

AUI Board Awards Tenure to Eight Brookhaven Scientists

Eight Brookhaven scientists were tapped for tenure, effective April 1, when the Board of Trustees of Associated Universities, Inc. (AUI), met last January 25.

The new additions, who will bring the Lab's roster of tenured scientists to 161, are: J. Michael Brennan, Alternating Gradient Synchrotron (AGS) Department; Michael Hart, National Synchrotron Light Source (NSLS) Department; Thomas Kirk, Director's Office; Robert McGraw, Department of Applied Science; Serban Protopopescu, Physics Department; Thomas Roser, AGS Department; Charles Springer, Chemistry Department; and Gwyn Williams, NSLS Department.

"We are again fortunate in having, as well as attracting to BNL, such an outstanding collection of talented individuals," said BNL Director Nicholas Samios. "These appointments serve to recognize both their past contributions and future promise."

According to BNL's Scientific Staff Manual, tenure appointments recognize "independent accomplishment of a high order in the performance of original research or of other intellec-



Receiving tenure effective April 1 are: (from left) Michael Hart, National Synchrotron Light Source (NSLS) Department; Michael Brennan, Alternating Gradient Synchrotron (AGS) Department; Serban Protopopescu, Physics Department; Thomas Roser, AGS Department; Thomas Kirk, Director's Office; Robert McGraw, Department of Applied Science; Charles Springer, Chemistry Department; and Gwyn Williams, NSLS Department.

tually creative activity appropriate to the purposes of the Laboratory."

This year, the researchers being recognized for their accomplishments are the following:

J. Michael Brennan, a physicist in the AGS Department, specializes in designing the systems that control the accelerators currently providing high-intensity proton beams for high energy physics and gold beams for heavy-ion research at the AGS.

This past fall, a gold beam, in the form of a single intense bunch, was accelerated in the AGS and delivered to the commissioning team of the AGS-to-RHIC transfer line — the latest step along the path to collisions of relativistic heavy ions at BNL. Brennan has developed several innovative techniques in beam manipulation that ensure reliable operation of the many-faceted AGS complex.

Leader of the AGS RF Group since 1989, Brennan has also been a key figure in the accelerator's continuing success in setting new world records for proton intensity. Brennan, who received his Ph.D. in nuclear physics (continued on page 2)

Avenues Open to Employees to Protect Environment, Safety & Health

You're a BNL employee, contract worker or guest, and you're concerned: You've observed an event or condition that is a possible breach of Lab policy regarding environment, safety and health, or ES&H.

BNL wants to know.

"Laboratory management is trying to make sure that we know where any ES&H problems may be, so we can take action," explained Sue Davis, Associate Director for Reactor, Safety & Security. "If you know where something, such as a spill, may have occurred in the past, or if you have concerns about something that is happening on the job today, or if you have suggestions for how we can improve, we absolutely want and need to know."

By the same token, BNLers have an obligation to comply with the Lab's ES&H requirements, as well as the responsibility to report any workplace conditions that violate ES&H standards.

These conditions could be radiological, perhaps involving spills of radioactive materials or a need for signs warning of possible radiation contamination, or they could be chemical, such as complaints of odor and indoor air quality in some older Lab buildings.

To report any ES&H concerns, an employee's first and most direct route is to go to his or her supervisor. However, if an individual is not satisfied with the response or uncomfortable approaching the supervisor, he or she

can turn to the department or division's ES&H coordinator or the ES&H repre-

sentative from the Safety & Environmental Protection Division (SEP). (For

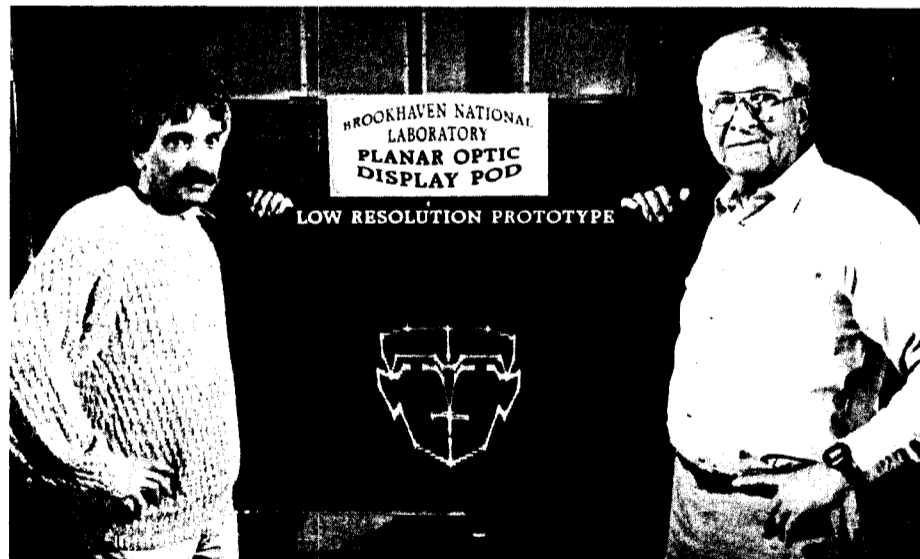
the name of the appropriate individual, check with your department/division administration or call SEP, Ext 4207.) Employees covered by labor agreements may have their ES&H concerns addressed through the labor-grievance process.

Another route — one in which every effort is made to handle the matter confidentially — was initiated in 1993, when Employee Relations Counselor Susan Foster began overseeing an ES&H employee-concern program. Foster can be found in the Human Resources Division, Bldg. 185, Ext. 2888.

Within 48 hours of a concern's being brought to the attention of supervision, ES&H personnel or Foster, the individual will receive a response. Then, if more time is required to investigate the situation fully, up to 20 more days may be permitted before a final report is issued.

No matter what route an employee chooses, Davis emphasized, "The Lab wants to address employees' concerns and issues."

Progress on Flat-Panel Video Screen — New, Larger Prototype



Two years ago, James Veligdan of the Department of Advanced Technology (DAT) developed a new kind of video screen, which may eventually replace bulky picture tube televisions. The screen measured only one inch diagonally, but today, the new prototype — shown here flanked by DAT's Cyrus Biscardi (left) and Calvin Brewster, who helped Veligdan develop it — measures 40 inches diagonally.

This new technology, called the planar optic flat-panel display, uses lasers as a light source. As video-rate scanners and diode lasers become less expensive, Brookhaven's flat-panel display is expected to become marketable for use in television, as well as many other applications, including video-advertising displays, computers, automotive-dashboard and airplane cockpit displays, and portable military-map displays.

In addition to the one-inch and 40-inch prototypes, Veligdan developed a nine-inch by five-inch prototype (see Brookhaven Bulletin, September 29, 1995) that is now capable of displaying videos. The new, larger screen is still low-resolution, but it clearly displays laser drawings, such as the face depicted on the screen shown.

The new prototype is lighter weight because the screen is made of Plexiglas, rather than glass, which was used in the two earlier prototypes, according to Veligdan. It is five inches thick because of the thickness of the plastic, but he and his colleagues are working to make it thinner, as well as improve on the resolution.

The U.S. Air Force and the U.S. Department of Defense's Advanced Research Projects Agency are funding development of the flat-panel device, which has been patented by Associated Universities, Inc., and generated a great deal of interest at a recent trade show exhibit sponsored by the Society for Information Displays. — Diane Greenberg

Sandman Lecture: Video Available

A videotape of a lecture given at BNL by Peter Sandman, an expert in risk communication and public perception, is now available for checkout at the Research Library, Bldg. 477.

An engaging and entertaining speaker, Sandman focuses on the intricacies of communication of quantitative risk, as those intricacies relate to actual hazard vs. public perception and outrage. The lecture is approximately three-and-a-half hours long.

Sandman founded the Center for Environmental Communication at Rutgers, the State University of New Jersey, in 1986, and he directed that program until 1992. Today, he is professor of human ecology at Rutgers, and professor of environmental and community medicine at the Robert Wood Johnson Medical School. His Ph.D. in communications is from Stanford University.

Coming Up

"New Insights Into Cancer Biology: Ataxiatelangiectasia and the ATM Gene" will be the topic of the next Donald Van Slyke Distinguished Lecture. To be given by Yosef Shiloh of the Sackler School of Medicine at Israel's Tel Aviv University, the lecture will be held on Wednesday, April 10, at 4 p.m. in Berkner Hall.

Tenure Awarded to Eight BNL Scientists (cont'd.)



Michael Brennan

from Rutgers, the State University of New Jersey, in 1979, joined the AGS Department staff in March 1986, as an associate physicist. Named Physicist in October 1988, he received the Lab's Distinguished Research and Development Award in 1994.

Michael Hart joined BNL in September 1995 as Senior Physicist and NSLS Department Chair. His involvement with synchrotron radiation had begun in 1974, at the United Kingdom synchrotron known as NINA. Having done research at sources around the world, including Daresbury in England, HASYLAB in Germany, ESRF in France, and the Stanford Synchrotron Radiation Laboratory, Hart first came to the NSLS in 1989. There, he and his colleagues made the first measurements of K-shell resonant optical activity in cobalt and iron magnets and in chiral cobalt compounds.

Hart earned his Ph.D. in physics in 1963, at Bristol University, England, then spent two years as a postdoc at Cornell University. Before coming to the NSLS, he was affiliated with several universities in England, spending 11 years in Bristol's Physics Department, then eight years at King's College of London University before joining Manchester University in 1984.

Currently, Hart is an emeritus professor in physics at Manchester, an honorary professor in engineering at the University of Warwick, and an honorary professor of applied physics at De Montfort University.

Thomas Kirk's most recent association with Brookhaven began in October 1994, when he became the

Lab's Associate Director for High Energy & Nuclear Physics. A Senior Physicist, he also serves as BNL's program director for Brookhaven's accelerator and detector participation in the Large Hadron Collider at CERN.

Kirk first came to BNL as a student in 1965 while working on his thesis. After earning his Ph.D. in 1967 from the University of Washington, he continued working on high-energy physics research at BNL as a member of the Harvard University staff. By the mid-1970s, he had participated in four experiments at the AGS — the accelerator department that he now oversees as Associate Director.

Leaving Harvard in 1972, Kirk spent four years at the University of Illinois, Urbana, before joining Fermi National Accelerator Laboratory (Fermilab) in 1977, then Argonne National Laboratory in 1989. In 1994, he became Deputy Director of the Superconducting Super Collider Laboratory, helping to manage the termination of the project, which had been canceled in 1993.

Robert McGraw, Scientist in the Department of Applied Science (DAS) since October 1993, studies problems primarily related to the atmosphere — particularly the role played by nucleation, the process through which gas



Robert McGraw

is converted to particulate matter. The formation of particles in the atmosphere affects climate, through the scattering of solar radiation, and atmospheric chemistry. Nucleation phenomena are also relevant to many industrial processes.

McGraw, who obtained his Ph.D. in physical chemistry at the University of Chicago in 1979, began looking at nucleation at BNL in January 1981, when he first arrived in DAS as an assistant chemist. He was promoted to Associate Chemist in September 1983, but, in April 1985, he left the Lab to join the technical staff of Rockwell International Science Center, changing fields to study nonlinear optical processes and materials.

When he returned to BNL, McGraw observed that the role of nucleation was becoming more recognized for its importance. Since then, he has been researching the kinetics and thermodynamics of nucleation in sulfuric acid-water mixtures, working on theoretical models of how particles freeze, and developing methods for modeling aerosols, by studying nucleation and growth in complex flowfields.

Serban Protopopescu, a physicist with the Omega Group in the Physics Department was part of the group that founded the DZero experiment at the Tevatron at Fermilab in 1983. A 42-institution collaboration, including a contingent from the Omega Group, DZero was one of two Fermilab experiments searching for the top quark — the last theorized undetected quark.

Protopopescu was co-leader of the top-quark analysis group as well as leader of DZero's off-line data reconstruction and analysis efforts. Developing data-analysis software for DZero — for reconstructing "events" that occur when particles collide inside the huge DZero detector — and analysis techniques for identifying the top quark,



Thomas Kirk

Protopopescu effectively led the experiment's search for the top quark. Last March, DZero and its rival experiment announced the discovery of the massive top quark.

Before joining DZero, Protopopescu did experiments in hadron spectroscopy, working at the Multiparticle Spectrometer at the AGS.

Protopopescu, who took his Ph.D. in physics at the University of California, Berkeley, in 1972, first came to BNL that September, as a visiting assistant physicist in the Physics Department. He joined the Physics staff in July 1974, as an associate physicist.

Thomas Roser was working in BNL's Physics Department in 1988, as a guest research associate from the University of Michigan, when he published the theory of using a magnet assembly called a partial Siberian snake to overcome the long-time problem that AGS physicists had in keeping polarized protons polarized.

In 1994, the installation of a partial Siberian snake at the AGS resulted in the polarized proton beam's being accelerated to an unprecedented energy of 25 billion electron volts. Now, Roser is working on the Siberian snake magnets being designed for BNL's Relativistic Heavy Ion Collider.

Roser earned his Ph.D. in physics from the Eidgenossische Technische Hochschule in Zurich, Switzerland, in 1984, and then joined Michigan's Physics Department. In 1991, he became a full-time associate physicist at the AGS. Named physicist in 1993, Roser has been Accelerator Division Head in the AGS Department since 1994.

Charles Springer joined BNL full-time as a chemist in 1994 to head the Lab's new high-field Magnetic Resonance Imaging (MRI) research facility. Now almost complete, the extremely powerful 4-tesla magnet instrument will be part of the Brookhaven Center for Imaging and Neuroscience. Using the response of the body's own protons to an external magnetic field, MRI gives clear, detailed pictures of soft tissue deep in the body.

Springer earned his

Ph.D. in chemistry at Ohio State University in 1967, spending three years with the Aerospace Research Laboratories in Ohio. He joined the State University of New York at Stony Brook in 1968. There, for 25 years, he led a research group in nuclear magnetic resonance studies.

Springer's BNL affiliation began in March 1993, as a research collaborator in the Chemistry Department. While being named BNL Senior Chemist as of April 1, Springer also contin-

ues his association with Stony Brook as a professor of chemistry.

Gwyn Williams, who has been associated with the NSLS since 1979, turned his attention in the last 10 years to research programs in the infrared region of the light spectrum, developing the use of synchrotron radiation for this work. Most recently, he has been working with Northrop Grumman Corporation to establish a facility dedicated to the high-resolution analysis of materials based on their infrared properties.

In 1988, Williams' team inaugurated a unique infrared beam at the NSLS that is 1,000 times brighter than conventional thermal sources. In 1990, Williams was one of four people credited with developing the wavefront dividing infrared interferometer at the NSLS vacuum ultraviolet (VUV) ring — winning an R&D 100 award for the Lab.

After obtaining his Ph.D. in physics at the University of Sheffield, in England, in 1971, Williams worked to develop synchrotron radiation in the VUV and soft x-ray spectral regions for research projects in Europe, moving to the U.S. in 1977 to continue that work. Williams joined the staff of BNL's Physics Department in March 1979, as an associate physicist, to help establish research programs at the newly funded NSLS. Named Physicist in October 1981, he transferred to the then new NSLS Department in February 1982.

— Anita Cohen



Gwyn Williams



Thomas Roser

Research Library's Collection Expands

The library collection of the former Superconducting Super Collider (SCC) Laboratory has been given to BNL. To be located in the Research Library, Bldg. 477, the SSC collection will be available for circulation in mid-April.

To make space for future acquisitions, the Research Library will weed outdated material from its present collection. Scientific and professional staff members have been asked to review an initial list of library holdings that have been identified as possible discards. Those who have yet to be contacted but would like to give their input into this process are asked to contact their Research Library Advisory Committee Representative or call Mary White, Ext. 3489.

Archery Club

The Archery Club will hold its monthly meeting on Thursday, April 4, at noon in the large seminar room of the Physics Department, Bldg. 510. New members are always welcome. For more information, call Bill Schoenig, Ext. 2377.

In Memoriam

Wickham Case, a technical specialist in the National Synchrotron Light Source (NSLS) Department, died of a heart attack on March 16. He was 51 years old.

Case joined BNL as a principal technician in the Physics Department on October 22, 1979, after working at the Lab as a job shopper for approximately eight months. In 1982, he moved to the NSLS, and, in 1989, he was promoted to Technical Specialist.

John Gallagher, Case's supervisor at the NSLS, found him to be a dedicated employee who continually aided the scientific and professional staff in executing the department's mission. During his years with the NSLS, Case had worked in the Power Supply Group, the Operations Group, the Controls & Diagnostics Group and, lastly, the Interlocks Group. "No matter what the task," Gallagher said, "Wick had the unyielding resolve to produce work of the highest quality."

Friends remember how Case enjoyed singing and playing his guitar, and that he was a caring and generous man who always put the concerns of friends and coworkers before his own. "All whose lives he touched will never forget him," concluded Gallagher.

Case, who was a resident of Brookhaven, is survived by his sons, Matthew and David, and three sisters, Margaret Danes, Elizabeth Chitkara and Janet Pongonis.



Wickham Case



Serban Protopopescu

50 YEARS AGO THIS WEEK

This series, which recounts the earliest days of Associated Universities, Inc. (AUI), and BNL, will run as appropriate throughout 1996 and 1997, the 50th anniversary years of AUI and BNL, respectively.

• **March 30, 1946** — The first meeting of the Planning Committee of the Initiatory University Group (IUG) includes the following scientific representatives of the nine universities sponsoring a research laboratory in the northeast: I.I. Rabi, Columbia; Norman Ramsey, executive secretary, Columbia; Robert Bacher, Cornell; John Van Vleck, Harvard (for George Kistiakowsky); Robert Fowler, Johns Hopkins; Jerrold Zacharias, Massachusetts Institute of Technology; Louis Ridenour, Pennsylvania; Henry Smyth, Princeton; Lee DuBridge, chairman, Rochester; and William Watson, Yale.

The group appoints six subcommittees

to study specific problems. Subcommittee chairmen (named in parentheses) are members of the Planning Committee, while additional members are drawn from outside to provide appropriate special experience. Areas covered by the subcommittees are: contract (Smyth), site (Ramsey), reactors (Bacher), electronuclear machines (Zacharias), personnel policy (Rabi), and security and classification (Watson).

• **April 3, 1946** — A supplement is attached to Columbia University's War Contract with the Manhattan District allowing IUG expenditures to be charged to that contract until June 30, 1946.

(To be continued on April 5.)

A Gentle Warrior Celebrates 25 Years Of Dedication to the Martial Arts

Now an eighth-degree black belt in Ein Tonne Jujitsu, Kirk Dreimann remembers the day 25 years ago "as if it were yesterday": He was then 16, when one of the guys, who had been taking an after-school martial arts class, "threw me all over the place."

When Dreimann picked himself up, he decided on the spot that he wanted to learn those same fighting skills.

Dreimann, who is a helper A in the Administrative Support Division, began his 25-year journey into the martial arts on March 16, 1971. At the time, "I was having the usual teenage problems within the family, so this seemed like a good thing to do to release a lot of my steam," he recalls.

Little did Dreimann know at the time that mastering a martial art would not only give him techniques for efficiently and effectively punching, kicking, kneeling, choking and immobilizing any opponent and using weapons to defend himself and others, but it would also provide him with a life-guiding philosophy that has developed him mentally and spiritually.

"I liked the challenge that the discipline provided, and, as I worked at it, I found that it put me in a better place, on a higher level," explains Dreimann.

One of the many forms of martial arts, Jujitsu is a Japanese method of fighting hand to hand or with weapons that had evolved among the Japanese samurai, or warrior class, in the 17th century.

While Jujitsu has the usual objective of fighting — to subdue, injure or kill one's opponent — one of the central concepts is to be gentle, meaning that a warrior is to sense his enemy's direction of attack, yield to it, but use that energy in his attempt to control the attacker.

This, however, can only be accomplished when the physical, mental and spiritual states of the warrior have been unified, so that the fighter can react instinctively to the constantly changing circumstances of combat.

With his every day dedicated to the practice of Jujitsu, Dreimann wakes at 4 a.m. to do an hour-long aerobic martial arts workout in the well-equipped basement of his Middle Island home. While his work schedule does not often permit his working out

at lunch, he can occasionally be found in the gym, practicing hardening blocking techniques, or around site, jogging or cycling.

In August 1976, Dreimann first earned a black belt, which is the highest of ten ranks, but which has ten levels or degrees within that rank.

Since reaching second-degree black belt in December 1978, he has been entitled to teach. So, after work, Dreimann puts in another two to three hours a day, practicing and teaching four to five students at a time, some of whom are BNLeers.

"While my wife is number one in my life, martial arts is a strong second, so it take precedent over a lot of other things," remarks Dreimann.

In fact, his wife Marian studied under him for a while and now uses what she learned to lift, push and, sometimes, restrain nursing home patients in her work as a nurse. And his four children — three boys ages 14, 12 and 7, and one girl age 9 — are getting more involved.

According to Dreimann, some of his best students have been women, who mostly come to the martial arts to learn self-protection techniques, but who also come away with much more self-confidence.

"It is not something you should brag about," advises Dreimann. In fact, "I advise my students to keep their mouths shut because, otherwise, they're just asking for trouble. And, if they do need to use their skills, then there is an element of surprise in their response that is also to their advantage."

Approximately four times a year, Dreimann heads into the city to spend a weekend under the tutelage of his teacher, Sensei Nachemaura, who is the chief instructor and joint owner of a dojo or school in Manhattan.

"He'll review my progress and decide what problem areas we'll work on, whether it is something specific

like getting my leg over my head in a scissor kick or something more general like balance," Dreimann says. "And we do a lot of situation-type fighting, to reinforce the different priorities that I must have depending upon the situation."

A year and a half ago, Dreimann asked to be put to the test for eighth-degree black belt. "Once you are past black belt, you let your teacher know when you are ready. It is a five- or six-hour test with no breaks whatsoever, so you had better be ready when you say you are," he comments.

With ten other high-ranking Ein Tonne Jujitsu masters assembled one Saturday to test him, Dreimann was first quizzed on how he would react in different situations. Then he was asked to perform various tasks in a row like breaking bricks or boards, "making it look as fluid as a dance."

Next came lifting near-world's-record weights, punching weights and blocking with weights, all of which he was expected to displace or stop with no wasted energy or motion.

After that Dreimann had to prove his proficiency with what are called the ice picks. They are paper-thin, 18-inch long knives that are inserted into targets — and must be used with accuracy and precision to avoid bending or



Kirk Dreimann

Roger Stoutenburgh

breaking their points.

"They are looked at as tools rather than weapons, and, when used correctly, they are fascinating to watch in motion," he explains.

Finally, Dreimann was questioned on Zen philosophy, the practice of which is central to Jujitsu by unifying mind, body and spirit into one force. At the end of his examination, he was drenched with sweat and exhausted, but satisfied. And so were his judges.

Concludes Dreimann, "The benefits of my rank are nice and I'd like to eventually go for a tenth degree, but what I see as my accomplishment is 25 years of constant dedication to something that has a purpose, makes sense and helps solve real-life problems. My goal is another 25 years."

— Marsha Belford

Aliens and Tigers and Bears, Oh My!

It was a dark and stormy night, and the researchers of Brookhaven were cradling their experiments and minding their own data . . . when, suddenly: Was that a high-pitched whirring sound above them? Did an amazing brightness scorch the windowpane? Did shadowy, how-many-legged creatures glide to earth and pick their way stealthily into the trees?

Absolutely not!



Although this photograph may create a ripple of interest among the more passionate UFO watchers in the district, a pause for reflection is indicated: What we see is actually an upside-down picture, taken in March 1971, of a metal dome that measured rates of diffusion of oxygen between air and water. The device was tested in BNL's Biology Department before being used in a research project. April Fool!

Reminder: Insurance Benefit Office Hours

The hours for the Insurance Benefits Office in the Human Resources Division, Bldg. 185 are limited to 8:30 a.m. to 1 p.m., Monday through Thursday. During those hours, employees and retirees may request assistance with aspects of their insurance benefits, such as enrollments and coverage changes.

In case of emergency, contact Denise DiMeglio, Ext. 2881.

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Telephone Tip

If you call a busy extension, you will hear a standard busy signal, then silence (if the extension does not have voicemail). Don't hang up too quickly! The party you are trying to reach will hear a beep and their Connect (CNCT) lamp will flash. They can suspend their call and pick up your call, or toggle between callers by pressing the CNCT key, just like using the hook-switch on your home phone.

Computer Training

Seats are still available in the following computer training classes; to register, contact your department or division's training coordinator, or call Pam Mansfield, Ext. 7286, or Julie Guhring, Ext. 5196:

For the PC

- int. WordPerfect for Windows Apr. 22
- beginner EXCEL Apr. 25
- beg. WordPerfect for Windows Apr. 26
- beginner Word Apr. 30

For the Macintosh

- Macintosh system 7.5 Apr. 10 & 11

The following UNIX courses are available; to register, send an ILR for the appropriate amount to Mansfield, Bldg. 515, by the morning of April 1:

- UNIX fundamentals, Apr. 15-19, 8:30 a.m.-noon, \$300;
- PERL programming, Apr. 15-19, 1-4 p.m., \$300;
- Solaris system administration, May 13-17, 8:30 a.m. - 4 p.m., \$600.

Classes for May will cover Microsoft Projects, ACCESS, EXCEL, Windows and Powerpoint. For more information, call Mansfield, Ext. 7286.

