



15 Sep 1983

## The Missouri Miner, September 15, 1983

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# MISSOURI MINER

For the students of UMR

Volume 72, Number 3

Thursday, September 15, 1983

Sixteen Pages

## Golick Lectures to be held

Source: OPI

The eleventh series of the A. Frank Golick Lectures will be held at the University of Missouri-Rolla September 22 and 23. Dr. Phillip J. Mackey, program manager—Noranda Process—for Noranda Mines Ltd., Quebec, Canada, will be this year's speaker.

He will deliver two lectures and will meet with metallurgical engineering students and faculty.

His subjects are "Technology and Science in Nonferrous Metallurgy: The Changing Scene," Thursday, September 22, and "Process Simulation and Computer Modelling in Copper Smelting," Friday, September 23. Both will begin at 3:00 p.m. in 117 Butler-Carlton Civil Engineering Hall.

Dr. Mackey is a specialist in nonferrous extractive metallurgy and, in particular, copper smelting. He has extensive experience in plant management, operations,

process design, teaching, research and development. During the past 14 years, he has held responsible positions with Noranda Mines Ltd. and the Noranda Research Centre.

Mackey holds B.S. and Ph.D. degrees in metallurgy from the University of New South Wales, Sydney, Australia, and is the author of some 22 articles published in technical journals.

He is a professional engineer with the Association of Professional Engineers of Ontario, Canada; a certified engineer, Institution of Mining and Metallurgy (London); a member of the Australasian Institute of Mining and Metallurgy, the Institution of Metallurgists (London), the Metals Society (London), the Historical Metallurgical Society (London), the American Society for Mining, Metallurgical and Petroleum Engineers and the Canadian Institute of Mining and

Metallurgy.

The A. Frank Golick Memorial Lectureship was established by Mrs. Golick in honor of her late husband, a 1918 UMR metallurgy graduate. The program brings nationally and internationally recognized metallurgical engineers to the Rolla campus for lectures and meetings with metallurgical engineering students. Highlights of the visits are the lectures, which are intended to illustrate how the results of fundamental research find applications in the solution of modern metallurgical problems.

Golick was vice president in charge of sales for LaSalle Steel Co. when he died in 1966. During his 20-year association with LaSalle, he pioneered the market development of many cold-finished steels and developed sales campaigns which established markets for several of the most widely used steels.

Prior to joining LaSalle, he was associated with several ferrous and nonferrous metal producers, developing a number of new applications for both classes of metals. He authored a number of technical articles on new steel applications and methods of treatment.

Among previous Golick lecturers have been: Profes-

sor Arthur S. Nowick, Henry Krumb School of Mines, Columbia University, N.Y.; Dr. Mats Hillert, The Royal Institute of Technology, Stockholm, Sweden; Dr. E. T. Turkdogan, United States Steel Corporation Research Laboratory, Monroeville, Pa.; Dr. Merton C. Flemings, Food Professor of Engineering, Department of Materials

Science and Engineering, Massachusetts Institute of Technology, Cambridge, Mass.; Dr. C. M. Wayman, professor of metallurgy, University of Illinois, Urbana, Ill.; and Dr. J. W. Cahn, center scientist, National Bureau of Standards.

The lectures are free and open to the public.

## New faculty arrive

Deborah Burris is the new Assistant Director of Student Financial Aid as of June 1, 1983.

Her new job here at UMR involves management of funds and administration of the work study program and college and short-term loans.

She says that previously she did "essentially the same work" at the Forest Park Campus of St. Louis Community College.

She got her education at St. Louis University with a

Bachelor's degree in Organizational Development.

There have been a few changes to be had in the transition, she says. "This is a change from the junior college setting." There, most of the students were going for two-year degrees or basic education with a transfer in mind.

She adds that coming from St. Louis to Rolla has been quite a change.

"One thing I enjoy most is working with students," she says. "I enjoy my job and the people here. I plan to stay awhile."

Source: OPI

Maj. Joe P. Bussey, Jr., has joined the University of Missouri-Rolla faculty as an assistant professor of military science with UMR's Army ROTC program.

Bussey holds a B.A. degree in management from Columbia College and an M.A. degree in the same field from Webster College, St. Louis. He also holds a B.S. degree in civil engineering from the University of Missouri-Columbia, and has attended Command and General Staff College at Ft. Leavenworth, Kan., and the Engineer Advanced Course at Ft. Belvoir, Va.

In his career with the U.S. Army, he has been stationed at Ft. McPherson, Ga.; Ft. Leonard Wood, Mo.; Ft. Belvoir, Va.; and in Japan.

Dr. Dean A. Carlson has joined the University of Missouri-Rolla faculty as an assistant professor of mathematics/statistics.

Carlson received his B.S. degree in education from Clarion State College, Clarion, Pa., and holds M.A. and Ph.D. degrees in mathematics from the University of Delaware in Newark.

He served as an instructor and teaching assistant at the University of Delaware and is the recipient of the Baxter/Sloyer Graduate Teaching Assistant Award for the 1979-80 academic year.

Carlson is the author of several publications and presentations and is a member of the American Mathematical Society.

Dr. James R. Carr has joined the faculty of the University of Missouri-Rolla as an assistant professor of geological engineering.

Carr holds a B.S. degree in geological engineering from the University of Nevada, Reno, and M.S. and Ph.D. degrees in the same field from the University of Arizona in Tucson.

He has served as a graduate research assistant and associate at the University of Arizona, and has worked for Woodward-Clyde Consultants, San Francisco, and for S.E.A. Engineers, Sparks, Nev., as a materials testing lab technician.

Carr is a member of the American Society of Photogrammetry.

Dr. Timothy J. Gay has joined the University of Missouri-Rolla faculty as a research assistant professor in physics.

He came to UMR from Yale University where he had held research and lecturer positions since 1980. He holds the Ph.D. and S.M. degrees in physics from the University of Chicago, and the B.S. degree in physics from California Institute of Technology.

Gay was a recipient of graduate laboratory and undergraduate summer student fellowships at Argonne National Laboratory, and an undergraduate teaching assistantship at the California Institute of Technology.

His primary research interests are in fast ion/atom collisions with atoms and solid surfaces and in electron-atom scattering.

see

New faculty  
page 3

## UMR staff physician retires after 36 years of service

Source: OPI

Dr. James M. Myers, M.D., retired this month after serving 36 years as a University of Missouri-Rolla staff physician, the last 15 of which were spent as director of UMR's Student Health Service.

Dr. Myers explained that he will still be available to UMR as a consultant and for emergency service. "No physician can completely retire," he said. "There needs to be someplace where you can keep your hand in the practice of medicine."

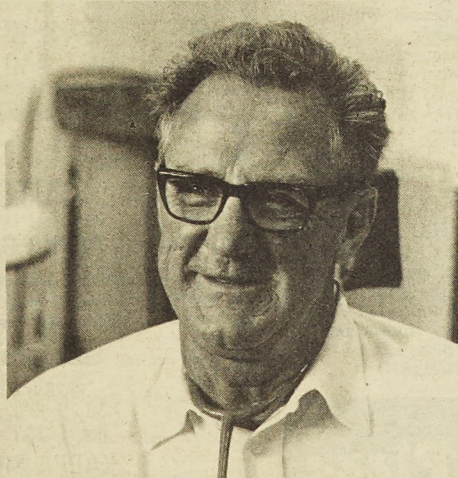
Born in Valatie, N.Y., Dr. Myers attended Saint Michael's College in Winoski, Vt. He was accepted by several medical schools and decided to attend St. Louis University's Medical School.

He completed his internship at St. John's Hospital in St. Louis during World War II and served his residency with the U.S. Army. Following his discharge from the service, he and his wife, Mary, who is a native of Jefferson City, spent a few months in Georgia but soon decided to return to Missouri to establish his practice. They came to Rolla in the spring of 1947, and Dr. Myers opened his office as a general practitioner.

That same spring, Dr. Earl Feind, who was director of the Student Health Service at UMR from 1935 to 1968, asked Dr. Myers to become a staff physician at UMR. In 1950, Dr. Feind and Dr. Myers joined with Dr. William Lytle to form the Rolla Clinic and

colleges and universities throughout the country," Dr. Myers said. "I've always enjoyed working with the students and maintaining the level of health services provided by UMR."

Dr. Myers has a number of other interests and activities



worked together in private practice as well as at the infirmary on campus.

"During the years I spent on the health service staff at UMR, particularly as director, I had an opportunity to learn a great deal about the health services provided by

that will keep him busy during retirement. He is an avid golfer, as is Mrs. Myers, and he enjoys hunting and fishing. He and Mrs. Myers combine their love of golf with an interest in travel and have played on some of the best golf courses.

SEPTEMBERFEST see page 4

Pick-up Rollamo Yearbook  
Sept. 19, 20 and 21 Rolla Build. 9:30-4:30



# CALENDAR OF EVENTS

## THURSDAY

### M-CLUB

There will be a meeting of the M-Club on Thursday, September 15 at 7 p.m. in CE 114. All members should attend and bring your dues. Refreshments will be served.

### MSM CLIMBING CLUB

The Climbing Club will meet tonight at 6:30 in Room 305, Norwood Hall.

### UMR ASSOCIATION FOR COMPUTING MACHINERY

Are you having troubles with JCL and/or CMS and need help? The members of the UMR Association for Computing Machinery will sponsor a Job Control Language and CMS help session. This session is designed for those users of the University Computer System that are unfamiliar with JCL or CMS and would like some help. The JCL session will begin at 7 p.m., the CMS session at 7:30 p.m. The session will be held in Physics 104 on Thursday, September 15. ACM memberships and resume forms will also be available at the help session.

### WARGAMER'S ASSOCIATION OF ROLLA

At 8 p.m. Thursday night, the Wargamer's Association of Rolla will be meeting in Room 206 at the Math Building. For those of you who somehow missed our first meeting, we are still accepting new memberships. The topic of the meeting will be Avalon Hill's new game "Up Front".

## FRIDAY

### CHRISTIAN FELLOWSHIP

InterVarsity Christian Fellowship will hold its weekly meeting at 7 p.m., Friday, September 16 in the Missouri Room, University Center-East.

### STUDENT UNION BOARD LECTURE

"Russia's Secret Doomsday Weapons, World War III and You," Peter James, 8 p.m., Centennial Hall, University Center-East. Free.

## TUESDAY

### SIGMA GAMMA EPSILON

Sigma Gamma Epsilon, the Earth Science Honor Society, will hold its next meeting Tuesday, September 20 at 7 p.m. in Room 305, Norwood Hall. All members should try to attend.

### SWE MEETING

The Society of Women Engineers will be holding a meeting at 5:45 p.m., Tuesday, September 20, in the Meramec Room. Ms. Kim Harrison from Emerson Electric will be the speaker. Memberships will be taken. Refreshments will be served following the meeting. Everyone is welcome.

## WEDNESDAY

### APO

There will be an APO meeting Wednesday, September 21, at 7 p.m. in the Mark Twain Room. Members please bring dues.

### A.S.C.E.

The second A.S.C.E. meeting of the fall semester is scheduled for

## Missouri Miner

The Missouri Miner is the official publication of the students of the University of Missouri at Rolla. It is published weekly at Rolla, Missouri. The Missouri Miner features activities of the student and faculty of UMR.

Editor-In-Chief	Karen Penney	364-3561
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Distribution	John Macke	364-9783

Subscriptions are available to the general readership at a rate of \$7 per semester. Articles and photos for publication in the Miner must be in by 9:00 p.m. on Monday before distribution on Thursday.

### THE MISSOURI MINER

303 Rolla Building  
University of Missouri-Rolla  
Rolla, MO 65401  
(314) 341-4312

Wednesday, September 21 at 7 p.m. in M.E. Room 104. Paul A. Kuhn of Greeley and Hansen will be the guest speaker, and refreshments will be served following the meeting.

### WESLEY

Wesley holds a general meeting every Wednesday night at 6 p.m. The program usually consists of either a speaker, a film, or other special event. These meetings are held at the Wesley House, 403 W. 8th St. (right across from the Post Office). Everyone is invited to come find out what Wesley really is all about.

## NODAY

### CAMPUT PERFORMING ARTS SERIES

Oscar Brand, folksinger, 8 p.m., Cedar Street Center. Season tickets or \$6 for adults and \$5 for students/retirees. Tickets may be obtained at the Cedar Street Center from 8 a.m. to noon and 12:30 to 4:30 p.m. Monday through Friday.

### KME MATH HELP SESSIONS

Math help sessions are held every Monday and Thursday from 6:30-8 p.m. in Room 209 M-C.S. KME offers help to those students having problems in algebra, trigonometry, calculus 1, 2, 3, and differential equations.

## Sarchet instructs videotape course

Source: OPI

Bernard R. Sarchet, Robert B. Koplak professor of engineering management at the University of Missouri-Rolla, is the instructor for a videotape short course, Management for Engineers, distributed by the Association for Media-based Continuing Education for Engineers (AMCEE) Inc.

AMCEE markets some 450 courses produced by 24-member universities. Sarchet's course is available through the University of Kentucky, Lexington, Office of Continuing Education/Engineering.

The course provides 12 30-minute videotapes which may be bought or rented. Also available are an accompanying textbook, "Management for Engineers," by J. M. Amos and B. R. Sarchet, and lecture notes by Sarchet. Persons completing the course qualify for 1.2

Continuing Education Units (CEUs) from the University of Kentucky.

Topics covered are: Role of the Engineer Manager, Planning Technical Activities, Selecting and Managing Projects, Creating an Effective Team, Control Techniques for the Engineer Manager, Decision-Making Techniques, Motivational Techniques for Engineers, Making Appraisals Effective, Participative Management, Effective Communication, and Time Management.

Sarchet suggested that the course may be particularly attractive to small industries, because it allows on-site training for a limited number of employees at a reasonable cost.

Sarchet, a chemical engineer, came to UMR in 1967 after a 26-year career with a major United States corporation. When the department of engineering management was created in

**SOUTH CENTRAL MISSOURI SHRINERS CLUB BAND**  
"Ken Fowler and the Hurricane River Band". Shows at 6 and 8:30 p.m., Centennial Hall, University Center-East. Advanced tickets \$10 family. Tickets at door \$5 adults, \$3 children. For more information call 364-3574.

### UMR FILM SERIES

"Atomic Cafe" and "If You Love This Planet," 7:30 p.m., Miles auditorium, Mechanical Engineering Building. Season ticket or \$2.50 at the door.

### UMR SCUBA CLUB

Scuba Club meeting at 7 p.m. in Room 203 of the Library. Dive Buddy Book and Dive Site Guide will be distributed. Movie to be shown. Compressor Operator training dates to be set. New members or visitors always welcome.

### UPE

Thursday, September 22, UPE will be sponsoring the UPE Career Day in Centennial Hall from 9:30 a.m.-4 p.m. Refreshments will be served all day. Computer science majors take advantage of talking with companies first hand. The following companies will be present: Southwestern Bell, McDonnell-Douglas, Black & Weaten, Delco Electronics, Conoco, IBM, and Phillips Petroleum. Don't hesitate to come! Listen to presentations, look at displays, and talk to companies informally.

1968, Sarchet was the first chairman, serving in that position from 1968 to 1981. He is the author of two books on engineering management and supervisory management, has written numerous other publications, and is a registered professional engineer. He was a founder

and first president of the American Society for Engineering Management. He holds a B.S. degree from Ohio State University, an M.S. from the University of Delaware and is a graduate of the Advanced Management Program of Harvard Business School.



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## TUTORING

### ALPHA CHI SIGMA

Freshman and Analytical Chemistry  
7:00 - 9:00 p.m. Tuesday and Thursday  
Room 126 Chemistry Building

### Society of Physics

Physics 21-25 & 107  
7:30 - 9:00 p.m. each Tuesday  
Room 130 Physics Building

### KAPPA MU EPSILON

Trig, Algebra and Calculus  
Monday and Thursday 6:30 - 8:00  
Room 209 Math-Computer Science Building

### Minority & Women Eng. Program

Areas covered: Physics, Math, EE, ChE, E.M., Chemistry, English and Computer Science  
A complete schedule of times and dates is available in Room 302 Rolla Building.

## O'Donnell joins CE

Source: OPI

John P. O'Donnell, professor and chairman, chemical engineering department, University College Dublin (UCD), Ireland, will be a visiting professor of chemical engineering at the University of Missouri-Rolla September 17-23.

O'Donnell is the recipient of a Smurfit-Alton Packaging Fellowship. The fellowship program, established in 1981, provides for an exchange between UMR and UCD.

O'Donnell will present two seminars and two lectures

and will consult with faculty and students.

All presentations will be in 139-140 Schrenk Hall and all are open to the public. The schedule is: Monday, September 19, 4:00 p.m., seminar, "Chemical Education in Europe"; Tuesday, September 20, 1:30-3:00 p.m., lecture, "Equilibrium of the  $\text{NH}_3\text{-CO}_2\text{-H}_2\text{O-Urea}$  System"; Wednesday, September 21, 4:00 p.m., seminar, "Problems in the Start-up of a Large Ammonia Plant"; Thursday, September 22, 1:30-3:00 p.m., lecture, "Urea Reactor Design."

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# m= News

## New faculty

from page 1

Capt. John K. Groves, new assistant professor of military science at the University of Missouri-Rolla, is a native of Springfield.

He holds an associate degree in law enforcement and a bachelor's degree in sociology from Missouri Southern State College. He also has a master's degree in counseling from Webster College. He has taught two years for Drury College.

Groves entered the U.S. Army in 1968 as an enlisted man. After military service, he worked as a police officer in Bolivar and Joplin. He returned to Army service in 1978 as a military police officer. He has served in Germany and at Fort Leonard Wood.

Donald D. Henderson has joined the faculty of the University of Missouri-Rolla as a lecturer in petroleum engineering.

Prior to coming to UMR, Henderson managed the petroleum distribution system in South Korea. He also has served in positions that involved scheduling tankers for all European ports and managing a pipeline system in Alaska.

He was awarded a B.A. degree from the University of

Texas and M.S. degrees in petroleum engineering and engineering management from UM-Rolla. He also has attended William & Mary College and Texas A&M University.

He is a member of Phi Kappa Phi and Pi Epsilon Tau.

Dr. Yupai Hsu has joined the faculty of the University of Missouri-Rolla as a research assistant professor of physics.

Hsu holds a B.S. in physics from the National Taiwan University and an M.S. in physics from the California Institute of Technology. He was awarded a Ph.D. in physics by the University of Illinois-Urbana-Champaign.

Prior to joining the UMR-Rolla faculty, Hsu was a postdoctoral assistant in atomic collision theory, applied physics, Yale University. He also taught in the department of physics at the National Taiwan University.

Hsu is a member of the American Physical Society, Sigma Xi and Phi Kappa Phi. He was awarded the Scholastic Achievement Award by the National Taiwan University and was named a University Fellow by the University of Illinois.

Dr. Shankar Mall has joined the engineering mechanics faculty at the University of Missouri-Rolla as an associate professor.

Prior to coming to UMR, Mall was an associate professor in the department of mechanical engineering at the University of Maine. He also has held postdoctoral research associate and research assistant positions at the University of Washington.

He holds B.S. and M.S. degrees in mechanical engineering from Banaras Hindu University in India. He was awarded a Ph.D. in mechanical engineering by the University of Washington.

He is a member of the American Society for Engineering Education, the American Society of Mechanical Engineers and Tau Beta Pi.

His primary research interests include: fatigue and fracture, experimental stress analysis, finite element analysis and composites.

Dr. V. A. Samaranayake has been named as assistant professor of mathematics at the University of Missouri-Rolla.

Samaranayake is a native

of Sri Lanka and holds a B.S. degree and a postgraduate diploma in statistics from the University of Sri Lanka. He also holds a Ph.D. degree from Kansas State University.

Samaranayake has taught mathematics and statistics at the University of Sri Lanka and at Kansas State University. He is a member of the American Statistical Association and the Institute of Mathematical Statistics.

His areas of interest include: time series, regression, statistical computing and nonparametric statistics.

Dr. Shin-Chung (Maxwell) Yen has joined the University of Missouri-Rolla faculty as a visiting assistant professor of engineering mechanics.

Yen earned his B.S. degree in hydraulic engineering at Chung-Yuan College in his native Taiwan (Republic of China). He also holds an M.S. degree in engineering mechanics from UMR and his Ph.D. degree in engineering science and mechanics from Virginia Polytechnic Institute and State University, Blacksburg, Va.

He served as a teaching assistant and instructor at both UMR and VPI and is the author of several published

articles and reports.

Yen's areas of special interest are experimental stress analysis, finite element methods in structural mechanics and vibrations and dynamics.

Dr. Whang-Zong (Ben) Wu has joined the faculty of the University of Missouri-Rolla. Wu has been appointed assistant professor of engineering mechanics and senior research investigator in the Rock Mechanics and Explosives Research Center.

Wu has been a teacher and

researcher at the University of California, Berkeley, and at the National Taiwan University.

He is the author of several papers, and among his research interests are rock mechanics, dynamic systems, wave propagation, fracture mechanics, and numerical analysis.

Wu received Ph.D. and M.S. degrees in mechanical engineering from the University of California, Berkeley, and a B.S. degree from the National Taiwan University.

### Hot News Tips Wanted

If you know of any newsworthy event, person, or situation, PLEASE let us know at this illustrious newspaper. Drop a brief description of the idea along with your name and how to contact you in the Miner box on the first floor of the Rolla Building.

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## BB/BS provides adult time

By PAUL McLAUGHLIN

Big Brothers/Big Sisters of Rolla is an organization that attempts to provide children in single-parent homes with adult influence that might not be available from a mother or father alone. According to Jean P. Daane, case worker for BB/BS of Rolla, there are about 40 children in the area enrolled for BB/BS; 19 of them have been matched.

Campus interest in the program has increased a little recently through the M-Club. Bob Sauer, a member, suggested that they become more involved in the community and the school. He suggested in particular that they work with BB/BS.

Dave Millman, another member, volunteered and became a Big Brother. After meeting with his little brother for the first time, Dave commented, "He's easy to talk to."

Den and Jim Koslowski and their roommate together are matched with three brothers.

Other students have been involved for multiple years. Gary White, for example, has just started with his second little brother, says Mrs. Daane.

Mrs. Daane says that about half of the volunteers are students. There is, however, no upper age limit. Volunteers must be at least 18 years old and out of high school. They may be men or women.

Millman, in an effort to clear up some confusion he has already seen, adds that volunteers do not have to be members of M-Club. He challenges, "I think that other service fraternities should make some attempt to help."

The children themselves come from all kinds of homes, according to Mrs. Daane—rich and poor, professional and non-professional.

As was stated earlier, there are about 40 children in Mrs. Daane's caseload. "And that's without us trying to find them," she says. "There's always a need, and it's growing every day."

The goal of BB/BS is stated in their brochure: "The goal of each big brother/big sister match is to produce positive changes in the child, including an increased sense of self-worth and the chance for the child to develop to his or her own fullest potential."

Mrs. Daane says, "The term big brother or big sister is very descriptive. They aren't trying to be substitute parents."

The big brother or sister spends two to four hours a week just spending time with his little sibling. They may play catch or go to a game.

"Sometimes," says Mrs. Daane, "they just need a male figure in their life." With many of these children, there would be no other adult males. Their mother, teacher, den mother, etc. are all

women. Mrs. Daane says one boy told her, "Mom likes me to play catch with her—but she's not very good."

Mrs. Daane states that anyone who wants to

volunteer as a big brother or sister should call her at 341-2600. An alternative might be to call an involved student. Bob Sauer might be called at 364-1082.

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## ON CAMPUS





# Features

MISSOURI MINER

Thursday, September 15, 1983

Page 4

## Profs write noteworthy texts

By JOHN ROBERTS

It happens with at least one class every semester. Just as soon as you've acquired a book for the course, you discover that a different book, *A NEW BOOK*, is required. If you're like me, you've wondered where all these books are coming from. What's the matter with the old books, the ones that only cost \$25 used or that can be borrowed at the cost of a six-pack? Don't the people responsible know the average student is on a tight budget?

I decided to try and find out just where all the new books were coming from. I figured that most textbooks were written by college professors. I talked with some students and instructors to get names of a few UMR professors who

have written or are in the process of writing a book.

For the most part, I was curious to know why a professor would want to attempt to write a book in addition to all the work they have anyway. I talked with Dr. Gary Bertrand of the Chemistry Department and Drs. Ron Kohser and Donald Askeland of the Metallurgical Engineering Department. All three have been approached by publishers to write a book, and are currently in various stages of the process.

According to Dr. Bertrand, "There are three reasons why someone writes a book—there's money, prestige, and personal satisfaction." Personal satisfaction was the predominant factor with all three professors. Dr. Bertrand added that he would like to use his own chemistry

book in class because he is not completely satisfied with any one book now available.

Dr. Kohser considers himself rather lucky to have been asked to co-author a new edition of the current best-seller in the field of metallurgy. He said the older edition has at times caused confusion because it contains older data that contradicts some newer data. He said he had felt the need to make the publishers aware of the discrepancies and ended up being co-author of the new book.

Dr. Askeland is currently working on an introductory metallurgy book. He has complete sets of notes that he uses for books in two of his classes and is expanding on these for his book.

When I asked if there were any problems with trying to

write a book, I realized that as students we are lucky there aren't more NEW BOOKS to worry about.

Dr. Bertrand stated that one problem with writing a book is the audience to which the book is directed. "Some complain about having too much of one topic in the book, while others complain about leaving items out," he said.

Time is the major problem with the writing process. Dr. Askeland said that for him the summers were the most time consuming. Last summer, from the time school let out in May until Labor Day, he spent eighteen hours a day, every day, working on his book.

Dr. Kohser also stated that "The time involved is immense." The new edition of the book he is co-authoring is

in the latter stages and is near completion. According to Kohser, the actual writing is not what takes the most time. The procedure is fairly complicated.

First of all, a handwritten or typed manuscript is sent to the publisher. They look it over and send it back to the author with corrections and revisions in grammar, punctuation, etc. When the publisher and author agree on the corrections, an edited copy is printed. First the publisher and then the author review this copy and any noted additional mistakes are corrected. The next step is the galley proof. The pages appear as they will in print. The galley proof contains only the text. Pictures and illustrations are not included. The galley proof is the last chance to make any

corrections in the text. Next come the page proofs. Here the pictures and illustrations are included and corrected if needed. The final step before marketing is the printing and binding of the book.

The time involved in the reviewing and mailing back and forth of copies is not all the story. For each picture or illustration borrowed from other text, a letter from the author asking permission to use it must be written and a letter of written consent must be received by the author prior to the making of the page proofs.

Knowing what all goes into the creation of a new textbook, I have to appreciate the work involved and respect the author(s) who write it. Concerning the prices the student pays, however, I'll keep my comments to myself.

## SUB wants you!

The Student Union Organization provides entertainment for everyone at UMR. Whether your interests lie in a live drama or a popular movie, playing in a card tournament or floating a river, country music or rock-n-roll, the Student Union Organization works together to bring a variety of recreation to you, while having a lot of fun doing it!

The Student Union Board (better known as SUB) consists of three officers and seven committee directors which meet twice a month. Each director intern meets with his or her committee at arranged times throughout the month.

SUB wants you to become a part of your Student Union

Organization. All committees are taking applications now. Any UMR student who wishes may apply. Stop by the SUB office, 217 University Center-West. September 9, SUB will be having a Smoker. Come and see what SUB is all about.

**SUB COMMITTEES**  
**FINE ARTS**—The Fine Arts Committee is directed by Karl Ruhmann. The Fine Arts Committee programming brings in a variety of performers. Dramas, classical music, lectures, and dance troupes are a few of the various performances.

**SOCIAL**—The Social Committee is directed by Jeff Jones. The Social Committee organizes such events as coffeehouses, dances, and

variety entertainment.

**CONCERTS**—The Concert Committee is directed by Dan Naunheim. The Concert Committee programs mini-concerts as well as major concerts for Homecoming and St. Pat's.

**INDOOR RECREATION**—The Indoor Recreation is directed by Rick Maness. The Indoor Recreation Committee schedules movies, films, tournaments, and SUB recreational games.

**OUTDOOR RECREATION**—The Outdoor Recreation Committee is directed by Mark Stuntzner. The Outdoor Recreation Committee oversees the operation of the equipment rental facility, On-The-Loose. They also program float trips, camp-

outs, ski trips, parachuting, and other outdoor activities of interest.

**SPECIAL EVENTS**—The Special Events Committee is directed by David Hattori. The Special Events Committee schedules and organizes Homecoming, SUB Recognition Banquet, Casino Night, Trivia Bowl, fashion shows, charity drives and workshops. The Special Events Committee shall also serve as hosts and hostesses for University Special occasions; Parent's Day, University Day, National Merit Scholarship Day and other events upon request.

**PUBLICITY**—The Publicity Committee is directed by Gary Luebbert. The Publicity Committee is in charge of promotion, publicity, and related support work for the Student Union Board as a whole and for each separate committee.

Of course there are the officers who keep everything running smoothly: John Geerling, President; Tom Werner, Vice President, and Sandy Nugent, Secretary, who are the 1983-84 officers.

the Board will charge for parking (\$3.00). So be smart, avoid the traffic jams and take the bus.

The Board is taking ideas for bumper sticker slogans, so anyone with a witty mind should see his local Board Representative.

—182 Days - Get Psyched—

## St. Pat's facts

THIS weekend begins St. Pat's 1983, where the members of the St. Pat's Board will show that even the 75th can be topped. The action begins 8:00 tonight at Andy's Bar: The First Annual Septemberfest Psych-up. So everyone come out tonight and show the Board that you've psyched for the best Septemberfest and St. Pat's ever. Tomorrow, from 1:00 to 5:00 p.m. at Lions Club Park, the St. Pat's Board presents Septemberfest, featuring the band Paris, visits from local distributors and other attractions. So, if you haven't gotten your button yet, hurry to the hockey puck and buy one. They're only \$2.50 (they will be \$3 at the door), and is your ticket to the best party this semester, as only the Board can do it. This year, it will be easier than ever to get there,

because, starting at 12:45 p.m., there will be buses leaving from Frat Row, the Comp Sci. Silver Lot, and the east end of the Multipurpose Building (same as for the Extravaganza). Also, the same as for the Extravaganza, there will be a lot of State Troopers around, and

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THIS IS IT!



How to ....

# Be an abstract thinker

By MIKE STRODER

Abstract thought is perhaps one of the most important aspects of engineering school. (It ranks right up there with concrete thought in my book!) For example, it is an absolute necessity for classes that deal with things on a molecular level. Well, one could probably memorize innumerable equations and flog these problems to death with "brute math", but it is much handier to have an intuitive feel for what's going on. This feel allows you to dismiss these problems with elegant hand-waving mumbo-jumbo. Granted, there may be a poor soul sealed off in a dingy basement somewhere laboring twenty years to work out the possible relevance and exact meaning of your ideas, but these pathetic people seldom see the light of day and are so lost in abstract thought that they are baffled by the mechanism of a coin-operated washing machine. Once this is established, their objections may be dismissed with the same hand-waving, and most people, incapable of comprehending this, will support your view that dismissing it shows greater common sense. Meanwhile, you have dismissed twenty years of this poor creature's life, and he will trudge on back to his basement to commence the next twenty years work.

The above paragraph illustrates two things. First, abstract thinking is like alcohol. It is pleasurable in moderation, but too much causes brain damage. Second, it points out that abstract thinkers like myself, tend to stray from the point at hand, since this article is supposed to teach one how to be an abstract thinker.

Thinking in the aforementioned manner is not limited to mathematicians, physicists, and philosophers. Even government agencies tend to contemplate the abstract (and even the absurd). Government economists are some of the worst offenders, although there may be reason to question the connection of the words 'economy', 'government', and 'thought'. Even the CIA implements abstract ideas, usually in the development of sneaky new weapons. For example, an early CIA paper talked of the possibilities of a 'momentum spray'. The idea was to develop a spray that, when used on a victim, caused him to develop tremendous momentum and hurtle into the walls, eventually beating himself to death. The early efforts failed to produce the desired weapon, but did result in many deodorants, shaving creams, oven cleaners, and insect repellents. (Your first test in abstract thought—visualize how silly this testing must have looked.) The idea was finally abandoned when they concluded that the only way to impart the desired momentum would be to have a spray of reinforced steel droplets, a

concept that drove the early CIA materials researchers mad before the idea was scuttled.

However, the CIA is making progress in other similar areas. They say that breakthroughs are near in two areas. The first is a spray that dramatically increases the hydrogen bonding between the victim and whatever he touches, rendering him immobile.

(The problem—they can't get it out of the can.) The second is the generation of an oddball electromagnetic field that makes all the oxygen molecules in a room jump to one side, suffocating the victim. What can we conclude from these abuses of abstract thought? One thing for sure—I have strayed from the point again.

So you want to know HOW to think in the abstract? You

must, if you've waded this far through the bilge. You are not alone in your quest. Many famous men have tried to unlock the secret. Napoleon's famous pose with hand in vest was not, contrary to popular belief, done for the sole purpose of holding up his pants. He was searching for the "key to abstract thought", which he thought to be located in the navel. (he may have been right—that's a

pretty unique concept!) Descartes, in an attempt to enter the proper frame of mind for mathematical and philosophical work, was said to have beaten his head against a tree repeatedly. (The same is rumored of Newton, LaGrange, Edison, Kirchoff, Casey Stengel, and Alice Cooper.) Orville and Wilbur Wright came up with the idea of man in flight after consuming some mushrooms

found in the North Carolina backwoods.

Ok, ok. I know. I've avoided the question again. Well, here it is. You want to learn to be an abstract thinker, you say? Sorry, it can't be taught. It is an innate entity that some of us are blessed and/or cursed with. Then why did you write the article, you say? Well, it seemed like a good, abstract idea at the time. . . .

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# Are you a .... "Rolla syndrome" sufferer?

By  
DARREN HAVERSTUK

Once again, as the fall semester settles in on us like a mist of agent orange, we go about the daily task of coping with Rolla. As the semester wears on, many of us will be unable to stand the strain and will eventually fold under the pressure of the well-known "Rolla Syndrome."

These students will drop out, go home, and probably get a blue collar job paying fifteen bucks an hour. Meanwhile, the "survivors" continue their never-ceasing battle against the Sodom of Missouri.

Below is a psychograph designed to see if you have what it takes to succeed against all odds, in the Armpit of the West. This test was the result of numerous, lengthy studies done on laboratory animals at Yale.

Answer the questions as truthfully as you want to. Score your answers as indicated at the end of the questionnaire.

- Why did you choose to attend UMR?
  - I wanted to be an engineer and devote my life to calculus, calculators, and being a nerd.
  - My parents made me.
  - I got in by mistake. I'm a liberal arts major.
  - I like abuse.
- When faced with stress, which best describes the way you would act?
  - I'd cope with it for as long as I could (10 seconds?), then contemplate painless methods of suicide.
  - I'd go to 209 and consume mass quantities of alcohol in order to strengthen my grasp on reality.
  - I'd put on some Air Supply, mellow out, and try to generate some good karma.
  - I'd act very stimulated because I enjoy stress and abuse in general.
- Hypothetical case: You walk into a UMR classroom and your instructor is from a foreign country with only mediocre skills in the English language. What would you do?
  - I'd try to switch sections. The class is hard enough without being taught in another language.
  - I'd get used to it. Most of my other instructors are foreigners too.
  - I'd ask the teacher questions that require lengthy explanations in hopes he would die of exasperation.
- When accosted by peddlers wearing assorted jackets and apparel, would you ...
  - Buy their wares in hopes they will never bother you again?
  - Tell them to get lost and run the risk of being brutally beaten with a beer mug?
  - Consent to buy certain items, then haggle over

the price until they tell you to get lost?  
d. Try to sell them something in return?

- Another hypothetical case: Suppose you attended a college where the male to female ratio is very high. How would you react?
  - I'd start drinking heavily.
  - It wouldn't bother me. A four-year education

is more important than a social life.  
c. I'd love it. I'm a female.  
d. I'd love it. I'm gay.

- When you attend a party, what do you like to see happening?
  - I like a more conservative atmosphere. I like a party where soft music is playing in the background and people are discussing current political events while cocktails are being

served.  
b. I like an atmosphere of inner peace. I prefer parties where everybody is on mind-altering drugs and the vibes are flowing pure from everyone.  
c. I like radical parties. The kind where there's an inch of beer on the floor, people are vomiting in the backyard, and the music is deafening.

- I don't attend parties. I stay home and study.
- Which best describes your feeling on math and science?
  - I really love math and science. They are my life!
  - I'm not crazy about them but I can get a good job if I know how to use them.
  - They are cosmic. Sometimes I get so inspired, I do calculus for hours.

- What are math and science?
- When someone mentions the word "engineer", what comes to your mind?
  - A man who drives a train.
  - A prestigious job that requires intense training and a lot of

see Rolla  
page 7

## E-Systems continues the tradition of the world's great problem solvers.

Even given the benefit of historical perspective, it is difficult to fully comprehend the enormous contributions to man's knowledge made by Sir Isaac Newton. His *Philosophiae Naturalis Principia Mathematica* is termed by many authorities to be one of the most important single works in the history of modern science. His studies of light are the foundation of physical optics and his laws of motion provided a quantitative description of all principal phenomena in our solar system.

Today, scientists and engineers at E-Systems employ Newtonian principles to develop products and systems for satellite communications, exploring

space and the development of solar energy, systems which are the first-of-a-kind.

E-Systems engineers are recognized worldwide for their ability to solve problems in the areas of antennas, communications, data acquisition, processing, storage and retrieval systems and other systems applications for intelligence and reconnaissance.

For a reprint of the Newton illustration and information on career opportunities with E-Systems in Texas, Florida, Indiana, Utah

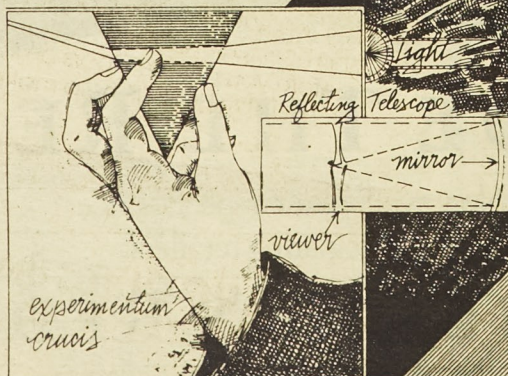
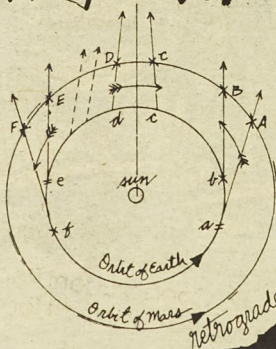
and Virginia, write: Dr. Lloyd K. Lauderdale, Vice President Research and Engineering, E-Systems, Inc., Corporate Headquarters, P. O. Box 226030, Dallas, Texas 75266.

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*Sir Isaac Newton*



Our ECI Division will be on campus interviewing September 26, 1983



# Brand to perform



**Source: OPI**  
Oscar Brand, folksinger, will present the first of six University of Missouri-Rolla Campus Performing Arts Series concerts for the 1983-84 season at 8:00 p.m., Tuesday, September 20, at the Cedar Street Center, 7th and Cedar Streets.

A native of Winnipeg, Canada, Brand is a graduate of Brooklyn College and continues to reside in New York. Following World War II he became coordinator of folk music for New York City's Municipal Station where he has been presenting what is now the oldest continuous

radio show in history, the award-winning "Folksong Festival."

His name is to be found among the credits of 75 documentary films, such as Gulf's "Invisible Journey," Ford's "Highway By the Sea," Bell's "Ballad To the Fair," and many others for which he has won numerous awards. He has also collected awards for many of his hundreds of television shows.

He has scripted and scored ballets for Agnes De Mille and John Butler; written commercials for Rival, Log Cabin, Maxwell House, Oldsmobile; and was

responsible for the songs in the film, "The Fox." He has done the music for several other films and the lyrics and music for the Broadway shows, "A Joyful Noise" with John Raitt, and "The Education of H\*Y\*M\*A\*N K\*A\*P\*L\*A\*N" with Hal Linden and Tom Bosley. He also wrote and scored the Kennedy Center's Bicentennial musical, "Sing America Sing."

Brand is the Curator of the Songwriters Hall of Fame Museum at Times Square, author of 10 best-selling books and manuals of music, has recorded 80 T.P.s. written

songs for Doris Day, Ella Fitzgerald, Harry Belafonte, the Smothers Brothers, and the Mormon Tabernacle Choir.

Season tickets for the UMR Campus Performing Arts Series concerts are \$25 for students and retirees and \$30 for the general public. Adult single performance tickets are \$6 per event and student/retiree single performance tickets are \$5 per event. They may be obtained at the Cedar Street Center from 8:00 a.m. to noon and 12:30 p.m. to 4:30 p.m.

## Free tickets

**Source: OPI**

The Fine Arts Committee of the Student Union Board has purchased 100 tickets for folksinger Oscar Brand's concert to be given away to students.

The concert will take place at 8:00 p.m., Tuesday, September 20, at the Cedar

Street Center, Seventh and Cedar Streets.

Tickets can be obtained by presenting a valid ID in Room 217, University Center-West. Tickets will be distributed on a first come, first served basis. Students will also have to show their ID on the day of the concert.

## Groundwaves

**By JOHN GOLTERMAN**

The KMNR staff sends out their thanks to D. L. Bogart for arranging the first of what will be a monthly series of weekend late night motion pictures at the Ritz Theater; to Mark Etherton, Marshall Rice, and the KMNR engineering crew for delivering not only the remote broadcast from the theater, but also the five hundred watt audio arrangement inside the theater; and, most of all, to the folks who attended on one or possibly both of the nights that The Wall, by Pink Floyd, was shown. If, by chance, you missed the movie or you saw it and are wondering about the next KMNR weekend late night flick, on October 7 and 8, the animated movie Heavy Metal will be appearing.

When you think of the song

names Permanent Waves, You Really Got Me, Lola, etc., you're thinking of the band The Kinks. If that thought interests you, or leaves you wondering who The Kinks are, then satisfy your interest, or wonder no more. On October 19 at 7:00 to 9:00 p.m., Jenny Stockey will be presenting The Kinks on the Monday Night Artist Feature Show. Speaking of KMNR's programming, the schedule of the station's weekly shows should be available this week free of charge at the University Center East's candy counter.

Finally, as a reminder, the Town and Campus Calendar, aired every weekday at 10:00 a.m., depends upon the organizers of the campus activities for the information to be aired, so please drop that info by the radio station.

## Syndrome

from page 6

intelligence.

- c. A person who makes a lot of money.
- d. None of the above. I don't understand the question.

**SCORING:** Add up points corresponding to answers.

- 1. a(3) b(2) c(1) d(4)
- 2. a(1) b(4) c(2) d(3)
- 3. a(2) b(3) c(1)
- 4. a(1) b(4) c(2) d(3)
- 5. a(4) b(2) c(3) d(1)
- 6. a(2) b(3) c(4) d(1)
- 7. a(3) b(4) c(2) d(1)
- 8. a(2) b(3) c(4) d(1)

(25-31) You are the type that can go through UMR unscathed and be ready to come back for your masters. Fortunately, you are smart

enough not to want to come back. You're tough, but you're not stupid.

(17-24) You'll probably make it through, but it won't be easy. You'll have to study hard, take Stresstabs, and hope you can bribe some of your professors. After it's all over, you'll look back on your hard years at Rolla and ask yourself "Why did I do that?"

(8-16) There is little, if any, possibility of you ever succeeding at Rolla. Fact it, you just weren't cut out for the brutal existence at UMR. I suggest a liberal arts major at SMSU or MIT (Meramac-In-Town).

### MEET BRYAN BLACKFORD YOUR COORS CAMPUS REP.



You've got a Coors Student Rep right on campus. He's Bryan Blackford and he's your beer expert for whatever kind of social event you've got brewin'.

Bryan really knows his Coors. He can tell you how much you'll need, and how to serve it. So before you put the Coors on ice, get some free advice. Call Bryan at 364-1443 He'll help make the big event a big success.

### THE BEST OF THE ROCKIES IS YOURS.

## Coors



# ★ Classifieds ★ ★ Classifieds ★

**HELP WANTED:** Enthusiastic campus rep. to sell ski trips to Midwest and Colorado. Earn FREE TRIPS and commissions. Sun & Ski Adventures: 1-800-621-4031.

**WANTED:** I am interested in sharing a ride to St. Louis area this weekend (Friday, the 16th) and the following weekend (Friday, the 23rd). I can leave as early as 12 noon and I'll help pay for gas. Call Sue in 207 at 364-9904.

**BOXERS NEEDED:** Lambda Chi Alpha Fraternity is looking for boxers for their "Night at the Fights" to be held October 7. These fights are 3-round amateur bouts, so no experience is necessary. Prizes awarded to all participants. Practices are held every Tuesday and Thursday, 7-9 p.m. in the Intramural Wrestling Room of the Multipurpose Building. For more information, call 364-9901.

**ATTENTION ALL STUDENTS:** Interested in playing Varsity Golf for UMR? There will be a meeting Monday, September 19 at 3:30 p.m. We will meet at the UMR Golf Course in the Pro Shop.

**NEED HELP?** Need to improve your public speaking techniques? Would you like to know how to prepare or give a speech for classes or interviews? Come and participate in the Forensic Club-TOASTMASTERS. We meet every Thursday at 4:30 p.m., Room G-9, Humanities and Social Science Building. You'll enjoy it!

**ATTENTION STUDENTS:** Lambda Chi Alpha Fraternity is having its 5th annual "Night at the Fights" on Friday, October 7 at 8 p.m. at Pennant Hall (behind the Manor Inn). Tickets are only \$3.00 and all proceeds go to charity, so come see boxing at its finest for a good cause. UMR students—this is a good way to entertain mom and dad on Parent's Weekend. That's Lambda Chi Alpha's "Night at the Fights", Friday, October 7. Tickets available at Key Sports Shop or at the door.

**FOR SALE:** Used sofa-bed, green and gold stripped cover. Clean mattress. \$150.00. Call after 1 p.m. or weekends, 341-2576.

**FOR RENT:** Available October 2. Two-bedroom mobile home, furnished, carpeted, central air, skirted. No pets. Deposits, in maintained park. Call after 1 p.m. or weekends, 341-2576.

**FOR SALE:** Refrigerator for sale. New, runs perfect. Make an offer! 341-3511.

**ROOMMATE NEEDED:** Two-bedroom house, five minute walk from campus, large yard, full basement, completely furnished except for vacant bedroom, including washer and dryer. If you like your privacy and independence, this is for you! Call 364-0890.

**RESIDENTS OF TJ'S SOUTH TOWER:** Unite against the tyrannical rule of the Northern Tower. Our only course of action is secession from TJHA. Contact Jefferson Davis (provisional president of the Confederate Floors of the South Tower) for more information. (For your information, all members of TJHA's Exec. Board are residents of the Northern Tower.)

**QUOTE:** Real women do not rush fraternities as little sisters.

**FOR SALE:** Double bed with mattress and springs, \$75; Norge refrigerator in good condition, \$75; window glass of assorted sizes. Call Sally or Bob, 364-6751.

**FOR SALE:** 1973 VW 412 wagon. Automatic, rear defogger, AM/FM 8-track stereo, 30 mpg. Looks great and runs good. Only \$950. Call 364-7438 after 5 p.m.

Werny Baby,

I hope you are getting your homework done, because as of tomorrow, you won't have time, even to rest, until Sunday.

Love, Willy Baby

Mike,

Thanks for brightening up my life as well as my summer.

Your Sunshine

## Reps welcome

Do you want to get involved? Every year Student Council welcomes unaffiliated representatives. If you don't presently belong to a campus organization and know of an unrepresented

group of students who need a voice at UMR, consider yourself qualified.

Check at the Student Council Office, 202 University Center-West, for more information.

## StuCo funds

The UMR Student Council is accepting applications for fall appropriations to qualified campus organizations. Funding will be available for organizations and non-varsity sports recognized by the university, while those clubs having already received student activity money need not apply.

Applications are available at the Student Council Office, 202 University Center-West. Completed forms are to be returned during regular office hours on or before September 30, 1983. Any application after this date will not be accepted. A self-explanatory information sheet accompanies the request form. For further information, call Matt O'Keefe at 364-9792.

Dr. Schnee,  
We hereby publicly embarrass you by requesting that you not forget to turn off the shower before you exit.

The Wetheads

Bryan B.,  
Congratulations on your initiation into the Theta Eta Chapter of Sigma Chi Fraternity.

Your Little Sister,  
Teresa D.

**HELP WANTED:** The Miner is looking for investigative news writers. Apply Sunday nights at 303 Rolla Building.

**FOR SALE:** Adapter for Chevy Straight 6-cyl. 1-bbl. manifold to take a 2-bbl. carb. Specially made. Bought at \$30, sell at \$20. If interested, call 364-9906. Ask for Rob in Room 753.

**ATTENTION STUDENTS:** GDI is having a party on Saturday, September 17 at Lions Club Park. The party will last from 3 p.m.-1 a.m. Everyone is welcome to come on out and enjoy the festivities. Refreshments will be free for members of GDI.

**HELP NEEDED:** If you are interested in old cars and would like to be a judge at the Ozark Extravaganza Car Show September 17, call or see Prof. Swancutt, 203 Mining, 4639.

**RECORD SALE:** Latest releases, all guaranteed in new condition. Lots of rock. Some funk, new wave, classical and jazz. Lots to choose from. I have just about anything you want even 45's. Call between noon-4 p.m., Mon.-Fri., 364-3374. All albums and tapes \$6.00 and under.

**ATTENTION!** Karl Allen Gress, we found your driver's license at AEII Friday night. Call Greg Fields at AEII, 364-7176.

To Muffy, Binky, Wacky and Pokie,  
Eating out the other night was truly remarkable. Thanks for bringing it over to the table. You know what they say "The best things in life are free". You have spread some sunshine on one of our biggest moments. Forever in debt,  
Guatemala

P.S. The orphans are getting hungry!!

**Dearest Administration,**  
It deeply hurts that you persist in building Stonehenge after my inspiring letter last semester. It has now come to my attention that there is a new geological discovery, "The Jes Zink Hole", within which *The Leaning Tower of T.J.* is built. What were the contractors references—The Hyatt Regency and the Civil Engineering Bldg?

Waiting with Baited Breath,  
T. Parlor

P.S. Tickets soon available on a slow dorm to China, 341-4206.

**WORD OF THANKS:** The Women's Soccer Team would like to thank our anonymous fan club for their thoughtfulness. (We would also like to meet them.) Tracy B., Tracy W., Eve, Gina, Jan, Janet S., Janet W., Cindy, Chris B., Joan, Lisa F., Angie, Laura D., Val, Pauli, Chris, Carolyn, Sandy, Lisa S., Kim, Susan, Laura B., Janis, and Chris W.

**WORD OF THANKS:** The sisters of Chi Omega would like to thank some great gals for bringing their bright smiles into our house—Janet, Kim, Beth, Cathy, Kim, Margo, Gina, Erika, Beth, Susan, Diana, Cathy, JoAnn, Monica, Natalie, Mary, Mary, and Christiane. You're super and we love ya!!!

**CONGRATULATIONS:** The sisters of Chi Omega wish to congratulate the men of Sigma Chi on receiving their charter.

**WORD OF THANKS:** The Sorors of Alpha Kappa Alpha Sorority, Inc., Xi Delta Chapter would like to thank all who attended our 3rd Annual Back-to-School Skating Party, Thursday, September 1.

Engineering  
Air Force inc  
career areas:  
AEROSPACE, AR  
ASTRONAUTICAL  
MECHANICAL AN  
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For example,  
may work in a  
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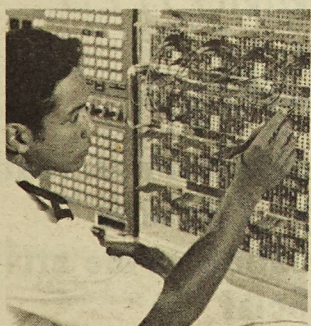
# STEP INTO THE FUTURE WITH AIR FORCE TECHNOLOGY

Developing and managing Air Force engineering projects could be the most important, exciting challenge of your life. The projects extend to virtually every engineering frontier. The following is just a brief highlight of these opportunities and how you can be a part of it.

**THE SOONER YOU MAKE  
THE DECISION TO LOOK  
INTO THESE  
OPPORTUNITIES--THE  
MORE DIVERSE  
YOUR CHOICE**

## EIGHT CAREER FIELDS FOR ENGINEERS

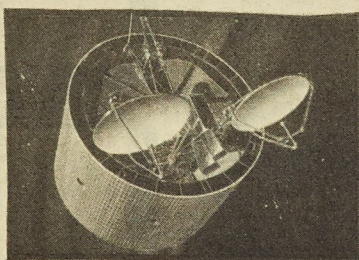
Engineering opportunities in the Air Force include these eight career areas: AERONAUTICAL, AEROSPACE, ARCHITECTURAL, ASTRONAUTICAL, CIVIL, ELECTRICAL, MECHANICAL AND NUCLEAR. Hundreds of diverse specialties are included in a wide variety of work settings. For example, an electrical engineer may work in aircraft design, space systems, power production, communications or research. A mechanical engineer might be involved in aircraft structure design, space vehicle launch pad construction, or research.



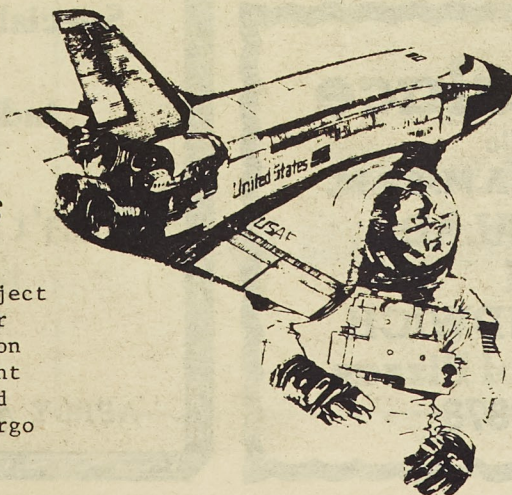
## PROJECT RESPONSIBILITY COMES EARLY IN THE AIR FORCE

Most Air Force engineers have complete project responsibility early in their careers. For example, a first lieutenant directed work on a new airborne electronic system to pinpoint radiating targets. Another engineer tested the jet engines for advanced tanker and cargo aircraft.

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Recently, the Air Force formed a new SPACE COMMAND. Its role is to pull together space operations and research and development efforts, focusing on the unique technological needs of space systems. This can be your opportunity to join the team that develops superior space systems as the Air Force moves into the twenty-first century.



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### SENIORS AND GRAD STUDENTS

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### COLLEGE GRADUATES

The Air Force Officer Training School (OTS) is available to candidates meeting selected Air Force needs.

So you see, there are options available to you -- the UMR student! We can better explain these programs in person. We will be at the University Center East on the 16th of September. Come prepared with your questions--we will try to answer them.

**THE OPPORTUNITIES ARE THERE--  
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AIR FORCE ROTC - 314-4925 or 4932

AIR FORCE RECRUITERS - 364-4364 or 4367



## Lady Miners battle for tie

By TRACY BOLAND

I don't think up the headlines for articles that I write for the paper, but I suspect the headline for this article will be something like "Lady Miners Tie Meramac in Exhibition." Fans, that doesn't even begin to describe the excitement of the women's first soccer match this year.

Last Saturday at 1:00 p.m., the Miners took on the Meramac Warriors in a pre-season exhibition match at

### Men's soccer

## Kickers open strong

By CHRIS COLONA

By winning Sunday, the UMR Men's Soccer team ran its record to two wins and one loss. After getting off to an impressive 3-1 win over the University of Tulsa, the Miners lost to Benedictine College and then beat Washington University 2-1.

Opening up in Rolla against Division I, Tulsa, the Miners started out successfully. "Beating Tulsa felt pretty good," reported Junior Captain Bryan Dickerson, "especially knowing they beat UMSL the night before."

Keith Van Der Steen scored two of the goals while junior Clay Merritt chipped in the

Assumption Church field in St. Louis. The final score of the game was 1-1. What happened in the interluding 90-minutes is enough to convince anyone on campus that the women's soccer team is a force to be reckoned with in the college soccer world.

The game started out a little slowly, which was understandable, as it was the first time most of the women had played together in a competitive situation.

Forward Janet Stones led the opening attack on

Meramac when her shot on goal barely missed scoring. A short time after that, Stones again had the ball out in front of the Meramac goal. When the goalie came out to try and take the ball away, Janet managed to get the ball past the goalie, and forward Angie McEntire made a fleet-footed diagonal run to take a strong shot on goal. Fortunately for Meramac, the ball hit the goal post (where it is rumored to have left a dent) and bounced out-of-bounds.

The Miners first goal came when midfielder Susan

Schrumm received the ball from a corner kick and smashed it past the Meramac goalie. This was the shot that opened the Rolla floodgates. Ball after ball was fired on Meramac, only to be carried by the wind to the right or left of the goal posts, or to fly over them.

Also, much as it pains me to admit it, the Meramac goalie did make some excellent saves.

The entire second half, except for the Meramac goal and one near-miss scare, was dominated by Rolla. The Miners really kept the pressure on Meramac, outshooting the Warriors about five to one.

The Warriors' goal came with about 15-minutes left in the match. A Meramac player took a shot on Lisa Frumhoff, the UMR goalie, who

managed to knock it down, but couldn't get control of it. While Frumhoff was momentarily out of position, Meramac put the ball in the net to tie the game.

Though the Miners pelted the opposition with shots on goal, Meramac managed to hold on for the rest of the match. It should be noted that this was an exhibition game for the women, and does not count on the final record.

Coach McNally's biggest concerns are that some players are in unfamiliar positions, and that the team hasn't quite managed to come together as a unit. He described the Meramac match as a "good opportunity to find out where we were, what we are doing well, and what we have to work on. The game also showed that the forwards have the capability

to finish an attack on the opposition. On a whole, the defense played well, although there are some tactical and technical adjustments to be made."

When asked about his outlook for the Miners season opener against Lindenwood next week, McNally commented, "The playing surface at Lindenwood will probably be our biggest problem. They play on an AstroTurf field with a very high crown, and the women only have experience playing on a grass field. This will be a definite factor in the attack. Aside from that, however, I am confident that Lindenwood will have to play exceptional soccer in order to beat us."

Once again, the Lady Miners' home opener will be September 28, at 5:30 p.m. against Maryville.

over Washington University. Up 2-0 at half and dominating play, the Miners looked as though they had things under control. But in the second half, the Bears closed the gap to 2-1 and might have tied it if not for the goaltending of Ben Birch. McNally felt the goaltender turned in an excellent performance for the third straight game. Goals were scored by Van Der Steen and sophomore John True.

So far, defense has been the Miners strong point as Birch has allowed only four goals in the three games. Both

see Soccer page 12



The Missouri Miners are gearing up to do it again, and again, and again...

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# X-C coasts to win

By  
DAN LICHTENWALNER

Last week, September 2, the Miner cross-country team hosted SIU-E at the UMR golf course. The results? The Miners easily defeated SIU-E, 17 to 46. Scoring is compiled by adding the places of each team's top five runners. So, the lower score wins, with a perfect score being 15 points. The Miners only allowed one SIU-E runner to break into their top five. The top Miner finishers were Jim Bullard, Pete Lichtenwalner, and Dan Marley, coming across the line together for a first place tie in 26:25. Rounding out the next five finishers were Randy Cain, SIU-E, 26:35 (4th); Dan Lichtenwalner,

UMR, 26:52 (5th); Keith Smith, UMR, 27:08 (6th); Joe Henze, UMR, 27:18 (7th), and Bob Sauer, UMR, 27:18 (8th).

This week, the destruction continued. The Miners traveled to Maryville to compete in a 4-mile race against Washington University, Principia College, St. Louis University, Mo. Baptist College, and the host team, Maryville. The Miners were untouchable, as they claimed the first five places in the meet, along with six of the next seven places, obtaining a perfect score of 15 points. The only other team to be even remotely close was Washington University with 59 points.

Jim Bullard led the race with an outstanding performance, especially considering the rough terrain of this

course. His 20:55 was good for first place. The remaining UMR finishers are as follows: Pete Lichtenwalner, 21:34 (2nd); Dan Lichtenwalner, 21:40 (3rd); Dan Marley, 21:46 (4th); Keith Smith, 21:51 (5th); Mark Stump, 22:16 (7th); Bob Sauer, 22:23 (8th); Joe Henze, 22:23 (9th); Curt Elmore, 22:27 (10th); Bruce

Berwick, 22:34 (11th); John Borthwick, 22:36 (12th); Jim Clossick, 22:54 (15th); Scott Giltner, 23:11 (19th); Fred Held, 23:15 (20th); Curt Macke, 23:42 (26th), and Craig Scott, 23:43 (27th).

Coach Dewey Allgood was very pleased with the team's performance.

"The men really put out a good effort as a whole, running as a team, and trying to encourage each other. Strong teamwork is this year's goal. The team is stronger than last year, and we are looking forward to getting stronger as the

season goes on," Allgood states.

This weekend the Miners will face some fierce competition as they travel to Mizzou on Friday, September 16. This will be the Miners' first taste of tough competition this year, so it should be an exciting race.

## Gold books

Students, faculty and staff at the University of Missouri-Rolla who purchase the 1983 Gold Book coupon packet, are now eligible for a 17-foot Osagian Canoe to be given away free October 17.

The canoe, currently on display at McDonald's, was donated by Gold Book sponsors McDonald's, Kmart and National Food Store. Simply tear off the complete front cover of your Gold Book, write your name, address and telephone number on the

container at McDonald's.

Drawing for the canoe will be October 17 at 2:00 p.m., and you need not be present to win.

Gold Books are currently on sale for \$5 at the University Center-West cashier's window, the UMR Bookstore, the UMR Athletic Department and throughout campus by various student groups.

Proceeds from the sales go to the Gale Bullman Athletic Fund and the Miner Band Fund.

## UMR rugby

UMR Rugby had their membership meeting last Tuesday and are proud to say that we had a good turn out. Our first game was this past weekend, September 10 against Washington University. The game was played at Forest Park. The schedule for the rest of the year is:

- Sat., Sept. 10—Washington U.—Noon—Forest Park
- \*Sat., Sept. 17—Falcons—Noon—Rolla
- Sat.-Sun., Sept. 24-25—CMSU Tourney—Warrensburg
- Sat., Oct. 1—SLU—Forest Park
- \*Sat., Oct. 8—Mizzou—1:00 p.m.—Rolla
- \*Sat., Oct. 22—UMR Old Boys—Noon—Rolla
- Sat., Oct. 29—NEMO—1:00 p.m.—Kirkville
- \*Sat., Nov. 5—SMSU—1:00 p.m.—Rolla

\*Home games

Students are encouraged to come out and participate in this rugged sport.

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## Navy Officers Get Responsibility Fast.



# 12th man award back

Submitted By  
M-CLUB

The 12th Man Award will again be presented by the M-Club to the organization which best supports the Miners' Football Team at home games.

This award originated at Texas A&M University approximately 80 years ago. During a home football game, their star player was injured and had to be removed from the field on a stretcher. The team only had 11 players on the roster, so they were one man short. A man was pulled out of the stands and was suited up to play in the rest of the game. At this point, the fans stood up and began cheering and yelling, trying to support their team. The man from the stands (the 12th man) was inspired by the wild enthusiasm of the fans, and sparked the team to an exciting 4th quarter, come-from-behind victory.

It is the result of this

incident that The 12th Man Award was started. The award is in recognition of the fans who are ready to support their team.

The intent of the M-Club in giving this award at the UMR campus is to recognize the club or organization which best exemplifies school spirit and enthusiasm. The one which best fulfills the following requirements will be declared the winner of the award.

The judging criterion has been divided into sections. At each home game, points will be given in 5 categories. These are:

1. *Members Present and Group Identification*—Points will be in proportion to the percentage of the participating organization present and recognized.

2. *Cheers*—The initiation and originality of organized cheers is of importance. However, a group that enthusiastically joins with a cheer already in progress (in-

UMR cheerleaders), rather than starting a competitive yell, will gain more. Cheers including obscenities will result in the deduction of points.

3. *Noise and Enthusiasm*—The organizations making noise, using noise-makers, and showing originality are given points here.

4. *Visual Effects*—Very readily noticed is the use of visual aids. Flash cards, signs, banners, and anything else you can think of to show enthusiasm will be considered in point awarding.

5. *Opinion*—Additional points may be added or deducted on the basis of a judges overall impression of an organization.

A new means to earn points has been added this year. To encourage the football team and promote excitement, the Friday before every game (home or away) points will be given to the organizations showing spirit on campus.

Judging criterion will be primarily the same as that used for each home game, however, planned activities should occur between classes.

And finally, there are several ways to earn extra points during the homecoming festivities. The group that buys the most homecoming buttons (as a percentage of people in the organization) will gain points. Also, there will be opportunities at the homecoming bonfire. Any organization helping in the collection of burnable materials will get points for each truckload supplied. Also, the group that most visibly attends and supports the bonfire will earn more points.

Lastly, M-Club would like to encourage every organization to participate and support the Miner Football Team.

## Soccer

from page 10

Dickerson and the other captain, senior Matt Budd thought Birch had been doing an excellent job. "Having him back there gives us confidence and gives the team a lift when he makes those big saves," added Dickerson.

Another player who has been playing a key role is Keith Van Der Steen, the freshman from DuBourg High School. Keith made first team All-State as a back last season, but seems to have made the transition to wing forward pretty good as he scored three of UMR's first six goals. Scott Jaskowiak has

also helped out the Miner offense. Scott is a transfer student from Eastern Illinois University.

Captain Dickerson summed up his feelings about the soccer team's future this way, "The biggest thing we've got going for us is we're really getting along good. If we can keep up the good attitude we will have a really good season. Winning the conference is our main goal." Budd then added, "It's still awful early," to tell how the Miners would do, but, "would like to see a crowd out there," for the Miners next home game September 26.

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Next Week

Miner Football

# M - Club

Athlete of the week

The Athlete-of-the-Week Award goes to the three members of the Men's Cross-Country Team who tied for first place in a dual meet against SIU-E. Jim Bullard,

Dan Marley and Pete Lichtenwalner each ran a 26:25 for the 5-mile course. The time was the best season opening time in several years.

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Pepper Rings, Bacon, Hamburger, Black Olives, Italian Sausage.

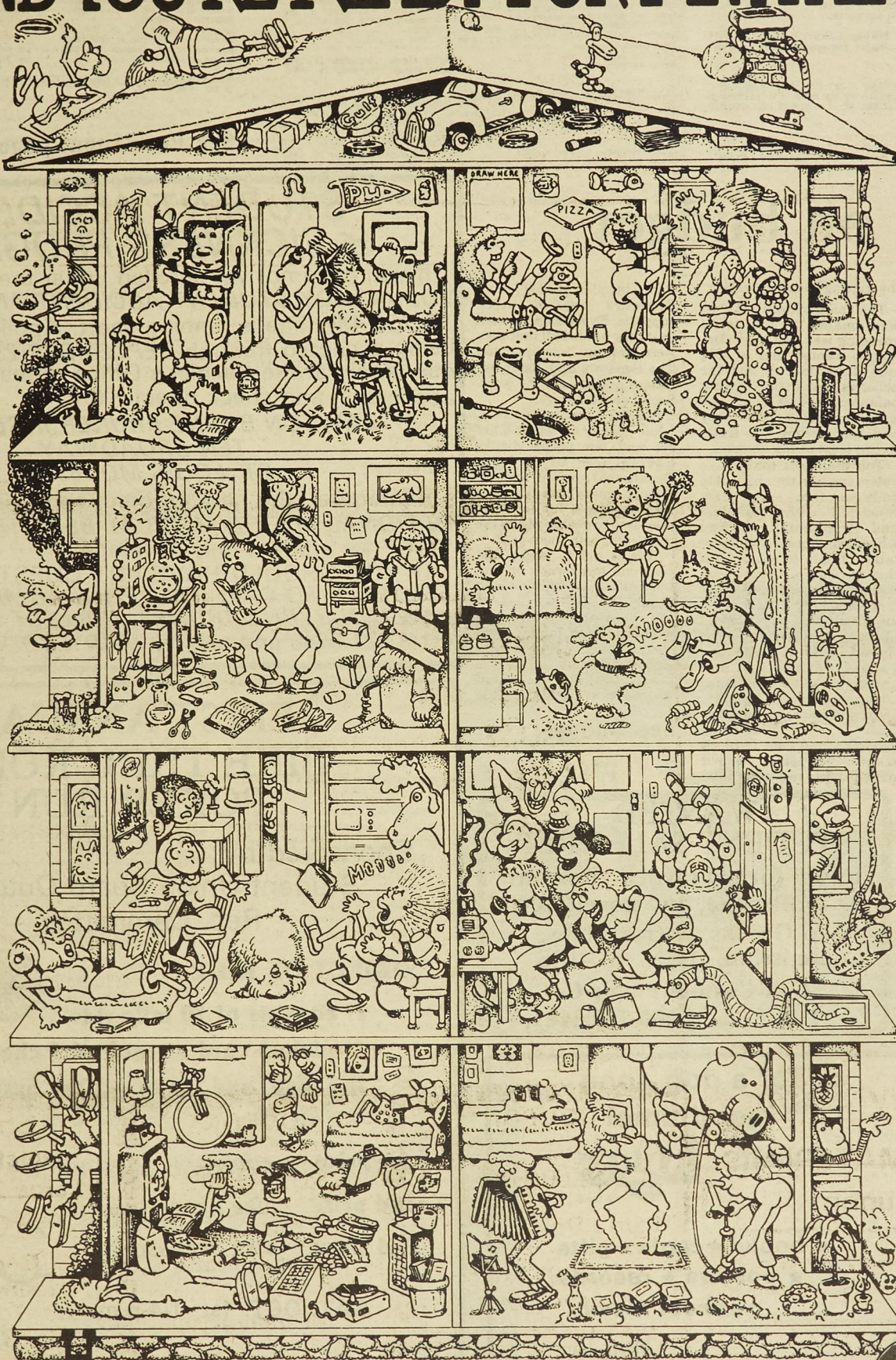
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## Placement Permanent

Campus interviewing for week of October 3-7, 1983

### HEWLETT PACKARD COMPANY, Corvallis, OR

Will interview DECEMBER 1983 GRADS (PREVIOUS GRADS SIGN ON BACK-UP LIST) with BS/MS/PhD Electrical Engineering for design, production, marketing, sales engineers. Location: various (MAY 1984 GRADS MAY SIGN-UP AFTER SEPT. 28, 1983.) Interviewer: Ron Nield

U.S. CITIZENSHIP OR PERMANENT VISA REQUIRED ON ALL HEWLETT PACKARD SCHEDULES. COMPANY REQUESTS THAT STUDENTS SIGN ON ONE SCHEDULE ONLY.

HEWLETT PACKARD WILL HAVE AN INFORMATION MEETING ON OCTOBER 5, 1983, FROM 5:15-7:00 P.M., IN THE MECHANICAL ENGINEERING AUDITORIUM.

Interview date: October 6, 1983 Priority sign-up: September 21, 1983  
Number of schedules: 3 Regular sign-up: September 22, 1983

### MANVILLE, Denver, CO

Will interview MAY 1984 GRADS ONLY (GRADS PREVIOUS TO MAY 1984, SIGN ON BACK-UP LIST ONLY) with BS/MS/Chemical, Mechanical Engineering for Research & Development. Details will be posted with signups. U.S. CITIZENSHIP OR PERMANENT VISA REQUIRED BY COMPANY.

Location: Denver, CO  
Interviewer: unknown  
Interview dates: October 6-7, 1983  
Number of schedules: 1 each day

Priority sign-up: September 21, 1983  
Regular sign-up: September 22, 1983

### BASF WYANDOTTE, Parsippany, NJ

Will interview DECEMBER 1983, MAY 1984 GRADS (PREVIOUS GRADS SIGN ON BACK-UP LIST) with BS/Chemical Engineering for Technical Personnel Development Program. U.S. CITIZENSHIP REQUIRED BY COMPANY. Location: various manufacturing locations  
Interviewer: unknown  
Interview date: October 3, 1983  
Number of schedules: 1

Priority sign-up: September 16, 1983  
Regular sign-up: September 19, 1983

### HUGHES AIRCRAFT, El Segundo, CA

Will interview DECEMBER 1983 GRADS (PREVIOUS GRADS SIGN ON BACK-UP LIST) with BS/MS/Electrical Engineering, Computer Science for Space & Telecommunications Group. Should be interested in designing advanced systems and components for communications satellites, earth resources, meteorological satellites, and scientific exploration spacecraft. U.S. CITIZENSHIP REQUIRED BY COMPANY.

Location: El Segundo, CA  
Interviewer: unknown  
Interview date: October 3, 1983  
Number of schedules: 1

Priority sign-up: September 16, 1983  
Regular sign-up: September 19, 1983

### PROFESSIONAL SERVICES INDUSTRIES, INC., Oak Brook, IL

Will interview MAY 1984 GRADS ONLY (GRADS PREVIOUS TO MAY 1984, SIGN BACK-UP LIST ONLY) with BS/MS/Civil Engineering for entry level engineer - materials and geotechnical construction materials. (Geological Engineers sign on back-up list only). U.S. CITIZENSHIP OR PERMANENT VISA REQUIRED BY COMPANY.

Location: throughout U.S. (training program for first assignment)  
Interviewer: unknown  
Interview date: October 3, 1983  
Number of schedules: 1

Priority sign-up: September 16, 1983  
Regular sign-up: September 19, 1983

### U.S. GYPSUM COMPANY, North Kansas City, MO

Will interview DECEMBER 1983, MAY 1984 GRADS (PREVIOUS GRADS SIGN ON BACK-UP LIST ONLY) with BS/Electrical, Civil, Mechanical, Chemical, Mining Engineering for Project Engineer. MINING ENGINEERS WILL BE LIMITED TO ONLY 2 SIGNUPS PER MORNING SCHEDULE; 2 SIGNUPS PER AFTERNOON SCHEDULE ONLY. PERMANENT VISA REQUIRED.

Location: open  
Interviewer: unknown  
Interview date: October 3, 1983  
Number of schedules: 2

Priority sign-up: September 16, 1983  
Regular sign-up: September 19, 1983

### EMERSON ELECTRIC MOTOR DIVISION, St. Louis, MO

Will interview DECEMBER 1983, MAY 1984 GRADS (PREVIOUS GRADS SIGN ON BACK-UP LIST) with BS/Mechanical, Electrical Engineering, Engineering Management for Emerson Electric Motor Div. U.S. CITIZENSHIP OR PERMANENT VISA REQUIRED BY COMPANY.

Location: St. Louis  
Interviewer: unknown  
Interview dates: October 7, 1983  
Number of schedules: 1

Priority sign-up: September 22, 1983  
Regular sign-up: September 23, 1983

### CONTROL SYSTEMS, Kansas City, KS

Will interview DECEMBER 1983 GRADS (PREVIOUS GRADS SIGN ON BACK-UP LIST) with BS/Electrical Engineering, Computer Science (control type) for software engineering and digital design. U.S. CITIZENSHIP OR PERMANENT VISA REQUIRED BY COMPANY.

Location: Kansas City, KS  
Interviewer: J.T. Nelson  
Interview date: October 7, 1983  
Number of schedules: 1

Priority sign-up: September 22, 1983  
Regular sign-up: September 23, 1983

### SCULMBERGER CENTRAL REGION, Dallas, TX

Will interview DECEMBER 1983, MAY, JULY 1984 GRADS, RECENT GRADS, with BS/MS/Electrical, Mechanical Engineering, Physics for Field Engineer. Details will be posted with signups. U.S. CITIZENSHIP OR PERMANENT VISA REQUIRED BY COMPANY.

Location: TX, LA, IN, OH, FLA, MS, NM  
Interviewer: unknown at this time  
Interview dates: October 4-5, 1983  
Number of schedules: 1 each day

Priority sign-up: September 19, 1983  
Regular sign-up: September 20, 1983

SCULMBERGER WILL HAVE A PRE-RECRUITING MEETING ON OCTOBER 3, 1983, 6:30-10:00 P.M., IN THE MERAMEC ROOM.

See Permanent page 15

## No rush on budget

By LARRY BECK

Think back to about two and a half years ago. Our new President, Ronald Reagan, had just taken charge, bringing with him an openly reactionary philosophy of government, Republican control of the Senate, and a host of hard-nosed conservative Representatives. The President had announced his four year spending goal: the federal government's budget would be balanced by the 1984 fiscal year.

I hate to have to bring this up, but fiscal 1984 starts in about two weeks. The President, of course, gave up even thinking about balanced budgets early in fiscal 1982. After showing a "shocking" \$50 billion deficit in fiscal 1981, the last year in which Jimmy Carter could be assigned any blame, the government racked up a \$100 billion deficit, followed by this year's incredible \$200 billion "shortfall." Nobody's suggesting that the coming year's deficit will go much below \$150 billion, if it goes that low.

What happened? Obviously, part of the problem stems from Reagan's initial (some would say continuing) Disneyland attitude toward government spending. Why, a balanced budget shouldn't be any problem. You simply cut taxes to stimulate the economy, buy up every imaginable implement of destruction you can find, and get outlays to match income

by gutting social programs.

The main reason why he was unable to cut social spending was that the voters hadn't wanted him to. Oh, sure, they had all told the pollsters that they wanted a balanced budget and less social spending. And they had been telling the truth, too, at least in the abstract.

The trouble is that, while voters speak in the abstract to pollsters, they speak very concretely to their Senators and Representatives. And when Senators and Representatives began to sound as if they were going to cut social spending as much as Reagan had wanted, boy, did they get an earful. Rich guys weren't about to start paying for the Coast Guard's help with their yachts. Grandpas and grandpas had no intention of taking cuts in Social Security. Local and state governments made it clear that they couldn't stand cuts in block grants. Students needed loans. Artists needed grants.

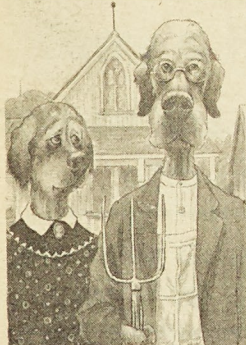
Poor people needed food. Farmers needed price supports. Everybody insisted that they needed all that they were getting, maybe more. The Senators and Representatives quickly got the word. Social spending grew.

Reagan discovered that, while nobody objects to a tax cut and few people dislike having lots of Defense Department money floating around, voters hate to have to start paying in full for what they used to get the rest of the country to help them buy.

This is not to imply that everyone has owned up and that all the whining about budget deficits has ended. To the contrary, many are whining more loudly than ever. If only a couple more state legislatures call for it, a constitutional convention will have to be held. While

See Budget  
page 15

**WANTED**  
**STUDENT SALES REP.**  
to sell formal favors, glassware,  
sportswear, and novelties  
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Commission, OWN HOURS  
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Mon-Fri  
9-5:30  
Sat. 9-5

## STUDENT ACCIDENT & SICKNESS PROGRAM

If you have not yet enrolled under the new expanded **VOLUNTARY STUDENT ACCIDENT AND SICKNESS PROGRAM**, time is running short. Applications are still being accepted through **SEPTEMBER 23, 1983**. You may apply at the Cashier's Office or mail your application and check directly to:

**LAWTON-BYRNE-BRUNER INSURANCE**  
**TEN BROADWAY**  
**ST. LOUIS, MO 63102**

Remember, the new program contains a \$100,00 **OPTIONAL MAJOR MEDICAL BENEFIT** for \$24 PER YEAR for student only coverage.

IF YOU SHOULD HAVE ANY QUESTIONS PLEASE FEEL FREE TO CALL THE **PLAN ADMINISTRATOR, LAWTON-BYRNE-BRUNER, COLLECT** at (314) 621-5540 and ask for **MARY GOOD**.

## FIRST ANNUAL BIKE THRU ROLLA POKER RUN

Sponsored by  
Student Union Board Outdoor  
Rec. Committee

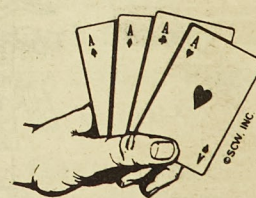
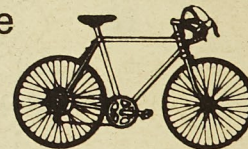
### OBJECT OF RIDE

- 1) consists of 10 mile ride
- 2) pickup card at each of 5 check pts. of the map and try to get the best poker hand

- 1st prize -- cooler  
2nd prize -- bike accessories  
3rd prize -- bike accessories

SAT. OCT. 1st 1-4 p.m.

Sign up in SUB office  
U - CENTER WEST RM.217



Thursday, September

permanent fr

EMERSON ELECTRIC COMPANY, St. Louis, MO

Will interview DECEMBER 1983, MAY 1984 GRADS (PREVIOUS GRADS SIGN ON BACK-UP LIST) with BS/Mechanical, Electrical Engineering, Engineering Management for Emerson Electric Motor Div. U.S. CITIZENSHIP OR PERMANENT VISA REQUIRED BY COMPANY.

Location: St. Louis  
Interviewer: unknown  
Interview dates: October 7, 1983  
Number of schedules: 1

Priority sign-up: September 22, 1983  
Regular sign-up: September 23, 1983

CONTROL SYSTEMS, Kansas City, KS

Will interview DECEMBER 1983 GRADS (PREVIOUS GRADS SIGN ON BACK-UP LIST) with BS/Electrical Engineering, Computer Science (control type) for software engineering and digital design. U.S. CITIZENSHIP OR PERMANENT VISA REQUIRED BY COMPANY.

Location: Kansas City, KS  
Interviewer: J.T. Nelson  
Interview date: October 7, 1983  
Number of schedules: 1

Priority sign-up: September 22, 1983  
Regular sign-up: September 23, 1983

SCULMBERGER CENTRAL REGION, Dallas, TX

Will interview DECEMBER 1983, MAY, JULY 1984 GRADS, RECENT GRADS, with BS/MS/Electrical, Mechanical Engineering, Physics for Field Engineer. Details will be posted with signups. U.S. CITIZENSHIP OR PERMANENT VISA REQUIRED BY COMPANY.

Location: TX, LA, IN, OH, FLA, MS, NM  
Interviewer: unknown at this time  
Interview dates: October 4-5, 1983  
Number of schedules: 1 each day

Priority sign-up: September 19, 1983  
Regular sign-up: September 20, 1983

SCULMBERGER WILL HAVE A PRE-RECRUITING MEETING ON OCTOBER 3, 1983, 6:30-10:00 P.M., IN THE MERAMEC ROOM.

See Permanent page 15

STUDENT ACCIDENT & SICKNESS PROGRAM

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FIRST ANNUAL BIKE THRU ROLLA POKER RUN

Sponsored by Student Union Board Outdoor Rec. Committee

OBJECT OF RIDE

1) consists of 10 mile ride

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1st prize -- cooler

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SAT. OCT. 1st 1-4 p.m.

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Mon-Fri 9-5:30

Sat. 9-5

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## Permanent from page 14

GENERAL ELECTRIC COMPANY, Englewood, CO  
Schedules for General Electric Company will be divided as follows:

**ENGINEERING PROGRAM - RESEARCH, DEVELOPMENT & DESIGN**  
Will interview DECEMBER 1983, MAY 1984 GRADS with BS/MS Aerospace, Mechanical, Metallurgical, Nuclear, Electrical Engineering, Computer Science, Engineering technicians for subsequent career placement in development or design engineering. U.S. CITIZENSHIP OR PERMANENT VISA REQUIRED.  
Location: San Jose, California or one of several eastern locations.  
Interviewers: Bob Vachon, Art Petzner, Frank Scheib, Barry Baxden, Lou Heitlinger  
Interview dates: October 5-6, 1983 Priority sign-up: September 20, 1983  
Number of schedules: 5 each day Regular sign-up: September 21, 1983

**TECHNICAL MARKETING PROGRAM**  
Will interview DECEMBER 1983, MAY 1984 GRADS with BS/MS/Electrical, Mechanical, Nuclear Engineering for subsequent careers in sales/application of industrial, electric-utility, marine, construction, components, and distributor sales products. U.S. CITIZENSHIP OR PERMANENT VISA REQUIRED BY COMPANY.  
Location: Nationwide  
Interviewer: Helen Kaiser  
Interview date: October 5-6, 1983 Priority sign-up: September 20, 1983  
Number of schedules: 1 Regular sign-up: September 21, 1983

NOTE: Company has given permission for grads previous to December 1983 to sign in schedules.

**FIELD ENGINEERING PROGRAM**  
Will interview DECEMBER 1983, MAY 1984 GRADS with BS/Electrical, Mechanical, Nuclear Engineering for subsequent assignment to the district involved in the installation and service of industrial and electrical-utility products. U.S. CITIZENSHIP OR PERMANENT VISA REQUIRED.  
Location: Midwest  
Interviewer: Bob Shockey  
Interview dates: October 5-6, 1983 Priority sign-up: September 20, 1983  
Number of schedules: 1 each day Regular sign-up: September 21, 1983

**MANUFACTURING MANAGEMENT PROGRAM**  
Will interview DECEMBER 1983, MAY 1984 GRADS with BS/MS/Electrical, Mechanical, Metallurgical Engineering for program for subsequent career placement in a responsible manufacturing position in manufacturing engineering, material management, plant engineering, quality control, or factory supervision. U.S. CITIZENSHIP OR PERMANENT VISA REQUIRED.  
Location: Nationwide  
Interviewer: R.D. Higham  
Interview dates: October 5-6, 1983 Priority sign-up: September 20, 1983  
Number of schedules: 1 each day Regular sign-up: September 21, 1983

**NASA - JOHN F. KENNEDY SPACE CENTER, Florida**  
Will interview DECEMBER 1983, MAY, JULY 1984 GRADS (PREVIOUS GRADS SIGN ON BACK-UP LIST) with BS/Mechanical, Electrical, Aerospace Engineering for flight hardware systems, computer hardware/software, facilities engineers; will also interview BS/Computer Science majors, but they should have at least 12 semester hours of physical science courses. U.S. CITIZENSHIP REQUIRED.  
Location: NASA  
Interviewer: Richard Urmann  
Interview date: October 26, 1983 Priority sign-up: October 11, 1983  
Number of schedules: 1 Regular sign-up: October 12, 1983

NOTE: INTERVIEW DATE FOR J.F.K. SPACE CENTER MOVED TO OCT. 26, 1983

**HEWLETT PACKARD COMPANY, Corvallis, OR**  
Will interview DECEMBER 1983 GRADS (PREVIOUS GRADS SIGN ON BACK-UP LIST) \*see below with BS/MS/PhD in Electrical Engineering, Computer Science for design, production, marketing - all division. Locations: Various  
Interviewer: J. J. J. J.  
Will interview DECEMBER 1983 GRADS (PREVIOUS GRADS SIGN ON BACK-UP LIST) \*see below with BS/MS/PhD in Electrical Engineering, Computer Science for field sales, system eng., customer eng., marketing, design, production. Location: CA, CO, OR, WA, ID  
Interviewer: Rick Byrne

NOTE: HEWLETT PACKARD WILL INTERVIEW MAY 1984 GRADS; HOWEVER, THEY REQUEST THAT DECEMBER 1983 GRADS HAVE PRIORITY. IF YOU ARE A MAY 1984 GRAD, PLEASE DO NOT SIGN FOR AN INTERVIEW UNTIL SEPTEMBER 28, 1983.

**NAVAL AVIONICS CENTER, Indianapolis, IN**  
Will interview DECEMBER 1983 GRADS ONLY (PREVIOUS GRADS SIGN ON BACK-UP LIST) with BS/MS/Electrical Engineering. U.S. CITIZENSHIP REQUIRED BY COMPANY.  
Location: Indianapolis  
Interviewer: unknown  
Interview date: October 4, 1983 Priority sign-up: September 19, 1983  
Number of schedules: 1 Regular sign-up: September 20, 1983

NOTE: WATERWAYS EXPERIMENT STATION, Vicksburg, MI will be interviewing on October 5, 1983. Details are not available at this time. Will be posted in sign-up area as soon as available.

**IBM, Chicago, IL**  
Will hold an informal information and sign-up day on October 5, 1983, in Centennial Hall. Hours will be from 8:00-5:00. All grads receiving a BS/MS/PhD in general engineering (particularly in areas of Electrical, Mechanical Engineering, Engineering Management, Computer Science) are invited. Actual interview dates will be on October 6-7, 1983. Primary locations represented will be: Charlotte, NC; East Fishkill, NY; Endicott, NY; Lexington, KY; Raleigh, NC; Rochester, MN; Tucson, AZ; Boulder, CO; corporate locations. (NO PRIORITIES INVOLVED)

**ROCKWELL INTERNATIONAL, El Segundo, CA**  
Will interview DECEMBER 1983 GRADS ONLY (PREVIOUS GRADS SIGN ON BACK-UP LIST) with BS/MS/PhD in Electrical Engineering for engineering staff assignments in research, design, development, test analysis, production, quality control, field engineering and reliability, related to automatic test equipment, electro-mechanical packaging, simulation and modeling, avionics, communications, command and control, guidance, navigation, sensor systems, sonar, signal processing, message and data switching systems, HF and UHF circuitry and systems, airborne digital computers, transmission systems (fiber optics, microwave, digital/analog radios and multiplex), electro-optics; SGS, MOS, CMOS, EPROM, EEPROM, and Gals device technology, microcomputer, microprocessor, memory, and telecommunication products. U.S. CITIZENSHIP REQUIRED BY COMPANY.  
Location: So. California, Atlanta, Georgia, Chicago, Illinois, Cedar Rapids, Iowa, Dallas, Texas  
Interviewers: unknown  
Interview date: October 4, 1983 Priority sign-up: September 19, 1983  
Number of schedules: 2 Regular sign-up: September 20, 1983

**MONSANTO COMPANY, St. Louis, MO**  
Will interview MAY 1984 GRADS ONLY (GRADS PREVIOUS TO MAY 1984, SIGN ON BACK-UP LIST) with BS/MS/Chemical, Mechanical Engineering, Engineering Management for Electronics Division. ChE: surface chemistry application; ME: processing engineering to maximize manufacturing processes; Engineering Management: full range IE skills, cost reduction; BS/MS/Electrical Engineering for microprocessors controlled automatically, mfg. processes. PERMANENT RESIDENCY REQUIRED.  
Location: St. Louis  
Interviewers: unknown  
Interview date: October 4-5, 1983 Priority sign-up: September 19, 1983  
Number of schedules: 1: ChE, IE, ME Regular sign-up: September 20, 1983  
2: EE

**ALVEY, INC., St. Louis, MO**  
Will interview MAY 1984 GRADS ONLY (GRADS PREVIOUS TO MAY 1984 SIGN ON BACK-UP LIST) with BS/Mechanical Engineering for design of conveyor systems; BS/Electrical Engineering for design of controls for complex conveyor systems.  
Location: St. Louis  
Interviewers: unknown  
Interview date: October 4, 1983 Priority sign-up: September 19, 1983  
Number of schedules: 2 (1-EE) Regular sign-up: September 20, 1983  
(1-ME)

**GAS SERVICE COMPANY, Kansas City, MO**  
Will interview DECEMBER 1983 GRADS ONLY (PREVIOUS GRADS SIGN ON BACK-UP LIST) with BS/Civil, Mechanical, Electrical Engineering for design and regulation of new distribution systems or relocation of existing systems for construction according to company procedures, practices and policies and applicable governmental rules and regulations. U.S. CITIZENSHIP REQUIRED.  
Location: Midwest  
Interviewer: Barry Jackson  
Interview date: October 4, 1983 Priority sign-up: September 19, 1983  
Number of schedules: 1 Regular sign-up: September 20, 1983

**HOUSTON LIGHTING AND POWER COMPANY, Houston, TX**  
Will interview DECEMBER 1983 GRADS (PREVIOUS GRADS SIGN ON BACK-UP LIST) with BS/Electrical Engineering, Mechanical Engineering, Nuclear Engineering. U.S. CITIZENSHIP REQUIRED.  
Location: Houston & South Texas  
Interviewers: unknown  
Interview date: October 4, 1983 Priority sign-up: September 19, 1983  
Number of schedules: 3 (1: NE) Regular sign-up: September 20, 1983  
(1: ME)  
(1: EE)

**ILLINOIS POWER COMPANY, Decatur, IL**  
Will interview DECEMBER 1983 GRADS (PREVIOUS GRADS SIGN ON BACK-UP LIST) with BS/Electrical, Mechanical Engineering for production, design, quality assurance, operations. MUST HAVE LEGAL RIGHT TO WORK IN THE UNITED STATES.  
Location: Central to Southern Illinois  
Interviewer: unknown  
Interview date: October 4, 1983 Priority sign-up: September 19, 1983  
Number of schedules: 1 Regular sign-up: September 20, 1983

NOTE: SCHEDULE FOR KOHLER COMPANY (October 3, 1983) HAS BEEN CANCELLED.

Campus interviewing for week of October 3-7, 1983  
Signups for the following company will be held DURING THE AFTERNOON ONLY on September 20, 1983. Company will be holding afternoon interviews ONLY.  
Sign-up hours are 1:00-3:00 P.M., UNIVERSITY CENTER WEST.

**MONSANTO COMPANY, St. Louis, MO**  
Will interview students completing 90 hours in Chemical, Mechanical, Electrical Engineering, Engineering Management. U.S. CITIZENSHIP OR PERMANENT VISA REQUIRED.  
Location: Electronics Div., St. Louis, MO  
Interviewers: unknown  
Interview date: October 4-5, 1983  
Number of schedules: 1-Oct. 4: (ChE, IE, ME ONLY 2 OPENINGS - AFTERNOON)  
1-Oct. 4-5: (EE: 4 openings - AFTERNOON)  
(2 ea day)

**EXXON, Houston, TX**  
Will collect resumes from students in Chemical, Mechanical, Petroleum, Geological Engineering. PLEASE TURN RESUME IN ON TUESDAY, SEPTEMBER 20, 1983, UNIVERSITY CENTER WEST, DURING SUMMER SIGNUP HOURS.

**JOHN F. KENNEDY SPACE CENTER, Kennedy Space Center, FL**  
Will collect resumes only from students in Mechanical, Aerospace, Electrical Engineering for summer employment. PLEASE TURN RESUME IN ON TUESDAY, SEPTEMBER 20, 1983, UNIVERSITY CENTER WEST, DURING SUMMER SIGNUP HOURS.

NOTE: SCHEDULE FOR KOHLER COMPANY (October 3, 1983) HAS BEEN CANCELLED.

**Co-op**  
ON THE FIRST DAY OF SIGN-UPS, YOU MAY SIGN UP FOR ONLY (2) COMPANIES  
SIGN-UPS START SEPTEMBER 21, 1983  
SIGN-UP HOURS ONLY: IF YOU WANT AN INTERVIEW IN THE MORNING WITH A COMPANY, THE SIGN-UPS START: 7:30 a.m. - 11:00  
IF YOU WANT AN INTERVIEW IN THE AFTERNOON WITH A COMPANY, THE SIGN-UPS START: 1:15 p.m. - 3:00 p.m.

**WEDNESDAY, OCTOBER 5, 1983**  
Location: East Alton, Illinois  
Interviewing: M.E., E.E.  
Requirements: 2.5 GPA or above, Sophomores on, Permanent Visa,  
M.E. SIGN-UPS A.M. ONLY - E.E. SIGN-UPS P.M. ONLY.  
\*\*ONE SCHEDULE CONSISTS OF 12 INTERVIEW TIMES - 6 IN THE AM, 6 IN THE PM.

**FRIDAY, OCTOBER 7, 1983**  
Location: Joplin, Missouri  
Interviewing: E.E., M.E.  
Requirements: 2.8 GPA or above, American Citizen  
\*\*ONE SCHEDULE CONSISTS OF 13 INTERVIEW TIMES - 7 IN THE AM, 6 IN THE PM.

**MONDAY, OCTOBER 10, 1983**  
Location: Kokomo, Indiana  
Interviewing: C.Sc., E.E., M.E.  
Requirements: 3.0 GPA or above, American Citizen  
PM SIGN-UPS ONLY - 2 CSC, 2 E.E., 2 M.E.  
\*\*ONE-HALF SCHEDULE CONSISTS OF 6 INTERVIEW TIMES

**TUESDAY, OCTOBER 11, 1983**  
Location: Flint, Michigan  
Interviewing: C.Sc., E.E., Eng.Mgmt., M.E.  
Requirements: 3.0 GPA or above, American Citizen  
\*\*ONE SCHEDULE CONSISTS OF 13 INTERVIEW TIMES - 7 IN THE AM, 6 IN THE PM

**WEDNESDAY, OCTOBER 12, 1983**  
Location: Cape Girardeau, MO  
Interviewing: Ch.E., E.E., Eng.Mgmt., M.E.  
Requirements: 2.5 GPA or above, Sophomores on, American Citizen  
\*\*ONE SCHEDULE CONSISTS OF 12 INTERVIEW TIMES - 6 IN THE AM, 6 IN THE PM

**TUESDAY, OCTOBER 18, 1983**  
Location: St. Louis, Missouri  
Interviewing: Cer., E.E., Eng.Mgmt., M.E.  
Requirements: 3.0 GPA or above, American Citizen  
\*\*TWO SCHEDULES CONSISTS OF 22 INTERVIEW TIMES - 10 IN THE AM, 12 IN THE PM

**TUESDAY, OCTOBER 18, 1983**  
Location: Freeport, Texas  
Interviewing: Ch.E., Chem. E.E., M.E.  
Requirements: 3.0 GPA or above, American Citizen  
Minimum of 45 hours with at least 2 courses in major completed  
PM SIGN-UPS ONLY  
\*\*ONE-HALF SCHEDULE CONSISTS OF 6 INTERVIEW TIMES

**WEDNESDAY, OCTOBER 12, 1983**  
Location: Danville, Illinois  
Interviewing: E.E., Mgt., M.E., M.E.  
Requirements: 3.0 GPA or above, American Citizen  
\*\*ONE SCHEDULE CONSISTS OF 13 INTERVIEW TIMES - 7 IN THE AM, 6 IN THE PM

**MONDAY, OCTOBER 17, 1983**  
Location: St. Louis, Missouri  
Interviewing: C.Sc.  
Requirements: 3.0 GPA or above, Sophomores on, MUST HAVE COMPLETED AT LEAST 60 HOURS BY THE END OF THE FALL TERM.  
1 HOUR INTERVIEWS - \*\*TWO SCHEDULES CONSISTS OF 14 INTERVIEW TIMES  
8 IN THE AM, 6 IN THE PM.

**Budget**  
from page 14

there are various reasons why people want such a convention, the primary one is to draft an amendment which will force the federal government to balance its budget.

The important thing to realize is that the economy is still very weak. Millions are still out of work. Businesses still don't have the orders they need to justify expanding. The government's deficit is still what's pushing everything along.

To see what this means to you, just think for a minute. Do you need financial aid to go to school? Are you going to be looking for a job soon? If so, then the next time somebody asks, tell them you're not in that big of a hurry for the government to balance its budget.

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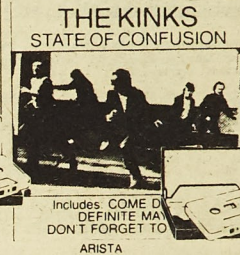
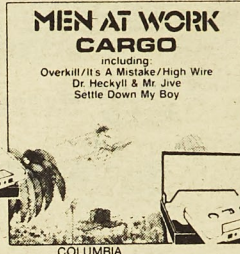
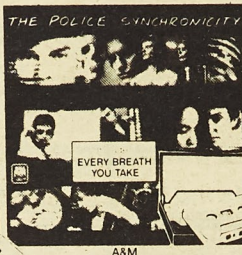
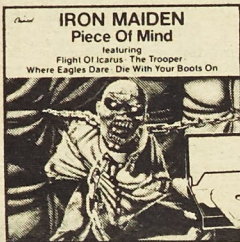
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**WALMART**

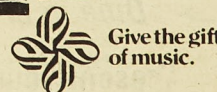
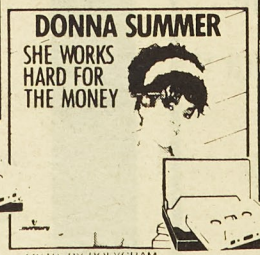
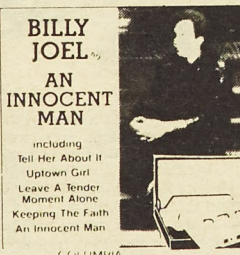
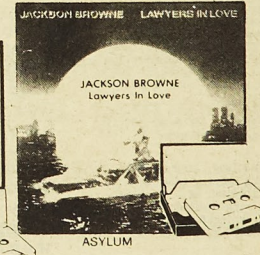
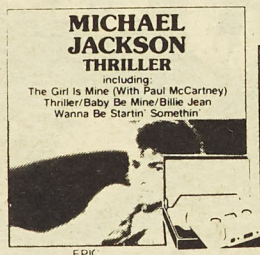
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