

From the College of Engineering News



University of Missouri-Columbia

Summer 1986 Vol. 21, No.2

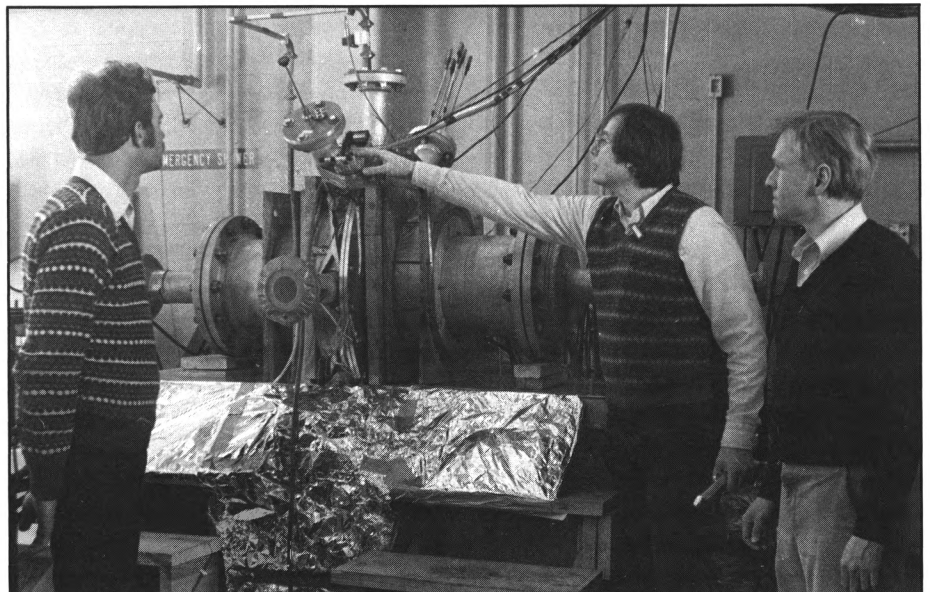
Matching Grant Helps Plasma Research

Funding for the Missouri Magnetic Mirror is now \$2 million.

The College of Engineering has reached the \$1 million matching condition of a challenge grant from the McDonnell Douglas Foundation for the Missouri Magnetic Mirror Project.

The experimental approach used at UMC is being pursued at only one other site in the world—Nagoya University in Japan. The completion of this grant condition will enable University researchers to build a much higher magnetic field device that in some ways will exceed the capabilities of the Japanese device, yet still complement their efforts. The project is one of several in the United States being conducted to move researchers closer to achieving an international goal of controlled nuclear fusion.

This effort was first supported by a \$1 million challenge gift to the University from the McDonnell Douglas Foundation. Forty percent of the sum was initially received and the other 60 percent was conditional on the University raising an



The Missouri Magnetic Mirror Project continues to expand. Pictured from left with the plasma studies apparatus are: Steve McGhee, senior engineering research technician, Mark Prelas, associate professor of nuclear engineering, and David Brinegar, graduate student.

additional \$1 million from other sources. The remaining \$600,000 was received from McDonnell Douglas July 7. The major activity that helped complete the challenge condition was a competitive award made on May 28, 1986, through the Missouri Research Assistance Act. Total funding for the project is now \$2 million.

"This research gift represents the culmination of an extensive five-year effort of cooperation in the state of

Missouri between industry and the University in the planning for and conducting of fusion energy research," said Dean William R. Kimel. "We are most proud and appreciative of this association with the McDonnell Douglas Foundation."

Following the acquisition of three large superconducting magnets in late 1981, the University of Missouri collaborated with industry to determine an experimental program

Continued on page 2

Rapid Fire

Harbourt Named Interim Dean

Cyrus O. Harbourt, director of engineering extension, has been named interim dean of the College of Engineering by Provost Lois B. DeFleur. Harbourt replaces William Kimel, who retired July 31.

Harbourt, a professor of electrical and computer engineering, has been director of engineering extension since 1982. He was coordinator of off-campus engineering programs for three years and served as chairman of the electrical engineering department from 1967-1977. He received a BS from Louisiana State University, an MS from the Massachusetts Institute of Technology and a PhD from Syracuse University, all in electrical engineering.

Owen Miller, professor of industrial engineering and assistant director of off-campus credit programs, is the acting director of Engineering Extension. Connie Hiskey, senior continuing education coordinator, is the acting assistant director, non-credit programs of Engineering Extension.

New Building Still Priority

Although the state legislature approved \$6 million in funds for the first phase of the new engineering laboratory and classroom building, Governor John Ashcroft failed to sign the appropriations measure in late June.

The total cost for the building is now \$16.3 million. Construction was scheduled to begin in the 1986-87 fiscal year. This project has received No. 1 priority on the capital appropriations request for UMC in 1987-88.

Project Could Triple Reactor Power

A \$15 million project that will triple the amount of power the University of Missouri Research Reactor (MURR) produces has received preliminary approval by the Board of Curators. The reactor already ranks as the largest of its kind in the country. Under the expansion, it would produce as much as 30 megawatts of power instead of

the current 10 megawatts. Other plans include the addition of 35,000 square feet of laboratory and office space.

On October 11, 1986, an open house and banquet will celebrate the 20th anniversary of the reactor. It supports student and faculty research from all four University campuses, scientists from 130 other universities, federal and state agencies, and industry.

For more information about the anniversary celebration, contact Director Robert Brugger at (314) 882-4211.

Chinese Scientist Joins Magnetic Mirror Project

Wei WEI, a visiting research scientist from mainland China, will join the Missouri Magnetic Mirror Project on a non-financial support basis. The appointment is for a one-year period.

College Dedicates Computer Network

The College of Engineering dedicated its Engineering Computer

Magnetic Mirror

in mirror/fusion physics that would effectively use these superconducting magnets and supplement the mirror research program of the Fusion Energy Office of the U.S. Department of Energy.

A joint university-industry team composed of Mizzou faculty and researchers from McDonnell Douglas Corp. and GA Technologies, Inc. generated its first plasma during the summer of 1984. The main goal of the research is to determine the feasibility of confining a dense, hot plasma in a spindle cusp arrangement of two magnets having opposed magnetic fields.

Industries which have supported the project with cash grants include the ARMCO Corporation, Union Electric Company, Kansas City Power & Light, and Black & Veatch. Other Missouri firms which have contributed services and equipment include the B.D. Simon Company, McDonnell Douglas Astronautics and the Monsanto Company.

In addition, Mark Prelas, associate professor of nuclear engineering at UMC, received a 1984 Presidential Young Investigator Award from the National Science Foundation, and he devoted those funds to continue research of plasma-wall interactions for the project.

Under the dual leadership of Prelas and Tom Dolan (UMR), the experimental work has received on-site assistance from Bill Ard and Frank Bieniosek of McDonnell Douglas Astronautics Co., and the consultation of Harold Garner of GA Technologies. Design of the superconducting device has been led by Jay Kunze, chairman of nuclear engineering at UMC, and Prelas with the assistance of Robert Dannemueller, Jack Conley and Ray Schmidt from McDonnell Douglas Astronautics and John Freeman, a former student. The project also has involved students and faculty from several departments in the College of Engineering and from the physics department.

Network (ECN) and research laboratories in February 1986.

The ECN operates five super minicomputers with peripheral resources including printers and tape drives, and three remote terminals located in other college buildings. The new computers represent the most up-to-date technology available. The network supports engineering coursework, research and special projects which require advanced computing capabilities, interactive graphics or CAD/CAM/CAE software.

Faculty Additions

Additions to the 1985-86 faculty are: **Richard Banjavic**, assistant professor, nuclear engineering; **Jerome Knopp**, associate professor continuing undergraduate educational program/electrical and computer engineering; and **Masoud Mostafavi**, associate professor, electrical and computer engineering.

Jerzy Wicher is a visiting professor in mechanical and aerospace engineering. Wicher is

associated with the Institute of Fundamental Research at the Polish Academy of Science in Warsaw, Poland.

Staff Notes

Bob Chaney, senior research engineering technician in chemical engineering, was selected as a finalist for the Outstanding Staff Award in the technical/paraprofessional category.

Peter Dohm, chief accounting clerk in the Engineering Experiment Station, has been named to the 1986 Staff Advisory Council. The council is elected by University administrative, service and support staff to serve as an advisory council to the chancellor.

The Engineering Experiment Station Electronics Shop won the program award in the 1986 Equal Opportunity Awareness Awards. The staff was recognized for its wheelchair repair service, which officially started in July 1973.

Staff members are **Lynn Ash**, supervisor; and **Mark Eubanks** and

L. David Wallen, senior electronic technicians.

Jones Garners Awards

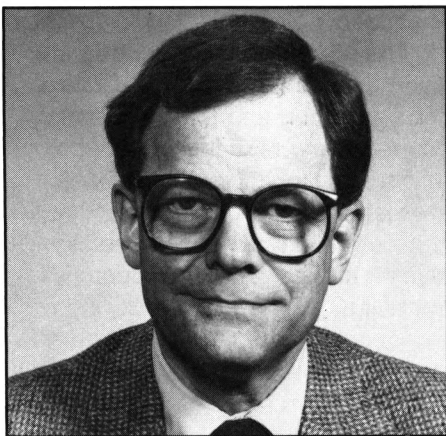
Emily S. Jones, senior information specialist for the office of Engineering Communications in the College of Engineering, won an Award of Merit in the student design category with the Design Optimization Laboratory Newsletter she edits in the International Association of Business Communicators (IABC) "Gateway to The Best" Bronze Quill Awards competition.

The DOL Newsletter is a quarterly technical publication of the Design Productivity Center.

Jones also received one of four 1986 W.B. Bickley journalism awards for excellence in editing from the UMC School of Journalism for her work as a copy editor for the Columbia Missourian newspaper.

She joined the Engineering Communications staff in March 1986.

Guell Recognized for Teaching, Student Involvement



David L. Guell

Professor views engineering as a people-serving job.

David L. Guell, associate professor of civil engineering in the

UMC College of Engineering, was honored with the 1986 Engineering Development Fund Excellence in Teaching Award. On behalf of the college, Dean William R. Kimel presented a plaque and a \$1,000 check to Guell during ceremonies at the Engineers Week Honor Awards Banquet.

"Some excellent teachers are firebrands, exciting, amusing and inspiring. Other excellent teachers are less visible, more direct and intensely focused on student comprehension and performance. In engineering, such instructors are most valuable. Professor Guell falls in this category. A visit to his classroom at any time will confirm this," says John O'Connor, department chairman.

Guell has been a University faculty member for more than 20 years. He joined the department in 1965 as an assistant professor. Guell

earned his BSCE in 1961, an MSCE in 1962 and the PhD in 1965 from Northwestern University before coming to Mizzou.

In addition to working with students in the classroom, Guell is faculty adviser for the student chapter of the American Society of Civil Engineers. His extra efforts to support student activities have earned him the respect of student members.

Of this dedication, a student writes of Guell, "Through his emphasis on community involvement, the significance of civil engineering as a people-serving profession is felt by all. I believe Dr. Guell instills a sense of pride in the civil engineering students toward their chosen profession, an essential quality of any successful individual, and this is probably the most significant accomplishment a professor can make to his students."

ASHRAE Chapter Chartered

The new Mizzou student branch of the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE) received its official charter and banner on April 29, 1986.

During this initial meeting, the chapter awarded Allen Baker, a Columbia businessman, a Life Affiliate Membership Certificate in ASHRAE. Baker, who received a bachelor's degree in business administration from the University in 1940, ran Baker-McClintic, a heating refrigerating and air-conditioning business, for more than 33 years.

John Levenhagen, Region 6 ASHRAE director and chairman, Charles Beacham, St. Louis chapter president, and Bob Cox, chairman of the St. Louis chapter educational committee were present to meet new members during the evening reception. Jim Durand, assistant professor of mechanical and aerospace engineering, advises the student chapter.

ASHRAE, founded in 1894, is an international organization designed to advance the arts and sciences of heating, refrigeration, air conditioning, ventilation and related areas. With the help of volunteers, the group sponsors research, develops industry standards and publishes technical data. In addition, ASHRAE organizes conferences and educational opportunities for members and other professionals interested in the refrigeration process or the design and maintenance of environmental conditions in buildings.



1986 Honor Award Winners are pictured with Dean William R. Kimel. Back left: James L. Konski, Donald L. Waidelich and Michael Witunski. Front left: Jack Knuth and Dean Kimel.

Four Receive Honor Awards

Four prominent engineers were recognized at the annual Honor Awards Banquet Friday, March 7. The banquet was held in conjunction with Engineers Week.

The winners of the 1986 Missouri Honor Awards for Distinguished Service in Engineering were: Jack A. Knuth, vice president, group executive and general manager, Allied Signal, Bendix-Kansas City Division, Kansas City, Mo.; James L. Konski, senior principal, Konski Engineers, Syracuse, N.Y.; Donald L. Waidelich, professor emeritus of electrical engineering, department of electrical and computer engineering,

University of Missouri-Columbia and Michael Witunski, vice president, McDonnell Douglas Corp., and president of the James S. McDonnell Foundation, St. Louis, Mo.

The Missouri Honor Awards are given annually by the UMC College of Engineering and the Engineering Foundation to recognize outstanding works of alumni and others in engineering. Two of the 1986 honorees are Mizzou engineering alumni. James Konski graduated from UMC in 1950 with a BS in civil engineering and in 1951 with an MS. Jack Knuth was a 1956 mechanical engineering graduate.

Deaths

Ralph E. Scora, BSME '59, MSME '62, died June 16, 1986, at age 49 in Monroe, Ohio. Scora was a native of Columbia and was the son of former UMC engineering professor Ralph L. Scora.

Roy Gustav Schwamb, BSCE '28, died July 23, 1986, at age 80 in

Columbia. Schwamb pioneered the flood control planning in the Ohio River and in the upper Missouri River Basins, and he was a planning engineer with the U.S. Army Corps of Engineers for 36 years. He retired in 1970 as chief of the basin planning branch. Schwamb was a member of the American Society of Civil Engineers.

NROTC Commander Accepts New Challenge

Challenges and changes are the two words Naval ROTC Commander Mary Shupack uses to describe the reason she chose a career in the United States Navy. And this fall, she again has both as she assumes her new duties at the National War College at Ft. McNair in Washington, D.C.

Shupack joined the UMC naval science department, which is located academically and administratively in the College of Engineering, in 1983 after completing the command and staff course at the Naval War College in Rhode Island.

Shupack, with no hesitation, says students are what she will miss most when she leaves UMC. "I like watching them come in as stumbling freshmen and go out as commissioned officers," she says.

Being on the Mizzou faculty has been her first university teaching experience and returning to the classroom in the future is a

possibility she does not rule out.

In Washington, she will be a full-time student studying the policy-making process used in the Department of Defense. She also will become familiar with the background strategy used by the federal government to support its global goals. As a student, Shupack will have the opportunity to make a two week foreign visit to a country she selects to study the political and military system there. She will receive a personnel assignment as a commanding officer after completing her yearlong academic requirements.

Before becoming executive officer of the Naval ROTC unit at UMC, Shupack served in Vietnam and has completed several assignments in the United States. She received her commission as an ensign through the Women Officer Candidate Program in 1969. She holds a BA degree in public speaking from Southwest Missouri State University

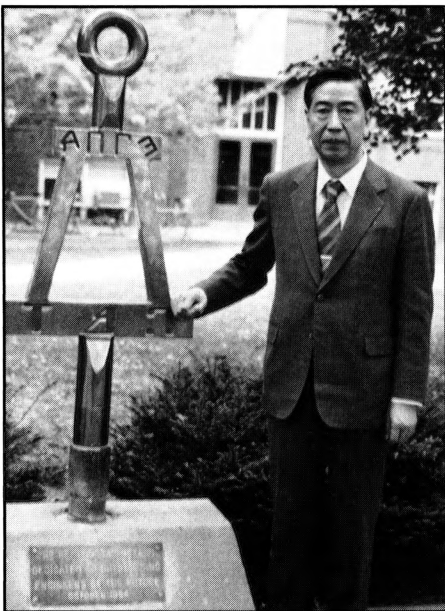


Mary Shupack

and an MS in financial management from the Navy Postgraduate School.

Shupack's honors and awards include two Navy Commendation Medals and three Navy Achievement Medals.

Japanese "Productivity Guru" Gives Croft Lecture



Genichi Taguchi

Genichi Taguchi of Japan delivered the ninth annual Croft Lecture on Thursday, April 24, 1986. Taguchi, often called Japan's "Pioneer of Productivity," is one of the most eminent engineers in the world.

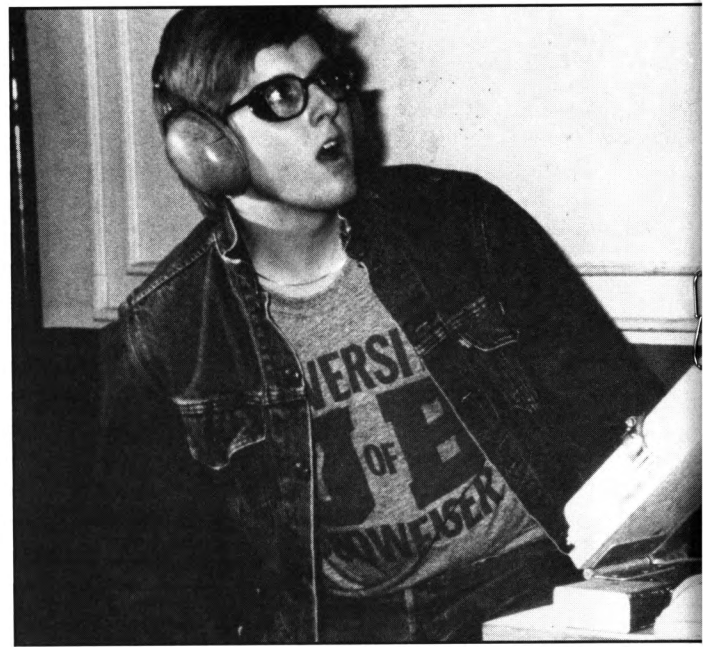
The Taguchi Methods are credited with transforming post-World War II Japanese industry. These methods in experimental optimal design for manufacturing practices use statistical analysis to find a cost-efficient solution to a design manufacturing problem. For the past 36 years, Taguchi's development of these unique engineering methods has played a major role in creating Japan's current industrial strength in the world market.

Taguchi's honors include the prestigious Deming Award. He first

received this award in 1960 and was honored with it for the fourth time in 1985. He has authored nearly 500 publications in Japanese.

From 1949 until 1961, Taguchi worked at the Electrical Communications Laboratory of the Japan Telephone and Telegraph Company. He is now an independent consultant.

The UMC Croft Lecture in Engineering is presented annually and is free and open to the public. Its purpose is to bring a nationally or internationally recognized engineer or scientist to the campus to speak on a topic of national concern. The Croft Lecture is made possible by a gift from the late Helen and Huber O. Croft. Huber Croft was dean of engineering at UMC from 1949 to 1961.



In March, St. Patrick made his 83rd journey to the Mizzou campus. Engineering students, faculty and staff once again celebrated the week of special camaraderie with activities commemorating the oldest engineering St. Pat's Week in the nation.

The annual formal ball was highlighted by the coronation of queen Karina Kessler and king Mike Shannahan (right).

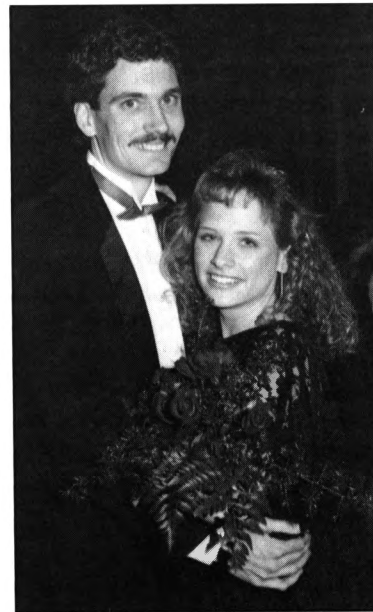
Alumni often return for the festivities. Pictured above are Newby Miller, a 1928 Mizzou engineering graduate, and student David Ammons (upper left).

Mechanical engineering student Chris Borman (top center) anticipates the outcome as his egg flies through the air toward the giant frying pan target in the egg catapult competition.

On the more serious side, William Carson, mechanical engineering professor (top right), describes his spinal fracture stabilization research to students.

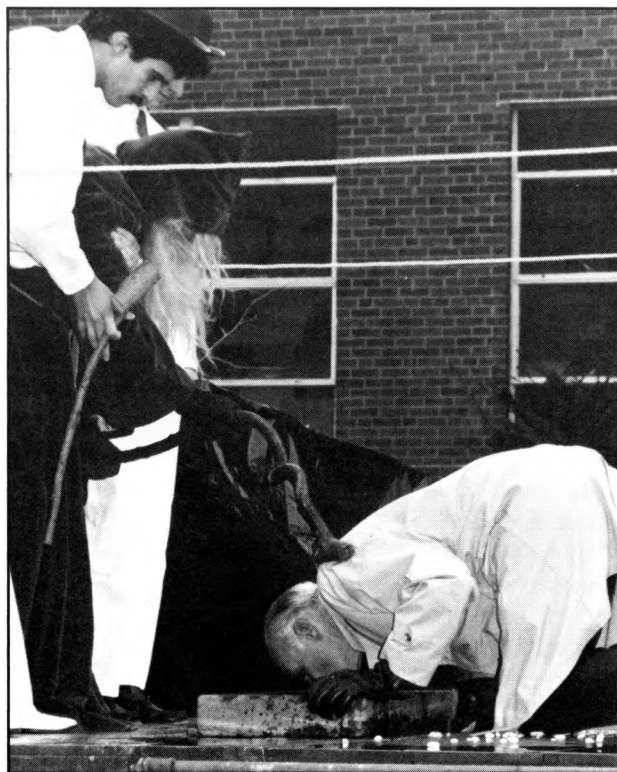
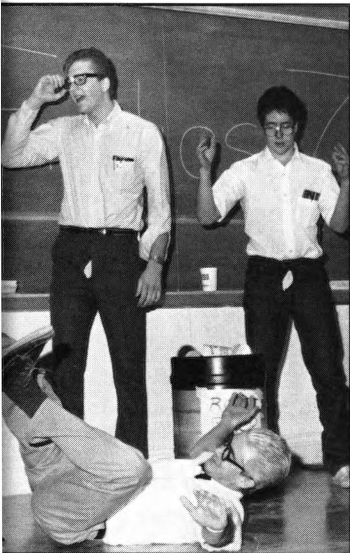
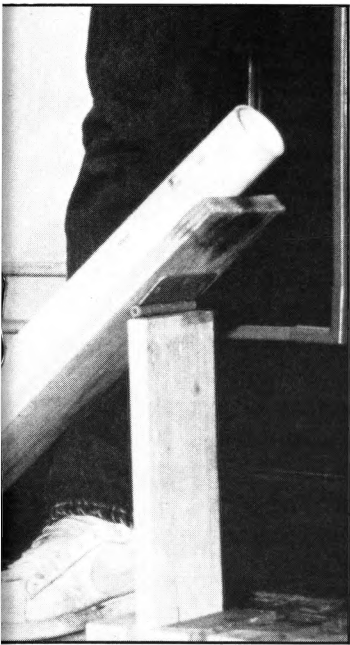
Donald Waidelich, professor emeritus of electrical engineering, is dubbed a knight of St. Patrick by the saint himself (lower right).

Students sporting UMC Engineers Week attire (bottom center) watch fellow students spoofing the "Typical Engineer" stereotype in one of the king skits (center).

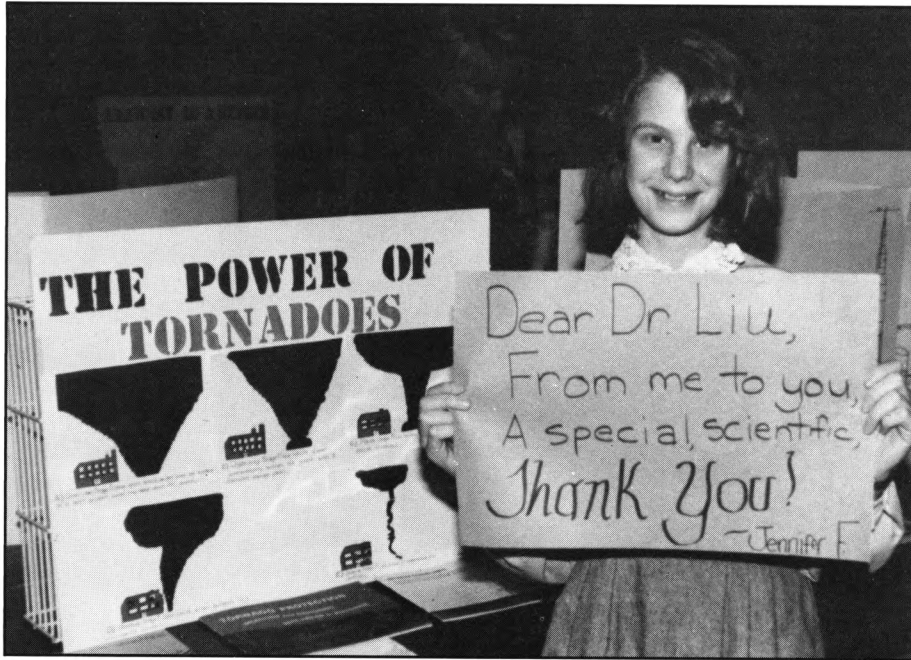


St. Pat's Week

1986



Windy City Seventh Grader Consults Liu



Jennifer Fanning creatively relays her appreciation to civil engineering professor Henry Liu for help with her science fair project.

Chicago seventh grader Jennifer Fanning was trying to think of a subject for a science fair entry when a conversation with her parents about weather led her to focus the project on tornadoes.

During her research, Jennifer discovered several references to Henry Liu, a University civil engineering professor and an expert on wind effects on structures, so she

wrote to Liu requesting additional information.

He has studied tornadoes and their destructive potential for nearly 20 years.

Jennifer, 12, placed second in the contest and decided to send Liu a unique scientific thank you for his assistance.

After doing her own research and contacting experts in the field of wind

effects, it took her about three days to put the project together. It was titled "Wind Effects of Tornadoes" and included a written report and a poster display.

"The most interesting thing I learned is where to stand (during a tornado)," says Jennifer. "Before I thought you should just run to a basement or something. Although taking shelter in a basement is advised if one is available, experts also recommend staying in the center of the building under a piece of sturdy furniture.

Science is one of Jennifer's favorite classes at the Academy of Sacred Heart in Chicago, but she has yet to decide on a scientific career. Last year, she placed in the science fair with a project on plants.

Wind disasters create \$4 billion in damage and kill more than 300 people annually in the United States. There were 684 tornadoes in 1985 alone. These figures make wind damage more costly than any other natural disaster in the nation, including floods and earthquakes. For the last 11 years, Liu has been a primary speaker for "Wind Effects on Buildings and Structures," an engineering extension short course held annually in Kansas City.

Charlson Honored For Service To Women

Elaine Charlson, assistant professor of electrical and computer engineering, is the 1986 winner of the Alumnae Anniversary Faculty award. The \$2,000 award is given annually to a professor who has contributed to the education of women and addressed the status of women beyond the classroom.

Charlson, who has been a faculty member since 1981, is a specialist in solid state engineering. Students who nominated her for this honor said her achievements in this male-dominated field have given encouragement to many women. As an adviser, students say her support

has helped women in engineering continue in the degree program. For these efforts, Charlson also is a co-recipient of the 1986 Equal Opportunity Award from the chancellor's committee on the status of women.

In 1961, Charlson graduated from Maryville College in St. Louis with a BS in physics. She received her MS and PhD in electrical engineering in 1977 and 1981 from the University of Missouri-Columbia. Before coming to Mizzou, Charlson worked for McDonnell Automation Center and McDonnell Douglas Corp. in St. Louis.



Elaine Charlson

Student Airplane Takes To The Skies

Traditional design secures top honors for radio-controlled Mizzou aircraft.

Designing to compensate for bad weather allowed members of the Society of Automotive Engineers (SAE) in the College of Engineering to bring home top honors in the first SAE Radio-Controlled Cargo Aircraft Competition in Kansas City May 24. The Mizzou plane won first place by carrying a 12 pound cargo without mishap.

The SAE flight crew, led by graduate student Eric Jensen and mechanical engineering senior Brent York, built their entry with windy flying conditions in mind. As a result, the Mizzou plane, constructed of balsa wood, had to be durable and flyable. Additional considerations were keeping costs low and production time minimal.

"It's a very predictable plane, and that was our approach to the contest," says Jensen, who served as pilot.

Although the ability to carry a predetermined weight was a major requirement of the competition, the University team decided building for strength and flying ease were more important than designing strictly for cargo capacity.

"Other teams tried unconventional designs that looked good on paper, but most crashed even before flying," says Jensen.

Sporting the traditional Mizzou colors of black and gold, the plane has a wing span of more than 6 feet and is powered by an unmodified K & B .61 cubic inch



The Mizzou plane, piloted by Eric Jensen, was the only one to complete the contest with no damages.

glow engine. The aircraft took the group less than three months to design and assemble, and cost about \$125. Since the plane was built so rapidly, SAE members had the chance to evaluate their model during test flights on the competition field and then make modifications. This type of radio-controlled aircraft is capable of speeds more than 60 mph and can gain altitudes up to 500 feet.

Jensen says these trial runs gave him and other team members the confidence other teams with tighter construction deadlines lacked. One entry, the product of an extensive and costly senior research project, was destroyed in a test flight the morning of the contest. The University aircraft was the only one to complete the contest with no damages.

The contest, sponsored by the

SAE chapter at Western Michigan University, initially had 15 entries from student chapters around the United States and Canada. Only nine teams actually traveled to Kansas City with planes, and by the time the competition began, three had crashed in test flights leaving only six competitors.

Serving as consultants for the student designers were Bill Capehart of the Lamas Model Airplane Club in Lacygne, Kan., Brian deSilva, senior research investigator for the UMC Design Productivity Center; Rick Whelove, mechanical and aerospace engineering instructor; and Charlie Walden, mechanical and aerospace engineering laboratory manager. John Miles, a mechanical and aerospace engineering professor, serves as the SAE adviser for the Mizzou chapter.

Lillard Awarded Engineering Merit Citation

David H. Lillard is the recipient of the 1986 Engineering Alumni Organization Citation of Merit Award. The award was announced by the president of the group, Chester "Kit" Carson, in conjunction with Engineers Week Honor Awards Banquet ceremonies.

Lillard is a partner in the Kansas City, Missouri-based consulting engineering firm of Black & Veatch, Engineers-Architects. He has been with Black & Veatch, one of the 10 largest engineering firms in the nation, since 1954. Currently, he is responsible for personnel administration.

Lillard, a Life Member of the University of Missouri Alumni Association, is a past president of the Engineering Alumni Organization and a member of the Jefferson Club. He received a bachelor of science degree in civil engineering from UMC in 1952.

A registered professional engineer, Lillard has long been active in professional organizations. He was vice president, chairman, and North



David H. Lillard, right, accepts citation for engineering alumni service from Kit Carson, left.

Central vice chairman of Professional Engineers in Private Practice, all in the National Society of Professional Engineers (NSPE).

Other professional service includes the Committee on Federal Procurement of Architect/Engineering Services, presidency of the Consulting Engineers Council and

national director of the American Consulting Engineers Council.

Lillard belongs to the American Society of Civil Engineers, the American Society for Engineering Education, the American Society for Personnel Administration and the Personnel Management Association.

Faculty Laurels

Henry Liu, professor of civil engineering, recently assumed duties as secretary of the American Society of Civil Engineers' (ASCE) Aerospace Division's Executive Committee. Liu is the former chairman of the Aerodynamics Committee, current chairman of the Steering Committee for the ASCE specialty conference on Advancements in Aerodynamics, and recipient of the Division's 1983 award for research on understanding wind-induced pressure inside buildings.

William Robert Kimel and **George H. Stickney** each earned professor emeritus titles and were recognized during Faculty Recognition Day May 6. Dean Kimel has been with the college since 1968. He earned the title professor

and dean emeritus of engineering. Stickney served the college from 1962 to 1985. His title is associate professor emeritus of mechanical and aerospace engineering.

Dean Kimel was recently elected as 1986-87 vice president of the National Society of Professional Engineers and chairman of Professional Engineers in Education - practice division. He also has been appointed to the faculty of Regents College at The University of the State of New York for a three-year period ending in 1989. Kimel previously served on the Regents College faculty committee responsible for the development of Nuclear Technology degrees.

The W.R. Kimel Scholarship in Engineering has been established by friends and colleagues in

appreciation for Dean Kimel's years of service to the college.

Sudarshan Loyalka, professor of nuclear engineering and **David Retzlloff**, associate professor of chemical engineering, have been named winners in the 1986 Weldon Spring Endowment Fund competition. Sixteen proposals for multicampus research projects were accepted.

Loyalka is working with Al Crosbie of the University of Missouri-Rolla. The two were awarded \$24,000 for their project titled "Application of the Singularity Substraction Technique to Radiative Heat Transfer in a Two-Dimensional Cylindrical Geometry."

Retzlloff has teamed up with Thomas O'Keefe and William James, UMR. Their project is titled

"Mechanical Model of Metal Film Deposition by Glow Discharge Polymerization." The trio was awarded \$19,000.

A. L. Thompson, assistant professor of agricultural engineering, was named a 1986 Paper Award winner by the American Society of Agricultural Engineers (ASAE). Thompson's paper, one of only 10 selected from 403 submitted to the ASAE, is titled "Water Droplet Impact and Its Effect on Infiltration."

C. Alec Chang, assistant professor of industrial engineering, has received the 1986 Ralph R. Teeter Educational Award. The award is presented by the Society of Automotive Engineers to the nation's engineering educators who are successfully preparing students to meet the challenges facing society.

Mizzou Alum Curious About Class of '42

Reading an "Alumni Accolades" section in a recent NEWS reminded **William W. Winters**, BSEE '42, of his days at Mizzou, and he sent a letter inquiring about the activities of other "old timers like himself" in the years since leaving Columbia.

Winters was the editor of the Missouri Shamrock, the magazine still produced by engineering students, in 1941-42. After graduation, he worked for RCA and then joined the Navy as an Electronics Officer. During World War II, Winters was stationed on a destroyer in the the Pacific. In the post-war years he traveled extensively around the world doing communications engineering jobs.

Currently, Winters is chief of the frequency management office for the Defense Communications Agency in Washington, D.C.

He would enjoy hearing from friends in the Class of '42. Any letters may be sent to him in care of this newsletter.

Alumni

We want to hear from you. Write to the NEWS today.

Alumni Accolades

Nossein A. Novin, MSCE '82, has joined the Kansas City office of Wagner-Hohns-Inglis, Inc., (WHI) as a consultant. WHI is an international construction consulting firm specializing in construction claims litigation and negotiation, Critical Path Method (CPM) scheduling and project management. Novin will specialize in nuclear construction consulting.

John R. Kretzschmar, BSChE '56, has been elected 1986-87 president-elect of the 25,000-member international Society of Plastics Engineers (SPE). He has been an SPE member since 1965 and has held all of the offices of the Society's Toledo Section as well as several international offices. Kretzschmar is president and founder of Blako Industries, Dunbridge, Ohio.

the Alumni-Association

of the University of Missouri-Columbia

If you enjoy receiving this newsletter about College activities and fellow alumni, you can receive two more a year by joining the Alumni Association.

But more Engineering news is just one of the benefits of association membership. Others are:

- issues of the colorful, award-winning *Missouri Alumnus* magazine,
- special group rates on foreign and domestic travel with the Tourin' Tigers,
- discounts on Tiger merchandise and University Press publications,
- special activities and group travel to Tiger football and basketball events,
- contact with fellow alumni through over 50 local chapters in Missouri and 25 throughout the rest of the U.S.,
- the opportunity to subscribe to *Tiger Sports*, and
- library privileges at all four UM campuses.

Fill out the form below as your first step toward a more exciting relationship with your University and your fellow graduates.

Full Name	Phone	
Mailing Address		
City	State	Zip Code
Class Year	Division	
Is your spouse an alumnus? _____		
	Birth Name	Division

Return this portion with your check payable to: "UMC Alumni Association" or

Charge my VISA MasterCard

Card Number	Card Expiration Date
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Signature _____

Check Membership Desired: [^]

_____ Annual \$20	_____ Life Installments
_____ Mr./Mrs. \$25	(6 consecutive annual payments of \$60)
_____ Senior Citizen, 65 and older \$10	_____ Mr./Mrs. Life \$400 (single payment)
(½ price annual)	_____ Mr./Mrs. Life Installments
_____ Life \$350 (single payment)	(6 consecutive annual payments of \$70)

Mail to: Alumni Relations, P.O. Box 1553, Columbia, MO 65205

Rediscover MIZZOU

Paul N. Doll, P.E., BSAE '36, MSAE '37, was awarded an honorary Doctor of Laws degree at the May 1986 Commencement at the University of Missouri-Columbia. A long-time University supporter, Doll serves as an advisory council member for the UMC College of Engineering and the agricultural engineering department.

Doll also won the 1985 NSPE Distinguished Service Award. The award recognizes persons for eminence attained by technical contributions to the field of engineering or by exceptional contributions to the engineering profession. Doll was MSPE executive director from 1954 to 1976.

Terry L. Maddox, BSEE '78, has been honored several times in recent years for community service and career-related activities. These include serving as Toastmaster's Area 10 governor and Lt. governor-education for the Northern Illinois Division, Toastmasters International in 1983. In 1984, Maddox was named Outstanding Young Engineer of the Year for the Central Illinois Chapter, ISPE. He is now enrolled in the evening program at Tulane University pursuing his MS in EE. Maddox is employed by Middle South Utilities, Inc., in New Orleans as a real-time application engineer.

Captain Walter E. "Butch" Rosemann Jr., BSCE '75, retired from the U.S. Air Force on May 1, 1986, after more than 21 years of

service. His Air Force offices included chief of construction management, chief of programs and chief of environmental and contract planning. He was last assigned to Headquarters Electronic Security Command at Kelly Air Force Base, Texas. Following his retirement, Rosemann will serve as director of public works for the city of Port Lavaca, Texas.

Merrill Watt, BSCE '68, MSCE '76, has been elected chairman of the Missouri Water Works Association for the 1986-87 term. He is a registered professional engineer with Burns & McDonnell Engineers-Architects-Consultants of Kansas City, Mo., where he works in the marketing division. Watt served two terms as president of the Kansas City Chapter-University of Missouri Engineering Alumni Organization and now is a national director of that group.

Robert E. Schwartz, BSME '58, MS '59, received the 1985 R.J. Buckley Technology Award honoring him for outstanding technical achievement by Allegheny International, Inc. at a recent ceremony at the AI world headquarters in Pittsburgh. Schwartz is among 14 individuals to receive this award. Schwartz is vice president, technology, for the John Zink Company in Tulsa, Okla., which is an AI member company specializing in combustion and pollution control systems and equipment.

Extension Calendar

Listed below are upcoming continuing education courses offered by UMC Engineering Extension. For information or a brochure, call Linda Rodden at 314-882-3088 or Virginia Nettleton at 314-882-2087, or write Engineering Conferences, 1020 Engineering Complex, UMC, Columbia, Mo. 65211.

1986 Air Conditioning Clinic

Sept. 2-Nov. 25 (Tuesdays)
Kansas City

Fee: \$275 (Nettleton)

Applying the 1985 Uniform Bldg. Code

Oct. 2-Nov. 20 (Thursdays)
Kansas City

Fee: \$195 (Rodden)

Design Workshop for Computerized Work Stations

Oct. 23-24, Columbia
Fee: \$325 (Nettleton)

Surface Geology

Oct. 28-29, Kansas City
Fee: \$350 (Rodden)

RCRA Amendments

Nov. 4-5, Kansas City
Fee: \$350 (Nettleton)

Pre-Treatment of Industrial Wastewater

Nov. 17-18, Kansas City
Fee: \$295 (Nettleton)

Expert Systems in Manufacturing

Nov. 18-19, St. Louis
Fee: \$475 (Rodden)

Valve Technology Today

Dec. 8-9, St. Louis
Fee: \$425 (Rodden)

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