

“Understanding Agriculture Air Quality & Emissions: Measurement, Modeling, and Mitigation”

By: Lingying Zhao

Department of Food Agricultural and Biological Engineering

The Ohio State University

1:50-2:45 pm on Tuesday, October 21ST, 2014

Main campus: Room 219 of Agricultural Engineering Building (590 Woody Hayes Dr.)

Wooster campus: Room 108 of the Old Administration Building

As agricultural animal productions evolve toward larger and more concentrated operations, they become energy intensive, cause significant environmental and health impact. Management of indoor environmental conditions and air emissions from animal facilities is a significant challenge and may also be an opportunity for animal production industries. The seminar will introduce issues on air quality and emissions associate with agriculture animal productions; the state-of-the-art measurement technologies in the U.S. for indoor environment, air quality, and air emission of large-scale animal production facilities; applicability of the EPA regulatory model, AERMOD, in estimation of ambient air quality and air emission dispersion after emitted from animal facilities; and effective mitigation technologies for ammonia (NH₃) and particulate matter (PM, also called as DUST or aerosols).

Dr. Lingying Zhao is an Associate Professor at Department of Food, Agricultural, and Biological Engineering, the Ohio State University. She conducts research, teaching, and extension programs in indoor air quality, building ventilation, air emissions from agricultural facilities, and bioenvironmental engineering control. DR. Zhao holds a Ph.D. degree in Agricultural Engineering from University of Illinois at Urbana- Champaign (UIUC), and M.S. and B.S. degrees in Bio-Environment Engineering from Beijing Agricultural Engineering University, China. Dr. Zhao’s specific areas of interest are:

- Measurement and modeling of air emissions from animal production facilities to assess their health and environmental impacts with foci of ammonia, particulate matter, and greenhouse gas emissions;
- Development of effective mitigation technology to reduce air emissions and promote production of fertilizer and bioenergy;
- Ventilation and indoor environmental quality control to improve health, food safety, and energy efficiency; and
- Green animal production systems with alternative environmental control system using renewable energy.