

## **Jeremiah D. Davis, Ph.D., P.E.**

Associate Professor and Associate Director

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Department of Biosystems Engineering

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### **Education**

Ph.D.	Agricultural & Biosystems Engineering, Iowa State University	2007
M.S.	Biosystems & Agricultural Engineering, University of Kentucky	2004
B.S.	Agricultural Engineering, Texas A&M University	2001

### **Professional Registration/Certification**

Registered Professional Engineer, State of Kentucky, Certificate No. 26414 2009

### **Professional Experience**

01/2015 - Present Associate Director, National Poultry Technology Center, Auburn University, Auburn, AL  
01/2015 - Present Associate Professor, Biosystems Engineering, Auburn University, Auburn, AL  
07/2013 – 12/2014 Associate Professor, Agricultural & Biological Engineering, Mississippi State University  
07/2007 - 06/2013 Assistant Professor, Agricultural & Biological Engineering, Mississippi State University  
05/2004 - 08/ 2004 Engineering Intern, USDA ARS Meat Animal Research Center (MARC), Clay Center, NE

### **Research, Teaching and Extension Programs and Activities**

Research interests include livestock housing design, energy use and efficiency in housing systems, livestock bedding, and animal instrumentation. Undergraduate and graduate teaching efforts are focused on professional engineering practice, livestock housing design and capstone engineering design experience.

### **Selected Awards and Honors**

- Auburn University's Departmental Award for Excellence in Education (Faculty Member) 2016
- ASABE Superior Paper Award "Effect of measurement density on characterizing air velocity distribution in commercial broiler houses" 2015
- MSU Office of Research and Economic Development: Faculty Leadership Program 2013
- Rosalind and Rodney Foil Teamwork Award – Sweetpotato Research Team 2012
- William M. White Special Projects Award 2012
- Mississippi State University - State Pride Award 2011
- Mississippi State University - State Pride Award 2010
- College of Agriculture and Life Sciences Excellence in Teaching - New Faculty Award, Mississippi State University. 2009

### **Contracts and Grants**

Principle investigator (PI), Co-PI or collaborator of \$2.2 million in 29 grants and projects.

### **Graduate Student Advising**

Total of 16 graduate students (12 MS, 5 PhD); Completed (9 MS, 4 PhD).

Serving on graduate committees (7 MS, 7PhD).

### **Refereed Journal Articles (30 total; authors underlined are Davis' students)**

1. Mayer, J.J., **J.D. Davis**, J.L. Purswell, E.J. Koury, N.H. Younan, J.E. Larson, and T.M. Brown-Brandl. 2016. Development and characterization of a continuous tympanic temperature logging (CTTL) probe for bovine animals. *Trans. ASABE*. 59(2): 703-714. DOI 10.13031/trans.59.11367
2. **Davis, J.D.**, J.L. Purswell, and A.S. Kiess. 2015. Evaluation of chopped switchgrass and chopped bermudagrass as litter materials over multiple heavy broiler flocks. *J. Appl. Poult. Res.* *Accepted*.
3. Luck, B.D., **J.D. Davis**, J.L. Purswell, A.S. Kiess, S.J. Hoff, J.W.W. Olsen. 2014. Effect of measurement density on characterizing air velocity distribution in commercial broiler houses. *Trans. ASABE*. 57(5): 1443-1454.
4. Purswell, J.L., B.D. Luck, and **J.D. Davis**. 2014. Technical Note: Effect of air deflectors on fan performance in a tunnel ventilated broiler house with a dropped ceiling. *Appl. Engr. in Ag.* *Accepted*.
5. Purswell, J.L., S.L. Branton, B.D. Luck and **J.D. Davis**. 2013. Effects of air velocity on laying hen production. *Trans. ASABE*. 56(6): 1503-1508.
6. Schmidt, A.M., **J.D. Davis**, J.L. Purswell, Z. Fan, and A.S. Kiess. 2013. Spatial variability of heating profiles in windrowed poultry litter. *J. Appl. Poult. Res.* 22:319-328.
7. Purswell, J.L., **J.D. Davis**, B.D. Luck, E.J. Kim, H.A. Olanrewaju, A.S. Kiess, and S.L. Branton. 2011. Effects of elevated carbon dioxide concentrations on broiler chicken performance from 28 to 49 days. *Int. J. of Poult. Sci.*, 10(8) 597:602.
8. **Davis, J.D.**, H. Xin, R.D. MacDonald. 2008. Infrared thermographic evaluation of commercially available incandescent heat lamps. *Appl. Engr. in Ag.* 24(5): 685-693.

### **Conference Papers, Abstracts, Posters and Presentations (94 total; authors underlined are Davis' students)**

1. Chesser, G.D., **J.D. Davis**, J.L. Purswell, J.W. Lowe, D. Brothers, J.K. Ward, M. Bianchi. 2013. Monitoring heat transfer through the thermal envelope of a commercial broiler house. Presentation for the 2013 ASABE International Meeting, Jul 21-24. Kansas City, MO. (*Volunteered*)
2. Linhoss, J., **J.D. Davis**, J.L. Purswell. 2013. Methodology to compare efficiency of radiant brooders. Presentation for the 2013 ASABE International Meeting, Jul 21-24. Kansas City, MO. (*Volunteered*)
3. Luck, B.D., **J.D. Davis**, J.L. Purswell, J.W.W. Olsen. 2013. Assessing spatial variability of air velocity in a commercial broiler production facility. *Poult. Sci.* 92(E-suppl. 1): 199-200.
4. Olsen, J.W.W., **J.D. Davis**, J.L. Purswell, and B.D. Luck. 2013. Improving attic inlet ventilation through CFD simulation. *Poult. Sci.* 92(E-suppl. 1): 199.
5. **Davis, J.D.**, J.L. Purswell, B.D. Luck, W.D. Batchelor, D. Nevins, T. Self and M.T. Kidd. 2011. Development of the Mobile Environment and Energy Laboratory (MEEL). Presentation for the 2011 ASABE International Meeting, Aug 7-10. Louisville, KY.

### **Invited Presentations (42 total)**

1. **Davis, J.D.** 2015. Structural Issues. Poultry House Construction and Retrofitting Practices Short Course. October 13-14. Auburn, AL.
2. **Davis, J.D.** 2015. Evaporative cooling pad maintenance. Winter Ventilation Workshop/Webinar. University of Georgia, April 21<sup>st</sup>, Watkinsville, GA.
3. **Davis, J.D.** 2014. Development of a sustainable grass-based litter supply chain. Poultry Litter Management Workshop - Midwest Poultry Federation Convention. March 18-20, St. Paul, MN.
4. **Davis, J.D.** 2013. Gadgets – How to Use Them. Mississippi Poultry Association, Poultry Management School. May 14-15, Starkville, MS.
5. **Davis, J.D.** 2012. Ventilation Management and Air Quality for Livestock Systems Field Day, University of Illinois, November 7, Urbana, IL.
6. **Davis, J.D.** 2012. Insulation Opportunities for Tyson Foods (Service Technicians). Insul-Pro Plus. July 25, Forest, MS.