



Pacific Center for  
Emerging Infectious Diseases  
Research



UNIVERSITY  
of HAWAII  
MĀNOA

## COBRE RESEARCH SEMINAR SERIES

# Rats and Bats: Developing Unusual Animal Models for Studying Emerging Infectious Diseases

Rodents and bats comprise nearly two-thirds of mammalian species and are found on all continents other than Antarctica. Many emerging infectious diseases are naturally hosted by these species; however, only a few have been developed into animal models for understanding the ecology of the infectious agents. In many instances, the agents cause persistent infection, despite an immune response, without pathology. We have focused on developing new infection models in two species, the deer mouse (*Peromyscus maniculatus*) and the Jamaican fruit bat (*Artibeus jamaicensis*). Deer mice are the natural reservoir hosts of Sin Nombre hantavirus (SNV), which causes the great majority of hantavirus cardiopulmonary syndrome (HCPS) cases in North America, and are persistently infected for life but without disease. Deer mice are also susceptible to the South American Andes hantavirus (ANDV), but clear infection without signs of disease. In each infection, deer mice mount an immune response, but transcriptional analysis suggests the immune response to SNV is subtle, while the immune response to ANDV is more aggressive and may be mediated by a Th2 response. We have recently initiated transcriptome experiments in this model and are currently developing software for analysis and pathway mapping of transcriptional activity during infection.

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Friday, May 3, 2013 at 2:30 p.m.

John A. Burns School of Medicine, Kaka'ako

BioSciences Building, Room 320N

For further information, call 692-1654

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