

Plant Pathology Department

Both M.S. and Ph.D. programs in **Plant Pathology** are offered. Subject area specialties within the department include mycology, nematology, virology, and microbiology. Research programs within these specialties emphasize basic and applied research in plant-microbe interactions. They include pathogenic, symbiotic and beneficial interactions on three levels: the whole plant, the root system, and the molecular level.

The Plant Pathology program completed a five-year strategic plan in 1993. The six faculty hired during the implementation of this plan form a critical mass in research and teaching in the area of molecular plant microbe interactions. The emphasis in this group is on bacteria, fungi and viruses that are both pathogens and beneficial microorganisms, and how they interact with plants. Better understanding of these interactions is already leading to some new approaches to disease control.

Continuing programs include forest pathology with a strong European component; a program on soil-borne diseases relating to disease problems in greenhouse vegetable production; and a basic and applied nematology program. In addition, programs in vegetable, fruit crop, and field crop disease control are active, including three projects on control of pathogen-produced carcinogens in infected crops. Faculty and students use new information-processing technology, including Geographic Information Systems (GIS), Global Positioning Systems (GPS) and Geostatistics, to improve the application of cultural management control methods.



Dominic Oldershaw

"I chose plant pathology because it's the best field for studying the way plants interact with microorganisms. My work is about a chemical signal, a language for bacteria to talk to each other. How does one kind of bacteria know there's another type of bacteria next to it? How does it decide to communicate? I'm very concerned about the amount of chemicals used in the environment. The benefit of this research is that it will help improve biological control methods."

Derek Wood
Plant Pathology, Ph.D. candidate
Career Interest: Professor in a
teaching/research institution



S. McGinley

"My main interest is in the interaction between organisms, and that's what plant pathology is all about. In fact, in plant pathology we have different kingdoms talking to each other – the plant and animal kingdoms. I'm studying the response of plants to microorganisms and the ability of plants to influence the microorganisms in the soil."

Lindy Brigham
Plant Pathology, Ph.D. candidate



S. McGinley

"I'm a microbiologist by training. I got interested in the interactions between plants and microbes, and my professor back East recommended the UA plant pathology program as a top-notch program. There's a lot of research going on in this department regarding plant-microbe interaction. I'm working on the genetic regulation of bacteria for biological control, to cut down on the use of chemicals in food production."

Scott Chancey
Plant Pathology, Ph.D. candidate
Career Interest: Professor