



VETERINARY MEDICAL REVIEW

School of Veterinary Medicine
University of Missouri-Columbia

October 1, 1973 No. 66

Dr. Brown Directs Student Affairs

Dr. Esther Brown, professor of veterinary anatomy, has been appointed Director of Student Affairs (Acting) of the School of Veterinary Medicine. She will devote half-time to her new duties, which will involve activities related to the professional veterinary medical students, and will continue to teach veterinary histology.

Dr. Brown has been at the University of Missouri-Columbia since 1970. She was Director of the School of Medical Technology at Michigan State University from 1960-70. The School, which had an enrollment of over 300 students, was at that time a division of the MSU College of Veterinary Medicine.

Dr. Brown received a B.S., an M.S. in Veterinary Anatomy, and a Ph.D. in Veterinary Pathology from Michigan State University. She has co-authored two photographic atlases in histology and a chapter in each of two veterinary texts. She is presently co-editing a veterinary histology text which will be published soon.

Dr. Loan Elected To Microbiology Post

Dr. Raymond W. Loan, professor and chairman of veterinary microbiology, has been elected vice-chairman of the American College of Veterinary Microbiologists for 1973-74 and a member of the Board of Governors for 1973-76.

The American College of Veterinary Microbiology is the certifying agency of the American Veterinary Medical Association for veterinarians with special competency in the field of veterinary



Gaines Award Presented To Dr. Jensen at AVMA

Dr. Harlan E. Jensen, right, associate professor of veterinary medicine and surgery, received the 1973 Gaines Award at the annual meeting of the American Veterinary Medical Association recently in Philadelphia. A graduate of Iowa State University's School of Veterinary Medicine, Dr. Jensen received his Ph.D. in Veterinary Pathology at the University of Missouri-Columbia in 1971. He was previously in private practice for more than 20 years. Walter N. Chimel, director of the Gaines Dog Research Center, presented the award which is made annually to the veterinarian selected by the AVMA for contributing to the advancement of small animal medicine and surgery through work in clinical research or the basic sciences during the preceding five years. Dr. Jensen's work has been primarily in the area of ophthalmology and he is presently serving as President of the American College of Veterinary Ophthalmology.

microbiology.

Dr. Loan has been at the University of Missouri-Columbia since 1961. He was named chairman of the department in

1969. Dr. Loan received a B.S. and a D.V.M. from Washington State University and an M.S. and Ph.D. from Purdue University.

Dr. Adldinger:

Study of Herpesviruses May Help Find Answers for Cancer

Cancer is still one of the unsolved problems of man and animals. We are, however, slowly getting closer to the causes and cures for some forms of this disease. One area in which recent findings have brought us closer is in the herpesviruses.

Dr. Hans K. Adldinger, associate professor of veterinary microbiology, University of Missouri-Columbia, has been working with the herpesviruses for some time.

There are a number of herpesviruses in man and animals, he says, some of them have recently been related to neoplastic disease. All mammals and some lower vertebrates probably are natural hosts to at least one type of herpesvirus. In the natural host, the herpesviruses normally produce only mild disease and may even go undetected.

"However, they seem capable of life-long persistence in the host organism in a latent form and can cause recurrent disease upon provocation by various kinds of stress," says Dr. Adldinger. "It appears that after the primary infection there is a delicate balance between the host's immune system and the virus. If stress, weakening the immunity, can be avoided, very little virus replication—only in a few cells of the body at a time—is tolerated, which in turn provides a continuous immunogenic stimulus."

In hosts other than the natural one, herpesviruses are commonly virulent. For instance, pseudorabies virus infection in the adult pig (natural host) usually results in a mild respiratory disease, whereas cattle infected by this agent invariably die. In another example, apparently healthy Rhesus monkeys may carry the B-virus, another member of the group. If this virus is transmitted to man, as has been reported in connection with monkey bites, a fatal meningoencephalomyelitis develops.

Some herpesviruses are easily isolated from the infected host and also can be propagated in cell cultures in large quantities. Because of this, these viruses and the diseases they cause, have been fairly well studied. Typical examples within this so-called A-subgroup are the herpes simplex virus causing "cold sores" and "fever blisters" in man, the pseudo-rabies virus of pigs, and the infectious bovine rhinotracheitis virus. The host cells infected with those viruses are usually killed and release large amounts of progeny virus.

Other herpesviruses of man and animals are difficult to isolate and grow in cell cultures. Little progeny virus is made in the infected cells and even less is released from the cells which severely hampers the study of those viruses. Most cells infected with those herpesviruses which form a so-called B-subgroup are also killed in the process of producing virus, but some cells may not produce any virus at all after infection and survive. They may, however, harbor the genome of the herpesvirus and it is those cells that are suspected to turn into tumor cells.

The reason why herpesviruses do not always kill the cells they infect but sometimes convert them into tumor cells is not known, Dr. Adldinger says. Several human neoplasms are presently suspected to be caused by herpesviruses. These include Burkitt's lymphoma, Nasopharyngeal Carcinoma, Hodgkin's Disease and Cervical Carcinoma.

Because of the difficulty of studying these diseases in man where experimentation is impossible, animal models must be used. Dr. Adldinger believes that veterinarians are best qualified to work with animal tumor models and can make important contributions to comparative cancer research. Several good animal



models of herpesvirus-induced neoplastic diseases have been established in the past few years. Marek's disease in chickens and a malignant lymphoma in monkeys have been extensively studied and confirmed. Others which have been strongly implicated include the Lucke Frog Carcinoma and lymphomas in rabbits and guinea pigs.

Dr. Adldinger thinks the answer to cancer may well be found in the field of immunology and that the study of the herpesviruses has already been shown to be most promising. He has seen major progress in one area of herpesvirus research that has been his primary interest for several years, Marek's disease. This is a malignant lymphoproliferation in chickens and was the first neoplastic disease to be definitely attributed to a herpesvirus. It also was the first tumor for which a successful vaccine was developed and proven effective. What once was a 150 million dollar a year problem to the poultry industry has been greatly reduced in the few years the vaccine has been used.

Dr. Adldinger began his study of the herpesviruses while working on a Ph.D. at Cornell University and later at the Albert Einstein Medical Center in Philadelphia. He has continued this work since joining the faculty of the School of Veterinary Medi-

(Continued on page 4)

Dr. Brown Elected To AAVMC Office

Dr. Roger Brown, professor of veterinary medicine and surgery, is president-elect of the American Association of Veterinary Medical Colleges for 1973-74. He will serve with Dr. W.W. Armistead, president; and Dr. Jack Judy, secretary-treasurer.

The organization expanded its membership at the AVMA meeting in Philadelphia this year after a year of intensive study by several committees. The AAVMC was originally an organization of North American Veterinary Schools represented only by their respective deans. The expansion and reorganization includes an elected faculty member from each veterinary college as well as institutional memberships of Veterinary Science Departments representing those states without a veterinary college. The format of an assembly, three councils and membership-at-large was accepted and is now functional.

The purpose of the organization is to advance veterinary medical education. The program for the next annual meeting to be held in Summer 1974 in Denver will center on "Admission Policies and Procedures."

Dr. Brown has been at the University of Missouri-Columbia since 1969. He was associate professor of medicine and surgery and Director of Educational Resources until he was named chairman and professor of medicine and surgery in fall 1970. He returned to teaching in small animal surgery in summer of 1972.

Public Health Group Elects Dr. McCulloch

Dr. William F. McCulloch, professor of veterinary microbiology and director of continuing education, was elected to a two-year term as President of the Association of Teachers of Veterinary Public Health and Preventive Medicine in the U.S. and Canada at a recent AVMA meeting in Philadelphia.

The purpose of the organization is to further the teaching and research in veterinary public health and preventive medicine in schools and colleges of veterinary medicine in the U.S. and Canada.

Dr. Solorzano Receives Award from Diamond Labs

An award of \$1,000 was presented to Dr. Robert F. Solorzano, School of Veterinary Medicine at the University of Missouri-Columbia, by Diamond Laboratories for his contributions in the field of swine research.

The award is to be used to further his research in swine diseases. It was presented to Dr. Solorzano by Mr. Norm Strathman and Mr. Leo Gieselman, sales representatives for Diamond Labs, Des Moines, Iowa.

Dr. Solorzano is an associate professor of veterinary microbiology in the diagnostic laboratory and has devoted a



Two Grants Received; Dr. Blenden Directs

Two research projects in the School of Veterinary Medicine have received renewal grants.

A study dealing with the "Ecological Effects of Antimicrobial Agents on Enteric Flora of Animals and Man" has been granted \$110,365 of continuation funds by the Food and Drug Administration. Dr. Donald C. Blenden, professor of veterinary microbiology and community health and medical practice, is supervising the study in cooperation with other investigators.

The study will continue the work of the past two years which has dealt with antibiotic levels in humans, the extent of cross-over of microorganisms and antibiotic resistance from animal to man and the pathways of crossover, the effect of high levels of resistant organisms in young swine and calves, the environmental pool of antibiotic resistant organisms, the non-medical uses of antibiotics in animal foods and the potential hazard to public health involved with the non-medical uses of antibiotics.

Also under the direction of Dr. Blenden is a study of "Early Biopsy Diagnosis of Rabies," which has received \$9,500 from the American Kennel Club. Researchers working on this project are trying to develop a technique which will permit a biopsy to be performed at the time a human is bitten which will reliably predict whether the animal is rabid. At the present this cannot be done until the animal is dead and the brain tissue is

major part of his research effort to the study of Transmissible Gastroenteritis Virus (TGE). Two areas of special interest have been in the development of improved methods for diagnosis of TGE and TGE in feeder pigs.

Other research efforts which Dr. Solorzano has conducted include other enteric diseases of swine and hog cholera.

Dr. Solorzano has been on the faculty since 1968. He received a B.S. from Georgetown University and an M.S. and Ph.D. from Pennsylvania State University.

analyzed. Early diagnoses would minimize the necessity of anti-rabies vaccinations in cases where an animal is later determined to not be rabid and reduce the anxiety of waiting to find out if it is or not.

Annual Conference
October 28-29
Don't Miss It!

Faculty Notes

Dr. Robert R. Paddleford, resident in veterinary medicine-surgery, presented "The Influence of Environment on Anesthetic Management" at the Midwest Interprofessional Seminar on Diseases Common to Animals and Man. The seminar was held at the University of Illinois, August 16-20.

Dr. P.E. Phillips, research associate in veterinary microbiology, presented "An Epidemiologic Investigation of Horse Deaths Near a Lead Smelter" at the Midwest Interprofessional Seminar. Drs. Phillips, C.R. Dorn and A.A. Case were co-authors of the paper.

Dr. A.W. Dobson, assistant professor of veterinary medicine-surgery, was in Warrensburg July 24 where he presented the program for Area Swine Day.

Dr. LeRoy D. Olson, associate professor of veterinary pathology, presented a paper entitled "Reservoirs for Fowl Cholera in Turkeys" at the 5th World Veterinary Poultry Association Congress. The meeting was held in Munich, Germany, Sept. 3-6.

Dr. L.A. Corwin, assistant professor of veterinary medicine and surgery, attended the annual meeting of the Nuclear Medicine Society and presented a scientific exhibition: "Relationship of Thyroid Function Tests in Hyperlipidemic Beagles." The Meeting was held in Miami Beach from June 12-15.

Dr. LeRoy D. Olson, associate professor of veterinary pathology, made three presentations at the George A. Young Conference on the Advances in Swine Repopulation July 23-24 in Lincoln, Neb. They were: "Rectal Stricture in Swine," "The Male Chauvinist Pig: His Role in Virus Induced Swine Infertility" and "The Role of the Feeder Pig in the Transmission of Transmissible Gastroenteritis."

Dr. Glenna Burton, assistant professor in veterinary microbiology, was in Aberystwyth, Wales July 11-23. She spoke to the summer conference of the Society for Applied Bacteriology on "The Establishment of Animal Origin *E. coli* and *in vivo* Transfer of Antibiotic Resistance in the Intestinal Tract of Man."

Dr. Emmett McCune, associate professor of microbiology-diagnostic lab, and Dr. LeRoy Olson, associate professor of pathology, have been named members of the Disease Control Committee of the Missouri Turkey Industries Association.

Herpesviruses Con't.

cine at the University of Missouri-Columbia in 1972. Dr. Adldinger believes that modern tumor virus research must be done concurrently at the cellular as well as the host organism levels. Consequently, one of his research efforts is to improve the techniques for the propagation of Marek's disease virus in order to obtain larger quantities for the study of the virus and its interactions with cells. This project is funded by the American Cancer Society through an institutional grant to the UMC School of Medicine. He is also working on the establishment of a continuous chicken cell culture which can serve in the production of Marek's disease virus in the laboratory. Researchers have not been able to maintain chicken cell cultures in a stage of continuing cell division although this is possible with cells from many other species. This project is funded by the Veterinary Medical School.

While significant by themselves, the results of these studies will facilitate further investigations into the disease at the host level leading to a better understanding of this naturally occurring virus-induced tumor. Marek's disease is a particularly useful model for the study of immunological aspects of cancer. For this reason and because it has some striking similarities to Burkitt's lymphoma in man, federal funding is presently sought for a study of the "Role of Cell-Mediated Immunity in Marek's Disease."

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