



As part of the FACULTY SEMINAR SERIES  
DEPARTMENT OF PLANT SCIENCE presents the  
DR. VICTOR M. BENDELOW MEMORIAL LECTURESHIP

# HOW NATIVE PLANTS MANAGE COMPLICATED ECOLOGICAL INTERACTIONS

**DR. IAN THOMAS BALDWIN**

Founding Director, Max Planck Institute for Chemical Ecology, Department of Molecular Ecology, Jena, Germany

**TUESDAY, OCTOBER 24, 2023**

3:30 pm—4:30 pm

172 Agriculture Building - 66 Dafoe Road

Refreshments at 3:00 pm



Thanks to the long-term patient funding of the Max Planck Society, we have developed a fire-chasing native tobacco plant, *Nicotiana attenuata*, which grows in the Great Basin Desert, into a model for the study of plant-ecological interactions, particularly those biotic interactions that dominate the primordial agricultural niche. We have used the plant's natural history interactions to phenotype transformed and recombinant inbred lines of this plant, at two nature preserves in the plant's native habitats, to understand the function of genes required for survival in nature. The research program has used a reverse genetics approach following an 'ask the plant' paradigm to select genes for silencing experiments and field work. This talk will describe how we are using unbiased forward genetics wedded with unbiased metabolomics and unbiased natural history-based field biology with sentinel insects, microbes, and metabolites to understand the genetics behind the management of complex ecological interactions. Our recent advances in understanding the biosynthesis and function of a family of potent defense metabolites and an entirely new sector of specialized metabolism that mediates non-host resistance will illustrate the approach. The over-arching approach of the Department's work is to understand whole-plant function by combining ecology, molecular biology, chemistry and, most recently, synthetic biology.

## Reflections on the Bendelow Lecture

Wednesday October 25

9:30 – 11:00 am, 218 Agriculture

Please join us for a follow-up discussion with Dr. Baldwin and guest panelists to unpack ideas from the Bendelow Lecture. Areas of discussion will include plant ecology and interactions between plants, insects, and fungi. Coffee and snacks will be provided.

The Dr. Victor M. Bendelow Memorial Lectureship was created through a bequest to bring internationally distinguished lecturers to deliver seminars in the field of plant science and to share their knowledge with students and staff at the University.

**EVERYONE WELCOME!**

