

# JOHN EMERSON LINHOSS

Assistant Professor, Auburn University Biosystems Engineering

215 Corley Building, Auburn, AL 36849

Email: [john.linhoss@auburn.edu](mailto:john.linhoss@auburn.edu); Phone: (334) 844-7426

## Education

Ph.D. Agricultural Science/Engineering Technology, Mississippi State University	2016
M.S. Soil and Water Science, University of Florida	2008
B.S. Biology, Birmingham-Southern College	2004

## Research & Extension Interests

- Poultry house management and environmental control
- Poultry behavior and welfare
- Improved poultry house design and construction
- Instrumentation, sensors, & data acquisition
- Spatial statistics & mapping

## Professional Experience

Assistant Professor

Biosystems Engineering, 8/21 – present

Auburn University, Auburn, AL

Assistant Extension Professor

Department of Agricultural & Biological Engineering, 9/18 – 8-21

Mississippi State University, Starkville, MS

Extension Associate III

Department of Agricultural & Biological Engineering, 1/13 – 8/18

Mississippi State University, Starkville, MS.

Extension Agent, 3/10 – 12/12

University of Florida Institute of Food & Agricultural Science/ Marion County Extension Service, Ocala, FL.

## Honors and Awards

- 2021 Community-Engaged Learning Teaching & Learning Award Winner, Mississippi State University Center for Community Engaged Learning.
- 2020 Community-Engaged Learning Fellowship Program Participant, Mississippi State University Center for Community Engaged Learning.
- 2019 William M. White Special Projects Awards: “How is broiler chick crop fill affected by stocking density and is it a good indicator of early performance”.

- 2019 Award for Excellence in Multistate Research: Presented to the Technical Committee of NE2442 “Poultry Production Systems and Well-being: Sustainability for Tomorrow”. Northeast Regional Association of State Agricultural Experiment Station Directors.
- 2018 Educational Aids Blue Ribbon – Short Publication Series. “Improving the Brooding Environment for Broiler Chicks Through a Better Understanding of Radiant Heaters: An Extension Fact Sheet Series.” American Society of Agricultural and Biological Engineers (ASABE).
- The Honor Society of Agriculture, Gamma Sigma Delta, Mississippi State University Chapter. Inducted April 3, 2018.
- International Poultry Scientific Forum Best Graduate Student Poster Award, 2015
- Florida Association of Natural Resource Extension Professionals. Individual Program Leadership Award, 2012
- University of Florida/IFAS Central District System Best Poster Award, 2011

### **Professional Organization Membership**

American Society of Agricultural and Biological Engineers (ASABE)	2013 – present
National Association of County Agricultural Agents (NACAA)	2013 – 2021
Mississippi Association of County Agricultural Agents (MACAA)	2013 – 2021
NE1442 Multistate Project: Poultry Production Systems and Well-being: Sustainability for tomorrow	2016 – 2020
NE 1942 Multistate Project: Enhancing Poultry Production Systems through Emerging Technologies and Husbandry Practices	2020 – present

### **Professional Society Activity**

- American Society of Agricultural & Biological Engineers (ASABE), 2013 – present
  - Chair of Plant, Animal, & Facilities Group (PAFS) 02 Steering Committee, 2018 – present (2021 - 2022)
  - Secretary of Plant, Animal, & Facilities Group (PAFS) 02 Steering Committee, 2018 – present (2018 – 2020)
  - Chair of PAFS-40 Facilities and Systems Group in Plant, Animal, and Facilities Systems (2017 – 2018)
  - Vice-Chair of PAFS-40 Facilities and Systems Group in Plant, Animal, and Facilities Systems (2016 – 2017)
  - Secretary of PAFS-40 Facilities and Systems Group in Plant, Animal, and Facilities Systems (2015 – 2016)
- NE 1442: Poultry Production Systems and Well-being: Sustainability for Tomorrow. USDA Multistate Research Project.
  - Senior Executive Office (2018 – 2019)
  - Junior Executive Office (2017 – 2018)
- Mississippi Association of County Agricultural Agents – Statewide Faculty Group
  - Junior Executive (Current)
  - Secretary (2019 – 2020)
- Mississippi Poultry Association (MPA) Poultry Management School Committee Member, 2016 - present

## Professional Service

- Reviewer for:
  - Applied Engineering in Agriculture
  - Transactions of the ASABE
  - Journal of Agricultural Safety and Health
  - Sensors
  - Poultry Science

## Academic Service

- Biological and Agricultural Technology Management (BATM) Curriculum Committee
- Biosystems Engineering WeWrite Committee
- Faculty advisor for MSU Habitat for Humanity Student Chapter
- Annual judge for Region V Mississippi Science and Engineering Fair

## GRANT ACTIVITIES

### Research Grants, Awards, & Contracts

1. Davis, J.D., Linhoss, J.E., Baker-Cook, B. Enhancing Sustainability and Production Efficiency through Improved Management and Housing Design in Commercial Broilers. USDA ARS NACA. ~**4,000,000 (Linhoss - \$750,000)**. 10/22 – 10/27.
2. Effects of alternative litter amendment on physical, chemical, and bacteriological conditions of broiler litter. J.E. Linhoss, J.L. Purswell. DuPont Nutrition and Bioscience. **\$45,712** (1/2022 – 12/22)
3. “Development and evaluation of autonomous ground robots to characterize light intensities in commercial broiler houses”. G.D. Chesser, J.E. Linhoss, J.L. Purswell, W. Lowe, P. Paragjuli. MSU MAFES Strategic Research Initiative. **\$50,000** (2021-2022)
4. “Impact of anti-microbial protectant (Bioshield 75) on the bacterial load, cuticle coverage, and microbiome of broiler hatching eggs”. J.E. Linhoss, J. Evans, Indusco, Ltd. **\$9,871** (2020-2021)
5. “Comparison of commercial tunnel ventilated broiler house lighting programs using LED and natural light for broilers”. J.D. Davis, J. Campbell, J.E. Linhoss, K. Goneke. Nestle Foods through Koch Foods. **\$80,000** (2020 – 2021)
6. “How is broiler chick crop fill affected by stocking density and is it a good indicator of early performance?” J.E. Linhoss, J.L. Purswell, G.D. Chesser. MSU William M. White Special Projects Award, MSU Grant #345805. **\$2,500** (2020 – 2021)
7. “MSU Extension Apprenticeship Program: Evaporative Water Loss of Poultry Litter at Varying Biochar Inclusion Rates”. MSU Extension Apprenticeship Program, supported by Research and Extension Experiences for Undergraduates (REEU) fellowship program [grant no. 2017-67033-26015] from the USDA National Institute of Food and Agriculture. \$2,571 (2018-2020)
8. “Evaluation of Air Infiltration in Poultry Housing”. J.E. Linhoss, G.D. Chesser, USDA ARS Award # 58-6040-8-033. **\$31,752** (2018-2020)
9. “Environmental Management Strategies for Improving Production Efficiency in Poultry”. J.E. Linhoss. USDA ARS Agreement # 58-6064-9-017. **\$250,000** (2019-2024)
10. “Environmental Management Strategies for Improving Health and Well-Being in Poultry Production”. A. Thomasson, J.E. Linhoss, G.D. Chesser. USDA ARS Agreement # 58-6064-9-017. **\$400,000**. 2019-2024

11. “2017-2018 Mississippi Waste Pesticide Disposal Program”. M.L. Tagert, J.E. Linhoss. Mississippi Department of Environmental Quality (MDEQ) Contract Number 15-00039. **\$101,000** (2017-2018)
  - a. Modification #1 - **\$30,000** (2018-2019)
  - b. Modification #2 – **\$68,000** (2019-2020)
  - c. Modification #3 - **\$65,000** (2020-2021)
12. “2017 Cochran Fellowship: Bosnia and Herzegovina – Poultry Nutrition and Promotion, Eastern Europe and Eurasia Region”. J.E. Linhoss, G.D. Chesser, T. Tabler. USDA Foreign Agricultural Service (FAS) Award # FX17CO-10962R020. **\$43,227** (2017-2018)

### Teaching Grants

1. Linhoss, J.E., Blersch, D. 2022. Campbell Scientific IMAGINE Equipment Grant. Campbell Scientific. **\$18,031.00**. 2022.
2. Linhoss, J.E., Campbell, J., Davis, J.D., Batchelor, W., Bao, Y., Starkey, J., Starkey, C. 2021. Enhancing student knowledge of poultry house electronics and controller through the develop of the Interactive Poultry House Environment Simulator (IPES). Auburn University Biggio Center Daniel F. Breeden Endowed Grant Program. **\$4,000**. 2021- 2022.
3. “Hands-On Learning: A Partnership between ABE 4383 Building Construction and Maroon Edition Habitat for Humanity”. J.E. Linhoss. Center for the Advancement of Service-Learning Excellence (CASLE)/ MSU Extension Service. **\$300**. (2016-2017)
4. “Community Engaged Learning Teaching & Learning Award”. John Linhoss. Center for Community Engaged Learning. **\$3,000** (2021)
5. “Community Engaged Learning Fellowship Award”. John Linhoss. Center for Community Engaged Learning. **\$1,000** (2020 – 2021)

## PUBLICATIONS

### Refereed Journal Articles

1. Mohammadi-Aragh, M.K., Linhoss, J.E., Marty, C.A., Evans, J.D., Purswell, J.L., Chaves-Cordoba, B., Chesser, G.D., & J.W. Lowe. 2022. Evaluating the effects of pine and miscanthus biochar on *Escherichia coli*, total aerobic bacteria, and bacterial communities in commercial broiler litter. *Avian Dis. Submitted*
2. Linhoss, J.E., J.D. Davis, J.C. Campbell, J.L. Purswell, K.G. Griggs, & C.M. Edge. 2022. Light intensity and uniformity in commercial broiler houses using lighting programs derived from Global Animal Partnership (GAP) lighting standards. *J. Appl. Poult Sci. Submitted*.
3. Linhoss, J.E., J.D. Davis, J.C. Campbell, J.L. Purswell, K.G. Griggs, & C.M. Edge. 2022. Comparison of commercial broiler house lighting programs using LED and natural light: Part 1 – spatial and temporal analysis of light intensity. *J. Appl. Poult Sci.* 31(3).
4. Mohammadi-Aragh, M.K., Linhoss, J.E., & J.D. Evans. 2022. Comparison of disinfectants on the bacterial load and microbiome of broiler hatching eggs. *J. Appl. Poult Sci.* 31(3).
5. Mohammadi-Aragh, M.K., Stokes, C.E., Street, J., & J.E. Linhoss. 2021. Effects of loblolly pine (*Pinus taeda*) biochar and wood vinegar on poultry litter nutrients and microbial abundance. *Animals.* 11: 1-15.
6. Linhoss, J.E., Purswell, J.L. & J.D. Davis. 2021. Evaluation radiant heater performance using chick thermal preference and spatial modeling. *Appl. Eng. Agric.* 37(3): 447-454.

7. Li, G., Huang, Y., Chen, Z., Chesser, G.D., Purswell, J.L., Linhoss, J.E., & Yang Zhao. 2021. Practices and applications of convolutional neural network-based computer vision systems in animal farming: A review. *Sensors*. 21(4):1492-1536.
8. Linhoss, J.E., Purswell, J.L., Magee, C., and G.D. Chesser. 2021. Research note: Effect of stocking density on crop fill progression in broilers grown to 14 d. *Poult. Sci.* 100: 109929. <https://doi.org/10.1016/j.psj.2020.11.080>
9. Linhoss, J.E., Purswell, J.L., Lowe, W., and G.D. Chesser. 2020. Characterizing light leakage and spatial variation of illuminance in commercial broiler houses during tunnel ventilation. *J Appl Poult Res.* 29(4), 1091-1100. <https://doi.org/10.1016/j.japr.2020.06.003>
10. Linhoss, J.E., Purswell, J.L., Street, J., & M.R. Rowland. 2019. Evaluation of biochar as a litter amendment for commercial broiler production. *J Appl Poultry Res.* 4:1089-1098 <https://doi.org/10.3382/japr/pfz071>
11. Purswell, J.L., Olenrewaju, H.A., and J.E. Linhoss. 2018. Effect of light intensity adjusted for species-specific spectral sensitivity on live performance and processing yield of male broiler chickens. *J Appl Poult Res.* 27:4, 570-576. <https://doi.org/10.3382/japr/pfy034>
12. Linhoss, J.E., Purswell, J.L., and J.D. Davis. 2018. Radiant flux preference of neonatal broiler chicks during brooding. *Trans. ASABE.* 61(4), 1417-1423. doi: 10.13031/aea.12108
13. Purswell, J.L., Linhoss, J.E., Edge, C., and Davis, J.D. 2018. Water supply rates for recirculating evaporative cooling systems in poultry. *Appl. Eng. Agric.* 34(3), 581-590.
14. Linhoss, J.E., Davis, J.D., & J.L. Purswell. 2017. Comparing radiant heater efficiency using spatial modeling. *Appl. Eng. Agric.*, 33(3), 395-405.
15. Duncan, R.S., & J.E. Linhoss. 2005. Regeneration of virginia pine (*Pinus virginiana*) following southern pine beetle outbreak in the Sipsey Wildness, AL. *Forest Ecology & Management Vol. 212: 65-74.*

### Conference Papers

1. Rowland, M.R., Chesser, G.D., Linhoss, J.E., Purswell, J.L., J.D. Davis, and Campbell, J.C. 2022. A field survey of electrical grounding systems of commercial broiler houses in Mississippi and Alabama. ASABE Paper No. 2200487. St. Joseph, Mich.: ASABE.
2. Mohammadi, M.K., Linhoss, J.E., Marty, C.A., Evans, J.D., Purswell, J.L., Chaves-Cordoba, B., Lowe, J.W., & Chesser, G.D. 2022 Comparison of pine and miscanthus biochar physicochemical properties and impact on *Escherichia coli* abundance in broiler litter. ASABE Paper No. 2200324. St. Joseph, Mich.: ASABE.
3. Linhoss, J.E., Purswell, J.L., Lowe, J.W., & G.D. Chesser. 2018. Performance evaluation of high-efficiency fan shades in reduction of light leakage and spatial variation of illuminance in commercial broilers. ASABE Paper No. ILES-079. St. Joseph, Mich.: ASABE.
4. Purswell, J.L., Linhoss, J.E. 2018. Temporal variability of illuminance in commercial broiler houses. ASABE Paper No. ILES-046. St. Joseph, Mich.: ASABE.
5. Linhoss, J.E., Purswell, J.L., and Davis, J.D. 2016. Radiant flux preferences of neonatal broiler chicks during brooding. ASABE Paper No. 162458833. St. Joseph, Mich.: ASABE.

## Proceedings & Abstracts

1. Linhoss, J.E., Davis, J.D., Campbell, J.C., Purswell, J.L., Griggs, K., Edge, C. 2022. Spatial and temporal analysis of light intensity in commercial broiler houses using LED and natural light. 2022. ASABE Annual International Meeting. Houston, TX. (accepted, oral)
2. Rowland, M.R., Chesser, G.D., Linhoss, J.E., Purswell, J.L., Campbell, J.C., and J.D. Davis. A field survey of electrical grounding systems of commercial broiler houses in Mississippi and Alabama. 2022. ASABE Annual International Meeting. Houston, TX. (accepted, oral)
3. Mohammadi-Aragh, M.K., Linhoss, J.E., Marty, C.A., Evans, J.D., Purswell, J.L., Chaves-Cordoba, B., Lowe, J.W., & Chesser, G.D. 2022. Comparison of pine and miscanthus biochar physiochemical properties and impact on *Escherichia coli* population in broiler litter. 2022. ASABE Annual International Meeting. Houston, TX. (accepted, oral)
4. Urritia, J., Linhoss, J., Sukumaran, A., Thames, H., Wells, J.B., Tabler, T., and G.S Wamsley. 2022. Evaluation of novel litter amendments for use in the commercial broiler industry. Poultry Science Association Annual Meeting. San Antonio, TX. July 11 – 14, 2022.
5. Mohammadi-Aragh, M.K., Linhoss, J.E., Marty, C., & J. Evans. 2022. Evaluating effects of pine and miscanthus biochar on *Escherichia coli* populations in broiler litter. American Society for Microbiology Annual Conference. Washington, DC. June 9-13, 2022.
6. Rowland, M.R., Chesser, G.D., Linhoss, J.E., Purswell, J.L., Campbell, J.C., and J.D. Davis. Survey of electrical grounding systems for commercial broiler houses in Mississippi and Alabama. International Poultry Scientific Forum. Atlanta, GA. January 24-25, 2022.
7. Linhoss, J.E., Mohammadi-Aragh, M., & J.D. Evans. 2022. Impact of eggshell disinfection on the bacterial load and microbiome of broiler hatching eggs. International Poultry Scientific Forum. Atlanta, GA. January 24-25, 2022.
8. Smith, L.C., Davis, J.D., Campbell, J.C., Purswell, J.L., Edge, C.M., Rueda, M.S., Griggs, K.G., Smith, C.R., & J.E. Linhoss. 2022. Assessment of temperature sensor accuracy in commercial broiler houses. International Poultry Scientific Forum. Atlanta, GA. January 24-25, 2022.
9. Lane, A., Davis, J.D., Campbell, J.C., Purswell, J.L., Edge, C.M., Rueda, M.S., Griggs, K.G., Smith, C.R., & J.E. Linhoss. 2022. Survey of light uniformity in commercial broiler houses. International Poultry Scientific Forum. Atlanta, GA. January 24-25, 2022.
10. Edge, C. M., J. D. Davis, J. L. Purswell, J. C. Campbell, W. D. Batchelor, J. E. Linhoss, O. O. Fasina. 2021. Development of a water consumption model to estimate broiler farm water needs. 2021 Alabama Water Resources Conference and Symposium. September 8-10, Orange Beach, AL. (oral)(Volunteered)
11. Rowland, M.R., Chesser, G.D., Linhoss, J.E., Purswell, J.L., Davis, J.D., & Campbell, J. 2021. Assessing the potential for lightning-induced damage in commercial broiler houses in Mississippi and Alabama. Virtual. 2021 ASABE Annual International Meeting. July 12-16, 2021.
12. Parajuli, P., Linhoss, J., Chesser, G.D., & J.L. Purswell. 2021. Development of a low-cost ground-based robot for data collection in commercial broiler houses. Virtual. 2021 ASABE Annual International Meeting. July 12- 16, 2021.
13. Rowland, M.R., J.E. Linhoss. Water holding capacity and evaporative water loss from poultry litter and biochar. 2020 ASABE Annual International Meeting. July 13-15, 2020. Virtual. (oral)
14. Linhoss, J.E., Purswell, J.L., Magee, C., and Chesser D. Crop fill progression in broilers grown to 14 d. 2020 ASABE Annual International Meeting. Virtual. July 13-15, 2020. (oral)

15. Rowland, M.R., J.E. Linhoss. 2020. Water holding capacity and evaporative water loss from poultry litter and biochar. North Mississippi Producer Advisory Council Annual Meeting. Verona, MS. February 20, 2020.
16. Rowland, M.R., J.E. Linhoss. 2020. Water holding capacity and evaporative water loss from poultry litter and biochar. International Poultry Scientific Forum. Atlanta, GA. January 27-29, 2020. (oral)
17. Rowland, M.R., J.E. Linhoss. 2019. Evaporative water loss from litter at varying inclusion rates of biochar. 2019 MSU Undergraduate Research Symposium, August 2, 2019. Starkville, MS.
18. Rowland, M.R., J.E. Linhoss. 2019. Evaporative water loss from litter at varying inclusion rates of biochar. 2019. Mississippi Academy of Sciences Summer Student Symposium. July 29, 2019. Starkville, MS
19. Linhoss, J.E., Purswell, J.L. Evaluation of bleed-off valves on mineral scale potential, pad efficiency, and water consumption in poultry housing cooling systems. 2019. ASABE Annual International Meeting. Boston, MA. (oral)
20. Linhoss, J.E., Purswell, J.L., Lowe, J.W., & G.D. Chesser. 2019. Performance evaluation of high-efficiency fan shades in reduction of light leakage and spatial variation of illuminance in commercial broilers. International Poultry Scientific Forum. Atlanta, GA. February 11-13, 2019.
21. Linhoss, J.E., Purswell, J.L., Lowe, J.W., & G.D. Chesser. 2018. Performance evaluation of high-efficiency fan shades in reduction of light leakage and spatial variation of illuminance in commercial broilers. 10<sup>th</sup> International Livestock Environment Symposium. Omaha, NE. (oral)
22. Linhoss, J.E., Purswell, J.L., and J. Street. Evaluation of biochar as a beneficial litter amendment for broiler production. 2018. ASABE Annual International Meeting. Detroit, MI. (accepted, oral)
23. Linhoss, J.E., Purswell, J.L., Lowe, J.W., & G.D. Chesser. 2018. Performance evaluation of high-efficiency fan shades in reduction of light leakage and spatial variation of illuminance in commercial broilers. ASABE Annual International Meeting. Detroit, MI. (accepted, oral)
24. Linhoss, J.E., Purswell, J.L. Street, J., & C. Magee. 2018. Evaluation of biochar as a beneficial litter amendment for broiler production. International Poultry Scientific Forum. January 29 – 30. Atlanta, GA. (oral)
25. Linhoss, J.E. 2017. Varying manifold gas pressure and its effects on radiant output of brooders. 2017. ASABE Annual International Meeting, Spokane, WA. (poster)
26. Purswell, J.L., Luck, B.D. and J.E. Linhoss. 2017. Belt slip in slant-wall exhaust fans. ASABE Annual International Meeting, Spokane, WA. (oral)
27. Purswell, J. L. & J. E. Linhoss. 2016. Updated wet-bulb temperature and wet-bulb depression data for process and ventilation design. ASABE Annual International Meeting, ASABE, Orlando, FL. (poster)
28. Linhoss, J.E., Purswell, J.L., and J.D. Davis. 2016. Radiant flux preference of neonatal chicks. ASABE Annual International Meeting, Orlando, FL. (oral)
29. Linhoss, J.E., Davis, J.D., and J.L. Purswell. 2016. Thermal preferences of young chicks. International Poultry Scientific Forum, Atlanta, GA. (poster)
30. Linhoss, J.E., Davis, J.D., & J.L. Purswell. 2015. Comparing radiant heater efficiency using spatial modeling. ASABE Annual International Meeting, New Orleans, LA. (oral)
31. Purswell, J.L., Linhoss, J.E, Overhults, D., & J.D. Davis. 2015. Combustion efficiency of poultry heating systems. ASABE Annual International Meeting, New Orleans, LA. (oral)
32. Linhoss, J.E., Davis, J.D., & J.L. Purswell. 2015. Methodology to compare radiant heater output. International Poultry Scientific Forum, Atlanta, GA. (poster)

33. Linhoss, J.E., Davis, J.D., & J.L. Purswell. 2014. Methodology to compare radiant heater output using spatial modeling. ASABE Annual International Meeting. Montreal, Quebec, Canada. (poster)
34. Linhoss, J.E., Davis, J.D., & J.L. Purswell. 2013. Methodology to compare efficiency of radiant brooders. ASABE Annual International Meeting. Kansas City, KA. (oral)

### **Extension Publications**

1. Campbell, J., Davis, J., Linhoss, J.E., Griggs, K., Smith, C. 2022. 19 Spring Tune-Up Tips for Poultry Farm Generators and Electrical Systems. ACES Publication-ANR 2878.
2. Campbell, J., Davis, J., Linhoss, J.E., Griggs, K., Smith, C., Edge, C., and M. Rueda. 2021. Block, Tackle, Win – Minimum Ventilation and Moisture Control. ACES publication. *In press*
3. Linhoss, J.E. 2021. Electrical and other Considerations to Reduce Fire Risk and Potential Losses. Publication 3574. Mississippi State University Extension Service.
4. McGill, S., Hayes, H., Tumlin, K., Coleman, B., Linhoss, J.E. 2020. Are Common Stall Fans Effective? Orientation, Placement, and Fan Style. ID-261. University of Kentucky Cooperative Extension Service.
5. Linhoss, J.E., Purswell, J.L., Davis, J.D., Campbell, J. 2020. How Much Water Does Your Evaporative Cooling System Need? Publication 3329. Mississippi State University Extension Service.
6. Tagert, M.L., and J.E. Linhoss. 2019. Publication 3403. Disposal of Agricultural Waste Pesticides in Mississippi. Mississippi State University Extension Service.
7. Linhoss, J.E., Purswell, J.L. 2019. Proper Earth Grounding in Mississippi Poultry Houses Can Prevent Lightning Damage. Publication 3321. Mississippi State University Extension Service.
8. Linhoss, J.E., Chesser, G.D., and J.W. Lowe. 2018. Construction of a low-cost coffer dam for grain bin rescue. Publication 2598. Mississippi State University Extension Service. Update of 2010 publication by Ward, J.K, Harp, B. and H. Wilcutt. 2018.
9. Linhoss, J.E., Tagert, M.L., J. Wooten, J. Barrett. 2018. Solar pumping for livestock applications. Mississippi State University Extension Service.
10. Linhoss, J.E. 2017. Brooder elevation is important when heating broiler houses. Publication 3183. Mississippi State University Extension Service.
11. Linhoss, J.E. & G.D. Chesser. 2017. Preparing your house for winter time conditions. Publication 3149. Mississippi State University Extension Service.
12. Linhoss, J.E., Purswell, J.L., and D. Chesser. 2017. Varying manifold gas pressure and its effects on radiant brooder combustion efficiency, gas consumption, heat input, and total radiant power. Publication 3084. Mississippi State University Extension Service.
13. Linhoss, J.E., Purswell, J.L., Chesser, D. 2017. Modern broiler house heating systems. Publication 3034. Mississippi State University Extension Service.
14. Linhoss, J.E., & J.W. Wooten. 2013. Energy Efficient Homes: Air Conditioning. Publication 2785. Mississippi State University Extension Service.
15. Linhoss, J.E., & J.W. Wooten. 2013. Energy Efficient Homes: Programmable Thermostats. Publication 2786. Mississippi State University Extension Service.

### **Articles in Trade Journals**

1. Campbell, J., Davis, J., Linhoss, J., et al. 2021. Block, Tackle, Win - Minimum Ventilation and Moisture Control. Tennessee Poultry and Egg Newsletter. p.43-46 <https://www.tnpoultry.org/news/newsletters/Winter-2021-TPA-Newsletter.pdf>

2. Campbell, J., Davis, J., Linhoss, J.E., et al. 2021. Grower Tips: Block, Tackle, Win . Poultry Times. p. 18-21 [https://www.poultrytimes.com/eedition/page\\_d830670c-3268-59a8-a27c-df7ec64c0301.html](https://www.poultrytimes.com/eedition/page_d830670c-3268-59a8-a27c-df7ec64c0301.html)
3. Campbell, J., Davis, J., Linhoss, J., Griggs, K., Smith, C., Edge, C., and Rueda, M. 2021. Block, Tackle, Win: Minimum Ventilation and Moisture Control. Alabama Poultry: The official magazine of the Alabama Poultry & Egg Association, 16(6).
4. Campbell, J., Davis, J., Linhoss, J., Griggs, K., Smith, C., Edge, C., and Rueda, M. 2021. Steel vs. PVC: Locating potential friction failures. Alabama Poultry: The official magazine of the Alabama Poultry & Egg Association, 16(5).
5. Purswell & Linhoss. Tips to maintain your cooling system during summer time conditions. Mississippi Poultry Association, Issue 2.
6. Linhoss, J.E., J.L. Purswell, J.D. Davis, J.C. Campbell. 2020. Practical applications: how much water does your evaporative cooling system need? Alabama Poultry: 15(1): 24-28.
7. Linhoss, J.E.. 2019. Electrical and Other Considerations to Reduce Fire Risk and Potential Losses. Emerging Trends. Mississippi Poultry Association, Issue 4.
8. Linhoss, J.E. & J.L. Purswell. 2018. Proper Earth Grounding Can Prevent Damage to MS Poultry Houses. Emerging Trends, Mississippi Poultry Association, Issue 1.
9. Linhoss, J.E. & G.D. Chesser. 2017. Preparing Your House for Winter Time Conditions. Emerging Trends, Mississippi Poultry Association. Issue 3.

### **Work Featured in Popular Press**

1. “Unsafe digging presents liability for farmers”. October 18, 2018. Delta Farm Press Daily.
  2. “Sealing the Envelope: MAFES research improves poultry house efficiencies”. Summer 2017. MAFES Discovers: Experimentation leads to discovery.
  3. “Fall 2016 Project Highlights: ABE 4383 (Building Construction) & Habitat for Humanity Team Up”. 2016. Mississippi State University Center for Community-Engaged Learning website.
  4. “Research Keeps Chicks Warm and Productive”. 2015. Mississippi Landmarks: Research, Education, and Extension in the Division of Agriculture, Forestry, and Veterinary Medicine. Vol. 11. No. 2.
  5. “Research measured energy efficiency of poultry heaters”. 2015. Mississippi Agricultural News: Mississippi State University Extension Office of Agricultural Communications.
- 16.

## **PRESENTATIONS**

### **Invited Presentations**

1. Davis, J.D., Campbell, J.C., Linhoss, J.E., Purswell, J.L., Griggs, K.G., and Edge, C.M. Comparison of commercial tunnel ventilated broiler house lighting programs using LED and natural light for broilers. Presentation to Nestle Foods. June 28, 2022.
2. “Thermal Imaging and Temperature Gun Obstacle Course”. NPTC Cold Weather Training, November 16, 2021
3. “Grounding in Commerical Broiler Houses”. Carrolton County Young Farmers Association Broiler Grower Tour. NPTC. Auburn, AL. November 10, 2021.
4. “Thermal Imaging and Temperature Gun Obstacle Course”. NPTC Cold Weather Training, November 16, 2021

5. “Lighting for Poultry” at the Mississippi Poultry Association’s Poultry Management School, Starkville, MS. 2020. (Event Cancelled)
6. “Addressing industry needs through research and extension efforts in poultry house engineering and management”. Presentation to delegation from China Agricultural University (CAU). February 15, 2019.
7. “Weatherizing Poultry Houses”. NRCS EQUIP Program. Perry County, MS. October 11, 2018.
8. “Station Report: ABE”. Mississippi Poultry Association Annual Convention. Sandestin, FL. September 14, 2018.
9. “ABE Poultry Research Update”. Mississippi Poultry Association Management School. May 17, 2018.
10. “Station Report: ABE”. Mississippi Poultry Association Annual Convention. Sandestin, FL. September 15, 2017.
11. “Improving poultry house management with precision technology”. NCERA 180 Precision Agriculture Multi-State Working Group. Starkville, MS. May 17, 2017.
12. “MSU Agricultural & Biological Engineering poultry research efforts”. Mississippi Poultry Association Annual Poultry Management School. Starkville, MS. May 9, 2017.

## TEACHING AND ADVISING

### Courses Taught

Semester	Course Number	Course Name	Institution <sup>2</sup>	Credit Hours	Enrolled	Average Rating
Fall 2015	ABE 4383/6383	Building Construction	MSU	3	38	4.5/5
Fall 2016	ABE 4383/6383	Building Construction	MSU	3	31	4.1/5
Fall 2017	ABE 4383/6383	Building Construction	MSU	3	31	4.2/5
Fall 2018	ABE 4383/6383	Building Construction	MSU	3	35	4.6/5
Fall 2019	ABE 4383/6383	Building Construction	MSU	3	28	4.3/5
Fall 2020	ABE 4383/6383	Building Construction	MSU	3	36	4.6/5
Fall 2021	BATM 4110	Professional Practice	Auburn	2	3	5.5/6
Spring 2022	BATM 4410	Senior Capstone	Auburn	3	3	6/6

### Teaching Awards

- 2020 Community-Engaged Learning Teaching & Learning Award Winner, Mississippi State University Center for Community Engaged Learning.

## Student Advising

<b>Name</b>	<b>Degree</b>	<b>Year</b>	<b>Department</b>	<b>Committee Role</b>	<b>Institution</b>
Madalynn Jennings	M.S.	In progress	Poultry Science	Co-Chair	Auburn
Olumide Falana	Ph.D.	In progress	Biosystems Engineering	Chair	Auburn
Jorge Urritia	M.S.	In progress	Poultry Science	Member	MSU
Carson Edge	Ph.D.	2022	Biosystems Engineering	Member	Auburn
Maryam Mohammadi-Aragh	Post-doc	2020-2021	ABE		MSU
Chris Marty	M.S.	2021	ABE	Chair	MSU
Guoming Li	Ph.D.	2021	ABE	Member	MSU
Pratik Parajuli	Ph.D.	2021	ABE	Chair	MSU
Matt Rowland	M.S.	2021	ABE	Co-Chair	MSU
Maryam Mohammadi-Aragh	Ph.D.	2019	Sustainable Bioproducts	Member	MSU