**Plant soil feedbacks along an invasion chronosequence**

**Nicola Day**, **Kari E. Dunfield**, **Pedro M. Antunes**, Algoma University and University of Guelph

Plants alter soil microbial communities and in turn these influence plant growth, termed plant-soil feedbacks. Positive/negative feedback occurs when a given plant species has greater/smaller fitness in home versus away soil (i.e., “trained” by another plant species). Positive/negative feedback can be due to a net balance between mutualists/pathogens. Exotic invasive plant species commonly show positive feedback in their invaded ranges and negative feedback in their native ranges, purportedly due to enemy release. However, broad scale studies have suggested negative feedback may increase in exotic invasive species over time, which is thought to be a result of the local enemies adapting to the novel plant. We collected soil across an invasion chronosequence to investigate temporal changes in plant-soil feedbacks and root-associated fungal communities in a highly invasive exotic plant in eastern North America, *Vincetoxicum rossicum* (Apocynaceae). We hypothesized that plants grown in soil from recently invaded sites (<12 years) would demonstrate positive feedback, but feedback would decrease with invasion time (50-100 years). *Vincetoxicum rossicum* was grown from seeds in a glasshouse study. Contrary to our hypothesis, plants grown in soil from recently invaded sites had lower shoot biomass than those in soil from at least 100 year old invaded soil. Several known fungal pathogens were detected in the roots of *V. rossicum*. However, their degree of specialization on this plant species is unknown. Our data shows that more than 100 years of invasion does not appear to have been sufficient for root enemies to cause declines in this exotic invasive plant.