

65th AALAS National Meeting

19–23 OCTOBER 2014

Henry B. Gonzalez Convention Center
San Antonio, TX
Registered attendees: 4,119
Exhibiting companies: 281

San Antonio



AALAS 65th National Meeting • October 19-23, 2014

The American Association for Laboratory Animal Science (AALAS) held its 65th annual national meeting in San Antonio, TX, in October 2014. The educational program centered on the theme of vaccine research, a timely topic as the meeting coincided with the identification of cases of Ebola virus infection in the US.

The development of an effective vaccine against Ebola virus was the topic of Tuesday's Wallace P. Rowe Lecture given by Maria Croyle (University of Texas, Austin). Despite the urgent need for effective prophylactic and therapeutic strategies, no drugs are approved for use in Ebola virus infection. Croyle discussed the development of an adenovirus-based vaccine and appropriate delivery platforms to establish long-term immunity to Ebola virus infection. Her laboratory concentrated primarily on needle-free administration via the intranasal and sublingual routes. The adenovirus vaccine was first tested in mice and guinea pigs and successfully protected these animals from exposure to otherwise lethal doses of Ebola virus when given either intranasally or sublingually. An improved version of the vaccine was then developed. *Cynomolgus* macaques that were treated with the improved vaccine survived infection with Ebola virus one year later, showing that the vaccine elicited long-term immunization. Work in Croyle's lab to develop appropriate dosing guidelines and to improve the vaccine formulation is ongoing.

In a session on Wednesday afternoon, researchers from the National School of Tropical Medicine at Baylor College of Medicine (Houston, TX) presented another view on vaccine research. Kathryn Jones opened the seminar by giving an overview of neglected tropical diseases. Many of these diseases are caused by zoonotic parasites, such as soil-transmitted helminths (including hookworm, whipworm and roundworm) and protozoa (including *Trypanosoma cruzi*, the causative agent of Chagas disease), and have severe effects on both human and animal health. Her colleagues Bin Zhan, Jeroen Pollet and Brian Keegan then reviewed the steps involved in vaccine development, highlighting the importance of the animal models involved: (i) target selection and antigen discovery, (ii) preclinical testing and (iii) optimization of formulation efficacy and translatability to humans.

Discussion of vaccine research also took place Monday morning in a session on malaria, a zoonotic disease caused by any of several species of *Plasmodium* protozoa, which specifically infect different

mosquito vectors and different warm-blooded hosts. After Lauren Martin (Oregon Health & Science University, Portland) started the session with an overview of the *Plasmodium* life cycle, Balbir Singh (Universiti Malaysia Sarawak) explained how his group is tracking the emergence of the species *P. knowlesi* and the spread of associated infections in Malaysia. John Barnwell (US Centers for Disease Control and Prevention, Atlanta, GA) identified and compared the various nonhuman primate models used in malaria research, and Mary Galinski (Emory School of Medicine, Atlanta, GA) described the many challenges facing malaria vaccine development and how these might be addressed. Curtis Klages (University of Texas Medical Branch, Galveston) closed the session by emphasizing the biosafety concerns associated with malaria research, particularly those related to working with insect vectors in a containment laboratory.

Arthropods were not the only unusual lab animals making an appearance in the program: two special sessions centered on the care and use of non-traditional animal models. "Escaping the Shoe Box Cage: Working with Wild Animals in the Field and in the Lab," led by Jori Leszczynski (University of Colorado, Denver) on Tuesday morning, covered the challenges faced by IACUC members, veterinarians, husbandry staff members and researchers when working with wild species in biomedical research. Presenters focused on wild mammals (Robert Sikes, University of Arkansas, Little Rock), feral fish (Jill Jenkins, National Wetlands Research Center, Lafayette, LA), wild birds (Ellen Paul, The Ornithological Council, Chevy Chase, MD) and venomous and nonvenomous reptiles (Christopher Parkinson, University of Central Florida, Orlando). Thursday morning's session on "Unique Challenges Associated with Exotic Species Models," led by Sylvia Gografe (Florida Atlantic University, Boca Raton), dealt with problems like how to handle venomous snakes safely (Greg Boivin, Wright State University, Dayton, OH), how to import multimammate mice captured from the wild in Africa (Rachel LaCasse, Rocky Mountain Laboratories, Hamilton, MT), how to address parthenogenesis among a lizard colony in an IACUC protocol (Diana Baumann, Stowers Institute, Kansas City, MO) and how to prevent shocks when caring for an electric eel (Rebekah Franklin, University of Wisconsin, Madison).