Plant Pathology (PLPA)

Kenneth Korth
Interim Department Head
217 Plant Sciences Building
479-575-2445
Email: kkorth@uark.edu

Plant Pathology Program Website (http://plantpathology.uark.edu/)

Degree Conferred:
M.S. (PLPA)
Ph.D. in Agricultural, Food and Life Sciences (AFLS)

Primary Areas of Faculty Research: Research areas of the faculty of the Department of Plant Pathology are diverse, including fundamental studies emphasizing fungal, viral, nematode, and bacterial pathogens of plants, as well as mission-oriented research aimed at solving specific disease problems. Research projects are wide-ranging, extending from basic and molecular aspects of disease and pathogenesis to more applied research on disease control methods for the major food and fiber crops in the world. Specific areas include: fungal ecology and genetics, nematology, virology, soil ecology, molecular biology of plant pathogens, biological control of plant diseases, genetics and physiology of parasitism and resistance.

M.S. in Plant Pathology
Prerequisites to the M.S. Degree Program: Specific course prerequisites are not required for admission to the M.S. program. However, a strong undergraduate background in an agricultural, biological, and/or physical science is highly desirable. Deficiencies or prerequisites for advanced courses may be included in the individual student's academic program.

Requirements for the Master of Science Degree: A thesis reporting results of original research and a minimum of 24 semester hours of course work (including 15 semester hours in plant pathology) plus 6 semester hours of thesis credit are required. The student must pass a comprehensive oral examination and successfully defend the thesis upon its completion.

Students should also be aware of Graduate School requirements with regard to master's degrees (http://catalog.uark.edu/graduatecatalog/degreerequirements/#mastersdegreetext).

Requirements for Ph.D. in AFLS with Plant Pathology Concentration
Prerequisites to Degree Program: A Master of Science degree is desirable. A student with a Bachelor of Science and an exceptional record in academics and/or research may be approved for admission to the Ph.D. program in Agricultural, Food and Life Sciences if the Graduate Student Concentration Admissions Committee of the desired concentration deems them qualified and approval is granted by the AFLSPH Steering Committee. A student admitted to the University of Arkansas, pursuing an M.S. and in good academic standing may apply to be admitted to the doctoral program and forgo completing the M.S. degree if so approved by the AFLSPH Steering Committee and the AFLSPH Graduate Concentration Admissions Committee. A minimum grade point average of 3.00 (on a 4.00 scale) on previous college-level course work is required.

Admissions Requirements for Entry: To be considered for admission, a student must submit a letter of intent, along with the application for admission indicating the desired degree concentration, areas of interest and career goals. Official transcripts of all previous college-level course work must be submitted. Three letters of recommendation are required. These letters should address the character and academic capability of the applicant. Applications will first be reviewed by the AFLSPH Steering Committee which will assign the student to the appropriate Graduate Student Concentration Admissions Committee for review. The Concentration Admissions Committee will make the final determination of admittance into the AFLSPH program and the concentration.

Requirements for Doctor of Philosophy Degree: The Ph.D. program in Agricultural, Food and Life Sciences requires a total of 72 credit hours after a Bachelor of Science or Bachelor of Arts degree or 42 hours after a Master of Science or Master of Arts degree.

General course requirements for each degree candidate are arranged on an individual basis by the Faculty Advisor, the Graduate Advisory Committee and the candidate in accordance with guidelines of their concentration. Alternate courses may be selected at the discretion of the committee.

All students must complete 6 hours of elective course hours and 2 hours of seminar. One seminar must be a research proposal presentation and the other must be an exit seminar presenting the dissertation research results. All students must complete 18 hours of doctoral dissertation hours. Students entering the doctoral program with only a B.S. or B.A. must also complete an additional 30 hours (to reach the 72 hour post B.S./B.A. requirement). Students must satisfactorily pass written and oral candidacy examinations covering their discipline and supporting areas. These examinations must be completed at least one year before completion of the Ph.D. degree program in Agricultural, Food and Life Sciences. Each candidate must complete a doctoral dissertation on an important research topic in the concentration field. The specific problem and subject of the dissertation is determined by the faculty adviser, the student and the Graduate Advisory Committee. A dissertation title must be submitted to the dean of the Graduate School at least one year before the dissertation defense. Provisional approval of the dissertation must be given by all members of the Graduate Advisory Committee prior to the dissertation defense. Students must pass the oral defense and examination of the dissertation given by the Graduate Advisory Committee. A student cannot be approved for conferral of the doctoral degree until after completion of all coursework, written and oral candidacy exams, the defense passed and dissertation accepted by the Graduate School and an application for the degree has been filed with the Registrar's Office and the fee paid.

In addition to the general requirements for the Ph.D. program in Agricultural, Food and Life Sciences, students in the Plant Pathology concentration must also complete:

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>PLPA 5303</td>
<td>Advanced Plant Pathology: Host-Pathogen Interactions</td>
<td>3</td>
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<tr>
<td>PLPA 5313</td>
<td>Advanced Plant Pathology: Ecology and Epidemiology</td>
<td>3</td>
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<tr>
<td>PLPA 5404</td>
<td>Diseases of Economic Crops</td>
<td>4</td>
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<tr>
<td>PLPA 5001</td>
<td>Seminar</td>
<td>1</td>
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<td>One course from the following:</td>
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<tr>
<td>PLPA 5223</td>
<td>Plant Disease Control</td>
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<tr>
<td>PLPA 5603</td>
<td>Plant Pathogenic Fungi</td>
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<tr>
<td>PLPA 6203</td>
<td>Plant Virology</td>
<td></td>
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Graduate Faculty

Bateman, Nick, Ph.D. (Mississippi State University), B.S. (University of Arkansas-Monticello), Assistant Professor, 2016.
Bluhm, Burt H., Ph.D., M.S. (Purdue University), B.S. (University of Oklahoma), Associate Professor, 2008.
Correll, Jim, Ph.D., M.S. (University of California-Berkeley), B.S. (Pennsylvania State University), Distinguished Professor, 1989.
Dowling, Ashley Patrick Gregg, Ph.D. (University of Michigan-Ann Arbor), B.S. (University of Arizona), Associate Professor, 2008.
Egan, Martin J., Ph.D., B.Sc. (University of Exeter, United Kingdom), Assistant Professor, 2016.
Faske, Travis, Ph.D. (Texas A&M University), M.S. (Oklahoma State University), B.S. (Tarleton State University), Associate Professor, 2015.
Goggin, Fiona, Ph.D. (University of California-Davis), B.S. (Cornell University), Professor, 2001.
Hopkins, John D., Ph.D. (University of Arkansas), M.S., B.S. (Clemson), Associate Professor, 2002.
Johnson, Donn T., Ph.D. (Michigan State University), B.S. (University of Minnesota, Duluth), Professor, 1978.
Joshi, Neelendra, Ph.D. (Pennsylvania State University), Assistant Professor, 2015.
Kirkpatrick, Terry, Ph.D. (North Carolina State University), M.S., B.S. (University of Arkansas), Professor, 1984.
Korth, Ken L., Ph.D. (North Carolina State University), B.S. (University of Nebraska), Professor, 1999.
Loftin, Kelly M., Ph.D. (New Mexico State University), M.S. (University of Arkansas), B.S. (Arkansas Tech), Associate Professor, 2002.
Lorenz, Gus M., Ph.D., B.S.A., M.S. (University of Arkansas), Distinguished Professor, 1997.
Robbins, Robert Thomas, Ph.D. (North Carolina State University), M.S., B.S. (Kansas State University), University Professor, 1979.
Rojas, Clemencia, Ph.D. (Cornell University), M.S. (Purdue University), B.S. (Universidad de Los Andes, Colombia), Assistant Professor, 2015.
Rojas, Alejandro, Ph.D., M.S. (Michigan State University), M.S., B.S. (Los Andes University), Assistant Professor, 2018.
Rupe, John C., Ph.D., M.S. (University of Kentucky), B.S. (Colorado State University), Professor, 1984.
Spradley, J. Ples, M.S. (University of Arkansas), B.S. (Hendrix College), Extension Associate Professor, 1984.
Spurlock, Terry, Ph.D. (University of Arkansas), Extension Assistant Professor, 2015.
Steinkraus, Donald C., Ph.D. (Cornell University), M.S. (University of Connecticut), B.A. (Cornell University), Professor, 1989.
Stephen, Fred M., Ph.D. (University of California-Berkeley), B.S. (San Jose State University), University Professor, 1974.
Studebaker, Glenn, Ph.D., M.S. (University of Arkansas), B.S. (Missouri Southern State University), Associate Professor, 1993.
Szalanski, Allen Lawrence, Ph.D. (University of Nebraska-Lincoln), M.S. (Kansas State University), B.S. (University of Manitoba), Professor, 2001.
Thrash, Ben, Assistant Professor, 2018.
Tzanetakis, Ioannis E., Ph.D. (Oregon State University), M.S., B.S. (Agricultural University of Athens, Greece), Professor, 2008.
Wamishe, Yeshi Andenow, Ph.D. (University of Arkansas) M.S., B.S. (Addis Ababa University, Ethiopia), Associate Professor, 2011.
Wiedenmann, Robert N., Ph.D., B.S. (Purdue University), Professor, 2005.
PLPA 5603. Plant Pathogenic Fungi. 3 Hours.
Plant Pathogenic Fungi is structured as an integrated lecture/laboratory class designed for students that are interested in developing an understanding and appreciation for taxonomy, biology, and ecology of plant pathogenic fungi and related saprophytic fungi. Corequisite: Lab component. Prerequisite: PLPA 3004 or BIOL 4424 or graduate standing. (Typically offered: Fall Odd Years)

PLPA 600V. Master's Thesis. 1-6 Hour.
Master's Thesis. Prerequisite: Graduate standing. (Typically offered: Fall, Spring and Summer) May be repeated for degree credit.

PLPA 6203. Plant Virology. 3 Hours.
Lecture emphasizing discussion of recent advances in plant virology. Laboratory concerned with techniques and equipment used in plant virus studies, including transmission of viruses, characterization utilizing ultracentrifugation, spectrophotometry, electrophoresis, electron microscopy, and serology. Lecture 2 hours, laboratory 3 hours per week. Corequisite: Lab component. Prerequisite: CHEM 5813 or CHEM 5843 or CHEM 6873 or consent of instructor. (Typically offered: Fall Even Years)

PLPA 6303. Plant Nematology. 3 Hours.
Nematodes and their relationship to plant diseases, with consideration of identification, morphology, biology, distribution, association with disease complexes and control. Lecture 2 hours, laboratory 2 hours per week. Corequisite: Lab component. Prerequisite: Graduate standing. (Typically offered: Fall Even Years)

PLPA 6503. Plant Bacteriology. 3 Hours.
Current concepts and techniques in plant bacteriology, including taxonomic, ecological and molecular aspects of plant pathogenic bacteria and their interactions with hosts. Lecture 2 hours, laboratory 2 hours per weeks. Corequisite: Lab component. Prerequisite: BIOL 2013 and BIOL 2011L. (Typically offered: Spring Odd Years) May be repeated for up to 3 hours of degree credit.