



# Reduction and fate of manure pathogens and antimicrobial resistance

May 17, 2019

2:30 pm (eastern), 1:30 pm (central), 12:30 pm (mountain), 11:30 am (pacific)

Manure treatment, such as composting, and manure land application are generally considered to be effective measures to reduce bacterial pathogens and utilize the manure in an environmentally sustainable manner. However, unlike pathogenic bacteria, antimicrobial resistant bacteria can persist throughout various manure treatments and land application events. Antimicrobial resistance is a complex issue as it is comprised of not only pathogenic bacteria, but also non-pathogens which share genes within complex environmental systems, such as agricultural fields. Furthermore, the presence of “native” antimicrobial resistance in the environment can limit our interpretation of what’s an effective manure treatment as well as predict “downstream” public health issues. The webinar will describe potential measures to reduce pathogen and antimicrobial resistance in manure as well as discuss potential fate and transport of manure pathogens and antimicrobial resistance following land application of manure. *An application for continuing education credit for Certified Crop Advisors (CCAs) and members of the American Registry of Professional Animal Scientists (ARPAS) will be submitted.*



**Dr. Zong Liu** is an Assistant Professor and Extension Specialist with Texas A&M University. He obtained his Ph.D. from the University of Wisconsin-Madison in 2015 in Biological Systems Engineering. The goal of Dr. Liu’s research and extension work facilitates the processing of animal waste at concentrated animal feeding operations (CAFO) and centralized wastewater treatment facilities. His research emphasizes animal waste management technologies, water/air quantity assessment, organic farming systems development, and value added material production from wastewater. Email: [zongliu@tamu.edu](mailto:zongliu@tamu.edu)

**Dr. Ed Topp** obtained his Ph.D. from the Department of Microbiology at the University of Minnesota in 1988. Ed is a principal research scientist with Agriculture and Agri-Food Canada (AAFC) and has courtesy professorship appointments in several university departments in Canada and the US. Ed’s research concerns the interface between agriculture and human and environmental health and has generated 270 co-authored publications. He is a Past-President of the Canadian Society of Microbiologists, recently received the AAFC ‘Gold Harvest Award’ for career achievement, the Canadian Public Service Award for Excellence for research contributions, and was elected to the Academie d’Agriculture de France. Email: [ed.topp@canada.ca](mailto:ed.topp@canada.ca)



**Lauren Wind** is a Ph.D. Student in Biological Systems Engineering at Virginia Tech. Lauren earned her B.S. in Environmental Science from Allegheny College in 2015. She then shifted gears, and earned her M.S. in Biological Systems Engineering at Virginia Tech in 2017. Since starting at Virginia Tech, Lauren’s research has revolved around antimicrobial resistance (AMR) in agricultural systems, specifically focusing on quantifying resistance from “Farm to Fork”. Lauren’s current dissertation aims to map the agricultural resistome and ultimately evaluate the most critical points from “Farm to Fork” where resistance mitigation efforts should be focused. Email: [wlauren@vt.edu](mailto:wlauren@vt.edu)

## How Do I Participate?

On the day of the webinar, go to [lpec.org/live-webinar-information/](http://lpec.org/live-webinar-information/) to download the speaker’s power point presentations and connect to the virtual meeting room. First time viewers should also follow the steps at: [lpec.org/how-do-i-participate-in-a-webcast/](http://lpec.org/how-do-i-participate-in-a-webcast/).

The LPE Learning Community is a project dedicated to the vision that individuals involved in public policy issues, animal production, and delivery of technical services for confined animal systems should have on-demand access to the nation’s best science-based resources. See our website at: [lpec.org](http://lpec.org).