

Alaska Zoonotic Disease Center



The Alaska Zoonotic Disease Center

The Alaska Zoonotic Disease Center (AZDC) was established by the University of Alaska Board of Regents to promote research and training on infectious diseases that are communicable from animals to humans.

Bioterrorism, increases in antibiotic resistance, and rapid dispersal of microbes through commerce and travel have made infectious disease research an international priority. An estimated 75% of emerging human pathogens are zoonotic (*Emerg. Infect. Dis.* 13:6, 2007). Most pathogens have been very little studied in arctic and subarctic environments. Furthermore, Alaska is unique as a crossover point where genetic exchanges could occur between pathogens and their hosts from lower latitudes of eastern and western hemispheres. Long-standing university research on zoonotic agents is rapidly expanding, due partly to an NIH award for the [Alaska INBRE](#) program that also supports AZDC.

The AZDC infrastructure initiatives include:

- Individual research projects and enhanced research infrastructure, through mechanisms such as submission of an NIH COBRE proposal for zoonotic disease research.
- Multidisciplinary research collaborations between the university's environmental and biomedical programs and with state, private, federal, and international agencies.
- Training and instructional programs in microbiology, epidemiology, and immunology.
- Topical workshops and planning conferences.

The major research foci of AZDC are:

- Genetics, biology, and pathogenesis of microbial and parasitic agents in vectors, hosts, and biorepositories.
- Active projects include those concerned with: avian influenza, West Nile, and rabies viruses, the bacteria *Francisella*, *Brucella*, and *Salmonella*, and the nematode *Echinococcus*.
- Immunogenetics and functional immunology.
- Environmental factors, including contaminants and global climate change, that impact pathogen and host distribution and biology.
- Evolution and adaptations of pathogens and their animal hosts.

Affiliates will include: 1) Alaskan scientists engaged in research or surveillance on infectious diseases and 2) long-term continuing collaborators outside Alaska.