

---

**JIANHONG WU**, York University, York Institute for Health Research

*Mathematics for food-borne disease spread: water chemistry and pathogen cross-contamination dynamics during washing procedures*

We use epidemic models to describe water chemistry and pathogen cross-contamination dynamics in a chemostat-like wash tank for fresh produce. Our model templates involve periodic coefficients and circulation delays, and models are parametrized using data from a pilot plant scale evaluation of the US Department of Agriculture (UDA). Implication of model dynamics for industrial guidelines will be discussed. This is based on an on-going collaboration with D. Munther and P. Srinivasan (Cleveland state), X. Sun, S. Tang, Y. Xiao (Xian Jiaotong), F. Magpantay (Michaigan), H. Shimozako (Sao Paulo), Yaguang Luo (USDA), A. Fazil and B. Smith (Public Health Agency of Canada).