Graduate Student Robert Berkey Poster Places Among Top 5 Winners

Molecular and Cellular Biology (MOCB) graduate student Robert Berkey, from the laboratory of Dr. Shunyuan Xiao (IBBR and PLSA) has placed among the top 5 winners of the UM College of Agriculture and Natural Resources (AGNR) 2011 Open House Poster Competition. The poster entitled "Engineering Novel Plant Disease Resistance against Fungal Pathogens" was selected from a pool of high quality posters and the top five were awarded a prize of $100. The posters were presented at the AGNR 2011 Open House on October 1.

This poster represents a collaborative effort in the Xiao lab on the Arabidopsis broad-spectrum disease resistance RPW8 protein. RPW8 is specifically targeted to the host-pathogen interface whereby it activates defense. The Xiao lab has demonstrated that RPW8 could be targeted to the host-pathogen interface in other plant species and that this Type 1 membrane protein could be engineered to direct an antimicrobial to protect plants from haustorium forming pathogens. This work provides a proof-of-concept for a new approach to engineer novel antifungal resistance in plants.

Robert Berkey has worked in Dr. Xiao’s lab at IBBR since Fall, 2006. Research in the Xiao group is focused on the molecular mechanisms that plants have evolved to resist fungal pathogens. Work in the lab aims to understand a specific host-defense mechanism and the biogenesis of a novel fungal pathogenic mechanism, the haustorium. The goal of the lab is to engineer novel, host resistance against haustorium-forming pathogens in plants.