

CURRICULUM VITAE

CHRISTOPHER D. McDANIEL

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EDUCATION:

Doctor of Philosophy, 1995. Department of Poultry Science, The University of Georgia. Areas of research included: Broiler and Broiler Breeder Management, Reproductive Physiology, Environmental Physiology, Fertility and Hatchability, Sperm-egg Interaction, Oviductal Sperm Storage, and Cellular Biology.

Master of Science, 1992. Department of Animal Science, Purdue University. Areas of research included: Reproductive Physiology, Endocrinology, Embryology, Fertility and Hatchability, Computer Programming, and Layer Breeder Management.

Bachelor of Science, 1990. Department of Poultry Science, Mississippi State University.

Associate of Arts, 1988. Holmes Community College, Goodman, MS.

EMPLOYMENT:

Professor and Poultry Scientist

July, 2005-Present

Poultry Science Department, Mississippi State University. Research interests involve avian fertility and reproduction including: broiler breeder management, sperm-egg interactions, early embryonic development, and environmentally altered reproduction.

Associate Professor and Poultry Scientist

July, 2000- June 2005 -Mississippi State University

Assistant Professor and Poultry Scientist

August, 1995-June, 2000 -Mississippi State University

TEACHING:

Current Courses Designed and Taught at Mississippi State University:

- Avian Reproduction (PO 4324/6324) - 3 hours of lecture/week and 2 hours of laboratory/week
 - Principles of reproductive physiology in various bird species. Topics include: oogenesis, vitellogenesis, ovulation, oviposition, spermatogenesis, stages of male sexual development, environmental impact on reproduction, management to maximize reproductive performance, and embryology.

- Management of Commercial Layers (PO 4313/6313) – 3 hours of lecture/week
 - An examination of the commercial egg industry including genetics, housing, rearing, egg production characteristics, egg handling, and egg marketing.

- Commercial Poultry Production (PO 3313) – 3 hours of lecture/week
 - I am responsible for the breeder, hatchery and reproductive sections of this course.

- Research/Thesis/Dissertation (PO and PHY 8000 and 9000) - various hours of graduate student research training per week.

- Directed Individual Study (PO 7000)- various hours of undergraduate student research training per week.

Previous Courses Designed and Taught at Mississippi State University:

- Management of Broiler Breeders (PO 4323/6323) - 3 hours of lecture/week
 - Principles of broiler breeder production including: genetics, reproduction, management, nutrition, and incubation.

- Avian Anatomy (PO 4833/6833) - 2 hours of lecture/week and 2 hours of laboratory/week
 - A complete anatomical study of osteology, arthrology, myology, neurology, angiology, dermatology, splanchnology, and endocrinology in birds.

- Avian Physiology (PO 4843/6843) - 2 hours of lecture/week and 2 hours of laboratory/week
 - The functions of the circulatory, immune, respiratory, excretory, and endocrine systems in birds.

Graduate Students Trained:

Major Professor for:

- James E. Hood - MS in May 1999- Thesis title: An attempt at alleviating heat stress infertility in male broiler breeder chickens with dietary ascorbic acid. Currently employed by the Bureau of Land Management.
- Holly M. Parker - MS in May 2001 - Thesis title: Sperm quality index classification improves broiler breeder fertility. Currently a Senior Research Associate at MSU.
- Ayse G. Karaca - PhD in August 2001 - Dissertation title: Determination of the effects of elevated environmental temperatures on broiler breeder male reproductive performance by examining semen quality, semen ion concentration, and fertility. Currently a Research Scientist for the Turkish Ministry of Agriculture.
- Scharidi J. Barber - MS in August 2003-Thesis title: Broiler breeder reproduction as affected by trace minerals *in vivo* and *in vitro*. Currently a high school teacher in Arkansas.
- Holly M. Parker - PhD in December 2004. Dissertation title: Understanding and improving the sperm quality index: A new measure of avian semen quality. Currently a Senior Research Associate at MSU.
- Pradeep K. Dumpala -MS in August 2006. Thesis title: Relationship of the sperm quality index with characteristics of stored chicken semen and the sperm mobility index. Currently a PhD student in molecular biology.
- Jessica B. Wells -MS in August 2009. Thesis title: Sanitization of broiler breeder hatching eggs using ultraviolet light and hydrogen peroxide. Currently an Extension Instructor at MSU.
- Kathy M. Young -MS in December 2009. Non-thesis. Currently accepted to MSU vet school.
- Monica L. Robertson -Current MS student in my lab.

Minor Professor for:

Jeanetta D. Tankson - PhD in May 2001 - Dissertation title: *Enterococcus faecalis* and pulmonary hypertension syndrome in chickens. Currently a USDA Microbiologist.

Committee Member for:

Chris W. Gardner - MS in August 1997 - Thesis title: Effects of incubational environment and breeder age on lipid metabolism and embryogenesis in broiler hatching eggs.

Ayse G. Karaca - MS in December 1997- Thesis title: The effect of water-cooled floor perches on broiler performance in high temperatures.

Niki C. Whitley - PhD in August 1998 - Dissertation title: The influence of insulin administration on reproductive function in the primiparous sow.

Matthew R. Burnham- MS in May 1999- Thesis title: Effects of incubator humidity and breeder age on yolk and embryo compositions in broiler hatching eggs.

Scott W. Virden -MS in December 2002- Thesis title: Progeny responses when hens are fed supplemental zinc and manganese.

Lindsay Hale McWilliams - MS in August 2004- Thesis title: Dietary isoleucine needs of 30 to 42 day old female broilers.
-PhD in August 2008- Dissertation title: Physiological impact of hematocrit level during stress in broilers.

Zachary T. Williams -MS in December 2008- Thesis title: The effect of used broiler litter on the growth and persistence of campylobacter

Krista Eberle -MS in August 2010- Thesis title: Prevalence of *Campylobacter jejuni* in Newly Constructed Broiler Houses: A One Year Survey.

Anberitha Matthews -MS in May 2010 – Non Thesis in Peebles= lab.

Karen Christensen -PhD in Fall 2010- OK Foods.

Robert Loar -PhD in Spring 2011- Poet Nutritionist.

Nick Sallas	-M.S. in Spring 2011- Moark, Inc., Coordinator of Quality Assurance.
Leonel Mejia	-Current PhD student in Corzo's lab.
Radha Pulikanti	-Current PhD student in Peebles= lab.
Derrick Everett	-Current Ph.D. student in Kiess' lab.

SERVICE:

Public Service:

- Spend several weeks each year working on broiler breeder management and hatchability research issues directly with poultry companies in Mississippi, the USA, and internationally.
- Presented my research findings in seminars and short courses directly to members of the poultry industry in the USA and abroad (see invited presentation section).
- Presented seminars for cage bird organizations.
- Served as a science fair judge at local schools.
- Served as Youth Committee Chairman, Building Committee Chairman, and Pastor Search Committee Chairman at Blythe Creek Baptist Church.

Professional Organization Service:

- Subject Editor for the Journal of Applied Poultry Research (2003-2009)
- Associate Editor for Poultry Science journal. (2000-present)
- Panelist and ad hoc reviewer for the USDA NRI CGP and SBIR grant programs (2000-present)
- Section Chair, Session Chair, Graduate student evaluator at annual meetings of the Poultry Science Association and the International Poultry Scientific Forum (1996-present)

University Service:

- Served on various departmental committees in the Department of Poultry Science as well as the Department of Animal and Dairy Sciences (1996-present).
- Chair of the Poultry Science Department Promotion and Tenure Committee (2005-present)
- College of Agriculture and Life Science Promotion and Tenure Committee (2010-present)
- Poultry Science Graduate Coordinator (2009- present).
- Poultry Science undergraduate advisor (2009-2010).
- Departmental Scholarship Committee (2009-present).
- Undergraduate Student Recruiting from high schools (2005-present).

- Elected to serve on the University Academic Review Board (2004-2008) as the College of Agriculture and Life Sciences alternate and reviewed several cases.
- Served on the University Office of Research and Development Strategic Planning Process Committee representing MAFES (2007).
- Bettersworth Leadership Lecturer for the College of Agriculture and Life Sciences (2000 -Present).
- Served on the William M. White Award Committee for CALS (2007)
- Served in the Cochran Program (2000, 2001, and 2004) for international exchange of agricultural research.
- Served in the Mississippi State Agriservice Institute for Minority Students (2004).

MEMBERSHIPS and AWARDS:

- Professional:** Poultry Science Association, 1990-Present.
 World=s Poultry Science Association, 1990-Present.
 Mississippi Poultry Association, 1995-Present.
 Southern Poultry Science Society, 1990-Present.
 2001 Mississippi Agriculture and Forestry Experiment Station Scientist of the Year.
- Honorary:** Phi Theta Kappa, Phi Kappa Phi, Gamma Sigma Delta, and Outstanding Young Men of America.

RESEARCH GRANTS AWARDED:

I have received soft funds, equipment, and supplies donations from the following organizations in addition to federal and state Hatch monies.

- Choctaw Maid Farms, Carthage, MS
- Marshall Durbin Co., Waynesboro, MS
- Peco Farms, Philadelphia, MS
- ALPHARMA, Inc., Fort Lee, NJ
- ELANCO, Inc., Indianapolis, IN
- Progeny Systems, LLC, San Diego, CA
- MAFES (SRI grants), Mississippi State, MS
- Zinpro Corporation, Eden Prairie, MN
- Lonza, Inc., Conshohocken, PA
- U.S. Poultry and Egg Association, GA