School of Natural Resources and the Environment

Seminar Series: Spring 2016

IMPROVING CROP PRODUCTION IN AN OZONE-POLLUTED ATMOSPHERE

SPEAKER: Lisa Ainsworth

USDA ARS Global Change & Environmental Research Center

DATE: Wednesday, January 18th, 2017

TIME: 3:00-4:00 pm

LOCATION: ENR2, S107

ABSTRACT:

Tropospheric ozone is a damaging air pollutant that significantly impacts human and ecosystem health. Concentrations of ozone in many of the world's important crop growing regions exceed critical levels for yield loss. Ozone enters plants through the stomata, then rapidly reacts to produce other reactive oxygen species, which trigger stress response pathways. Because there is thought to be little potential for adaptation to rising ozone through crop management practices, developing ozone-tolerant crops through breeding or biotechnology is an important target. A first step towards breeding for ozone tolerance is identification of genetic variation in ozone tolerance in crop species. This talk will describe our efforts to screen soybean and maize for ozone tolerance in the field using Free Air Concentration Enrichment (FACE) technology, develop mapping populations to genetically dissect ozone tolerance, and identify physiological, biochemical and molecular traits that are important for ozone tolerance.