



*Natalie has a Bachelor's of Science in Biological Resources Engineering from the University of Maryland - College Park and a Master's in Public Policy from George Mason University. She also worked for several different non-governmental organizations in Washington, D.C., before coming to Purdue to pursue a Ph.D. in Agricultural and Biological Engineering with a concentration in Ecological Sciences and Engineering. One of her primary goals with her research has been to develop the skills needed to pursue a career in which she can help bridge the gap between science and decisionmakers. During her time at Purdue, Natalie has also earned a Graduate Teaching Certificate from the Center for Instructional Excellence. Upon graduation, she will be working as a Post-Doc with Dr. Cherkauer. In this role, she will be conducting social and physical science research related to Indiana's agricultural and forestry sectors that will also contribute to the Indiana Climate Change Impacts Assessment.*

# Agricultural & Biological ENGINEERING

## Dissertation Defense

**Speaker:** Natalie Chin

**Title:** Exploring the Potential Impacts of Climate Change on North America's Laurentian Great Lakes Tourism Sector

**Major Professor(s):** Keith A. Cherkauer

**Date:** Tuesday, September 20, 2016

**Time:** 9:00 AM

**Location:** ABE 301

### Abstract:

Climate change is one of the major challenges facing the global hospitality and tourism sector in the coming century. This work contributes to gaps in existing literature by considering how tourism managers perceive weather, climate, and climate change as well as what barriers they face in terms of adaptation efforts. The potential use of scenario planning to communicate with tourism managers about climate change has also been explored. Finally, projected regional changes in climate have been analyzed using historic and future climate data from general circulation models (GCMs) and Variable Infiltration Capacity (VIC) model simulations to explore potential impacts of climate change on tourism from changes in winter weather and extreme weather. In general, the results of this work illustrate the challenges that tourism managers face in terms of adapting to climate change despite their strong awareness of the importance of weather and climate to their businesses, but the use of creative forms of communication and production of actionable science could help overcome some of these barriers. The results of modeling work demonstrate that climate change could have significant impacts on the Great Lakes tourism sector, but additional efforts are needed to fully capture the potential implications of climate change over the long-term.

### Application:

This work provides some valuable insights into how researchers and policymakers can help ensure the long-term sustainability of the Great Lakes tourism sector, especially with respect to climate change. It also serves as an example of interdisciplinary research that builds on the strengths of multiple academic disciplines.