running boards, red w/tan cap & int., excel., must sell, $6,250 neg. 325-0361.

85 SUBARU XT - light blue, am/fm cass., ac, sunroof, 5-spd., 757-1973.

84 PONTIAC PHOENIX - 2-dr., V-6, a/t, ac, p/s, p/b, am/fm cass., new tires, excel. cond., $1,250. 473-7667.

84 DODGE CARAVAN - 2.6 liter, a/t, ac, p/s, p/b, p/w, p/l, tilt, cruise, cass., excel. cond., $4,800. Ext. 4591.

84 FORD TEMP - a/t, ac, p/s, p/b, cruise, $1,200. Ext. 4591.

84 OLDS DELTA 88 - white, 93k mi., excel. cond., $2,300. Ext. 2769.

84 PONTIAC FIREBIRD - T-top, a/t, new exhaust system, struts, shocks, brakes, gar., one owner, excel. cond., $2,500. R. Spellman, Ext. 3351.

84 CAMARO - V-6, p/s, p/b, a/t, p/w, ac, white, good cond., $2,000. 447-6820 after 6 p.m.

83 PONTIAC 6000 LE - a/t, 6-cyl., fully loaded, moonroof, mint, asking, $3,000. 689-9234.

82 NISSAN STANZA - 4-dr. h/b, a/t, ac, tilt, cruise, new batt. & belts, good tires, 105k mi., v.g. running cond., $1,350. Ext. 2679 or 472-6922.

82 MAZDA RX7 - GSL, loaded, black, garage, excel. cond. Ext. 4591.

82 CHEVY CHEVETTE SCOOTER - blue, 4-dr., 4-spd., new clutch, Sears radial tires, 65k mi., looks good, runs well, $1,000. Ron, 732-6712.

82 GMC JIMMY - 6.2L, p/s, p/b, ac, a/t, clean, good cond., $4,000. Jack, Ext. 7869.

82 YAMAHA XS400HS MOTORCYCLE - 6k mi., accessories, $800 neg. 878-2702 after 6:30 p.m.

81 OLDSMOBILE CUTLASS CRUISER WAGON - p/s, p/b, am/fm, ac, V-8, cruise, good cond., $1,400. Mark, 924-0848.

79 TOYOTA COROLLA - 95k mi., new tires, runs well, good cond., $800. Mario, 736-1286.

73 VW 412 - new brakes, battery, etc., just inspected, reliable, good station car, no heat. George, Ext. 4584.

71 FORD F250 4x4 - little body rust, needs tune up, $500 or best offer. Chris, 447-6641.

71 MONTE CARLO - 350, 300-h.p., garaged, low mileage, rally wheels, mint cond., must be seen, $4,500. Rich, Ext. 3354 or 589-9103.

69 SUZUKI T200 - 7k mi., clean. Ext. 2769.

67 PONTIAC LEMANS - big block Chevy, 450-h.p., everything new, many extras, never driven, 744-3284 after 6 p.m.

62 JEEP CJ-5 - new soft top, many extra parts, needs some work, make offer. Mark, 744-3383.

PARTS - '76 Ford pickup, 4wd. 727-0082 after 7 p.m.

PARTING OUT - '80-'81 Toyota Tercel, all parts, v.g. cond. Bill S., Ext. 4312 or 281-6498.

CAP - '85 Mazda Pickup B2000, sell/trade '85 Nissan pickup, $720. Ernie, 588-4987.

CAR RADIO - Panasonic, am/frn cass., $50; jack, large domestic cars, $15; tire, P195/75R14, on rim, $15; 13" tire, unmounted, $5. Ext. 5080.

CAR STEREO - Concord CX-50, 35 watts/channel 100 watts, pre-amplifier, 2-pile, base speakers, 9½"x11", new cond., $750. Tim, 281-7873.

TIRES - steel-belted, 185/70R14, $10 ea.; Toyota rims, 4-lug, $10 ea. Ext. 3372 or 821-0250.

TIRES - 2, P215/65SR15, $30. Duke, Ext. 2957.

Boats & Marine Supplies

25' MACH I CRUISER - 1984, 260 OMC, i/o, sleeps 4, head, full electronics, incl. mooring, dinghy, 2-h.p., $9,500 or best offer. Mike, Ext. 4345.

21' SAN JUAN SAILBOAT - w/trailer, good cond., $2,500. Mark, 924-0848.

20' CHRIS CRAFT 205 LTD - 1988, Bowrider, 6-cyl. i/o, 8' beam, am/fm radio, Shore trailer, many extras. Bill, 732-8793.

18' CANOE - mahogany, racing design by Max Anderson of Sweden, good cond., $250. Ernie, Ext. 2957 or 281-7873.

18' VICTORIA - tilt trailer, 4.5-h.p. Merc., jib, main, Genoa, cruising spinnaker, VHF, DF, K/M, sleeps 2, shoal keel, $3,650. Mike, Ext. 5972 or 744-4579.

14' MFG RUNABOUT - f/g, 25-h.p. Evinrude, elec. start, galv. trailer, new prop., lights & wheel bearings, $900 neg. Ray, Ext. 3536.

OUTBOARD - 3-h.p. Aqua Bug, short-shaft, air cooled, $200. Mike, 467-8393.

Furnishings & Appliances

DINING ROOM - contemp., table w/leaf & 6 chairs, china closet, buffet, 5-light chandelier, $350 firm. Ed Grahn, Ext. 4792 or 265-3731.

CHINA CLOSET - oak, glass sides, beveled glass front; walnut china closet, glass front w/drawer; mahogany credenza, excel. Mike, 929-4716 eves.

CLOCKS - heirloom, quartz, wall, never used, brass finish, $8; Bulova quartz anniversary clock, moon-phase dial, $40. Mario, 736-1286.

COUCH & LOVESEAT - earth-tone tweed, excel. cond., $45/pair. 751-8240 eves.

COUCH - gold, green arm chair, $125/both; swivel rocker/recliner, $50; large maple table & chairs, good cond., $150. Paul, 727-4859.

COUCH - Ethan Allen, 7', excel. cond. 325-0447.

HUTCH - maple, Colonial, w/glass enclosed cabinets, 48"x18", mint cond., best offer. Bill, Ext. 4986 or 463-1940.

KITCHEN SET - good cond., $40; stereo cabinet, new formica top, 6' long, $40; cherry rocking chair, new, $35. Ext. 4103 or 689-9234.

LOVESEATS - 2, brown & beige, excel. cond., $250/ea. Jim, 325-9293.

MATTRESS - & boxspring, full size, v.g. cond., $70. Shen, Ext. 3748.

SOFA BED - v.g. cond., $250; 2 exercise mats, new, $5/ea. Yannis, Ext. 5324.

WATER BED - Somma, king, deluxe top only, mint cond., $150. 878-0898.

CONVECTION OVEN - almost new, used less than 15 times, approx. 2 cu. ft., $45. Dusan, 751-6829.

DISHWASHER - Sears Kenmore, works well, mobile, $50. Ray, Ext. 3536.

FREEZER - Kenmore, chest-type, excel. cond. Ext. 4591.

AIR CONDITIONER - GE, port., 4,000 Btu, 745 watts, good cond., $30; home spa for tub, jaccuzi, tank, hose, pad, good cond., $20. Pat, 722-4489.

Tools, House & Garden

FIREPLACE - freestanding, globe-shape, burnt orange enameled top, flat black bottom & stove pipe, like new, $150. 473-7667.

COAL-BURNING STOVE - Wellington, cast-iron, w/tools, v.g. cond., make offer. Gary, Ext. 2011 or 758-5592.

PARLOR STOVE - antique, wood burning, w/nickel trim, $150; antique Singer sewing machine w/stool, $60. John, Ext. 2172 or 744-4386.

CEDAR SHAKES - 20-25 bundles, $200. 369-0432.

WINDOW - vinyl, double hung, full screen, 32"x37½". Tony, 698-9274.

STORM DOOR - 36"x80", white, good cond., $20. Ext. 2679 or 472-6922.

TOPSOIL - fine, screened, 3 yard minimum, delivered. 696-6011.

Sports, Hobbies & Pets

CAMERAS - Ricoh AF-5, 35mm, automatic, w/telephoto lens, $60; Olympus Supertrip, $40; Sears binoculars, 7X35, $10. Mario, 736-1286.

DOG HOUSE - good cond., for medium-large dog. Ron, Ext. 4159.

FISH TANK - 10 gallon, head, filter, heater, $30; rowing machine, $10; weight set w/bench, $50. Mike, 467-8393.

FLUTE - Artly 18-0, needs tune-up, $75; Minolta Easy Flash camera, F-1.7, $50. Janet, 2345 or 929-3910.

TYPEWRITER - Royal Administrator, electric, office size, magic margin, white, good cond., $80. Ernie, Ext. 2957 or 281-7873.

Audio, Video & Computer

COMPUTER - Commodore 64 w/Star NX10 printer, 14" color mon., modem 300, 1541-II, floppy, more, $1,000 neg. Ext. 2877 or 289-8428.

COMPUTER - Turbo XT 8088, 3 pieces, 512K, hard disk, 2 floppy disks, mono. display, $365. Xue Dejun, Ext. 5271 or 2520.

COMPUTER - Commodore 128, keyboard, color monitor, 2 disk drives, computer table, many extras, $375. 744-2493.

HAM RADIO - Icom IC U2AT, w/extras, battery, $110; AH 2A, brand-new, $220; rotor, T2X, $195; stereo receiver, amplifier, speakers. 929-6646.

CASSETTE DECK - Advent 201, $75; Thoreius TD125 turntable, w/SME tone arm, $200. Augie, Ext. 3884.

TV CART - $15. Neal, Ext. 2907.

TV - console, w/turntable, radio, 8-track tapedeck, needs work; doghouse, for medium-size dog, blue wood siding, shingled roof. Mary, Ext. 2815.

TV - color, 25", console, cable-ready, remote control, v.g. cond., $150. Marcia, Ext. 7796.

LP RECORDS - Franklin Mint collection, limited edition, classical, never played, excel. Janet, Ext. 2345.

Miscellaneous

OPERA TICKETS - Met, *Don Giovanni*, Sat. matinee, orchestra, center row K, Levine conducting. Ext. 3922.

AIRLINE VOUCHER - American Airlines, orig. $250, sell for $200. Ext. 5080.

BABY'S CHANGING TABLE - white wicker, $12; brass plated w/glass plant holder, $10; Bill, Ext. 4986 or 563-1940.

BABY'S SEAT - Fisher Price Travel Tender, $35; walker, $15; Century infant car seat, $25. 475-2509.

PORTABLE POTTY - Sears, detachable, fresh water tank, $35; Century Topper, toilet seat for children, $3; both good cond. Pat, 722-4489.

LUGGAGE - Pierre Cardin, 5-piece, gray tweed, like new, $35. Mario, 736-1286.

SHOES - new, man's wing tip, size 10, brown, leather soles, $20. Joe, pager 0925 or Ext. 2898.

ANTIQUE MIRROR - $75; suede pocketbooks, new, $10; man's navy coat, $20; weed trimmer, $50. Kathy, 744-2203.

Free

HOUSE PLANTS - pineapple top. Ext. 4144.

OAK AND CHERRY WOOD - victims of Hurricane Bob, mostly cut into reasonable lengths, you pick up. Foley, Ext. 3943.

TUBES - glass, radio & TV oldies, new & used. Fred Kuehl, Ext. 7947.

DRESSER - 5-drawer, 20"x40"x50", mahogany, stripped, needs painting. 289-0687.

Lost & Found

FOUND - keys in parking lot in front of Apt. 1, apt. area, Oct. 11. Ext. 2345.

FOUND - beige trench coat, woman's, Bldg. 460, conference room. Joanne, Ext. 3711.

Car Pools

FROM BAYSIDE TO HICKSVILLE - will meet anywhere & share car and driving. Henry, Ext. 3817 or (718)-776-9798.

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

BROOKHAVEN HAMLET - charming 1738 2-bdrm. cottage, hand-hewn beams, 2 baths, fp in d/r, greenhouse, $1,200/mo. + util & sec. Susan, Ext. 2888 or 286-0422 after 6 p.m.

MEDFORD - 1-bdrm. apt., priv. ent., nice area, full tiled bath, sep. thermostat, w/w carpet, use of yard, $640/mo. includes all. Betty, 758-2653.

MILLER PLACE - large 1-bdrm. apt., l/r, d/r, kitchen, bath, new appl., new windows, w/w, sliding door/deck, walk to stores. 744-2493.

NORTH SHIRLEY - 1-bdrm. apt., full bath, large l/r, large kit., priv. ent., 1st floor in new hi-ranch, $650/mo. includes all. 399-3950.

PATCHOGUE - 1-bdrm. apt., l/r, eik, full bath, priv. ent., $600/mo. + elect. 758-9835.

RIDGE - furnished studio apt., private, fenced-in yard, 5 min. from Lab., avail. end of Oct. $500/mo. 744-8632.

SELDEN - 2 bdrm., large kit., l/r, encl. sun porch, priv., wooded, suitable for 2, $870/mo. 732-4068 after 6 p.m.

SHIRLEY - 2½-rm. apt., $450/all, employed, mature person, nonsmoker preferred, priv. driveway & ent., quiet surroundings, 10 min. to Lab, 1 block off Wm. Floyd Pkwy. 281-6263.

SHOREHAM - 1-bdrm. apt., full bath, l/r-kit. combo, priv. ent., $600/mo. includes all. 744-0248.

CLAREMONT, NH - 2-bdrm. combo, near Vermont, antique shops, factory outlets, 10 min. to Lake Sunapee, 1 hr. to Lake Winnepesaukee, $300/wk., $225/wknd. Frank, Ext. 7749.

HILTON HEAD, SC - 2-bdrm. condo, sleeps 6, fully furn., 2 baths, tennis, beach, golf nearby, Oct.-Dec., $350/wk. Guy, Ext. 3147 or 689-5378.

BROMLEY, VT - 3-bdrm. condo, 2½ baths, l/r w/fp, TV/stereo, completely furn., $8,000/Nov.-Apr.. 518-747-7821.

For Sale

EAST MARION - 1-acre bldg. lot adjacent to Greenbelt, walk to Sound. 325-0447.

HOLBROOK - 4-bdrm. ranch, l/r, d/r, eik, full unfin. basement, w/w, deck, fenced yard, ¼ acre, $121,900. Ext. 3809 or 588-9019 eves.

MANORVILLE - 1 acre, 5-bdrm. ranch, eik, l/r, pantry, foyer, laundry, igp, vinyl siding, bsmt., 1½ baths, low taxes, screened patio, wood or coal stove, conv. location, $140,000. 472-2414.

MILLER PLACE - Rustic Acres, 4-bdrm. center-hall Colonial, 2½ baths, l/r, d/r, den, 2-car gar., deck, near by MP schools. Mike, 474-0517, eves.

N. SHOREHAM - 3-bdrm. L-shaped ranch, d/r, sunken l/r, eik, oak floors, fin. bsmt., workroom, 2-car gar., parklike, ½ acre, igs, deeded beach rights, $179,900. Mike, Ext. 5972 or 744-4579.

PATCHOGUE - 4-bdrm. Victorian, mint, parlor, l/r, d/r, eik, sunroom, 1½ baths, fp, new roof, new cesspools, updated elec., plumb., heat., beautiful woodwork, ½ acre, $189,900. Tom, Ext. 4030.

RIVERHEAD - modular home, adult park, perfect for retirement, 3 bdrm., 2 baths, eik, laundry, l/r, w/w, cac, 5 min. drive to golf, ask. $46,900. 878-8123 eves.

RIVERHEAD - 12'x65' mobile home, 2 bdrm., new kit., bath, HWH, wood siding, Andersen windows, lg l/r, d/r, 8'x10' shed, cooperative park, w/d, $35,000 neg. Beth, Ext. 4986 or 369-4295.

SHOREHAM - 4-bdrm. Cape, attach. 2-car gar., 2 fp, 1½ baths, d/r, 1-acre treed lot, new appl., extras, estate, must sell. Vi, Ext. 5169 or 744-6043.

SHOREHAM - 3-bdrm. ranch, ½ acre, SWR SD, low taxes, 2 baths, large eik, d/r, l/r, den, lg. storage rm., cac, gas heat, all appl., prof. landscaped, igs, $145,000. Ext 2833 or 744-7172.

SHOREHAM - N25A, SWR schools, low taxes, 4-bdrm. Col., 2½ baths, 2-car gar., bsmt., encl. porch, energy efficient, fenced yard, lots of storage, 10 min. to Lab, $165,000. Rich, 744-0960.

HUBBARDTON, VT - 38 deeded acres situated on town-maintained road w/power & telephone, largely wooded w/view of Lake Bomoseen, ask. $34,000, neg. terms avail. Tom, Ext. 2833

Wanted

BIKERS - to meet for mountain bike ride, Sun. 10/27, 9 a.m.. Augie, Ext. 3884.

COLOR MONITOR - for Commodore 64. Fred, Ext. 3848.

EXERCISE BIKE - stationary, reasonable. 289-0687.

FRIENDS OF ROBERT HILL - to celebrate his 96th birthday, 10/19, 4 p.m. 758-1841.

GAY WOMEN & MEN - join us for our next on-site meeting, Fri., 10/25, dinner to follow. 929-0847 after 8 p.m.

20MB HARD DRIVE - or hardcard for IBM-PC clone e.g. Kaypro, inexpensive, used. Pat, Ext. 4538.

HOUSEMATE - own bdrm. kit., laundry, fp, all utilities, Patchogue area, $425/mo. 752-0294 after 3 p.m.

OUTBOARD MOTOR - 40-140 h.p., running cond., reasonable. 563-6680.

PICCOLO - Dieter, Ext. 3423 or 924-5549.

COLLINS 51S1 RECEIVER - any condition, also tubed audio components by Marantz, Macintosh, Dynaco, Eico, Futterman. Jim, Ext. 4584.

WET SAW - for cutting bricks, rent or buy. Tony, 698-9274.

WINDOWS - for cold frame, 2 glass doors, 6'x3' (2mx1m) or three 6'x2'. Ext. 3618.

Classified Ad deadline is 4:30 p.m. Friday for publication Friday of the next week.