BROOKHAVEN BULLETIN
Vol. 49 - No. 41 October 20, 1995
BROOKHAVEN NATIONAL LABORATORY

A Hundred Years of *Phys. Rev.*: BNL's Contributions

By happy coincidence, the "golden age of physics," as the last hundred years have been called, has been spanned by the first hundred years of what has become the world's premier journal of physics — *The Physical Review (Phys. Rev.)*, which dates from October 1893. Since 1958, *Physical Review Letters (PRL)*, formerly a part of *Phys. Rev.*, has been published separately. In 1994, the two journals printed an estimated one quarter of all the physics literature worldwide.

To mark its first century, the American Institute of Physics and the American Physical Society (APS), which publishes *Phys. Rev.*, have this year published a selection of just over 1,000

Simon Pasternack first assisted Samuel Goudsmit and later became Editor of *Phys. Rev. Letters*.

of these journals' seminal papers and commentaries in *The Physical Review, The First Hundred Years*. Edited by H. Henry Stroke, New York University, the 1,266-page book holds 200 articles, supplemented by an enclosed CD-ROM containing these and all the other articles. The package is described on the back cover as "a unique collection of original papers by the pioneers of 20th century science."

Among these pioneers are many whose pathfinding work was done here at BNL. Said Lab Director Nicholas Samios, whose name appears in several of the cited papers (see list at end of story), "For the past century, physicists have shared in an incredibly exciting period — making unprecedented advances in our knowledge of science. It is satisfying to know that the representation of BNL physics in this landmark collection of *The Physical Review* demonstrates the Lab's significant contribution to the critical research of our time."

In selecting which papers to use, "many physicists have agonized long hours," wrote Benjamin Bederson, APS Editor-in-Chief, in the book's preface. The magnitude of the task can be glimpsed from some of the figures gathered by Paul Hartman, Cornell University, in *A Memoir on The Physical Review*. (APS, 1994). After starting with 500 pages in 1958, *PRL* held 2,200 pages in 1993. *Phys. Rev.* in 1958 was over 2,200 pages — in 1993, nearly 70,000 pages.

Stroke comments in the introduction to his edition on the overwhelming response made to the more than 500 letters he sent to physicists in every sector asking for recommendations for the centennial volume. Length was a factor, especially in choosing the 200 papers to be reproduced in print as well as electronically. A cutoff date was set that eliminated, with very few exceptions, any publications after 1983, which "will leave for the next edition many exciting current developments," Stroke said.

BNL Physicist Samuel Goudsmit started editing *Phys. Rev.* in 1951.

The articles in the collection are arranged in 12 chapters according to different fields of physics. Each chapter has a brief history and overview written by an expert in the field, highlighting ideas and physicists of particular note.

Cited in three sections of the nuclear

(continued on page 2, third column)

Among *Phys. Rev.* Transitions: The BNL Phase

About a mile north of BNL's main entrance, on the west side of William Floyd Parkway, sits the single building that, since 1980, has been the headquarters of the world's most prestigious journal of physics: the American Physical Society's (APS) *The Physical Review* (*Phys. Rev.*).

But for almost 30 years prior to 1980, while office space had been available, *Phys. Rev.* was headquartered at BNL, which also served as a rich source of editors, associate and assistant editors, temporary editors and peer reviewers, as well as publishable articles (see accompanying story).

Phys. Rev. was founded in 1893 at Cornell University as the first journal in the U.S. to be entirely devoted to physics. In 1926, it was moved to the University of Minnesota to be edited by John Tate. Having raised the journal's prestige to worldwide recognition, Tate died in 1950, and an interim year followed at Minnesota with Editors E.L. Hill and John Buchta.

In 1951, the APS invited Samuel Goudsmit, a senior physicist at BNL since 1948, to take over the *Phys. Rev.* editorship. Goudsmit — who concurrently was to be BNL's Physics Department Chairman from 1952 to 1960 and Deputy Chair from 1960 to 1967 — agreed, provided that the journal be moved to the Upton site, and that he have a full-time assistant editor. This was Simon Pasternack, a BNL physicist since the Lab's inception in 1947.

Both Goudsmit and Pasternack were already recognized for their own research contributions. In particular, Goudsmit's 1925 work on electron spin as the source of a new quantum number, won him many awards including, years later, the 1977 U.S. National Medal of Science. And Pasternack's 1939 analysis of the then available spectral data of the hydrogen atom was an early step toward a subsequent investigation by Willis Lamb of the effect known as the Lamb shift.

The Great Divide, From *A* to *E*

Now, in addition to their science, both physicists became renowned for their extraordinary dedication to maintaining the highest quality standards for *Phys. Rev.*, which grew tremendously, due to the inexorable increase in papers worthy of publication. In 1964, this growth resulted in *Phys. Rev.*'s being split up into four monthly parts, followed by further splitting in 1970. *Phys. Rev. A* deals with atomic, optical and molecular physics; *B*, solid state physics; *C*, nuclear physics; and *D*, particles and fields. *Phys. Rev. E*, on statistical physics, plasma, fluids and related topics, was separated out from *Phys. Rev. A* in 1993.

Separating the Letters from *Phys. Rev.* and establishing them in a supplemental journal, *Physical Review Letters*, in 1958, was one of Goudsmit's most significant innovations. At his request, George Trigg took a year's leave from the faculty of Oregon State University to help design and launch the new journal, which allowed no authors' proofing and thus had a much quicker turnaround — about three weeks — than was possible with *Phys. Rev.*

Peter Adams, the present Editor of *Phys. Rev. B*, came to BNL in 1964 and moved in 1969 to join Pasternack and four secretaries as *Phys. Rev.'s* sixth

(continued on page 2, upper left)

Nice NISUS for the NSLS

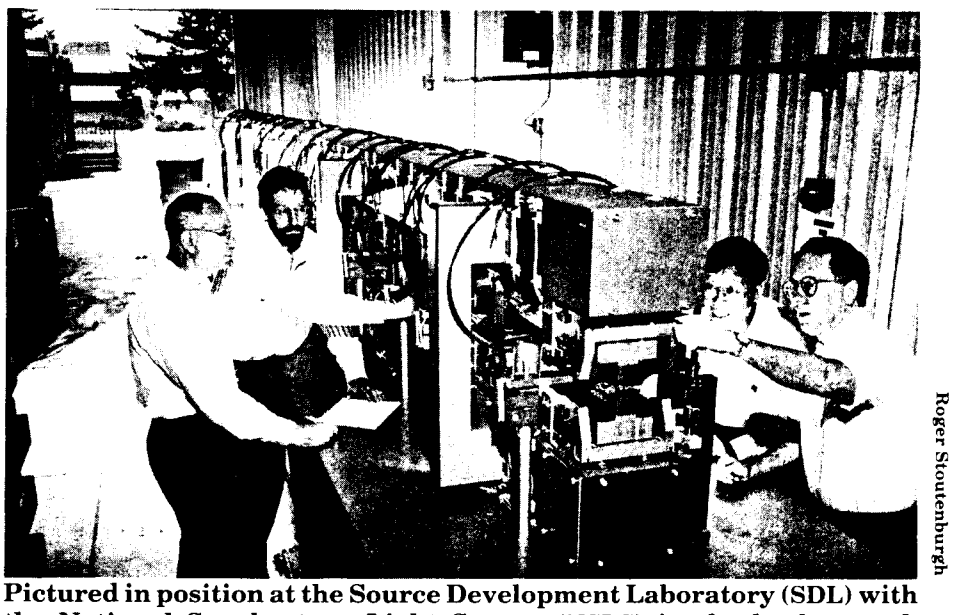
To develop a next-generation source of brighter and higher peak power light for experimental use, the National Synchrotron Light Source (NSLS) Department has opened a Source Development Laboratory (SDL) in Bldg. 729. There, an accelerator system is being put together, and one of its components is a Near Infrared Scalable Undulator System (NISUS).

An undulator is a periodic magnetic structure that forces an electron beam to move in a wavelike motion as it passes through the device. Under the right conditions, this periodic motion can result in the coherent generation or amplification of synchrotron radiation.

The ten-meter-long NISUS was originally built by STI-Optronics for Boeing Space & Defense in Seattle, as part of a contract with the U.S. Army Space & Strategic Defense Command's directed-energy weapons program. Because this Star Wars effort came to an end, the undulator was given to Duke University, and it is now on loan to the NSLS at Brookhaven.

NISUS arrived at BNL last December and is currently being modified for use in ultraviolet (UV) free electron laser (FEL) experiments, which will be conducted next year. The undulator serves as part of the amplifier for what is called the Ultraviolet Project FEL (UP-FEL). This device will produce sub-picosecond pulses of UV radiation at wavelengths as short as 75 nanometers, with peak power of several hundred megawatts. It could also be operated in what is called a chirped-pulse mode, producing 4-femtosecond pulses at 88 nanometers with peak power of 100 gigawatts. The UP-FEL is being developed to explore its use as a scientific probe and its possibilities as a source for a user facility.

In addition to BNL, developing UP-FEL involves four other U.S. Department of Energy labs: the Continuous Electron Beam Accelerator Facility, Lawrence Berkeley Laboratory, Los Alamos National Laboratory and the Stanford Linear Accelerator Center; three industrial partners: Boeing, Northrop Grumman and STI-Optronics; and three universities: Duke, the University of California, Los Angeles, and the University of Michigan. — Marsha Belford



Roger Stoutenburgh

Pictured in position at the Source Development Laboratory (SDL) with the National Synchrotron Light Source (NSLS) in the background, NISUS is being inspected by some of those at the NSLS involved in putting SDL together and planning its future experiments: (from left) Physicist Ilan Ben-Zvi; Eric Johnson, SDL Project Manager; Physicist Li-Hua Yu; and Samuel Krinsky, NSLS Deputy Chairman.

The BNL Phase at *Phys. Rev.* (cont'd.)

In 1956, *Phys. Rev.* secretaries occupied this office at BNL.

full-timer. "Goudsmit, as Editor and APS Editor-in-Chief, gave the general direction, but Pasternack handled the nuts-and-bolts operation, setting the tone of the journal," he said.

Editorial Asides

Pasternack, who became Editor of *PRL* in 1958, was well known for his keen wit, his puns and his sense of humor. On the blackboard beside his desk, marked SAVE, he guarded such delightful authors' slips as "has bazaar properties," "Nuclear Dater sheets," "undermined parameters," "we thank . . . for unvaluable help," "Center for Navel Analysis," and many, many more. Most unusual of all was his habit of putting comments or complaints into witty, pointed verse.

More verse, by unknown authors and found in a file of memorabilia, was written to be sung at a grand celebration for Goudsmit. To be sung "with gusto" to the tune of "Davy Crockett," part of it goes . . .

He worked at Northwestern and served a spell
Bein' a perfessor and all was swell,
Then he came to Upton, so I've hear tell,
And tackled the physicists at BNL,
Samuel, Samuel Goudsmit,
The man who don't know fear. . .
Fought single-handed through red tape galore
Buildin' up the physics group more and more,
And while he was handlin' the pesky chore
He made hisself an editor for evermore,
Samuel, Samuel Goudsmit,
Atomic pamphleteer.
Now he is editin' the Physical Review,
It's full of mesons — pi and mu,
Nuclei and solid state and lots of gas too,
It really forms a wicked brew.
Samuel, Samuel Goudsmit,
Your journal is unclear. . .

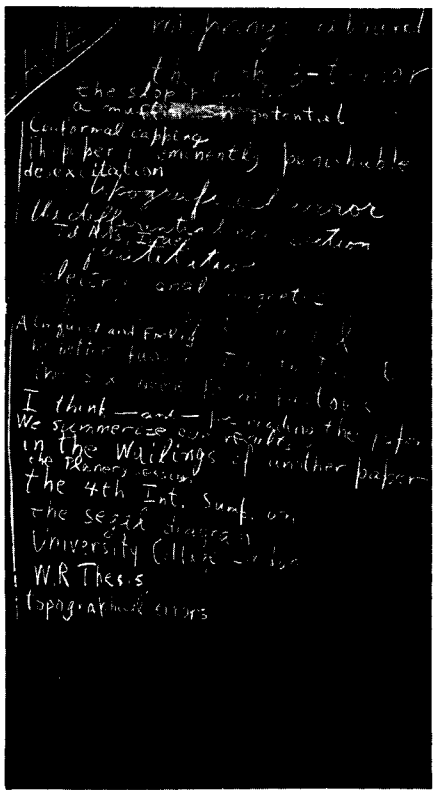
Trigg provided another aspect of Goudsmit. "He brought a streak of innovativeness into a basically conservative job; he felt that it is one of the jobs of scientific organizations to lead in exploring new modes of communicating. . . .Then he found people with no stake in the old order to put his ideas into practice, and pretty much gave us our head."

Trigg recalled an episode in the summer of 1961, when a paper arrived that was the theoretical prediction of an effect of electromagnetism contrary to common thought at that time. "Everyone who reviewed it felt uneasy, but nobody could find anything wrong," remembered Trigg. "Sam said something like, 'Let's publish. It may be wrong, but, if so, it will be wrong in a way that we will learn from.' "

The theory *was* later experimentally verified, Trigg said.

Trends and Innovations

Trigg was in a position to observe this because, three years after launching *PRL*, he returned to the Lab site as *PRL* Editor until 1988. "At first we published every two weeks," he said. Then Mike Fleming, Manager of *PRL* production, found that as a weekly, *PRL* would get U.S. Post Office newspaper classification, with the preferential, out-after-one-day treatment



Part of Simon Pasternack's blackboard, where he saved authors' slips.

By 1964, a weekly it was, and the practicality of the new form started a trend copied by other publications.

Trigg's meticulous running of *PRL* "set the standards of care and detail in editing that have marked the journal through its history," declared Robert Adair, James Krumhansl and Jack Sandweiss in a *PRL* editorial just after Trigg's retirement.

The novelty of *PRL* was not only in its content. It was also the APS's first journal produced by typewriting composition, in which the typist-compositors worked with specially equipped IBM proportional spacing typewriters. In June 1971, the American Institute of Physics opened a publishing facility in the Lab's former Brookhaven Graphite Research Reactor building, specifically for publishing the APS journals *Phys. Rev. C* and *D*, reducing APS's costs from $70 to $65 a page.

But a new technology was already on the way. Soon after Doris Terry, then Detmer, who is now in BNL's Department of Advanced Technology, joined *Phys. Rev.* in 1971, she started work at an enormous Hewlett Packard computer. "I would input the titles and authors of papers that finally entered into *A, B, C* and *D*," she said. "The control board with all the switches was about as high as a double microwave oven, and there were two keyboards. This was so that when one got hot, I could put it out of the window to cool and switch to the other."

In September 1978, a Brookhaven Bulletin article reported on an assessment being made by *Phys. Rev.* and *PRL* staff on new computer technology. Directed by Adams, the project examined the UNIX system, which preliminary estimates showed could save as much as $100,000 annually. Computers were there to stay.

Currently, with the paperless age around the corner, an on-line *PRL* subscription available and a CD-ROM augmenting by four-fifths the printed part of the centennial edition of *The Physical Review, The First Hundred Years* (see accompanying article) — who knows? "We'll still need paper for some time, though," Adams said.

The Journeying Journal

But while *Phys. Rev.* was at BNL, electronic publishing was still very far away. Trigg remembered *PRL* production as located first in the old photog-

(continued on page 3)

In 1970, Peter Adams, current Editor of *Phys. Rev. B.*, and Donna Earley, now of Physics, worked together for *Phys. Rev.*

A Hundred Years of *Phys. Rev.*: BNL's Contributions (cont'd.)

physics overview is Maurice Goldhaber, AUI Distinguished Scientist emeritus, and among the photographs in the elementary particle physics experiments overview are three that commemorate BNL events: 30-GeV proton-proton elastic scattering at the Alternating Gradient Synchtron, Nobelist Samuel Ting and his J-particle team, and the BNL bubble chamber photograph of the production of the Omega-minus particle.

Of the papers printed in *The Physical Review, The First Hundred Years*, at least 33 describe work done at BNL or were written by scientists while they were affiliated with BNL; these cited papers are listed below. Numbering among these are 14 of the 53 papers on elementary particle physics experiments. Considering that the Lab did not even exist for *Phys. Rev.*'s first 54 years, this is an impressive figure. In addition, four of these papers, indicated on the following list by an asterisk, described work that later won Nobel prizes. — Liz Seubert

Atomic Physics

R. Sternheimer. On nuclear quadrupole moments, *Phys. Rev.* **84**, 244-253 (1951).

Nuclear Physics

G. Scharff-Goldhaber. Excited states of even-even nuclei, *Phys. Rev.* **90**, 587-602 (no tables) (1953).

A. de-Shalit and M. Goldhaber. Mixed configurations in nuclei, *Phys. Rev.* **92**, 1211-1218 (1953).

G. Scharff-Goldhaber and J. Weneser. System of even-even nuclei, *Phys Rev.* **98**, 212-214(L) (1955).

C.E. Porter and R.G. Thomas. Fluctuations of nuclear reaction widths, *Phys. Rev.* **104**, 483-491 (1956).

R. Davis, Jr., D.S. Harmer, and K.C. Hoffman. Search for neutrinos from the Sun, *Phys. Rev. Lett.* **20**, 1205-1209 (1968).

Statistical Physics

H. Palevsky, K. Otnes, K.E. Larsson, R. Pauli, and R. Stedman. Excitation of rotons in helium II by cold neutrons, *Phys. Rev.* **108**, 1346-1347(L) (1957).

R.J. Birgeneau, H.J. Guggenheim, and G. Shirane. Neutron scattering from K_2NiF_4: A two-dimensional Heisenberg antiferromagnet, *Phys. Rev. Lett.* **22**, 720-723 (1969).

M. Blume, V.J. Emery, and R.B. Griffiths. Ising model for the λ transition and phase separation in He^3-He^4 mixtures, *Phys. Rev. A* **4**, 1071-1077 (1971).

R.J. Birgeneau, R. Dingle, M.T. Hutchings, G. Shirane, and S.L. Holt. Spin correlations in a one-dimensional Heisenberg antiferromagnet, *Phys. Rev. Lett.* **26**, 718-721 (1971).

Cosmic Radiation

R.M. Bionta, G. Blewitt, C.B. Bratton, D. Casper, A. Ciocio, R. Claus, B. Cortez, M. Crouch, S.T. Dye, S. Errede, G.W. Foster, W. Gajewski, K.S. Ganezer, M. Goldhaber, T.J. Haines, T.W. Jones, D. Kielczewska, W.R. Kropp, J.G. Learned, J.M. LoSecco, J. Matthews, R. Miller, M.S. Mudan, H.S. Park, L.R. Price, F. Reines, J. Schultz, S. Seidel, E. Shumard, D. Sinclair, H.W. Sobel, J.L. Stone, L.R. Sulak, R. Svoboda, G. Thornton, J.C. van der Velde, and C. Wuest. Observation of a neutrino burst in coincidence with Supernova 1987A in the Large Megellanic Cloud, *Phys Rev. Lett.* **58**, 1494-1496 (1987).

Condensed Matter

L.M. Corliss, J.M. Hastings, and R.J. Weiss. Antiphase antiferromagnetic structure of chromium, *Phys. Rev. Lett.* **3**, 211-212 (1959).

R.J. Birgeneau, J. Als-Nielsen, and G. Shirane. Critical behavior of pure and site-random two-dimensional antiferromagnets, *Phys. Rev. B* **16**, 280-292 (1977).

Elementary Particle Physics Experiments

E.D. Courant, M.S. Livingston, and H.S. Snyder. The strong-focusing synchrotron—A new high energy accelerator, *Phys. Rev.* **88**, 1190-1196 (1952).

W.B. Fowler, R.P. Shutt, A.M. Thorndike, and W.L. Whittemore. Production of V_1^0 particles by negative pions in hydrogen, *Phys. Rev.* **91**, 1287(L) (1953).

W.B. Fowler, R.P. Shutt, A.M. Thorndike, and W.L. Whittemore. Production of heavy unstable particles by negative pions, *Phys. Rev.* **93**, 861-867 (1954).

F. Reines, C.L. Cowan, Jr., and M. Goldhaber. Conservation of the number of nucleons, *Phys. Rev.* **96**, 1157-1158(L) (1954).

R. Budde, M. Chretien, J. Leitner, N.P. Samios, M. Schwartz, and J. Steinberger. Properties of heavy unstable particles produced by 1.3-Bev π^- mesons, *Phys. Rev.* **103**, 1827-1836 (1956).

K. Lande, E.T. Booth, J. Impeduglia, L.M. Lederman, and W. Chinowsky. Observation of long-lived neutral V particles, *Phys. Rev.* **103**, 1901-1904(L) (1956).

F. Eisler, R. Plano, A. Prodell, N. Samios, M. Schwartz, J. Steinberger, P. Bassi, V. Borelli, G. Puppi, G. Tanaka, P. Woloschek, V. Zoboli, M. Conversi, P. Franzini, I. Mannielli, R. Santangelo, V. Silvestrini, D.A. Glaser, C. Graves, and M.L. Perl. Demonstration of parity nonconservation in hyperon decay, *Phys. Rev.* **108**, 1353-1355 (1957).

M. Goldhaber, L. Grodzins, and A.W. Sunyar. Helicity of neutrinos, *Phys. Rev.* **109**, 1015-1017(L) (1958).

***G. Danby, J.-M. Gaillard, K. Goulianos, L.M. Lederman, N. Mistry, M. Schwartz, and J. Steinberger**. Observation of high-energy neutrino reactions and the existence of two kinds of neutrinos, *Phys Rev. Lett.* **9**, 36-44 (1962).

L. Bertanza, V. Brisson, P.L. Connolly, E.L. Hart, I.S. Mittra, G.C. Moneti, R.R. Rau, N.P. Samios, I.O. Skillicorn, S.S. Yamamoto, M. Goldberg, L. Gray, J. Leitner, S. Lichtman, and J. Westgard. Possible resonances in the Ξp and $K\bar{K}$ systems, *Phys. Rev. Lett.* **9**, 180-183 (1962).

V.E. Barnes, P.L. Connolly, D.J. Crennell B.B. Culwick, W.C. Delaney, W.B. Fowler, P.E. Hagerty, E.L. Hart, N. Horwitz, P.V.C. Hough, J.E. Jensen, J.K. Kopp, K.W. Lai, J. Leitner, J.L. Lloyd, G.W. London, T.W. Morris, Y. Oren, R.B. Palmer, A.G. Prodell, D. Rodojičić, D.C. Rahm, C.R. Richardson, N.P. Samios, J.R. Sanford, R.P. Shutt, J.R. Smith, D.L. Stonehill, R.C. Strand, A.M. Thorndike, M.S. Webster, W.J. Willis, and S.S. Yamamoto. Observation of a hyperon with strangeness minus three, *Phys. Rev. Lett.* **12**, 204-206 (1964).

***J.H. Christenson, J.W. Cronin, V.L. Fitch, and R. Turlay**. Evidence for the 2π decay of the K_2^0 meson. *Phys. Rev. Lett.* **13**. 138-140 (1964).

***J.J. Aubert, U. Becker, P.J. Biggs, J. Burger, M. Chen, G. Everhart, P. Goldhagen, J. Leong, T. McCorriston, T.G. Rhoades, M. Rohde, S.C.C. Ting, S.L. Wu, and Y.Y. Lee**. Experimental observation of a heavy particle *J*. *Phys Rev. Lett.* **33**, 1404-1408 (1974).

E.G. Cazzoli, A.M. Cnops, P.L. Connolly, R.I. Loutitt, M.J. Murtagh, R.B. Palmer, N.P. Samios, T.T. Tso, and H.H. Williams. Evidence for $\Delta S = -\Delta Q$ currents or charmed-baryon production by neutrinos, *Phys. Rev. Lett.* **34**, 1125-1128 (1975).

Particle Theory

C.N. Yang and R.L. Mills, Conservation of isotopic spin and isotopic gauge invariance. *Phys. Rev.* **96**, 191-195 (1954).

A. Pais and O. Piccioni. Note on the decay and absorption of the θ^0. *Phys. Rev.* **100**. 1487-1489 (1955).

***T.D. Lee and C.N. Yang**. Question of parity conservation in weak interactions. *Phys. Rev.* **104**, 254-258 (1956).

M. Creutz, L. Jacobs, and C. Rebbi. Experiments with a gauge-invariant Ising system. *Phys. Rev. Lett.* **42**, 1390-1391 (1978).

M. Creutz. Confinement and the critical dimensionality of space-time. *Phys. Rev. Lett.* **43**, 553-556 (1979).

M. Creutz. Asymptotic-freedom scales. *Phys. Rev. Lett.* **45**, 313-316 (1980).

BNL Phase at *Phys.Rev.* (cont'd.)

raphy building, then in a building opposite the High Flux Beam Reactor, "where I'd walk the papers that had been accepted by the editorial staff, who at that time were housed in the present Post Office, Building 179," he said.

The *Phys. Rev./PRL* staff had a somewhat nomadic life at the Lab. They seem to have started in Bldg. 459, now the Management Information Systems Division, then moved to the north end of the second floor of the new Physics Building. At some point they migrated southwards down on the first floor, then emigrated to the Post Office Building. Lastly, they returned to Physics, this time on the third floor.

"We were continually growing," explained Trigg, "and office space was difficult to arrange on a permanent basis." The original staff, which was six people when he arrived, numbered over 50 by 1980.

Donna Earley, now in Physics, but in 1968 a *Phys. Rev.* secretary in the editorial office, commented, "Getting everything ready for a deadline was almost like being in a war on the front line, but, after it was all done, you'd relax a bit. It was fun." Earley remembers that the most difficult task was to guard referees' anonymity. "We had cross-reference cards for referees, all kept in little drawers. Authors often tried to find out the names of their referees — especially if they had been refused — but it was much better kept secret!"

The proximity of potential authors and their referees could be explosive, but, on the other hand, as Trigg saw it, there was a tremendous advantage to the opportunities at BNL for semiformal peer reviewing. "You could just walk down the corridor, and peers would appear!" he said.

Though BNL's shrinking space and APS's growing needs led to the editorial offices' being moved in 1980, BNL's ties with *Phys. Rev.* are still strong. Barbara Maddaloni, who knows the Lab well, having joined *Phys. Rev.* nearly 20 years ago, has supplied information, photographs and many names for this article. Some of the *Phys. Rev./PRL* employees who then became BNL staff are: Pat Durcan, Vinita Ghosh, Stuart Kern and Eileen Morello; Reinhardt Schuhmann reversed the process.

Some BNL physicists have been temporary editors of the various parts of *Phys. Rev.*, such as the one-year term of a "gang of four," so-called by Laurence Passell, consisting of Passell, Per Bak, Kelvin Lynn and Myron Strongin. Among other BNL editors for *Phys. Rev.* are or have been: Robert Bari, Sally Dawson, Chalmers Fraser, Allen Goland, Brant Johnson, Bill Marciano, Robert Pisarski, Louis Snead and the late George Vineyard, BNL Director, 1973-1981.

"It was good to be at BNL," summed up Adams. "We all worked very hard, and the journals flourished."

— Liz Seubert

BROOKHAVEN BULLETIN

Published weekly
by the Public Affairs Office
for the employees of
BROOKHAVEN NATIONAL LABORATORY

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Stony Brook Musicians in Concert

A special BERA concert, featuring solo and chamber music performed by outstanding young artists enrolled in the music program at the State University of New York at Stony Brook, will be held on Tuesday, October 24, at 8 p.m. in Berkner Hall. The suggested donation is $6.

These Carpoolers Are Winners

Roger Stoutenburgh

Add one more item to the list of the good things that come from carpooling — lottery prizes! Besides helping the environment, and enjoying fellowship and less hassle and expense, the two carpoolers shown at right and 18 others recently received U.S. savings bonds donated by Associated Universities, Inc. (AUI), when their names were picked at random from among 311 entrants in the BNL Carpool/Vanpool Program Lottery — participants in car and van pools with friends, coworkers and spouses. On September 13, Leland Willis (left), AUI's Vice President for Environment, Safety & Health, drew the names of Jean Petterson, Chemistry Department, as the winner of a $1,000 bond, and Walter Becker, Department of Advanced Technology, as one winner of a $500 bond, with Peter Kroon (not shown), Physics Department, as the other. For more information on ridesharing at BNL, call the Commuter Assistance and Information Service, Ext. 2446.

PEIS Public Hearing Will Be Teleconference

The U.S. Department of Energy (DOE) will hold a public hearing — in the form of an interactive video teleconference — on the Waste Management Programmatic Environmental Impact Statement (PEIS), on Thursday, October 26, from 6 to 9 p.m., in Room 36 of Bldg. 475B.

This PEIS covers the entire country, by providing a DOE-wide evaluation of management alternatives for treating, storing and disposing of radioactive and hazardous wastes in DOE's existing and projected inventory. So the hearing will allow participants in three DOE locations — Argonne, Upton and Washington, D.C. — to bring PEIS-related issues to senior DOE officials.

To register for the teleconference, call (800) 736-3282.

ANS Meeting

William Ellis, Vice President for advanced technology for Raytheon Engineers & Constructors, Inc., will speak at the Long Island Section American Nuclear Society (ANS) meeting, on Wednesday, October 25, at the Radisson Hotel, Islandia. Ellis will talk about "The ITER Project and the U.S. Fusion Program: Recent National Developments and Status Report."

Following cocktails at 6 p.m., and dinner at 7 p.m., the speaker will be introduced by Frank Patti, a project engineer in BNL's Reactor Division and LIANS Vice President. For reservations, call Vera Meier, Ext. 7702, by Tuesday, October 24.

Addition

Two additional BNLers have to be credited as being among those who were early proponents of using an accelerator to make tritium (see "Energy Secretary: Accelerator Is One Option for Nation's Future Tritium Production Facility," Brookhaven Bulletin, October 13, 1995). They are Meyer Steinberg and Hiroshi Takahashi, both of the Department of Advanced Technology.

CCD Seminar

On Wednesday, October 25, in the CCD seminar room, Bldg. 515, representatives of EMC² Corporation, a world leader in enterprise-wide information-storage and retrieval technology, will discuss present and future high-performance storage and backup solutions for UNIX and PC platforms.

The seminar will be held in two parts: at 10 a.m., integrated cache disk-array systems will be presented; and at 11 a.m., EPOCH data manager will be discussed. For more information call Susan Sevian, Ext. 7530, or send e-mail to sevian@bnl.gov.

WordPerfect Users

The WordPerfect for Windows User's Group will meet on Tuesday, October 24, in the CCD seminar room, Bldg. 515, from 10 to 11 a.m., to repeat a presentation on customizing the toolbar and tables. Members are encouraged to share their toolbar and table designs with the group. More tips and tricks will also be introduced, time permitting. Seating is limited, so call Donna-Ree Rodriguez, Ext. 7261, to reserve a spot.

Outreach Workshop

A Change for the Better

Future shock . . . the shattering stress and disorientation that we induce in individuals by subjecting them to too much change in too short a time. — Alvin Toffler, *Future Shock*, 1970.

Regardless of one's definition of what is too little versus too much, one thing is true: While too little change is stagnating, too much change is stressful — especially when what is happening is beyond one's control.

"Adapting and Adjusting to Change" will be discussed during the next Outreach workshop, on Tuesday, October 24, from noon to 1 p.m. in Room B, Berkner Hall. Sponsored by the Employee Assistance Program (EAP) of the Occupational Medicine Clinic, the talk will be given by clinical psychologist Diana Richman. All are invited; the talk will be available on audiocassettes afterwards in the Research Library, Bldg. 477.

As Richman will discuss, human beings usually desire to have control over their lives; so changes that take place without one's consent — within the workplace or out in the world — are often the most overwhelming and the hardest to adjust to. The speaker will describe the change process, and explore the differences between resisting and adapting to change. She will conclude with suggested techniques to overcome debilitating emotions and nonproductive behaviors that often come up when people are faced with uncontrollable change.

Diana Richman, Ph.D. is Senior Supervisor at the Institute for Rational-Emotive Therapy, New York City, and Director of Clinical Supervision at A.P.P.L.E., Inc., a day-treatment program in Queens and Long Island. In addition to having published extensively on the application of cognitive-behavioral techniques for dealing with work-related issues, Richman has a private practice in Queens and Manhattan.

To register for this workshop, return the completed Outreach flyer recently sent all employees to EAP Staff Psychologist Dianne Polowczyk, Bldg. 490, by Monday, October 23. For more information about EAP and its Outreach series, call Ext. 4567.

BWIS Invites All To Wine & Cheese

All are invited to the Brookhaven Women in Science (BWIS) Wine & Cheese Party — on Wednesday, November 1, from 5 to 7 p.m. in the Recreation Building.

This free, informal get-together is held annually to acquaint prospective BWIS members — women and men — with BWIS members and officers, and with the group's accomplishments, which have benefited the entire Lab community.

Elected last month, the BWIS officers for fiscal year 1996 are: Pam Mansfield and Lisa Tranquada, Group Coordinators; Cynthia Griffiths, Secretary; Dorry Tooker, Treasurer; Louise Hanson and Prantika Som, Seminar-Lecture Chairs; Eena-Mai Franz and Stephanie Lamontagne, Program Chairs; Ruth Kempf, Scholarship Chair; and Anita Cohen, Publicity Chair. In addition, Maria Beckman and Gail Schuman were appointed Membership Chairs, while Jody Fanizza accepted an appointment as Newsletter Editor.

Advanced C Training

The Computing & Communications Division will offer an advanced C programming class during the week of December 11. Hailing from Cray Research, the instructor has taught at BNL twice. The class, which costs $585 per person, is limited to the first 14 people who register with an ILR.

To register, send an ILR to Pam Mansfield, Bldg. 515, or call Ed McFadden, Ext. 4188, for more information.

IBEW Meeting

Local 2230, IBEW, will hold its regular monthly meeting on Monday, October 23, at 6 p.m., in the Knights of Columbus Hall, Railroad Avenue, Patchogue. The agenda includes regular business, committee reports and the president's report.

Amateur Radio Club

The BERA Amateur Radio Club will next meet on Thursday, October 26, at noon in Room D, Berkner Hall. All Lab employees, guests and licensed amateur-radio operators are invited. For more information, call Chris Neuberger, Ext. 4160, or Nick Franco, Ext. 5467.

Rifle & Pistol Club

Did you know that the BNL Rifle and Pistol Club has a trap & skeet range facility and use of an outdoor rifle & pistol range? An indoor range is also available for use by BNL Rifle Team members and pistol shooters. For more information, call Otto Jacobi, club president, Ext. 3471.

Book Fair Returns

On Thursday and Friday, November 16 & 17, from 10 a.m. to 3 p.m., BERA will once again sponsor a book fair at Berkner Hall

The books will include fun reading ranging from children's stories through *New York Times* best-sellers. These new hardcover books, which will be sold at 50-75 percent off list price, will be available for immediate purchase at the fair.

A list of the books to be sold will be at the BERA Sales Office, Berkner Hall, weekdays, 9 a.m.-1:30 p.m., with a display of some of the books. For more information, call Andrea Dehler, Ext. 3347, or Kay Dellimore, Ext. 2873.

Arrivals & Departures

Arrivals

Adam Rusek.....Physics

Departures

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

James E. Teahan.....Con. & Proc.
Shawn K. Young.....Saf. & Env. Prot.

Bowling

Red & Green League

J. Cuccia Jr. 267/648 scratch series, R. Wiseman 258/643 scratch, R. Eggert 255/240/658 scratch, R. Mulderig Sr. 247/216/641 scratch, K. Koebel 246/206/641 scratch, G. Weresnick 243, S. DiMaiuta 235, B. Geib 223, E. Meier 215, W. Powell 214/201/607 scratch, E. Larsen 213/211/605 scratch, B. Giuliano 213, J. Griffin 212/210/205/627 scratch, R. Larsen 207.

Purple & White League

D. Riley, 224/183, R. Larsen 215/189, M. Meier 212/197/191/600 scratch series, A. Pinelli 212, S. Frei 212, M. Guacci 196, R. Picinich 192/184, G. Mehl 191/189, J. McCarthy 191/181, A. Almasy 187, Don King 187, M. DiMaiuta 179, M. Picinich 176, J. McCarthy converted the 4/7/9 split, G. Mehl converted the 4/10 split.

Cafeteria Menu

Monday, October 23	
Soup: Spicy potato & kale	.90/1.20
A la Carte: Pasta w/sausage marinara	3.50
Lite: BBQ chicken	3.95
Deli: Baked ham & beans	3.20
Tuesday, October 24	
Soup: Chicken noodle	.90/1.20
A la Carte: Roasted chicken w/stuffing	3.95
Lite: Pork loin w/herbed crust	3.85
Deli: Corned beef & cabbage	3.20
Wednesday, October 25	
Soup: Broccoli & cheese	.90/1.20
Display Cooking: Chicken Caesar	4.75
Deli: Turkey w/stuffing	3.20
Thursday, October 26	
Soup: Beef vegetable	.90/1.20
A la Carte: Lasagna w/focaccia	3.65
Lite: Hickory-grilled steak	3.95
Deli: Roast beef w/mashed potatoes	3.20
Grill: Spanish omelet	3.30
Friday, October 27	
Soup: New England clam chowder	.90/1.20
A la Carte: Grilled liver & onions	3.85
Lite: Italian fish roll-up	3.95
Deli: Peppered pastrami Dijonnaise	3.20
Grill: Meatball hero	3.30

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 Human Resources Division lists new placement notices. The purpose of these listings is, first, to give employees an opportunity to request consideration for themselves through Human Resources Division, 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.

Current job openings can also be accessed via the BNL Home Page on the World Wide Web. Outside users should open "http://www.bnl.gov/bnl.html", then select "Scientific Personnel Office " for scientific staff openings or "Employment Opportunities" or "BNL Human Resources Division" for all other vacancies.

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

SCIENTIST - Trained in experimental physics (preferred) or computer science, with experience in implementing complex data-acquisition systems involving multiple processors and high data rates. Requires familiarity with Fortran and C, the UNIX operating system, object-oriented languages, database management and code management, as well as embedded processors. This position is for an individual who will develop software for data acquisition for STAR, an experiment at RHIC based on a TPC. Data rates and event sizes at STAR present challenges to data-acquisition hardware that will be met by a network of 600 RISC processors. Details of the interconnect architecture are still under discussion; one of the responsibilities of this position is to evaluate several candidate implementations through modeling and measurements, and, further, to design and implement tools necessary to manage this network. Contact: Micheal LeVine, Physics Department.

POSTDOCTORAL RESEARCH ASSOCIATE - Trained in condensed-matter physics, with a background in far infrared measurements and superconductivity in granular and disordered systems. The research program will include studies of new superconductors, such as high-temperature and organic conductors. Further experiments will study the metal-insulator transition in films and the question of the formation of a Coulomb gap with disorder. Junior scientists with postdoctoral experience in this field of interest may be considered for appointment at the Assistant Scientist level. Contact: Myron Strongin, Physics Department.

LABORATORY RECRUITMENT - Opportunities for Laboratory employees.

DD 3762. ADMINISTRATIVE POSITION - Requires a BS in business administration or equivalent experience, and excellent communication skills, as well as familiarity with Laboratory accounting procedures and administrative systems. Will assist Department administrative staff as needed with varied duties, including budget preparation, and proposal and subcontract processing. Familiarity with computer usage in administrative data processing is also required. Department of Applied Science.

DD 0573. ADMINISTRATIVE POSITION - (part-time) Requires a BS in science, engineering or education or equivalent experience, and excellent oral and written communication skills. Will assist in the development and execution of the Training Program for the RHIC Project. Familiarity with word-processing and database programs highly desirable. RHIC Project.

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside candidates.

DD 3926. TECHNICAL POSITION - Requires a BS in physical science or electronic technology, or equivalent experience, and excellent communication skills and extensive experience in the following areas: reading and interpreting mechanical drawings, electronic schematics and wiring diagrams; electrical and electronic assembly; wiring and cabling; use of hand/machine tools and mechanical instruments; and knowledge of shop and electrical safety regulations and practices. Will be responsible for operating and maintaining the NSLS Magnetic Measurements Lab. Duties include precision assembly, setup and measurement of a variety of specialty magnets; setup and operation of instrumentation, power supplies and PC-based data-acquisition equipment; calibration of magnetic-measurement instruments; and assembly and operation of motion control hardware, vacuum/cooling systems and cryogenic apparatus. National Synchrotron Light Source Department.

DD 3927. TECHNICAL POSITION - Requires an AAS degree in mechanical technology or equivalent, and extensive experience in the following areas: reading and interpreting mechanical drawings, knowledge of precision mechanical-measurement techniques, use of hand and machine tools, and knowledge of shop and electrical safety regulations and practices. Experience with ultrahigh vacuum, cryogenic hardware and optical alignment techniques desirable. Will perform precision assembly, installation and setup of mechanical, magnetic and electromechanical devices and components, primarily for the NSLS Magnetic Measurements Lab. National Synchrotron Light Source Department.

NS 3345. RIGGING SUPERVISOR- Requires a comprehensive knowledge of rigging operations pertaining to moving heavy equipment by use of rollers, jacks, forklifts and cranes; previous supervisory experience; and good written and oral communication skills. Will be responsible for first-line supervision of the Rigging Section, which includes directing employees on jobs, assignments, training and technical direction. (reposting) Plant Engineering Division.

Motor Vehicles & Supplies

92 MITSUBISHI MIRAGE - 2-dr., blue, ac, am/fm, a/t, 28k mi., $6,995; '89 Pontiac 6000LE, 4-dr., 6-cyl., midnight blue, a/t, ac, am/fm cass., $3,995. 689-9331.

91 BUICK LE SABRE - custom, V-6, 4-dr., ac, p/w, p/l, dark blue, 76k mi., excel., $6,900. 878-8865.

90 BMW 525i - black, 65k mi., orig. owner, maint. by BMW, mint cond., ask. $16,000. Michelle, 289-1726.

89 CHEVY CORSICA - 4-dr., 4-cyl., ac, a/t, cruise, tilt, high mi., excel. cond. Gabriel, Ext. 2707 or 341-1087.

89 FORD ESCORT LX - h/b, 5-spd., excel. cond. Bob, 821-0695.

88 HONDA HAWK NT650GT MOTORCYCLE - 3.1k mi., Corbin dual canyon seat, needs batt., asking $2,300. Ron M., Ext. 3084.

88 OLDS CUTLASS CIERRA - 74k mi., 2-dr., ac, am/fm, $3,000. Hiro, Ext. 2256.

87 NISSAN MAXIMA - 4-dr., 6-cyl., loaded, 83k mi., excel. cond., $4,750. Om, Ext. 5332 or 928-3799.

87 PONTIAC SUNBIRD - a/t, am/fm, runs well, good cond., well maint., $1,100 neg. Patt, Ext. 3799 or 744-9516.

86 AUDI QUATTRO - 5-spd., ac, sunroof, excel. cond., $3,500. Gail, Ext. 3338.

86 OLDS CALAIS - 4-dr., a/t, ac, cruise, bucket seats, white w/burgundy int., reliable, good cond., $700. Bob, Ext. 2023 or 929-3409.

86 OLDS CUTLASS SUPREME - rebuilt eng., many new parts, make offer over $1,000. Russ, Ext. 7759.

86 FORD BRONCO II - Eddie Bauer edition, pushbar, running boards, etc., 15k mi. on new a/t, must sell, asking $4,600. 584-3830.

85 NISSAN 4x4 PICKUP - many extras, excel. cond., must sell. Ext. 5329 or 422-7415.

84 PONTIAC TRANS AM - black w/gold trim, 5-spd., 5.0 liter eng., $1,900 neg. Rich, 744-4816.

84 FORD TEMPO - tan, no rust or dents, many new parts, new front tires & batt., 92k mi., $1,250. Slobodan, Ext. 3287 or 941-3709.

84 MERCURY GRAND MARQUIS - a/t, p/s, p/b, p/l, p/w, p/s, ac, am/fm cass., 115k mi., excel. mech. cond., little rust, $1,100. Bill, 281-6498.

76 VOLVO 242DL - 4-spd., new batt., front struts, runs well, $900 neg. Steve, Ext. 3018 or 369-5181.

ROOF RACKS - Bic, for gutterless compact car; bicycle & windsurfer attachments, $45. Steve, Ext. 7570 or 874-2805.

FORD PARTS - 302 alum. intake manifolds, headers, Mallory electronic distributor, '88 stock 5.0 roller motor, fuel inj., low mi. Wayne, Ext. 7238.

TIRES - 2 Goodyear P225/75R14, like new, $40 ea.; 1 Firestone P215/70R14, $20. 698-9274.

CARGO CARRIER - for car roof, Sears Xcargo, 20 cu. ft., cap, $40. Ralph, Ext. 4171.

BRAKES - new, rear bonded for Chrysler, $5; air filters, new, Sears & Lee brand for Chrysler cars, $9/4. Susan, Ext. 7647.

Boats & Marine Supplies

23' SAILBOAT - fg, sleeps 4, galley, fixed keel, mooring, dinghy, jack stands, 6-h.p. motor, sails, excel. cond., extras, $1,500. Mike, Ext. 7861 or 698-3967.

16' STAR CRAFT - alum., new navy top, 50-h.p. Evinrude w/elec. start, trailer w/new elec. winch, asking $1,600. 924-6751.

BOAT - small wooden flat-bottom fishing boat, $25. Jim, Ext. 5400 or 878-6098.

CANOE - Old Town Discovery 158, excel. cruising, fishing, hunting, 2 paddles, PFDs, $350. John, Ext. 4631 or 924-3492.

MUFFLER - Veritone, fg, 4" hose, inlet & outlet, $50. Bill, Ext. 7136.

Furnishings & Appliances

BEDROOM SET - maple, twin beds, 50" dresser w/mirror, nightstand, $250 firm. Carole, 821-0695.

BEDROOM SET - teen, Atlantic, Formica, 10-piece, bunk, desk, closet, fits room 10'x11', tan, wood tone, excel. cond., $1,500. Sue, Ext. 3492.

COUCH - Ethan Allen, good cond 325-0447 after 6 p.m.

DINETTE - 36"x48" table w/leaf, almond w/oak trim, swivel armchairs, new, used 3 mos., orig. $800, asking $400. Kathy, Ext. 2281.

DINING ROOM SET - Col., hutch, dry sink, table w/leaf, chairs, $400 neg. or sell separately. Tina, Ext. 2950 or 289-1776 after 5 p.m.

DISHWASHER - Westinghouse Potscrubber, heavy-duty, good cond., full controls, under counter, $100. Vita, 277-0464 or Frank, Ext. 4220.

FREEZER - Whirlpool, hardly used, been in storage, $100. Ext. 7759 or 447-5965.

RANGE/MICROWAVE - one unit, oven/micro/rangetop, propane gas, works well, 750 watts, almond w/black glass doors. Betty, 758-2653.

STOVE - elec., self-cleaning; 3'x3' butcher block; patio set, table, 4 chairs, umbrella, cushions, $200. JoAnn, Ext. 2238.

STOVE - Welbilt, gas, full-size, white, elec. ignition, 1 yr. old, $200; refrigerator, small, dorm-size, good cond., $25. Ext. 5900.

STOVE - elec., GE, 27", drop-in, reg. clean, almond, 8 yrs. old, best offer over $150. Cindy, 331-4487.

VANITY - bath, 36", early Amer., maple, w/louvered doors, two drawers, rose/green, oval sink top w/brass & wood faucet, $100. Frank, Ext. 4220.

WATER BED - Sealy Restonic, heater, queen, $50. Jim, Ext. 5400.

WATER BED - queen, excel., $200 neg. Ed, Ext. 4080.

Tools, House & Garden

CHAIN LINK FENCE - with pulse gate, 5'x75', black, $250; 7-piece bedroom set, needs to be painted, $50. Joan, 751-7023.

CHAIN SAWS - various sizes, $65 & up; chains for most saws, $8 & up; prof. spray gun, Stewart-Warner Colormaster, $85. Bart, Ext. 2005 or 924-6761.

GRILL - gas, w/tank, 22"x11" cooking area, $25; child gate, adjustable, $5. Ralph, Ext. 4171 or 878-1280.

LAWN MOWER - Snapper, 21" cut, self-drive, rear bagger, thatcherizer attach., easy load bag, like new, $175. Dan, 698-7322.

PATIO SET - table, 90"x42", 6 chairs, w/cushions, umbrella, forest green, orig. $2,000. neg.; 10" table saw, Craftsman, 10", works great, $250. John, Ext. 7313.

POWER WINCH - 12-volt, Capstan Windlass, approx. 500 lb. pull, $150. 689-9234.

PUMP - Teel, 55-gallon, drum-type, 1/3 h.p., Dayton, 9.5gpm, s/s, unused, orig. $546, asking $100. Brian, Ext. 2386 or 234-9487.

SINK - kitchen, faucet, fits 32"x20" opening, excel. cond., $35. Bob, 821-0695.

TREES - Japanese maples, $10-$45+. 265-6542.

Sports, Hobbies & Pets

BACKPACKING EQUIPMENT - Lowe Outback internal frame; Sierra Designs meteor light; 2-person te excel. cond., $200. David, Ext. 5217.

BICYCLE - GT Performer, all chrome-moly, white w/blue seat, brake hardware, orig. over $300, now $150. Alan, 689-1618.

DOGLOO - doghouse for small dog, never used, orig. $115, now $75. Carol, Ext. 3325 or 472-3332.

EXERCISE BIKE - AMF Trim Ride, good cond., must pick up, $30. Susan, Ext. 7647.

EXERCISE EQUIPMENT - stair stepper, stationary bike, Weider exercise machine, $200/all or best offer. Don, Ext. 5900 or 924-3385.

ICE SKATES - women's, size 8, men's hockey, size 8 & 10, $25/ea.; guitar, classic Editphone, w/case, $25; clarinet, w/case, $75. Joe, Ext. 4567.

PIANO - upright, w/bench, Estey, v.g.cond., $500. 281-2907 after 5 p.m.

PIANOS - Krawich & Bach, console, excel. cond. & tone, tuned every 6 mos., $1,150; vintage Extener, upright, w/stool, $725. Joan, 751-7023.

PUPPY - Dalmation, 8 wks., male, shots, good health, papers, $300. 924-8558 after 5 p.m.

ROWING MACHINE - Tunturi Executive 202, $50. Ext. 2709 or 341-1087.

Audio, Video & Computer

COMPUTER - Apple 2GS, 1 MB RAM, 3½" & 5¼", drives, 11" color mon., color AppleWriter printer, keyboard, mouse, $500. Fred, Ext. 5032.

COMPUTER - MacII 5/80, math co-processor, color mon., keyboard, b&w HP deskwriter $599; Apple Laserwriter 1, $199. Ballard, Ext. 2695.

COMPUTER - Macintosh Performa, 600CD, 8 MB RAM, CPU only, $600. Jim, Ext. 5400.

COMPUTER - Amiga 500, good cond., great fc games, $200. Joe, 924-4070.

COMPUTER GAMES - Sega Genesiss, ports & arcade classics, super joysticks, $200; GE TV, 21", floor console, $50, you pick up. Chris, 399-7493.

HEADSETS - ADI Aircraft with boom mic,, mono/stereo, $45/ea. Brian, Ext. 2386 or 234-9487.

REMOTE CONTROL - Genie, 99-channel, cable ready, easy hook up, excel. cond., $40. Ext. 5873.

TV - 21" color, Zenith, console, works OK, no remote, asking $100. 924-6751.

Miscellaneous

BABY'S WALKER - Graco Disney Babies, orig. $50, asking $25; Gerry Snugli infant seat, $15, all like new. 345-5365.

BOOTS - Durango, brand-new, never worn, size 9EE, black w/silver trim, new $89.99, sell for $30. Pete, Ext. 3297 or 821-9547.

CASH BOX - locking w/2 keys, compartments for bills & coins, $5. Pete, Ext. 5105 or 399-2813 after 5 p.m.

FUR COAT - black Persian, size 14-16, $100; exercise bike, $15. 924-3236.

DIAMOND RING - 0.45 ct., SI2 clarity, J-K color, appraised at $850, sell for $500 neg. Ed, Ext. 4080.

STROLLER - Century, excel. cond., $40; high chair, Fisher Price, excel. cond., $25. Pat, Ext. 4638.

STROLLER - Luv Buggy, $20; Fisher Price kitchen, $20; girl's bike, $20; boy's bike, $20; girl's dressy dresses, size 14, $12/ea. 751-7023.

Free

BICYCLE - 26", woman's Royce Union, 1 speed, not pretty. Peter, Ext. 4272.

Yard & Garage Sales

BAYPORT - 10/21-22, 10 a.m.-5 p.m., fabrics, crafts, books, clothing, furn., household. 39 Oakwood Ave.

ST. JAMES - Sat. 10/21, multifamily, something for everyone, 8 Clover La. off Bayberry & Moriches Rd., 2 mi. north of Smithaven Mall.

Wanted

AM/FM CASSETTE - car radio, digital, cheaper than $40, must work. Bill, 281-6498.

BABY-SITTER - in my Calverton home, 5 a.m.-9 a.m., Mon.-Fri., 3 children, ages 3-5-7, exper., nonsmoker, own transp. Lisa, 369-8636.

FENCE - chain-link or picket, 4' high; go-kart parts. Joann, Ext. 2238.

HOUSE/CAT SITTER - in Bayport, Dec. 21-28. Bernice, 472-1735.

JUNK CARS/TRUCKS - free removal, money paid for running, late model vehicles. Steve, 924-8741.

KEYBOARD - any brand, inexpensive, working cond., midi, adjustable sounds a plus. Neil, 230-2843.

MOVIE PROJECTOR - super 8mm; electric boat motor, 25-35 lbs. thrust. Nick, Ext. 5050.

PAINTINGS & FINE ART - by BNLers for BERA Art Society show, Berkner, 11/20-22. For information, call Liz Seubert, Ext. 2346, or Bob Chrien, Ext. 3903.

ROTOTILLER - gas-powered, mini-size. Harriet, Ext. 2800.

TIME SHARE - Florida rental, west coast, end of Jan. '96, Daytona area, 2nd week Feb. '96. Bill, 298-4089.

TRUCK - med. or small Mazda, Chevy, Toyota, Dodge, Ford, must run well, $1,000-$1,500. Chris, 399-7493.

WORD PROCESSOR - for college student. Andy, Ext. 7014 or 281-8274.

In Appreciation

Rhoda and I thank all our friends for their sympathy and support in these trying times. — Joel Spinner

Farewell Gatherings

RETIREMENT PARTY - for Ray Archbold, Randy Philips, Bob Mosley, Thurs., Nov. 9, 6:00 p.m., $20 per person, Bldg. 599, Firehouse. RSVP, Ext. 2351.

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