



**STORM AFTERMATH**—The Kansas City campus was beyond the reach of the rampaging waters of Brush Creek, but the deluge proved too much for some storm drains. Latest estimates set the damage at \$22,500.

## HEW awards grant to UM to support aging studies

HEW's Administration on Aging has notified the University that it is one of 15 universities nationwide designated as multi-disciplinary centers for aging studies. The designation carries with it a grant for \$132,000 a year for two years.

"This designation and grant puts us a long way toward realizing our dream that the University be the Midwest's major gerontological center for training and research," said Dr. Donald Cowgill, UMC professor of sociology and project director.

The grant will be used to expand the Columbia campus's Center for Aging Studies (established two years ago) and link it with a similar center at the Kansas City campus under the title "Joint Centers for Aging Studies." Outreach and developmental assistance will be provided the University's St. Louis and Rolla campuses and Lincoln University in Jefferson City.

Dr. Cowgill said the grant would annually fund three faculty post-doctoral fellows in gerontology, seminars and colloquia on each of the campuses, and would be used for curriculum development, consultation research accessible to people and agencies working with the state's elderly.

In addition, the grant will fund nearly a dozen smaller research projects (up to \$3,000) by faculty at the four University campuses. Deadline for the research applications is Oct. 18. They should be directed to Dr. Cowgill, in care of the Joint Centers for Aging Studies, 633 Clark Hall.

The joint centers' programs will be guided by a policy board composed of members from each of the four campuses and Lincoln University. A resident campus coordinator will be appointed at each of the sites.

## 'Vote of confidence' on extension

The Missouri Extension Study Commission, appointed in July by Gov. Joseph P. Teasdale to review and recommend changes of extension program management and funding in public higher education, told University officials Sept. 29 that UM had received "a tremendous vote of confidence" in public hearings conducted around the state earlier in the month.

"We recognize that extension staffs all over the state rallied their friends around the flag and this was only a natural reaction," said Cordell Tindall of Fayette, commission chairman. "Some people who are more critical were reluctant to come and testify. From the hearings, you folks got a tremendous vote of confidence and it was impressive," Mr. Tindall said.

UM President James C. Olson appeared before the commission with the four campus chancellors to make formal presentations and to respond to questions.

In formal remarks Dr. Olson stressed UM's link with federal, state and local governments in providing cooperative extension programs that have linked UM "to long-standing agreements and to certain federal funds" which he said should not be jeopardized.

He also reminded the commission that UM, unlike most other land-grant institutions, has a combined general extension and cooperative extension program operation and that the University's extension function is linked and intertwined with the overall academic mission.

"I fully concur with those who argue that continuing education programs need to be examined to provide the most efficient and effective programs of high quality for the people at the lowest possible costs and with

the least duplication of effort," Dr. Olson said.

When quizzed later by commission members and newsmen about how off-campus extension courses should be coordinated, Dr. Olson said he thought the Missouri Coordinating Board for Higher Education could do this best by conducting post-audits annually to assure courses are not being unnecessarily duplicated among institutions of higher learning.

The commission asked Dr. Olson if he thought it was fair criticism when people say the UM system is top-heavy with administration.

"We are doing and are involved in more things than we've got administration and support staff, based on the realism of recent budgets," Dr. Olson said. "One of the areas we are looking very closely at is administration and central administration of the University.

"Without being able to set up a target system, it is my objective to reduce the administration effort. I'm not sure we're over-administered. I think administration is an easy, convenient target.

"One of our problems is in terms of middle management. In the last several years we have had a substantial increase in the amount of federal reporting that is required. The answer to your questions is, we need to reduce operations and we need to reduce administration."

One commission member asked the UM President: "If extension is as

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## Advice on information requests

In these days of increasing litigation, University officials believe faculty and staff must be more aware of federal and state laws regarding privacy and the inadvertent release of information about employees or students.

"We urge all University employees to be cautious about responding to requests for information about their students or colleagues, especially in

writing," said A. G. Unklesbay, UM system vice president for administration.

He said caution should also be applied in requests from government investigators, from industrial interviewers or from private questioners. "Be sure you know the use for which the information is requested and the full identity of the questioner," Dr. Unklesbay said.

He said the University legal counsel has been contacted recently about cases where inadvertent release of information about University employees may result in legal problems.

If faculty or staff have any questions about the propriety of furnishing such information, they should not hesitate to contact their supervisor," Dr. Unklesbay suggested.

## Meeting dates set

The Board of Curators has established the following schedule for its monthly meetings in the first six months of 1978:

Jan. 19-20	Columbia
Feb. 23-24	St. Louis
Mar. 23-24	Columbia
Apr. 27-28	Rolla
May 25-26	Columbia
June 29-30	Columbia

# Olson voices objections to CBHE master plan

UM President James C. Olson, in a formal presentation to the Coordinating Board for Higher Education, suggested that the board's master plan for higher education in Missouri not inject the CBHE into the management of ongoing programs and activities of the state colleges and universities.

"These decisions," he said, "must be made by the respective boards, faculties, administrative staffs and others within the educational institutions."

Dr. Olson also told the CBHE members, meeting Sept. 27 in Columbia, that he hoped the final version would support UM campus

missions as they are described in the University system's "Academic Plan."

"More precisely, I would suggest that the language in the master plan not be in conflict with the goals in the University of Missouri 'Academic Plan,'" he said.

Dr. Olson said the current CBHE staff-produced master plan draft fails to recognize UMC and UMR's statewide responsibilities for off-campus instruction as well as UMKC's dentistry and pharmacy programs.

The UM president urged the coordinating board to strengthen the master plan section dealing with the support of senior public institutions, specifically in the area of faculty salaries.

"I would recommend that the final document state in clear and unequivocal language the absolute necessity for giving this problem the highest priority in the allocation of state resources," he said.

While objecting to certain aspects of the plan, Dr. Olson said a statewide plan is needed.

"I am in favor of a plan which in our best judgment will preserve and upgrade the quality of our educational programs in the face of such uncertainties as future costs, enrollments, new requirements and program innovations," he said. "I would agree that we must have a plan which defines institutional goals within an overall statewide framework of higher education. . . ."

The drafting of the state master plan has been in the development stage for two years. A rewritten version will be the subject of public hearings this fall, prior to the CBHE approval of a final plan.

## Extension

(continued from page 1)

important program as you say it is, why did you find it necessary to access a \$370,000 appropriation cut?"

Dr. Olson said that when the legislature line-itemed statewide extension and did not increase the appropriation over the previous year, the "signal was loud and clear" to cut back in this area.

He said earlier that in order for extension field staff to receive salary raises along with the rest of the University faculty and staff it was necessary to cut positions.

He also said next year's proposed budget calls for \$4.8 million in internal reductions which are to be made by all campuses and central administration. This reduction would also affect statewide extension, he said.

## Funds for intercampus work

In the 1977-78 Operating Budget of the University, \$20,000 is included for support of faculty and students involved in intercampus doctoral activities.

There are no fixed categories of items which can be requested, but the following are suggestive of needs that might suitably be met through this fund: financial support to enable a doctoral student who is working on one campus to spend the year in residence at the campus offering the degree; funds for short-term faculty exchanges

to allow faculty members on a campus not offering the particular doctoral program to enrich the program on another campus; funds for intercampus faculty/doctoral student seminars or conferences. Projects that most directly relate to students will have priority consideration.

Any faculty member may submit a request to fund a project under this program, through the usual administrative channels. The request should include the following items of information: specific activity proposed, persons to be involved, dates, requested amount, endorsements of the chairman and the divisional dean. The divisional dean will submit the proposal to the campus graduate dean for review and screening. Awards will be made by the four graduate deans and the vice president for academic affairs, but all funds will be administered on the appropriate campus by the graduate dean. For further information, or for preliminary discussion of ideas, please feel free to contact your campus graduate dean. Initial proposals should be submitted to the graduate dean by Nov. 15, 1977.

## UMSL appointment

Lois VanderWaerd, a lawyer, has been appointed UMSL affirmative-action officer. Ms. VanderWaerd has served in the position on an acting basis since March.

UMSL Chancellor Arnold B. Grobman, in making the announcement, said Ms. VanderWaerd brings to the position a thorough knowledge of federal affirmative-action policies and an understanding of higher educational institutions. "That is a rare blend of experience and we are indeed fortunate to have attracted someone of her capability," Dr. Grobman said.

## Time Now

*Nothing, nobody-but God and maybe  
The illusion of memory-can gather together  
The horses, sheep, the peacocks and the cattle,  
The wise ducks  
He thinks of as what he was.*

*So he,*

*The weathered child-man, mumbles his way  
Out of the century. He prepares to greet  
Old men, their ghosts in overalls,  
Ambling down city streets and leading mules.  
But the men (he thinks they were young  
In a dream he had) look down at their  
Colorless shoes, and the mules, out of  
Eyes distant and unspeaking as dead  
Ponds, almost reflect something.*

*But don't. He is not who, what, where  
He was. For all he knows, he never  
Existed. Sometimes on dark afternoons  
He sits by a stingy table lamp  
And reads about himself in a novel.*

Tom McAfee  
Professor of English  
UMC

(From Tom McAfee's new book, *Time Now*, © 1977, Raindust Press.)

## Major symposium at UMC

Prominent scientists from Europe and the Soviet Union will attend the Symposium on Biological Applications of Small-Angle Scattering at UMC on Oct. 10, 13 and 14.

UMC has one of the few laboratories in the country engaged in this research technique, which allows scientists to determine the size and shape of large molecules.

The purpose of the symposium is to acquaint biologists and other potential users of small-angle scattering with possible applications. Physicists, chemists and biologists from several states are expected to attend the sessions.

Among invited participants: Prof. O. Kratky of Graz, Austria; Dr. H. Stuhmann of the Molecular Biology Laboratory of Hamburg, Germany; Dr. R. L. Kayushina of the Institute of Crystallography of the Soviet Academy of Sciences; and Dr. Josef Baldrian of the Institute of Macromolecular Chemistry of the Czechoslovak Academy of Sciences in Prague.

All will be discussing applications of the scattering technique, in which X-rays are focused upon molecules in solution. The pattern of the X-rays scattered by the molecules is given a mathematical analysis to determine the size and shape of the molecules.

The symposium is sponsored by the UMC Graduate School, O.M. Stewart Fund, departments of biochemistry and radiology, Division of Biological Sciences and the University Research Reactor.

The visiting scientists will come to Columbia after participating in the International Conference on Small-Angle Scattering in Gatlinburg, Tenn. on Oct. 3-7.

Local arrangements are being made by Paul W. Schmidt, a member of the UMC physics department who has just returned from a six-month sabbatical leave during which he conducted research in the Soviet Union, and Camillo A. Ghiron of the UMC biochemistry department.

Lectures will be held in the Physics Building.

## Film about marching band wins award

A short documentary film produced by the University of Missouri has won a certificate of honorable mention in the Industrial Photography Film Award Competition, an annual contest which attracts hundreds of entries from government, industry and institutions of higher education.

UM's entry, "Marching Mizzou," depicts the extensive planning and the grueling rehearsals that precede each half-time performance by the marching band at the University of Missouri-Columbia football games. One of the contest judges called it "a beautiful portrayal of the development of a typical Americana event [that]

caught the human side of preparation and execution of a complex show."

The winner earlier of a citation of merit from the Council for Advancement and Support of Education, "Marching Mizzou" has been shown in scores of theaters across the country. The film's producer and director, David J. McAllister of University Information Services, estimates that it has been seen by nearly 200,000 persons.

# Particular interests

By Margaret Kraeuchi

*Sam Werner is a man of simple pleasures. All he asks is a beam port in a nuclear reactor and a steady stream of neutrons.*

"The child is father of the man," wrote Samuel Coleridge. Had he been a contemporary, Coleridge might have been thinking of the University of Missouri's Sam Werner, physicist. Dr. Werner, the son of a high school physics teacher, is doing basic studies in the micro-world of the atom which have earned for him an international reputation.

Talking and pipe-puffing simultaneously, Dr. Werner is genially instructive: "Think of physics as having two major divisions. One is cosmic—the large systems, astronomy, for instance; the other is micro—the tiny world of the atom and its particles. Underlying both is Einstein's general theory of relativity which describes the influence of gravity on each large and small object and quantum mechanics which predicts wave properties of matter. But gravity, the force most evident to the senses, is the weakest, toughest-to-detect of the known forces acting on atomic particles."

Two years ago Dr. Werner, on staff at Ford Motor Company's Scientific Laboratory and an adjunct at the University of Michigan, worked with two Purdue physicists to prove that gravity does affect neutron wave movements. That work, Dr. Werner says, was the first experiment ever done in which the macro and micro worlds of physics were bridged—the two worlds overlapped in an experimentally realizable situation. The American Institute of Physics cited the project as one of 38 best physics studies in 1975.

The neutron is perhaps the most useful of the atomic particles. Its usual home is in the nucleus of an atom. But freed from home base, the neutron is unstable and can be used to hit other atoms, releasing other neutrons (and energy), thus setting up a chain reaction. Besides making available a plentiful, relatively efficient energy supply, the neutron has lots of other basic and applied uses—identifying trace elements, studying the composition of matter, producing images for inspection and testing problems, among others. It's a fit bit for study. And learning more about its behavior is just what Dr. Werner and his Purdue colleagues are doing. They've confirmed a theory of particle behavior that says if you spin a neutron full-circle around its axis—as if it were a top—the particle's wave motion

completely changes sign. You must turn it around twice for it to look the same.

Does the earth's rotation have any effect on the wave movement of neutrons? (A question only a theoretical physicist would ask!) Dr. Werner and colleagues wanted to find out. But this proved an even more demanding task since the effect of the earth's spin is only about 2 per cent of that of gravity's effect in their earlier work. Their equipment had to be more

precise and they had to go to a reactor with a much higher neutron flux than Michigan's Ford reactor.

They cast an anticipatory eye in the direction of Columbia and the University of Missouri's research reactor. Still considered the highest power university reactor in the "free" world, UM's facility, in Dr. Werner's words, is the "best university reactor in the world." His work requires long-term use of a beam port which delivers from the reactor core the stream of neutrons he uses. Long stays aren't always possible at the national laboratories where much work in particle physics goes on. "Basically, I'm paying rent on one of the beam ports here," says Dr. Werner. He's funded by NSF for two years—a total of \$180,000. Half of that will go for equipment.

Ironically, the equipment needed for the experiments is mostly very large while the subatomic particles being examined are very small. However, the piece of equipment central to their work to date has been a cylinder of silicon small enough to fit your hand and machined so precisely that just slicing and preparing it takes a month's work.

The sliced cylinder, called a neutron interferometer, was placed in a beam of neutrons. By sending the beam bouncing off the upright planes of the cylinder and by turning the cylinder at a particular angle so that gravity could come into play, Dr. Werner and colleagues were able to show how gravity affected neutrons' wave motion.

He and his colleagues have also been pursuing a related task this summer:

could the force of gravity be used to influence neutrons' absorption by nuclei? Rather like improving an already energetic batter's attraction for home plate.

The uninitiated, eyes glazed and mind boggled from learning more than he knew existed about something he can't even see, is likely to inquire wearily, "What good is it all?"

A like question was put to Einstein in the 1930's regarding his general theory of relativity first set forth in the early years of the century. He reportedly shrugged and said he couldn't see any particular use for it. Yet even as he answered, physicists were at work probing the implications of his theory—by 1945 the whole world would know one application for Einstein's theorizing.

Dr. Werner relates an anecdote about Faraday, the largely uneducated genius of electromagnetic induction and a lab assistant to Sir Humphrey Davy. When the Royal Society peevishly put the what-good-is-it question for Faraday, he retorted, "What good is a newborn baby?"

Dr. Werner says, too, that he doesn't know what particular applications will be made for what he's finding out about neutron behavior. "But inevitably someone will find a practical application," he says. "That's been the history of what happens with basic, theoretical work. Industry uses *everything* . . . and I say that out of my 11 years in the Ford labs."

He thinks it's a mistake to worry or concentrate on the practical applications, but "it's a good idea to think about them."

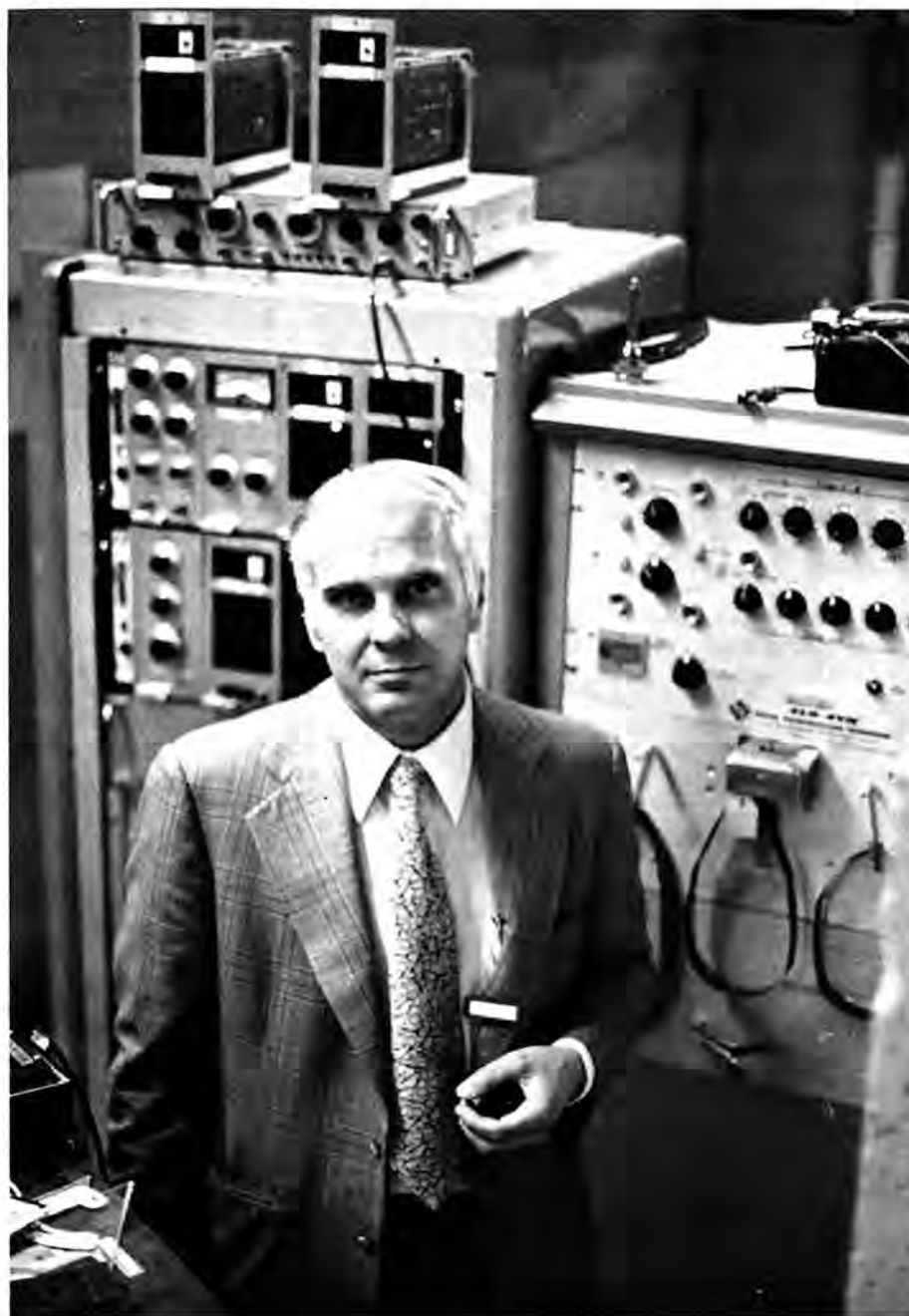
Government agencies these days ask the what-good-is-it question too often of the research community, Dr. Werner thinks. In striving for efficient use of the research dollar, government has become too mission-oriented—the result is less or no funding for some areas of basic research. "Some redundancy in research is essential," he insists. "Different people working in the same area will discover different things—or equally important, confirm each other's findings."

"But if government insists by clutching the pursestrings that all research should be directed toward certain well-defined goals—what happens if the goals are wrong? Or if another goal is potentially more important? Or if an accidental finding, important in itself, must be ignored because it will not lead toward the defined goal?"

"Congress wants to shorten the time between discovery and application—get the baby on its feet as soon as possible—which is fine if you can do it," he says. But that system ignores a lot of uncontrollable variables.

Like people, for instance. "The important things a researcher does aren't done alone. . . . It depends on who you're around," Dr. Werner says. From a colleague at one particular juncture in Dr. Werner's work was learned the importance of theory . . . "where you need it and where you don't. A rule I follow closely: If you can do anything to eliminate theory, do it. That gets you closer to the truth. Ninety per cent of theory is wrong but nevertheless very important because theory points direction."

The child is father of the man . . . who knows which tender, young scientific postulate newly removed from the realm of theory, will some day become the cornerstone upon which is built a civilization?



# THIS & THAT, HERE & THERE

## Lectures

**Amory B. Lovins:** "Soft Energy Paths"—7:30 p.m., Oct. 9; Pierson Hall, UMKC.

**Jay Gates:** "Gianlorenzo Bernini and the Italian Baroque"—8 p.m., Oct. 11; St. Louis Art Museum.

**Chuh Mei:** "Finite Element Nonlinear Structural Vibration Analysis"—4 p.m., Oct. 12; 202 Old Metallurgy Bldg., UMR.

**Sam Ervin** (R.F.K. Memorial Symposium)—Oct. 12; Pierson Hall, UMKC.

**Mort Sahl** (R.F.K. Memorial Symposium)—Oct. 15; Pierson Hall, UMKC.

**Richard Hocks:** "Dickinson and James: The Morphology of the Spectre in American Literature"—8 p.m., Oct. 17; Small Ballroom, Memorial Union, UMC.

**William Colby** (R.F.K. Memorial Symposium)—Oct. 18; Pierson Hall, UMKC.

**Harry Reems** (R.F.K. Memorial Symposium)—Oct. 20; Pierson Hall, UMKC.

## JOBS

The following administrative, professional and academic vacancies were listed with *Spectrum* as of Sept. 28:

UMC: Archaeologist (2); asst. director, personnel services (UMca); asst. manager, training program development; coordinator, career planning/placement; counseling psychologist; director, printing services (UMca); fiscal analyst; food service supervisor II; group leader (2); health physicist; research specialist; sr. research chemist; sr. systems analyst; sr. systems programmer; sr. systems programmer/analyst; staff nurse; supervisor, personnel records (UMca); systems analyst; training associate.

UMC Med Center: Chief computer programmer; chief pharmacist; computer project manager; head nurse (3); nurse practitioner (4); sr. systems analyst; staff nurse (26).

UMKC: Manager, development funds.

• UMR: Food service supervisor (2); manager, music programming, radio; lecturer, engineering technology, mechanical & aerospace engineering.

UMSL: Announcer; asst. dean, student affairs; continuing education coordinator; executive staff assistant II; information specialist.

**Dick Gregory** (R.F.K. Memorial Symposium)—Oct. 24; Pierson Hall, UMKC.

**Keith Stroup** (R.F.K. Memorial Symposium)—Oct. 26; Pierson Hall, UMKC.

**Alan Paton**—11 a.m., Oct. 26; Graham Chapel, Wash. Univ., St. Louis.

**Rolf Fjelde:** "Symposium on Henrik Ibsen: Prophet of Modern Liberation"—3:40 p.m., Oct. 27; 210 Gen. Classroom Bldg., UMC.

## Theater

**Susannah** (Kansas City Lyric Opera)—Oct. 7; Lyric Theater, 11th & Central, Kansas City.

**A Man for All Seasons** (Performing Arts Area Production)—Oct. 7-9; Edison Theatre, Wash. Univ., St. Louis.

**The Marriage of Figaro** (Kansas City Lyric Opera)—Oct. 8, 12, 14, 18 & 20; Lyric Theater, 11th & Central, Kansas City.

**Tales of Hoffmann** (Kansas City Lyric Opera)—Oct. 11, 13, 15, 19 & 21; Lyric Theater, 11th & Central, Kansas City.

**The Happy Haven**—Oct. 12-15; Studio Theatre, Gentry Hall, UMC.

**The Lady from the Sea**—Oct. 26-30; University Theatre, UMC.

**H.M.S. Pinafore** (University Opera Theatre)—8:15 p.m., Nov. 3-5; Hall Theatre, Columbia.

## Exhibitions

**Deborah Remington:** paintings and prints—through Oct. 21; Fine Arts Gallery, UMKC.

**Six Missouri Artists:** paintings and drawings—Oct. 23-Nov. 18; Fine Arts Gallery, UMKC.

**"300 Years of Netsuke"**—through Nov. 6; Nelson Gallery, Kansas City.

## Meetings

**"Dialogue on Energy Strategy"** (workshop conducted by Amory B. Lovins)—1:30-4:30 p.m., Oct. 8; Midwest Research Institute, Kansas City. (For reservations call Delores Berry, 816/276-2211.)

**Symposium on the Potential Applications of Small-Angle X-Ray and Neutron Scattering to Systems of Biological Importance**—Oct. 10, 13 & 14; Physics Building, UMC. Further info. may be obtained from Paul W. Schmidt, UMC physics dept. (office phone: 314/882-8241; home: 442-3606), or Camillo A. Ghiron, UMC biochemistry dept. (office: 882-7607; home: 445-1475).

**UMR-DNR Conference on Energy**—Oct. 11-13; University Center, UMR. Technical info.: J. Derald Morgan, conference director, dept of elec. engr., UMR, Rolla 65401. Registration: Norma Fleming, conference coordinator, extension div., UMR, Rolla 65401.

**Seminar on the Justice Model**—Oct. 19-21; Marriott Hotel, St. Louis (Further information may be obtained from Dorothy A. Jones, Continuing Education-Extension, 8001 Natural Bridge Rd., UMSL, St. Louis 63121; or by calling 314/453-5591.)

## Concerts

**Missouri Woodwind Quintet**—8:15 p.m., Oct. 7; Recital Hall, Fine Arts Building, UMC.

**St. Louis Symphony Orchestra** (Jerzy Semkow, conductor; Ruth Laredo, piano)—1:30 p.m., Oct. 7; 8:30 p.m., Oct. 8; Powell Symphony Hall, St. Louis.

**St. Louis Symphony Orchestra** (Jerzy Semkow, conductor; Takaaki Sugitani, violin; Yuan Tung, cello; Barbara Herr, oboe; Robert Mottl, bassoon)—8:30 p.m., Oct. 13 & 15; Powell Symphony Hall, St. Louis.

**Esterhazy Quartet**—8:15 p.m., Oct. 14; Recital Hall, Fine Arts Building, UMC.

**Virginia Pyle** (soprano)—8:15 p.m., Oct. 17; Recital Hall, Fine Arts Building, UMC.

**James Dutton Percussion Orchestra**—8 p.m., Oct. 18; Centennial Hall, UMR.

**Santiago Rodriguez** (piano)—3:15 p.m., Oct. 23; Recital Hall, Fine Arts Building, UMC.

**George DeFoe** (trombone)—8:15 p.m., Oct. 24; Recital Hall, Fine Arts Building, UMC.

**Kansas City Philharmonic** (Schlomo Mintz, violin)—8 p.m., Oct. 25; 7:30 p.m., Oct. 26; Music Hall, Kansas City.

**Volker String Quartet**—8:15 p.m., Oct. 22; All Souls Unitarian Church, 4500 Warwick, Kansas City.

**Beaux Arts Trio**—8:15 p.m., Oct. 27; Recital Hall, Fine Arts Building, UMC.

**St. Louis Symphony Orchestra** (Jerzy Semkow, conductor; Szymon Goldberg, violin; Zara Nelsova, cello; Walter Klien piano; St. Louis Symphony Chorus)—8:30 p.m., Oct. 27 & 29; Powell Symphony Hall, St. Louis.

**Philharmonia Hungarica** (Balint Vazsonyi, piano)—8:15 p.m., Oct. 29; Jesse Aud., UMC.

**Deller Consort**—8 p.m., Oct. 30; Edison Theatre, Wash. Univ., St. Louis.

**Raymond Herbert** (piano)—8:15 p.m., Oct. 31; Recital Hall, Fine Arts Building, UMC.

## SPECTRUM

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