

Frances Hall, Earlham College, Richmond, IN and NIMBioS: National Institute for Mathematical and Biological Synthesis, Knoxville, TN, USA

Jessica Welch, University of Tennessee and NIMBioS, Knoxville, TN, USA

Dawn Woodard, Appalachian State University, Boone, NC and NIMBioS, Knoxville, TN, USA

Kimberly Gwinn, Department of Entomology and Plant Pathology, University of Tennessee and NIMBioS, Knoxville, TN, USA

Vladimir Protopopescu, Center for Engineering Science Advanced Research, Oak Ridge National Laboratory, Oak Ridge and NIMBioS, Knoxville, TN, USA

Dan Ryan, NIMBioS, Knoxville, TN, USA

Harnessing the arsenal of nature: developing natural pesticides

Plants, insects and microorganisms ensure their survival by producing an arsenal of natural chemical weapons to escape herbivores, predators and competitors. Research in the laboratory of Dr. Kimberly D. Gwinn is aimed at achieving and maintaining the critical goal of sustainability by developing highly effective, environmentally friendly, low-toxicity bioactive natural products for food preservation and as viable alternatives to conventional chemical pesticides. In the 2012 REU, students will examine the effects of essential oils on spore germination and growth of a biological control fungus. The goal of this research is to develop predictive models for the development of 'stacked' natural control systems.

****This is an Undergraduate Poster**