

Current Research Directions

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Research at the College of Veterinary Medicine continues to be well supported by public agencies, research organizations, and private industry. Such funding has allowed the College to continue its overall approach to improving preventative medicine.

Funding has been given obtained on academic interest (NSF; Natl. Science Foundation), public welfare (NIH; Natl. Inst. of Health, HHS/PHS; Health and Human Services/Public Health Services), agricultural needs (NPPC; Natl. Pork Producers Council, ILHAC; Iowa Livestock Health Advisory Council), or private investment (various pharmaceutical companies). Often researchers will coordinate their efforts with their counterparts in labs such as NADC (National Animal Disease Center) or USDA to find solutions to current crises.

According to Dr. Gary Osweiler, Interim Associate Dean for Research, the college's preventative medicine approach is helping to decrease the need for drugs and methods that encroach on food safety. Such research includes better diagnostic tests for diseases and new vaccines. One area in which this effort has been particularly strong is in "Immunity Enhancement". Iowa State established the Center for Immunity Enhancement in Domestic Animals (CIEDA) in 1987, which includes researchers from Iowa State, NADC, and NVSL (Natl. Veterinary Services Lab). The College is also part of a three member consortium with Kansas State University and the University of Arkansas, that is concerned with food safety.

Within the College, immune function and disease research is attacked at both the molecular and applied levels. The mechanisms of virus infection, such as pathogenesis, persistence, and virus-host interaction have been the focus of Dr. Susan Carpenter. Immunomodulation, which involves altering positive and negative effects of various factors on the immune system, is the focus of Dr.

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James Roth (Professor in charge of CIEDA). In addition to reaching a greater understanding of the mechanisms, work is being done to improve viral vaccines, such as Dr. Prem Paul's work with bovine and porcine rotaviruses, and Dr. Chris Minion's work with recombinant gene techniques.

Two other areas of special interest involve reproduction, especially that of agriculturally important species. Drs. Jeff Zimmerman and Prem Paul are each working on what was once termed "Mystery Swine Disease", now called Porcine Respiratory Reproductive Syndrome (PRRS, SIRS). They are both working toward isolating an individual agent of the syndrome.

Much work is also being done from the physiological perspective of veterinary medicine. Drs. Taylor and Pineda of the Dept. of Veterinary Physiology and Pharmacology (VPP) have been actively researching the areas of reproductive physiology and endocrinology, while Drs. Randic and Hsu (also of VPP) have been working to advance the area of neuroendocrine physiology.

This article has not attempted to cover all of the research currently undertaken at the College of Veterinary Medicine. However, with the ever increasing advancement of holistic and preventative medicine in humans, the research discussed here is finding new solutions strongly based in prevention and diagnosis, as well as treatment, which may lead to the veterinary practice of the future.



"Yentah"-- Merrill Guarneri