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## Bettina Wagner Named Zweig Professor



Dr. Bettina Wagner, assistant professor of immunology at the College of Veterinary Medicine, has been named the Harry M. Zweig Assistant Professor in Equine Health. The three-year term endowed position recognizes a junior faculty member who shows promise and productivity in the field of equine research.

Dr. Wagner's research focuses on equine immunology. She studies the regulation of the immune system and the relationship between the innate and adaptive immune responses. The innate immune system is the horse's first line of defense against invading organisms while the adaptive immune system acts as a second line of defense as well as protecting the horse from re-infection from harmful pathogens. Funded with grants from the USDA and the Zweig Fund for Equine Research, Dr. Wagner's lab is credited with developing several reagents that are available to the global research community. Reagents are used in immunological procedures to detect, measure, or examine the innate immune response in health and disease. The new tools are used in the lab to study the immune response to Equine herpesvirus type 1 and the mechanisms leading to immunity and protection from disease in foals.

"The new immune reagents have the potential to revolutionize the field of equine immunology," said Dr. Wagner, who began riding horses at age 12 and is pleased to have found an opportunity to combine two of her passions: horses and research. "We were not able to look at many functions and cellular responses of the equine immune system because we did not have the tools to do so. The reagents facilitate scientific exploration in areas such as neonatal immunology, inflammatory and infectious diseases, vaccine development, and equine allergies."

Equine research, according to Wagner, has often been limited by both funding and the availability of reagents. Her approach to immunological research in horses—by developing essential tools—allows her to support her own research and that of others in the equine research community as well.

"The new reagents and technologies we have developed enable us to detect the cellular immune response and will improve therapeutic and preventative treatments for horses," said Dr. Wagner. "Through the basic and applied research that these reagents drive, equine health will be strengthened."

Dr. Wagner is the director of the serology section at the New York State Animal Health Diagnostic Center at Cornell. She obtained her DVM degree and habilitation (PhD) in Hannover, Germany, and spent several years researching and teaching at the Institute of Genetics in Cologne and at the School of Veterinary Medicine in Hannover. In 2002, she came to Cornell University as a visiting scientist to work on projects in equine genetics at the Baker Institute for Animal Health. In 2004, she became a senior research associate at the Baker Institute, and in 2006, she was hired as an assistant professor in the Department of Population Medicine and Diagnostic Sciences.