



THE UNIVERSITY OF GEORGIA
College of Veterinary Medicine
Animal Health Research Center

The Animal Health Research Center (AHRC) at the University of Georgia College of Veterinary Medicine is a 74,500 gross square feet (GSF) free-standing building designed for the study of emerging and zoonotic infectious diseases of humans and other animals. The AHRC is the centerpiece of the university's infectious disease research program, serving as a keystone resource for interdisciplinary and intercollegiate work in high containment infectious disease research on the UGA campus. The specialized BSL-3-Ag capabilities will also allow for previously unrealized collaborations between university researchers and colleagues in academia, government, and industry who are involved in infectious disease research and vaccine development. Additionally, the facility's resources are well suited to support research on plant pathogens that requires high level biocontainment.

The AHRC core animal facility encompasses 16,000 GSF that consists of 14 animal rooms (2 large and 12 small) capable of housing multiple species of animals including rodents, poultry, and livestock in either biosafety level 3 (ABSL-3) and/or biosafety level 3 agriculture (BSL3-Ag) environments. Support space includes cage and rack washing and bulk sterilization, an integrated pathology suite designed for post mortem evaluation of large and small animals, a 400 lb/hr capacity waste incinerator, and a 4,500 lb capacity alkaline hydrolysis tissue digester. All waste effluent is sterilized on site. Key design elements incorporated to assure seamless and effective pathogen containment include: High Efficiency Particulate Air (HEPA) filtered supply air and double HEPA filtered exhaust air; differential pressures within containment zones; shower out capabilities for each animal room; decontamination equipment; and sterilization systems for both solid and liquid waste. The animal facility also houses an enhanced BSL-3 laboratory suite (~2,000 GSF), consisting of five laboratories. In addition, there are seven BSL-3 laboratories on the second floor totaling 10,000 GSF and 5 BSL-2 laboratories occupying 3,750 GSF that are used in infectious disease studies and a 765 GSF pilot biofermentation laboratory supporting vaccine development.



Animal Health Research Center

What is the Animal Health Research Center?

The Animal Health Research Center (AHRC), located on the University of Georgia College of Veterinary Medicine campus at the corner of Carlton Street and East Campus Road, is a 75,000-square-foot research facility that enables scientists to study infectious microorganisms, parasites and toxins in a **safe environment** for the researchers, animals and the public. The center is one of the **most technologically advanced** facilities located on a university campus dedicated to studying a wide variety of infectious diseases that affect both animal and human health.

What types of studies are done in the building?

- The AHRC houses researchers who conduct basic and applied research on vaccines, diagnostics and treatments for diseases that infect humans as well as animals.
- The laboratories and animal housing on the first floor are allocated to investigators from the College of Veterinary Medicine, the University of Georgia, and state, federal or private institutions.
- Laboratories on the second floor are used to develop and test vaccines for a variety of species—from horses and cows to mice and birds—as part of the national effort to **defend against bioterrorism attacks** as well as naturally emerging diseases.
- Four principal investigators work in the AHRC, assisted by six other research scientists and 25-30 post-doctoral students, graduate students and technicians. The team includes leading expert in research on respiratory virus infections, including Severe Acute Respiratory Syndrome (SARS) and avian influenza.
- In case of an outbreak of foreign animal disease, the center will help **identify and combat any disease** that threatens us or our livestock industries.

Is the AHRC safe for scientists and the public?

The research center is a **biocontainment center**, specifically designed and built to contain or isolate harmful organisms and chemicals. A variety of barriers and other safeguards provide a safe environment in which to investigate infectious organisms.

What are some of the safety measures used to isolate or destroy harmful agents?

The center meets all state and federal regulations for the design and operation of an animal research center using hazardous organisms and chemicals. It contains **redundant safety features**, including HEPA filters and safety alarms. In addition:

- **Air is sterilized** entering and leaving special biosafety hoods which are used for examining specimens.
- Air flows in only one direction: from outside into the room and the **biosafety hoods**. Air then goes through **sterilization filters** before it is released to the outside again.
- Scientists change clothing outside the laboratory after leaving animal rooms. In some laboratories, **researchers shower out** and put on clean clothes before they leave.
- Pressure tests are used to make sure that **rooms are airtight**.
- All waste products are **sterilized** by specialized air and sewage treatments before they leave the center.

Why is the AHRC important?

Because of the importance of the diseases being studied, the AHRC has the potential for drawing in millions of research dollars, creating an **economic boon** for the state of Georgia. With this recognition comes the potential for initiating and strengthening partnerships with state, federal and private research institutions, including the Centers for Disease Control and Prevention, the USDA, the Southeast Regional Center for Excellence in Emerging Diseases (funded by the National Institutes of Health), and the Southeast Center for Emerging Biological Threats at Emory University. In early 2007 the National Institutes of Health awarded the University of Georgia College of Veterinary Medicine a \$7.4 million contract to collaborate with Emory University through its new **Regional Center for Excellence for Influenza Research and Surveillance**.

In fulfilling UGA's missions of teaching, research and service, the AHRC serves as a learning environment not only for graduate students, but also for scientific professionals whose interests lie in infectious diseases.

Research in the AHRC is regulated by federal guidelines as well as oversight by the UGA Office of Biosafety and the UGA Institutional Biosafety Committee, with input from an advisory group composed of members of the university and Athens community.