

Agricultural Sciences

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COLLEGE OF AGRICULTURAL SCIENCES

Graduate Faculty:

AbuGhazaleh, Amer A., Professor, Ph.D., South Dakota State University, 2002; 2004.

Akamani, Kofi, Assistant Professor, Ph.D., University of Idaho, 2011; 2015.

Altman, Ira J., Associate Professor and *Chair*, Ph.D., University of Missouri, 2005; 2006.

Apgar, Gary A., Associate Professor, Ph.D., Virginia Polytechnic Institute and State University, 1994; 1998.

Arthur, Robert, Professor, *Emeritus*, Ph.D., University of Missouri, 1970; 1977.

Ashraf, Hea-Ran L., Professor, *Emerita*, Ph.D., Iowa State University, 1979; 1980.

Asirvatham, Jebaraj, Assistant Professor, Ph.D., University of Illinois, 2011; 2015.

Atkinson, Rebecca L., Associate Professor, Ph.D., University of Wyoming, 2006; 2006.

Banz, William J., Professor and *Chair*, Ph.D., University of Tennessee, 1995; 1995.

Beaulieu, Jeffrey R., Associate Professor, *Emeritus*, Ph.D., Iowa State University, 1984; 1983.

Beck, Roger J., Associate Professor, *Emeritus*, Ph.D., Pennsylvania State University, 1977; 1984.

Bond, Jason P., Professor, Ph.D., Louisiana State University, 1999; 2000.

Carver, Andrew, Professor, Ph.D., Purdue University, 1998; 1998.

Choudhary, Ruplal, Associate Professor, Ph.D., Oklahoma State University, 2009; 2009.

Chong, She-Kong, Professor, *Emeritus*, Ph.D., University of Hawaii, 1979; 1979.

Cook, Rachel, Assistant Professor, University of North Carolina, 2012.

Davis, Jeremy, Associate Professor, Ph.D., Iowa State, 2008; 2008.

Diesburg, Kenneth L., Assistant Professor, *Emeritus*, Ph.D., Iowa State University, 1987; 1989.

Eberle, Phillip R., Associate Professor, *Emeritus*, Ph.D., Iowa State University, 1983; 1983.

Endres, Jeannette M., Professor, *Emerita*, Ph.D., St. Louis University, 1972; 1980.

Fakhoury, Ahmad M., Associate Professor, Ph.D., Purdue University, 2001; 2003.

Gastal, Eduardo L., Associate Professor, Ph.D., University of Wisconsin-Madison, 1999, 2009.

Groninger, John W., Professor, Ph.D., Virginia Polytechnic Institute and State University, 1995; 1997.

Harris, Kim S., Associate Professor, *Emeritus*, Ph.D., University of Illinois, 1985; 1984.

Hausler, Carl L., Associate Professor, *Emeritus*, Ph.D., Purdue University, 1970; 1970.

Henry, Paul H., Associate Professor, Ph.D., North Carolina State University, 1991; 1992.

Holzmueller, Eric J., Associate Professor, Ph.D., University of Florida, 2006; 2007.

Jones, Karen L., Professor and *Chair*, Ph.D., Texas A&M, 1999; 1999. Animal biotechnology.

Kammlade, W. G., Jr., Associate Professor, *Emeritus*, Ph.D., University of Illinois, 1951; 1954.

Kantartzi, Stella, Associate Professor, Ph.D., Aristotle University of Thessaloniki, 2006; 2008. Soybean breeding and genetics.

King, Sheryl S., Professor, *Emerita*, Ph.D., University of California, Davis, 1983; 1983.

Klubek, Brian P., Professor, *Emeritus*, Utah State University, 1977; 1978.

Kraft, Steven E., Professor, *Emeritus*, Ph.D., Cornell University, 1976; 1980.

Kroening, Gilbert H., Professor, *Emeritus*, Ph.D., Cornell University, 1965; 1969.

Latour, Mickey, Professor and *Dean*, Ph.D. Mississippi State University.

Legacy, James, Professor, *Emeritus*, Ph.D., Cornell University, 1976; 1977.

Lightfoot, David A., Professor, Ph.D., University of Leeds, 1984; 1991.

Long, Sara, Professor, *Emerita*, Ph.D., Southern Illinois University Carbondale, 1991; 1991.

McGuire, James M., Professor, *Emeritus*, Ph.D., North Carolina State University, 1961; 1993.

Meksem, Khalid, Professor, Ph.D., University of Cologne, Germany, 1995; 2000.

Midden, Karen L., Professor and *Associate Dean*, M.L.A., University of Georgia, 1983; 1988. Landscape design.

Minish, Gary L., Professor, *Emeritus*, Ph.D., Michigan State University, 1966; 2004.

Moon, Wanki, Professor, Ph.D., University of Florida, 1995; 2000.

Nielsen, Clayton, Professor, Ph.D., Southern Illinois University Carbondale, 2001; 2009.

Olsen, Farrel J., Professor, *Emeritus*, Ph.D., Rutgers University, 1961; 1971.

Park, Logan, Associate Professor, Ph.D., Virginia Polytechnic Institute and State University, 2009; 2009.

Pense, Seburn L., Associate Professor, Ph.D., Oklahoma State University, 2002; 2003.

Preece, John E., Professor, *Emeritus* Ph.D., University of Minnesota, 1980; 1980.

Rendleman, C. Matthew, Associate Professor, Ph.D., Purdue University, 1989; 1994.

Ruffner, Charles M., Professor, Ph.D., Pennsylvania State University, 1999. 1999.

Sanders, Dwight R., Professor, Ph.D., University of Illinois, 1999; 2000.

Schmidt, Michael, Associate Professor, *Emeritus*, Ph.D., Southern Illinois University Carbondale, 1994; 1979.

Schoonover, Jon E., Associate Professor, Ph.D., Auburn University, 2005; 2006.

Secchi, Silvia, Associate Professor, Ph.D., Iowa State, 2000; 2008.

Shoup, W. David, Professor, *Emeritus*, Ph.D., Purdue University, 1980; 1999.

Smith, Sylvia F., Associate Professor, Ph.D., University of Tennessee, 2007; 2007.

Stucky, Donald J., Professor, *Emeritus*, Ph.D., Purdue University, 1963; 1970.

Taylor, Bradley H., Associate Professor, Ph.D., Ohio State University, 1982; 1982.

Tweedy, James A., Professor, *Emeritus*, Ph.D., Michigan State University, 1966; 1966.

Varsa, Edward C., Professor, *Emeritus*, Ph.D., Michigan State University, 1970; 1970.

Venable, Erin R., Assistant Professor, Ph.D., University of Missouri-Columbia, 2010.

Walters, S. Alan, Professor, Ph.D., North Carolina State University, 1997, 1998.

Watson, Dennis, Associate Professor, Ph.D., Michigan State University, 1987; 2002.

Welch, Patricia, Professor, *Emerita*, Ph.D., Southern Illinois University, 1982; 1982.

Williard, Karl W. J., Professor, Ph.D., Pennsylvania State University, 1999; 1999.

Wolff, Robert L., Professor, *Emeritus*, Ph.D., Louisiana State University, 1971; 1972.

Young, Anthony W., Professor, *Emeritus*, Ph.D., University of Kentucky, 1969; 1980.

Zaczek, James J., Professor and *Chair*, Ph.D., Pennsylvania State University, 1994; 1997.

Doctor of Philosophy in Agricultural Sciences

The College of Agricultural Sciences offers a graduate program leading to the Doctor of Philosophy degree. This degree is designed to provide students with an interdisciplinary doctoral education in the physical, biological and social sciences that enhances, regulates and sustains agriculture, food and forestry producers, industries and agencies. This degree will prepare Ph.D. graduates to teach and conduct research and outreach at universities and community colleges, and for careers in the corporate, private and government sectors.

Admission

All applications to the program must include a Graduate School On-Line Application available at gradschool.siu.edu, a statement of interest, college transcripts, three letters of recommendation, GRE scores including verbal and quantitative, and may include a financial assistance form. In addition, this Program requires a non-refundable \$65.00 application fee. Criteria for admission include an official transcript, letters of recommendation, grade point average (must meet the SIU Graduate School minimum 3.25 GPA in graduate work), and GRE scores. The Graduate Committee of the College must approve admission to the Ph.D. in Agricultural Sciences program. Ph.D. students will be selected on a national and international competitive basis.

Students may be admitted to the doctoral program with a Bachelor's, a Master of Science or a Master of Arts degree in Agriculture, a discipline within the SIUC College of Agriculture Sciences, or a closely related field (such as Biology, Botany, Natural Science, Rural Sociology, Economics, or Environmental Science). Upon nomination of the master's committee and upon approval by the College of Agricultural Sciences doctoral program committee. Exceptional M.S. students may be allowed accelerated entry to the Ph.D.

Students admitted under direct or accelerated entry to the Ph.D. program are subject to all existing requirements for the doctoral degree; the admission/advisory committee for the student may add extra requirements based on the student's background.

Doctor of Philosophy Degree Program

Each doctoral student in the College of Agricultural Sciences must successfully complete a common core of research methodology courses, including a two semester sequence of graduate level statistics courses for 4-5 credit hours each, followed by a 3-4 credit hour graduate level experimental design course. Students also will be required to take a three-credit course in Research and Teaching Communications, two semesters of graduate seminar, and 24 hours of dissertation credits. There will be an additional minimum of 20 hours of structured courses appropriate for each student's area of emphasis. The student's graduate advisory committee must approve these courses. Emphasis areas include Agricultural Economics, Agricultural Systems Technology, Agricultural Education, Animal Science, Crop Science and Environmental Management, Food and Nutrition, Forestry, and Horticulture.

All Ph.D. students in the program will be required to teach or assist in teaching at least two courses within the College of Agricultural Sciences while in the program. This requirement is regardless of the form of stipend of the student, i.e. if a student is on a research assistantship throughout their tenure in the program, they will still be required to teach or assist in teaching courses.

There is no minimal credit-hour requirement beyond the core, the area of emphasis, and the Graduate School's residency and dissertation requirements. A student in consultation with their major professor will prepare a program of study, including courses in the student's area of emphasis, by the end of the second semester of residency. This plan of study, when approved by the student's advisory committee, will be filed with the Director of Graduate Studies for the College.

Ph.D. Candidacy

By the end of the second semester in residence, students must have chosen an area of emphasis and formed a graduate advisory committee to approve their coursework and oversee their dissertation research. The graduate advisory committee will consist of at least five graduate faculty members, with the majority from within the College of Agricultural Sciences and no more than three members from one department. The committee chair will be the student's major professor and must be a member of the College of Agricultural Sciences faculty.

To be admitted to candidacy, the student must have completed the Graduate School's 24 credit hours residency requirement within four calendar years, plus the core and emphasis area coursework that was approved by their graduate advisory committee. This should take the student three to four semesters, depending on whether they had any graduate-level research methodology courses during their Master's degree. At this time, they will take both written and oral preliminary examinations designed and administered by the student's graduate advisory committee. These exams will each have two parts. One will focus on the student's knowledge of the research methodology core and the second part will focus on the student's

chosen area of emphasis. If the preliminary examinations are not passed, a student must wait a minimum of three months for the second and final attempt to pass the exam.

After passing the written and oral preliminary exams and with an approved dissertation proposal, the student will be admitted to candidacy. The Graduate School requires that Ph.D. students fulfill all degree requirements within five years of admission to candidacy or they may have to retake their preliminary exams.

Dissertation and Dissertation Examination

By the beginning of the fifth semester of residence, the students will present to their graduate committee a dissertation research proposal. The student's committee must approve the proposal by the end of their fifth semester of residence. At this time, students must present their dissertation proposal verbally in the form of a graduate seminar. All faculty members in the College of Agricultural Sciences, the student's graduate advisory committee, all other graduate students in the College, and appropriate individuals from industry groups in southern Illinois will be invited to these seminars. Following the seminar, the student will meet with their graduate advisory committee and will be asked to defend the substance and methods of the proposed research.

The student's graduate advisory committee will monitor the student's progress on the dissertation. When the dissertation is completed to the satisfaction of the graduate advisory committee, the committee will administer a final oral exam that will focus on defense of the dissertation. When the dissertation and final oral exam are successfully completed, the student will be recommended to the Graduate School for the doctoral degree.

Courses (AGSC)

550-3 Research and Teaching Communications. This course is designed to teach graduate students how to communicate successfully their proposed and completed research and to teach college-level courses in the Agricultural Sciences.

581-1 to 4 (1,1,1) Seminar. Oral presentations by individual graduate students. Each Ph.D. student in Agricultural Sciences is required to present their proposed dissertation research project as a seminar and the findings of their dissertation as a seminar. All Agricultural Sciences Ph.D. students must register for at least two credits of seminar.

582-A-C (1-3, 1-3, 1-3) Colloquium in Agricultural Science. Recent developments in Agricultural Sciences will be discussed in a classroom setting; (a) Biological Science, (b) Social Sciences, and (c) Physical Sciences.

590-1 to 4 Graduate Readings in Agricultural Science. Journal articles, chapters and books relevant to a Ph.D. student's research will be read and discussed with their major professor.

591-1 to 4 Individual Research in Agricultural Science. Directed research in approved specialized topic areas in Agricultural Sciences.

592-1 to 4 Special Problems in Agricultural Science. Directed study of specialized areas of Agricultural Science, depending on the program of the student.

595-1 to 6 Instruction in Agricultural Sciences. Acquaints the student with different teaching environments and styles. Students will be expected to participate in instructing

agricultural sciences courses. Special approval needed by the instructor.

600-1 to 36 (1 to 12 per semester) Dissertation. This course is to be taken during the research and writing of the dissertation. A minimum of 24 hours must be earned for the Doctor of Philosophy degree.

601-1 Continuing Enrollment. For those Doctoral students who have not finished their degree programs and who are in the process of working on their dissertation. The student must have completed a minimum of 24 hours of dissertation research before being eligible to register for this course. Concurrent enrollment in any course is not permitted.

The following is a list of structured courses from which Ph.D. students in Agricultural Sciences may select in each of the emphasis areas. Students will not be limited to these courses, however, the majority of the courses that they may take are included.

Common Among Disciplines

QUAN 506-4	Inferential Statistics
QUAN 507-4	Multiple Regression
QUAN 508-4	Experimental Design in Educational Research
PSAS 560-5	Field Plot Technique
ZOOL 557-4	Biostatistics
ZOOL 558-4	Advanced Biostatistics

Agribusiness Economics

ABE 401-3	Agricultural Law
ABE 402-1 to 6	Problems in Agribusiness Economics
ABE 440-3	Natural and Environmental Resource Economics and Policy
ABE 444-3	Agricultural Development
ABE 450-3	Advanced Farm Management
ABE 451-3	Appraisal of Rural Property
ABE 453-3	Agribusiness Planning Techniques
ABE 460-3	Agricultural Price Analysis and Forecasting
ABE 461-3	Agriculture Business Management
ABE 462-3	Advanced Agricultural Marketing
ABE 463-3	Managerial Strategies for Agribusiness
ABE 500A,B-6(3,3)	Agribusiness Economics Research Methodology
ABE 551-3	Resource Allocation in the Agribusiness Firm
ABE 552-3	Problems and Policies of the Agricultural Sector
ABE 581-1 to 4	Seminar in Agribusiness Economics
ABE 585-1 to 6	Practicum/Internship
BA 505	Brand Management
BA 510	Managerial Accounting & Control Concepts
BA 514	Ethics of Business
BA 530	Financial Management
BA 531	Advanced Financial Management
BA 532	Financial Institutions and Markets
BA 533	Investment Concepts
BA 540	Managerial and Organization Behavior
BA 541	Operations Research II
BA 544	Advanced Production Planning and

