

Olson establishes funding level, sets deadlines for Weldon Spring projects

Deadlines for proposals eligible for funding through the recently established Weldon Spring fund have been announced by UM President James C. Olson.

Dr. Olson also set the level of support for 1980-81 at \$500,000, which represents earnings from the fund derived from the sale of University property in St. Charles County to the Missouri Department of Conservation last year. An initial payment of \$6.2 million was received by the University last July, and the final and equal amount is due next July. The investment income will be used to support scholarly, artistic and creative instruction-related faculty activities.

Under guidelines of the Weldon Spring Task Force approved earlier, proposals are to be solicited by each campus chancellor. A Presidential Research Award is also authorized, as well as a system proposal permitting multi-campus and extension recommendations.

Proposals submitted by the campuses are to be reviewed by a campus committee. They must be forwarded by the respective chancellor to the UM system vice president for academic affairs, Melvin D. George, no later than May 1.

System proposals must have the signatures of campus chancellors

involved and must be received in the office of academic affairs, 309 University Hall, no later than April 11. These proposals will be reviewed by the Graduate Deans' Group.

Each chancellor also has been invited to nominate a person to be considered for the \$10,000 Presidential Research Award. Dr. Olson said the nomination "should focus on a particular accomplishment or corpus of work on which an evaluation is conducted" and "should include evidence for continued activity that would be enhanced by the award."

These Presidential Research Award nominations are also due in the office of academic affairs by April 11.

Each campus is developing procedures for the campus submissions and nominations for the award. Further information about system nominations may be obtained from the office of academic affairs.

Final recommendations to President Olson will come from a system committee consisting largely of faculty appointed by the president from recommendations submitted by the chancellors.

Dr. Olson said the Weldon Spring fund "represents an opportunity to advance faculty research and creativity on a scale never before possible at the University of Missouri."

National media focus on UM activities in research, other accomplishments

The expertise of UM professors and students has attracted considerable national attention over the past few months. Highlights follow:

- *Saturday Evening Post*, March 1, 1980, uses UMC's and the University of Michigan's archaeological project at Tel Anafa in Israel to explain the purpose of archaeological work and the methods used to accomplish it.

- *Ladies' Home Journal*, March 1980, mentions that research at UMC and another institution shows no correlation between chocolate consumption and acne.

- *Savvy Magazine*, March 1980, notes UMC's Mustafa Fahim and his work with ultrasound as an effective but reversible male contraceptive. The article in which the notice appears is a report on the state of research in male contraception.

- *Washington Post*, Feb. 17, 1980, mentions an \$830,000 Department of Energy grant received by UM to study the extraction of gases from wood.

- *Washington Post*, Jan. 28, 1980, examines the value of educational institutions' having lobbyists in the capital. It quotes UM's Washington lobbyist Sandra Moody.

- *Wall Street Journal*, Jan. 14, 1980, has an article on sports as a political football. It uses information from an interview with UMC Chancellor Uehling on Title IX.

- *AP* wire story, Jan. 20, 1980, covers the development of CAPD at UMC Hospital.

- *Black Collegian* magazine, December/January issue, quotes Floyd Harris, director of the minority engineering program at UMR; Rex Waid, his UMC counterpart; and a UMR student, on opportunities in engineering for minorities.

- *Wall Street Journal*, Dec. 24, 1979, discusses UMC's Victor Lambeth and his patent on artificial soil.

- *U.S. News and World Report*, Dec. 17, 1979, features UMC's Ernest Sears in a corporate ad from Martin Marietta.

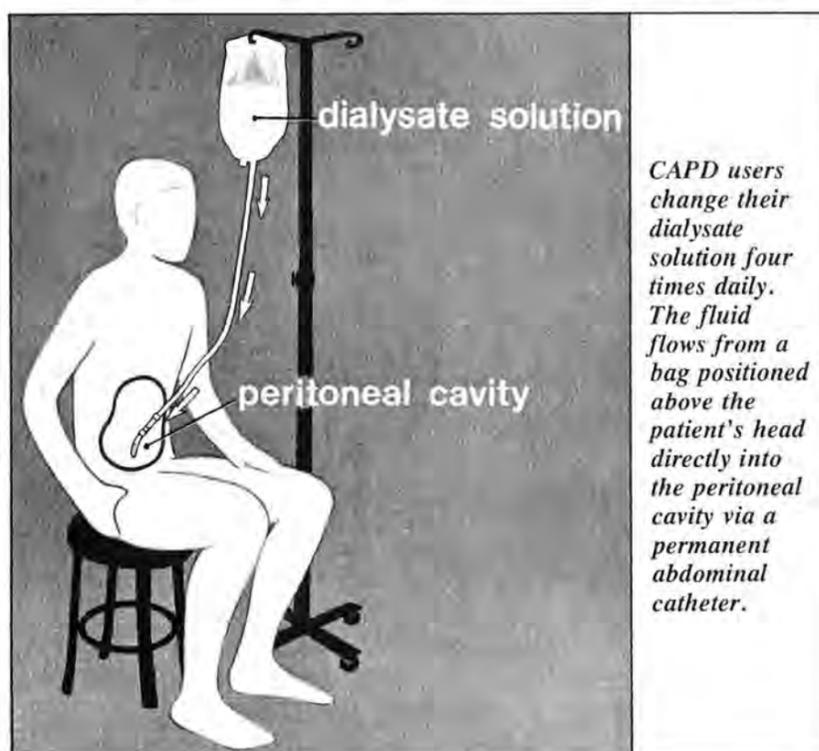
- *Christian Science Monitor*, Nov. 28, 1979, uses UMC's Arni Dunathan as the primary source for "Rural Schools Wrestle with Growing Teacher Shortage."

- *Wall Street Journal*, Nov. 27, 1979, features UMC's Super chicken, in a byline story by Steve Weiner. (See *Spectrum*, Dec. 6, 1979.)

- *Paul Harvey News*, Nov. 27, 1979, also mentions Superchicken.

- *Chronicle of Higher Education*, Nov. 26, 1979, article "Colleges Seek Ways to Regulate Recruiting Without Curing Autonomy," quotes UMC Chancellor Barbara Uehling.

- UMSL chemist Eric Block's onion research story continues to get excellent play. Recent publications include *Popular Science*, *New York Times*, *St. Louis Globe-Democrat*, *Los Angeles Times*, *Des Moines Register*, *Science News*.



CAPD users change their dialysate solution four times daily. The fluid flows from a bag positioned above the patient's head directly into the peritoneal cavity via a permanent abdominal catheter.

CAPD frees kidney patients from machine

The next best thing to a new kidney is the new kidney treatment that is helping end-stage renal patients in this country.

The four-year-old procedure—abbreviated as CAPD—was pioneered by UMC kidney specialist Karl Nolph, in collaboration with two doctors from Texas, where the technique actually originated.

"It doesn't require complicated machinery, electricity, anticoagulants or access to blood vessels, and it works all the time, like real kidneys do," Dr. Nolph says.

Continuous ambulatory peritoneal dialysis' simplicity is its greatest asset.

A dialysate solution of sterile salt contained in a plastic bag is connected to the patient's abdominal cavity via a tube leading through a permanent opening made just below the navel. Wastes are filtered into it through the peritoneal, or abdominal, membrane.

Except for four bag changes a day, the patient is totally mobile, wearing the folded bag around the waist.

In response to the innovative work, a three-year grant from the

National Institutes of Health will allow UMC to become the lead center in conducting a cooperative study on the effects of continuous ambulatory peritoneal dialysis.

UMC will train and coordinate physicians and nurses in the use of CAPD at multiple medical centers throughout the country. Recent conversations with NIH indicate that UMC will also play a major role in collecting data from all centers using CAPD in the U.S.

The University will continue to do follow-up research on the large number of patients expected to adopt the alternative to center hemodialysis, many of whom will probably be less critically ill than the patients who have used the treatment to date.

Dr. Nolph, whose revolutionary procedure has already gained international attention, sees considerable financial benefits resulting from CAPD as well as the convenience it affords. The total cost to a CAPD patient is only about \$14,000 a year, as compared to \$25,000-30,000 a year with center hemodialysis.

At Sinclair Farm, agricultural efforts have been replaced by investigations into cancer, aging and other human health problems.

Unique UM system facility scene of promising research

Human melanoma, a disease second only to lung cancer in increasing occurrence and mortality among North Americans, is being attacked by UM scientists through work conducted at Sinclair Comparative Medicine Research Farm.

The UM system facility, located south of Columbia, was established so that scientists might engage in multidisciplinary research that focuses on chronic disease and aging.

True to its name, the farm uses animals as models, and has developed the use of miniature swine for melanoma research.

Robert Hook, the microbiologist who heads the Sinclair melanoma studies, describes melanoma as a form of skin cancer brought on by some malfunction of the cells that produce melanin, the brownish pigment found in skin, hair and animal tissues.

In human beings, melanomas often start from the site of moles and are particularly dangerous because, left unchecked, they spread quickly into the blood stream and other parts of the body.

Dr. Hook and his colleagues at Sinclair have isolated the same potential phenomenon in a strain of swine that can somehow control their tumor growth before it becomes life-threatening.

Robert Hook, foreground, with graduate student Carl Hamby



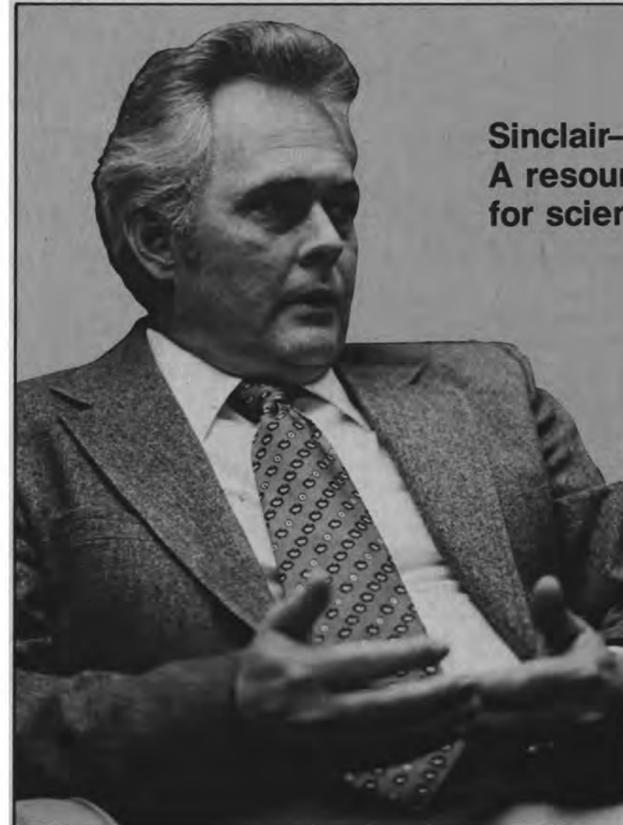
Now they are breeding those swine and conducting various studies in an effort to understand the mechanism that reverses the growth of the cancer cells. If they are successful, they would then look at a vaccine or some other means of transferring that mechanism to human beings.

The strain of swine that exhibits such tumor control is a miniature pig weighing only about 200 pounds when full grown, as compared to domestic swine, which weigh 700-1000 pounds when full grown.

Developed by the Hormel Institute at the University of Minnesota, the pigs were brought to Sinclair in 1967, to be developed as a model for human-health-related research. Since then, their research value has been proven, and they have been sold by Sinclair as viable research models to over 50 institutions ranging from the Merck, Sharp and Dohme pharmaceutical firm to the Clinical Research Institute of Montreal.

The discovery of the swines' melanoma came as something of a surprise. Through working with the pigs over a period of time, researchers diagnosed a melanoma on a week-old pig. Examination of the herd revealed several more pigs with the cancer, and these formed the nucleus of the

Charles Middleton



Sinclair— A resource for scientists

To the people at Sinclair, the name "farm" is something of a misnomer. For while the facility houses chickens, pigs, cattle and other farm animals, it does so strictly for human-health related research purposes.

The rationale behind the "farm" nomenclature stems from the will of Charles and Josie Sinclair, who donated the 563-acre property to the University in 1964 with the stipulation that it be called the Charles and Josie Sinclair Farm.

The original farm house and one or two outbuildings, which came with the land, are only a small part of the 30 or so buildings the property now boasts.

Facilities are available to faculty and students having need of them. In fact, other institutions such as Ellis Fischel State Cancer Hospital and Cancer Research Center of Columbia, and the Veterans' Administration Hospital and National Institutes of Health of Washington, D.C., and other universities have also taken advantage of the farm's services, as well as some 70 individual investigators and as many graduate students from UM.

The director of this multi-faceted operation is a veterinarian by the name of Charles Middleton, who came to the post in 1966 from the Department of Comparative Medicine of The Bowman Gray School of Medicine in Winston-Salem, North Carolina. He is professor of pathology, College of Veterinary Medicine and School of Medicine.

Known to his colleagues as Bud, Dr. Middleton makes no bones about

breeding herd of melanoma pigs.

The pigs' tumors were assumed to be benign until extensive testing proved them malignant at one stage in the animals' life cycle, and completely non-existent at a later stage. As if that were not enough, the naturally dark swine gradually turn white as they

"cure themselves," giving researchers every opportunity to monitor the melanoma's remissions.

This discovery represented an important breakthrough for cancer researchers, who up until that time had had to conduct what melanoma research they did on animals as small



Left to right, Ronald Oxenhandler of Ellis Fischel, graduate student Connie Cantrell, Robert Hook, and Linda Thompson, animal health technicians, with three-week-old miniature swine.

as swordtail fish and hamsters. Both these species develop the cancers infrequently and irregularly. Furthermore, their nutritional, immunological and metabolic responses bear little resemblance to human beings.

Swine, on the other hand, not only have many physiological similarities to man, but also have a comparatively long life span—up to 20 years—which allows plenty of time for follow-up studies.

Some of those studies are being conducted under the direction of Jane Berkelhammer, UMC assistant professor of medicine working part-time at Sinclair. She and several graduate students monitor tissue samples that have been surgically removed from the swine malignancies.

If Dr. Berkelhammer can uncover some pattern between the progression-regression of the melanoma and the pigmentation changes in the swine, she may be able to deduce how the animals' immunological systems function or malfunction to inhibit or permit the cancerous growth.

Dr. Hook and his colleagues are looking at possible tumor control through the bloodstream of the swine. They separate blood taken from the swine malignancies into plasma (fluid) and cells.

The plasma they examine for antibodies that could possibly be inhibiting the growth of cancer. They look at the cells in the hope of finding some that are capable of killing tumor-cells in human beings without also destroying those human cells that function normally.

the fact that ever since he has been at Sinclair, he has helped the farm grow by doing everything from construction work to teaching and research.

Expansion at the farm can be



Charles Sinclair, above; Josie Sinclair right

accomplished more easily than on campus, partially because of the metal and other rapid-construction types of buildings that are being erected there. In these days of shrinking dollars, Dr. Middleton thinks the University is fortunate to be able to take advantage of this situation on a land mass so close to the center of campus.

For all the pride he takes in the unique farm's physical plant, however, Dr. Middleton never loses sight of the research mission with which the facility is charged. And despite the grants and other funding that Sinclair now

The Sinclair swine serve in capacities other than melanoma subjects. James Dexter, UMC associate professor of neurology, monitors several dozen of the mammals for possible clues to the control of conditions usually associated with excessive alcohol intake in human beings.

He and Myron Tumbleson, UMC associate professor of veterinary anatomy and physiology, make a liquid mixture of 10 percent beer available to the hogs, along with a properly balanced diet of proteins, vitamins and minerals. Then they watch the animals' consumption patterns, which by now have been shown to be quite similar to those of human beings.

Pregnant pigs fed alcohol have offspring with fetal alcohol syndrome similar to that seen in human beings.

The results of the animal modeling raise whole batteries of questions about human alcoholism. Trying to determine which characteristics of the condition can be attributed to the alcohol itself, and which to the nutritional deficiencies that seem to parallel the drinking, even in the midst of plenty, for example, is still in the forefront of the investigators' efforts.

Neurochemistry studies of Drs. Albert Sun and Grace Sun, both research professors at the farm, focus on subcellular changes in brain tissue in rats receiving alcohol. Their work involves studying changes that cannot be seen with the microscope, but can only be determined by neurochemical means. They are also studying the neurochemical changes that occur in aging.



Above, James Dexter with beer mixture, swine



Below, Albert and Grace Sun
Bottom, Jane Berkelhammer working under sterile hood



Elite quarters open

New laboratory animal quarters providing the ultimate in environmental control have been opened at UMC's College of Veterinary Medicine. The facilities were built to satisfy federal standards for animals, at a cost of \$238,000.

Researchers can control animals' environment better in the new facilities than they can in any other UMC laboratories. Temperatures can be regulated in each room within a range of one degree centigrade, and filtration systems can remove particles as fine as some viruses in special medium confinement rooms.

A special feature of these rooms is the use of negative air pressure systems that prevent room air from escaping when a door is opened. The systems allow researchers to investigate air-borne diseases.

Research animals will be moved from other locations on campus. Staff at the veterinary college expect all rooms to be in use within a month.

Journal record noteworthy

UMKC's division of reading and special education ranks second nationwide in the number of articles published in two reading research journals. The reading division at the University of Minnesota is in first place.

The UMKC division is seventh in the number of articles published in seven leading reading journals used by teachers and practitioners.

Third-world nations aided

To the undernourished inhabitants of many third-world nations, sheep and goats may mean the difference between life and death, according to some UMC professors.

Michael Nolan, associate professor of rural sociology, is one of the participants in a new agricultural program, sponsored by the Agency for International Development (AID), which is encouraging production of sheep and goats in Peru, Kenya, Brazil, Indonesia and possibly Morocco.

According to Dr. Nolan, the idea

underlying the program is to apply American expertise to the problems of third-world peasants, many of whom exist barely above the starvation level. Small ruminants such as sheep are the poor man's animals because they can survive on diets that most larger livestock cannot.

The AID program will provide UMC with approximately \$175,000 in grant money each year for five years. In the long run it may benefit the sheep industry in Missouri as well.

Kaiser funds endowment

An endowment fund which will support scholarships for deserving students in engineering and related fields has been established at UMR by Kaiser Aluminum and Chemical Corp.

Kaiser recently contributed \$90,000 toward the endowment, which is intended to total \$150,000 by 1983. Scholarships will be provided from interest earned.

The company has had a scholarship program on the Rolla campus for 20 years and currently awards UMR scholarships totaling \$8,000 annually. The new program will place special emphasis on scholarships and fellowships for minority students and women.

Med school draws women

"Word has gotten out that qualified women have a good chance of being admitted to UMKC's School of Medicine," Virginia Calkins, UMKC assistant dean of students, said in a recent interview. And statistics seem to substantiate that statement.

Last fall, 52 percent of the entering UMKC medical school class were women, twice the national average. In addition women make up 44 percent of the entire medical school student body, compared to 23 percent nationally.

One important factor in the phenomenon seems to be UMKC's unique program. While traditional schools require a bachelor's degree as a prerequisite for admittance, UMKC takes students directly from high

school, offering them a combined B.A. and M.D. degree after six years. Total study time is not reduced, since the school operates on a 12-month calendar.

The UMKC School of Medicine has just been granted full accreditation by the Association of American Medical Colleges. Because of its innovative program, it had been on probation for three and one-half years.

UMKC makes no special effort to recruit female medical students. Both women and men are encouraged to apply and must go through the same screening processes, which involve both academic screening and interviews with physicians and non-physicians.

"We have found that our female applicants tend to interview better than our male applicants," Ms. Calkins said. "Women straight out of high school are more mature, both physically and socially, and more articulate than men their age."

People

Robert H. Lee, health sciences writer for the University of Minnesota news service, will join the UMC staff April 1 as director of health sciences relations.

Mr. Lee will direct the dissemination of information to the news media, supervise publications and handle general public relations activities for the School of Medicine, School of Nursing, and University Hospital and Clinics.

Hugh Denney, UMC professor of regional and community affairs, was named professor emeritus, effective Jan. 15. The author of the 1972 volume *Decongesting Metropolitan America, It Can be Done!* has retired from UMC, and will assume duties with Black and Veatch International Engineers to establish an international rural planning and development division.

Susan Flowers has been appointed director of the Office of Public Information at UMSL. She assumed her duties March 17.

She has served as director of public relations for the Missouri Botanical Garden since 1978, and was

responsible for the international attention generated by the opening of the unique Japanese garden there.

From 1973 to 1978 she worked in state promotion as part of the Missouri Division of Tourism. She was educated at Tarkio College and Missouri Southern College.

Eugene E. Eubanks has been named dean of the School of Education at UMKC. A native of Meadville, Pa., he is the first black academic dean in the UM system.

Dr. Eubanks came to UMKC in 1974 as assistant dean and associate professor in the school. Before that time he was assistant professor of education administration at the University of Delaware.

Last spring he was named a 1979-80 American Council on Education Fellow in Academic Administration. He was one of only 35 fellows selected from the 140 nominated by presidents and chancellors of institutions of higher education.

Linda Shipley, UMC associate professor of journalism, has been appointed chairperson of the school of journalism's advertising department. She succeeds Frank Dobyns, who is on a sabbatical leave.

Lee Forker is the new chief of the division of gastroenterology and liver disease at the UMC School of Medicine. He comes to the post from the University of Iowa Hospital and Clinics, where he was chief of the liver service.

"The American Farm" by **Harold F. Breimyer**, Perry Foundation Professor of Agricultural Economics at UMC, appears in the 1980 Year Book of *Collier's Encyclopedia*.

Harry Sauer, UMR professor of mechanical and aerospace engineering, is one of 15 new fellows of the American Society of Heating, Refrigerating and Air-Conditioning Engineers. That organization has 38,000 members from the U.S. and 114 from other countries.

Jobs

The following administrative, professional and academic vacancies were listed with *Spectrum* as of March 13. Those interested in a position should contact the appropriate academic department or personnel office.

UMC: Accountant; asst. director, alumni activities; asst. vice chancellor, development; computer programmer/analyst II; director, news services; student services coordinator/counselor-arts & crafts; supervisor, broadcast engineering, KOMU-TV; systems analyst; **UMca:** accountant; chemist; computer programmer/analyst II; computer project manager (2); directors, business

operations, facility planning & development; nurse practitioner; research scientist; research specialist (3); scientific programmer/analyst II (2); senior systems analyst (2); senior systems programmer;

UMC Hospital: Asst. director, nursing service; asst. hospital director, support services; computer programmer II; computer programmer/analyst II; head nurse (6); health facilities planner; management analyst; managers, nursing office, safety and security, programming; nurse practitioner (5); personnel associate; pharmacist (3); registered medical technologist (2); senior management engineer; senior methods & procedures analyst (3);

senior computer programmer/analyst; senior systems analyst (3); senior systems programmer;

UMR: Superintendent, power plant; counseling psychologist; senior information specialist; senior research specialist; postdoctoral fellow, senior research aide, materials research; instructor, physical education; asst. professor, mechanical or aerospace engineering;

UMKC: Manuscript specialist; **UMSL:** Instructors, Spanish, physics, English, special education; professors, biology, economics (2), psychology, social work (2), education; reference librarian (2).

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