Plant Pathology

Department Information

- **Department Chair:**
  Jack Rasmussen, Ph.D.
- **Department Location:**
  Walster Hall
- **Department Phone:**
  (701) 231-8362
- **Department Web Site:**
  www.ag.ndsu.edu/plantpath/
- **Application Deadline:**
  International applications are due May 1 for fall semester and August 1 for spring and summer semesters. Domestic applicants should apply at least one month prior to the start of classes.
- **Credential Offered:**
  Ph.D., M.S.
- **English Proficiency Requirements:**
  TOEFL iBT 79; IELTS 6.5

Program Description

The Department of Plant Pathology offers graduate study leading to the M.S. and Ph.D. degrees. Advanced degrees may involve specialized training in the following areas: host-parasite genetics, molecular biology and genomics, epidemiology, tissue culture, soil and seed-borne diseases, microbial ecology, and integrated disease management.

Student research and academic programs are tailored to individual needs and interests.

Five graduate faculty members are housed in the Northern Crops Science Laboratory located on campus. This relationship provides additional opportunities for research and consultation.

The Department of Plant Pathology graduate program is open to all qualified graduates of universities and colleges of recognized standing. In addition to the Graduate School requirements, the applicant must have adequate preparation in Plant Pathology or Biology.

Financial Assistance

Research assistantships and part-time positions are available in the department. Applicants are considered on the basis of scholarship and potential to undertake advanced study and research. To be considered for an assistantship, a completed Graduate School application, official transcripts, and three letters of reference must be submitted. In addition to these materials, international applicants must also submit TOEFL scores. These items must be submitted to the Graduate School.

Master of Science

Completion of a Master of Science degree is dependent on the completion of 30 semester hours in Plant Pathology or approved courses from related departments. Not less than 10 credits must reflect research in the desired area. No minor area of study is required with an MS degree, but a minor may be elected.

Doctor of Philosophy

Completion of a Doctor of Philosophy degree is dependent on the completion of 60 semester hours beyond the MS degree or 90 credits total. Courses may include Plant Pathology or approved courses from related departments. Not less than 10 credits must reflect research in the desired area. A minor area of study is required with a PhD degree. Options are available in plant science, agronomy, plant breeding, microbiology, entomology and others.

Robert Brueggeman, Ph.D.
Washington State University, 2009
Research Interests: Barley Disease Resistance Gene Characterization and Deployment, Molecular Mechanisms of Host-Pathogen Interactions

Luis del Rio, Ph.D.
Iowa State University, 1999
Research Interests: Epidemiology of Plant Diseases, Chemical and Biological Control of Fungal Diseases, Management of Canola Diseases
Andrew Friskop, Ph.D.
North Dakota State University, 2013
Research interests: Extension Plant Pathology, Chemical Control, Corn Diseases, Small Grain Diseases, IPM

Neil C. Gudmestad, Ph.D.
North Dakota State University, 1982
Research Interests: Ecology and Epidemiology of Plant Pathogenic Bacteria, Foliar Diseases of Potato

Mohamed Khan, Ph.D.
Clemson University, 1998
Research Interests: Sugarbeet Management

Janet J. Knodel, Ph.D.
North Dakota State University, 2005
Research Interests: Extension Entomology, IPM of Field Crop Insects, Insect-Disease Surveys, Emerging Insects, Chemical Control

Zhaohui Liu, Ph.D.
North Dakota State University, 2006
Research interests: Molecular biology and genetics of host-pathogen interactions in wheat leaf spot diseases

Samuel Markell, Ph.D.
University of Arkansas, 2007
Research Interests: Extension Plant Pathology, Rust Diseases, IPM, Emerging Diseases, Chemical Control

Steven W. Meinhardt, Ph.D.
University of Illinois, 1984
Research Interests: Structure/Function Relationships in Enzymes and Toxins

Berlin D. Nelson, Ph.D.
Washington State University, 1979
Research Interests: Oilseed Diseases, Biological Control, Mycology

Jack B. Rasmussen, Ph.D.
Michigan State University, 1987
Research Interests: Molecular Biology and Role in Disease of Pathogen-Produced Toxins, Genetics of Resistance to Cereal Rust Diseases

Gary A. Secor, Ph.D.
University of California-Davis, 1978
Research Interests: Potato Diseases Management and Control, Biotechnology for Cultivar Improvement

Julie Sherman Pasche, Ph.D.
North Dakota State University, 2012
Research Interests: Pulse Crop and Dry Bean disease management, fungicide efficacy and resistance management, pathogen detection and diversity

Shaobin Zhong, Ph.D.
North Dakota State University, 2000
Research Interests: Fusarium Head Blight of Wheat, Fungal Biology and Genetics, Genomics and Functional Genomics of Host-Pathogen Interaction in Cereal Crops

Adjunct

Timothy L. Friesen, Ph.D.
USDA/ARS
North Dakota State University, 2001
Research Interests: Host Parasite Interactions of Foliar Diseases of Cereals

Michael C. Edwards, Ph.D.
USDA/ARS
Cornell University, 1983
Research Interests: Virology, Cereal Virus Diseases

Rubella Goswami, Ph.D.
University of Minnesota, 2005
Research Interests: Pathogen Interactions, Fungal Biology, Molecular Biology and Genomics

Thomas J. Gulya, Ph.D.
USDA/ARS
Iowa State University, 1978
Research Interests: Downy Mildew, Rust, Phomopsis Stem Canker, Sclerotinia Wilt of Sunflower

Michael Wunsch, Ph.D.
Cornell University, 2010
Research Interests: Varietal Disease Resistance, Fungicide Efficacy and Timing, and Use of Cropping Systems