



FOR IMMEDIATE RELEASE

NFSTC workshop provides models for food and waterborne disease studies

East Lansing, Mich. – May 4, 2005 – With rapid modern advances in the area of genetic mapping, and with the effort to keep infectious diseases under control, scientists are getting pieces to the genetic puzzle faster than ever before. But matching the puzzle piece to diseases in an increasingly moving, global population still remains a challenge, one that scientists are always trying to tackle. In an effort to advance research to improve human health in the area of food- and waterborne safety, the Microbiology Research Unit (MRU) at the National Food Safety & Toxicology Center (NFSTC) organized an Animal Model Workshop.

About 30 attendees from eight universities and from the National Institutes of Health (NIH), most of whom are part of the National Institute of Allergy and Infectious Diseases (NIAID) Food and Waterborne Diseases Integrated Research Network (FWD IRN), participated in the workshop, which was held April 26-28 on campus. Invited experts on animal models included Victor DiRita of University of Michigan, James Fox of Massachusetts Institute of Technology, Katherine Knight of Loyola University, and Rick Lyons of the University of New Mexico. The workshop was organized by the Michigan State University (MSU) research unit, led by Thomas S. Whittam of the NFSTC.

“Infectious diseases are becoming more ‘boutique’ in the sense that they reside in pockets of the population and have unique characteristics, so the importance of animal models is amplified and the model must address the question of the disease,” Lyons said.

MSU is a leader in animal model research, with expertise housed at the Diagnostic Center for Population and Animal Health, which the attendees visited, and the Ribosomal Database Project and Center for Microbial Ecology. Several speakers cited Whittam’s Shiga toxin-producing *E.coli* Reference Center (STEC) Center at the NFSTC, which was designed to facilitate research on the Shiga-toxin producing *E. coli* by providing a standard reference collection of well-characterized strains and central online accessible databases.

“Many of the intestinal diseases transmitted by food and water have been tough to control and vaccines have often failed. If we can mimic the human diseases in laboratory animals, we can have a way to test new therapies, develop novel candidates for vaccines, and learn to control infections in human populations,” Whittam said.

The purpose of the workshop was twofold: to bring together key researchers in the field of animal models to discuss important needs and current developments, and to bring together the FWD IRN network researchers to build cohesiveness and inter-research communication. Saul Tzipori of the Microbiology and Botulinum Research Unit at Tufts University, said the workshop met both goals.

“The active discussion and exchange of information at the workshop will undoubtedly help us move towards the greater goal of this research network – to provide the scientific community with accurate disease models for the analysis of intestinal pathogens,” Tzipori said.

The research objectives of the workshop were to gain insights from invited experts into what characteristics are necessary for a good animal model for pathogenesis studies; identify priority animal models for hemolytic uremic syndrome, dysentery, and inflammatory bowel disease; and to report progress on network projects involved with animal model development. Speakers from the NFSTC included Linda Mansfield, and Vincent Young who are working on mutant mouse models for intestinal diseases, and Mahdi Saeed, who is investigating a bacterial toxin involved in traveler's diarrhea.

In October 2003, NIAID awarded a \$10.2 million research contract to a team of researchers at Michigan State University's National Food Safety & Toxicology Center to explore the microorganisms that cause food and waterborne infectious diseases. The contract runs through Sept. 29, 2010.

The award is part of the FWD IRN (FWD IRN), a network of research laboratories launched by NIAID. In addition to MSU, the network includes research units at Tufts University, Washington State University, University of Maryland Medical School, and Cornell University.

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