

A Bright Future for Technology Transfer

Meixler Appointed Office Head

Lew Meixler, recently appointed Head of the PPPL Office of Technology Transfer, has a deep interest in technology development, inventions, and patents. This interest stems from his many years as a practicing research and development engineer.

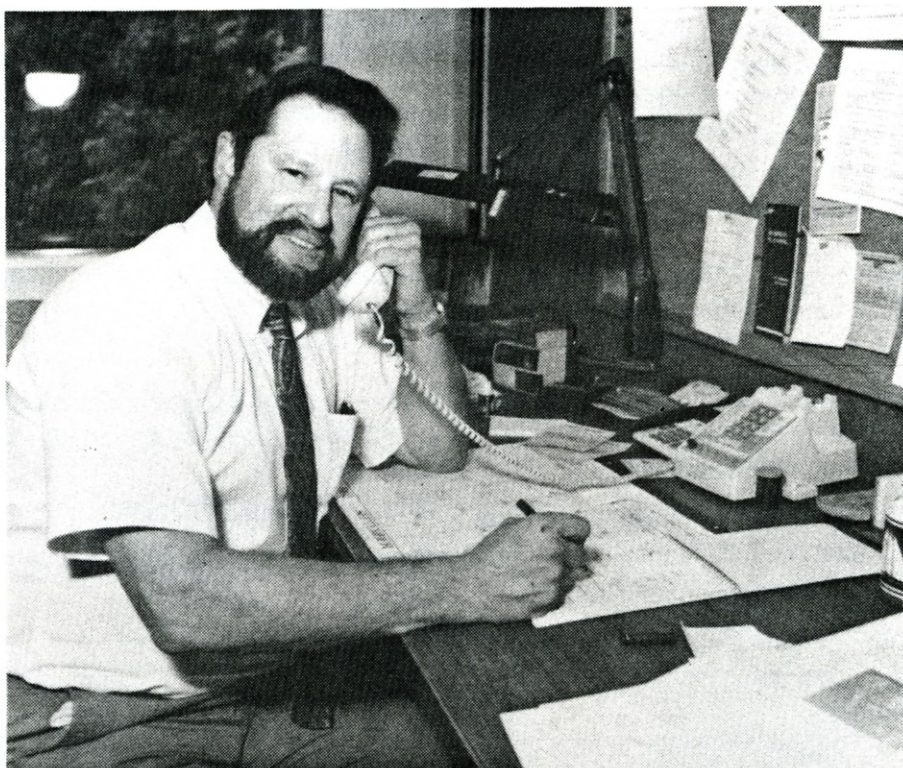
Says Meixler, "The fact that intellectual property, something of tangible value—patents, copyrights, trademarks—can be created out of people's ideas has always fascinated me."

Meixler is anxious to promote the transfer of the Laboratory's expertise to private industry as a means of increasing the industrial competitiveness of the U.S. and as a way of bringing new and interesting projects to the Laboratory.

Two part-time staff members, Secretary Barbara Tomie and Consultant Dick Rossi, are supporting this effort as well. Says Meixler, "Barbara and Dick have been most helpful during this transition period."

Meixler notes, "Since 1986, by law, technology transfer has been mandated as a *primary mission* of the Laboratory, including the right to enter into cooperative research and development agreements with industry. It's exciting to head up such an effort, especially since it is so important to increase the international competitiveness of the U.S."

Meixler has numerous priorities in his new position. "A major priority," he says, "is to initiate a number of Cooperative Research and Development Agreements (CRADAs) between projects at PPPL and private industry."



Lew Meixler, recently appointed Head of the Technology Transfer Office.

Photo: D. Applewhite

He adds, "To facilitate such exchanges, the Office will stimulate and aid in the preparation and development of proposals for Personnel Exchanges, CRADAs and Work-For-Others (WFO) projects."

"Such projects benefit both the Laboratory as a whole and the scientific and engineering staff through bringing in new work and maintaining the skill level of the staff," observes Meixler.

"Licensing of Laboratory inventions for use by industry is another crucial area. Not only does licensing provide substantial financial rewards to the inventors, but also it creates a means by which taxpayer-financed

research can be used in the industrial marketplace," Meixler notes.

In addition, Meixler would like to see more User Facilities at the Laboratory. These types of facilities would provide a means for industry to utilize the resources available at the Laboratory and to provide an additional source of funding for the operation of the facilities at the Laboratory.

Of Rossi's role, Meixler says, "He is providing expertise in the marketing of the Laboratory's technologies and capabilities to industry, as well as helping in the preparation of CRADA proposals."

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Physicists to Present Papers at IAEA

The 14th IAEA (International Atomic Energy Agency) Conference on Plasma Physics and Controlled Nuclear Fusion Research will be held in Würzburg, Germany, September 30-October 7. A total of twenty participants from PPPL will attend (as allowed by a Department of Energy ceiling on funding). The thirteen PPPL papers are listed here alphabetically by title with their presenters although, in addition to the presenter, many other Lab scientists participated in authoring these papers.

Alpha Effects on Low-N MHD Modes and Alpha Transport
C.Z. Cheng, Presenter

Centrally Fueled Tokamaks and Their Implications for ITER
David Mikkelsen, Presenter

Charged Fusion Product and Fast Ion Loss in TFTR
Stewart Zweben, Presenter

ICRF Heating on TFTR — Effect on Supershot Performance and Stability
J.R. Wilson, Presenter

Overview of Recent TFTR Results
Michael Zarnstorff, Presenter

Initial Results for Current and Pressure Profile Control with LHCD and IBW in PBX-M (post-deadline paper)
Robert Kaita, Presenter

Kinetic Studies of Micro-instabilities in Toroidal Plasmas: Simulation and Theory
W.W. Lee, Presenter

Local Multispecies Particle and Energy Transport in the TFTR Tokamak
Edmund Synakowski, Presenter

Nondimensional Transport Studies in TFTR
Steve Scott, Presenter

Novel Current Drive Experiments on CDX-U, DIII-D, and HIT Tokamaks
Masayuki Ono, Presenter

Phenomenology of Disruptions in the TFTR Tokamak
Alan Janos, Presenter

The Relationship between Turbulence Measurements and Transport in Different Heating Regimes in TFTR
Norton Bretz, Presenter

Theoretical Basis for Advanced Plasma Configurations
Stephen Jardin, Presenter

Other papers to be presented at the meeting which discuss results from collaborations with PPPL scientists include:

Achieving High Q_{DD} Operation in High Poloidal Beta Discharges in TFTR
M. Mauel, Presenter

Diffusion of Energetic Alpha-Particles by Intense Lower Hybrid Waves
Jean-Marcel Rax, Presenter

Edge Turbulence and Transport Studies
H. Tsui, Presenter

Missions and Design of a Steady State Advanced Tokamak (SSAT)
W. Nevins, Presenter

In addition to those presenting papers, others from PPPL attending the IAEA Conference include: Ronald Davidson, Robert Goldston, Richard Hawryluk, Dale Meade, Kevin McGuire, Paul Rutherford, Ned Sauthoff, and John Schmidt.

Technology Transfer

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Adds Rossi, "I'll be seeking opportunities for Laboratory scientists and engineers to collaborate with industry in their activities. I'll also be marketing these projects to both industry and to the Department of Energy."

Meixler has been with the Laboratory for 17 years. Prior to coming to PPPL, he was an engineer at RCA's Astro Electronics Division where he designed spacecraft electronics. He began his career here as an electronics engi-

neer and later served for six years as engineer in the X-ray laser group. He was most recently a Project Engineer in the TFTR Tritium Branch.

Meixler also recently took time off from the Laboratory to become part of a project design team for a small company working on the development of an ultrasonic cardiovascular imaging device.

Says Meixler, "That experience gave me an appreciation for the technical limitations of small companies and the potential benefits that can accrue to them if they can

develop a working relationship with a major laboratory like PPPL."

Meixler observes, "Technology Transfer is a major goal of this and all other federally funded laboratories, and I am looking forward to working with all of the Laboratory staff to make it a reality."

He invites anyone who is interested in becoming active in any technology transfer area to contact him any time at extension 3009. "The major component in bringing in new and challenging work will be the enthusiasm of the people here at the Laboratory," concludes Meixler.

Master-Slave Manipulator at Lab

TFTR D&D Planning Underway

Although tritium is yet to be introduced into TFTR, plans for decontamination and decommissioning (D&D) are well underway.

If you visit the TFTR Mockup Cell, you'll find one concrete example of equipment being prepared for D&D. Looking very similar to the head and upper body of a robot, (see photo) it is a master-slave manipulator system that will be used during remote operations when TFTR is being decontaminated and decommissioned in 1996.

The slave arms feature remote viewing via a torso-mounted TV camera and a miniature camera mounted on each manipulator wrist.

Engineer Doug Loesser will be involved in training staff to work the master-slave system. He explains, "The way it works is that an operator at a control station will move the two master arms into a certain configuration. The two arms within the remote location will mimic this movement exactly, allowing for accurate remote manipulation. The advantage is that operations can be done without risk of entering a contaminated area."

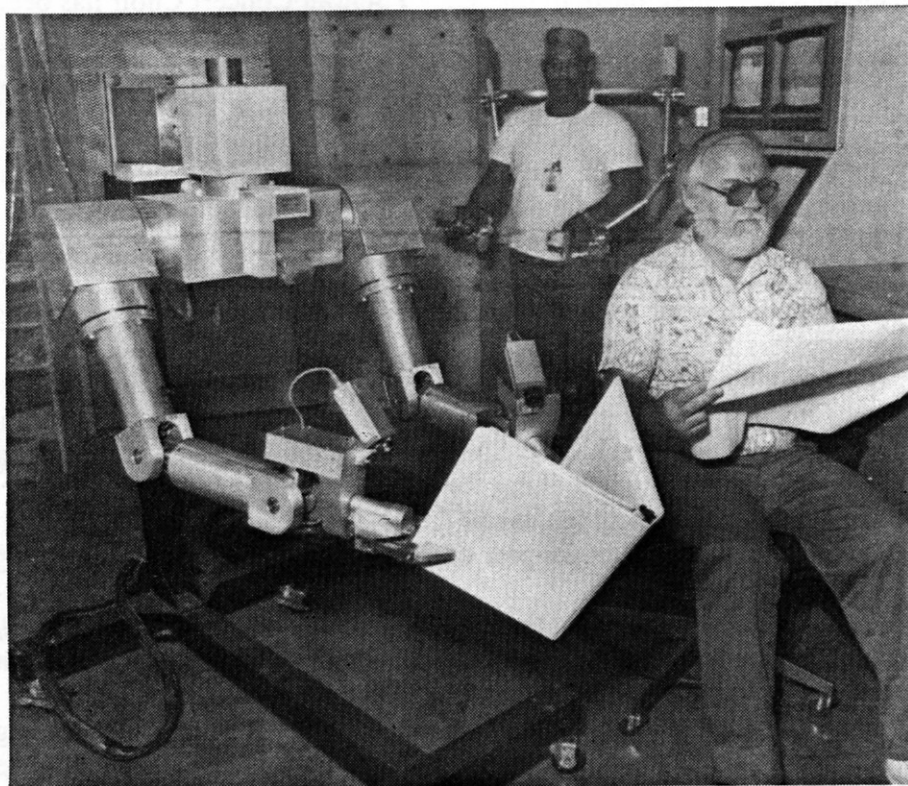
The system is somewhat portable and presently has one hundred feet of cabling to interface between the slave arms and the control station, according to Phil Spampinato, who is participating

in the development of the D&D program.

Others who will be working with the system are Russ Walton, Project Leader for TFTR D&D, Ed Hill, and Hal Anderson. Anderson will be the Electrical Engineer responsible for handling the electronics and software needed.

The master-slave manipulator system was developed under the Department of Energy's SBIR (Small Business Innovative Research) program. Remote Technology Corporation (Remotec) designed and built the system for the Lab.

Thanks to Phil Spampinato for contributing the story idea and information.



Ed Hill (right) "checks procedures" with the remote manipulator (slave), which looks very much the part of a robot. Note the small cameras on each wrist and the camera on the torso which will allow the person at the control station to see exactly what is going on in the remote area. At the control station, (background) is Bob Tucker, who takes a moment from a carpentry job to demonstrate the master arms.

Photo: D. Applewhite

HOTLINE

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Explorer Post to Form at PPPL Advisors Needed

Three Explorer Post Advisors are needed to form a PPPL-sponsored Explorer Post. According to Rush Holt, "The local scouting council would like to have the Lab sponsor an Explorer Post this year that would include about ten young men and women of high school age."

Explorers meet about twice a month to engage in career-related activities, to provide service to the

community, and to enhance the skills and fitness of the Explorers themselves. Some of the areas at PPPL that would be of interest to the Explorers are: electronics, computing, engineering, health physics, and machining.

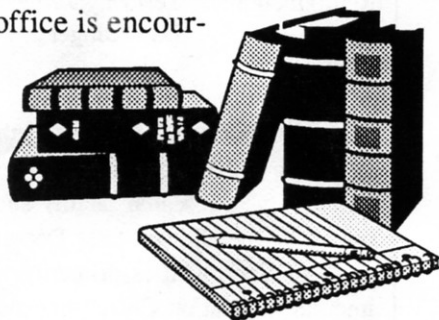
If you would like to be an Explorer Post Advisor or if you would like more information, please call Rush Holt, extension 2104.



Science-By-Mail™ Volunteers Sought Pen Pals Excite Kids about Science

How would you like to know kids' ideas for getting rid of trash accumulated during a space voyage to Mars? If you're a scientist, you can join an international pen pal program called Science-By-Mail™ to discover how kids answer this and other questions.

The program teams volunteer scientists with children in creative, problem-solving exercises. The Science Education office is encour-



aging as many members of the research, professional technical, and technical support staff as possible to volunteer, with a **deadline of October 15** for application.

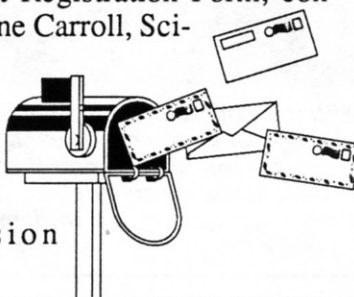
Here are some of the original ideas kids had for disposing of trash in space. Maybe you would seal the trash in bags and store it on the

outside of the space ship so that the heat of reentry into the Earth's atmosphere would burn it up. Or maybe you would use it as fertilizer to grow plants inside your space-ship. But then again, you might fly by a black hole and drop it in.

Last year, 2500 volunteer scientists corresponded with nearly 24,000 children around the world providing encouragement, guidance, and support to 4th through 9th graders as they developed solutions to science challenge packets.

The Liberty Science Center, opening next month at Liberty State Park in New Jersey, is looking for science and technology professionals to participate in its chapter of the Program.

To find out more about the program and to obtain a Volunteer Scientist Registration Form, contact Diane Carroll, Science Education Program, extension 2107.



PPPL Community Support Sought

The award-winning West Windsor Plainsboro High School Concert Choir has been selected by the Austrian Department of Culture as one of only six choirs in the United States and six choirs from Europe to perform at the Advent Sing in Vienna in December.

In an effort to raise half the cost of the trip, a number of fund-raising efforts are being planned. These include: a Charity Auction, to be held at the High School on Saturday night October 24; a Spaghetti Dinner at the the Dutch Neck Fire House, November 15; and a Benefit Concert at St. David the King Church, West Windsor, on December 4. A 50-50 raffle (\$10/ticket) will be held at the benefit concert.

Contributions are being sought, including items for the Benefit Auction. Tickets for the fund raising benefits, 50-50 raffle, and additional information are available from Tony DeMeo, extension 2755.

What's Happening at PPPL?



Winners of the 1991 M.B. Gottlieb Tennis Tournament. At left is Marilee Thompson with the A Division Runner-Up Trophy won by her husband Jim Bialek. Tournament organizer Hiro Takahashi (second from left) was the A Division winner. Dick Malsbury, husband of Judy Malsbury in Quality Assurance and Reliability, won for B Division, and Janet Roberts was runner-up. The 1992 Tournament was scheduled to begin this past week end.

Photo: D. Applewhite

A science experiment proves fascinating for two of the thirty elementary school teachers who participated in a one-week Summer Institute here at the Lab. During the Institute, they learned the National Geographic Society (NGS) Kids Network software program and tried out some of its hands-on science and math activities. This fall, they are enthusiastic about using some of the projects in their classrooms. The Network is a computer and telecommunications-based science curriculum allowing the students to communicate their experimental results with others around the world. The Institute was sponsored here by the DOE and the NGS.

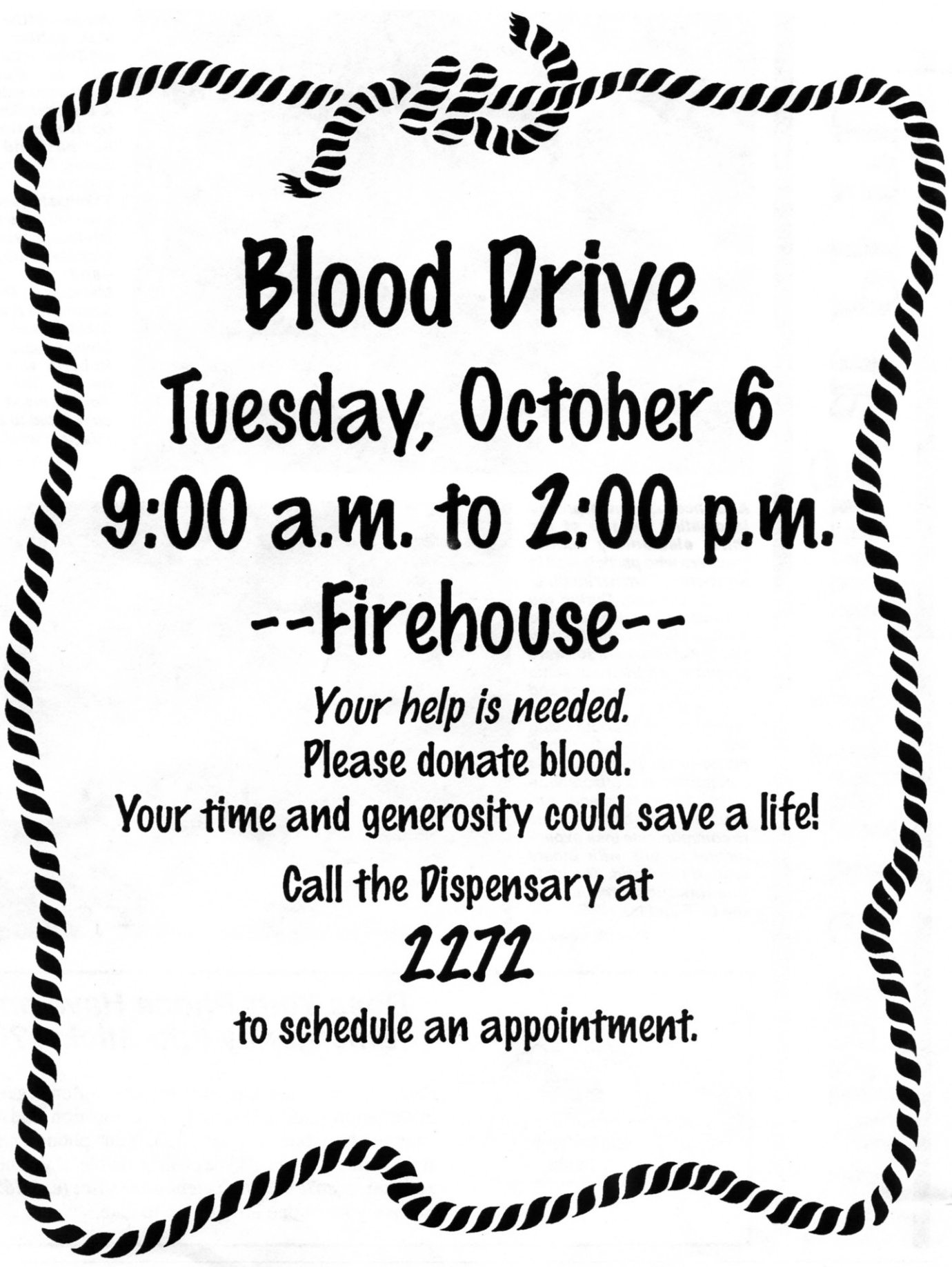
Photo: D. Applewhite



Does Your Phone Have an Emergency Info Sticker?



Each phone in the Lab should have an emergency information sticker that lists your location and the emergency phone number 3333. Your phone extension number should also be clearly visible. If you need a sticker, *please call the Telephone Office (ext. 2694)* to have your phone brought up to date.



Blood Drive

Tuesday, October 6

9:00 a.m. to 2:00 p.m.

--Firehouse--

Your help is needed.
Please donate blood.
Your time and generosity could save a life!
Call the Dispensary at
2272
to schedule an appointment.