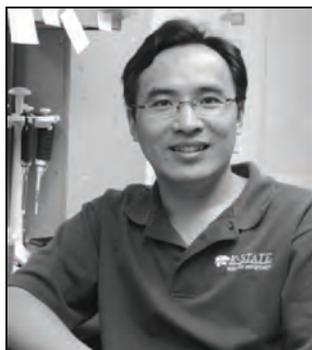




AGRO DIVISION

2012 NEW INVESTIGATOR AWARD WINNER

Sponsored by Dow AgroSciences



DR. XIN ZHANG is the 2012 winner of the New Investigator Award sponsored by DOW Agrochemicals and the AGRO Division. He received his Ph.D. of Entomology from Kansas State University in 2010 under the direction of Dr. Kun Yan Zhu.

While conducting Ph.D. research, Dr. Zhang identified and characterized chitin synthase genes and chitinase gene family from *Anopheles gambiae*. He adapted and optimized a non-radioactive high-throughput assay for chitin synthase activity and developed a chitosan/dsRNA nanoparticle-based RNA interference through mosquito larval feeding. His research

significantly advanced the understanding on chitin synthesis and degradation in mosquitoes and other arthropods and may lead to the development of new insecticides targeting on chitin metabolic pathway. His results have shown a great potential for using a nanoparticle-based RNAi technology for high-throughput screening of gene functions and for developing novel strategies for mosquito control and other insect pest management.

Dr. Zhang is currently a research associate with Dr. Kristin Michel, Division of Biology, Kansas State University. His work focuses on the analysis of extracellular protease cascades that regulate innate immune responses in *An. gambiae*. He uses a combination of biochemical and reverse genetic tools to determine how serpins and their target proteases regulate melanization pathways, which are against malaria parasite and possibly other disease agents.

2012 NEW INVESTIGATOR AWARD FINALISTS



DR. JEREMY L. CONKLE hails from the Department of Environmental Sciences, University of California-Riverside (UCR), California. Dr. Conkle earned dual bachelor's degrees in Biology and Chemistry at Longwood University in Farmville, Virginia. Following graduation, he

worked as a chemist on hazardous waste cleanup sites, emergency responses, and natural disasters for an EPA contractor. He continued to work for the contractor while completing a Masters in Environmental Studies at the College of Charleston in 2006.

Dr. Conkle completed his Ph.D. in Oceanography and Coastal Sciences at Louisiana State University in 2010, where he studied the fate and transport of "emerging contaminants" in wetland ecosystems. For the past 2 years, he has been a post-doctoral scholar with Dr. Jay Gan at UCR where he has continued to study emerging contaminants as well as expanding his work into legacy contaminants (DDT and PCBs), current use pesticides, and MeBr alternatives.



DR. FAN TONG received his Ph.D. in Toxicology in 2010 from the Department of Entomology at Iowa State University under the direction of Dr. Joel Coats. His Ph.D. dissertation work focused on modes of action of a type of botanical insecticides, monoterpenoids, on insect GABA and nicotinic

acetylcholine receptors. He currently is a post doctoral research associate working with Dr. Jeffrey Bloomquist in the Emerging Pathogens Institute at the University of Florida, Gainesville, Florida.

Dr. Tong's current work is to design and to develop new insecticides, including carbamate insecticides and plant essential oils, for the control of malaria vector mosquito, *Anopheles gambiae*, and some other vector pests, including southern cattle tick, yellow fever mosquito, and horn fly. His recent work revealed structural differences between human's and *Anopheles gambiae*'s acetylcholinesterase peripheral anionic site, which is considered to be a potential target for new anticholinesterases for malaria mosquito control.

Congratulations to Our New Investigators!