

Kenneth S. Macklin

Office:

1066 Poultry Science Building
325 Wise Center Drive
Mississippi State, MS 39762
(662) 325 5430
k.macklin@msstate.edu

Home:

6 Maroon Drive
P.O. 1206
Mississippi State, MS 39762
kmacklin@gmail.com

Education:

- Ph.D.** May 2003, Poultry Science, Auburn University, Auburn, AL.
Dissertation title: Influence of the chicken major histocompatibility complex on the development of *Escherichia coli* derived cellulites.
Advisor: Dr. Robert A. Norton
- M.Sc.** December 1995, Biological Sciences, Northern Illinois University, DeKalb, IL.
Thesis title: GVH responses between *B* and *Y* systems of the chicken MHC.
Advisor: Dr. W. Elwood Briles
- B.S.** May 1992, Biological Sciences, Northern Illinois University, DeKalb, IL.

Professional Experience:

- 2023-present Department Head and Professor, Dept. of Poultry Science, Mississippi State University, Starkville MS.
- 2015-2023 Extension Specialist and Professor, Dept. of Poultry Science, Auburn University, Auburn AL.
- 2010-2015 Extension Specialist and Associate Professor, Dept. of Poultry Science, Auburn University, Auburn AL.
- 2006-2010 Extension Specialist and Assistant Professor, Dept. of Poultry Science, Auburn University, Auburn AL.
- 2004-2005 Research Fellow II, Dept. of Poultry Science, Auburn University, Auburn AL.
- 1998-2004 Research Associate III, Dept. of Poultry Science, Auburn University, Auburn AL.
- 1996-1998 Research Technician VII, Dept. of Poultry Science, Auburn University, Auburn AL.
- 1995-1996 QA Lab Assistant Manager, DeKalb Genetics, DeKalb, IL.

1992-1995 Graduate Research Assistant, Dept. of Biological Sciences, Northern Illinois University, DeKalb IL.

Honors and Awards

LEAD 21 class 17 graduate, 2022
Award for Excellence in Multistate Research – NE1442, 2019
College of Agriculture Dean's Grantsmanship Award, 2015
AU Open Source Intelligence Laboratory – Affiliate Faculty, 2014
Southern Conference on Avian Disease – Director, 2014
Poultry Science Association Outstanding Service Award, 2012
AU Food System Initiative Virtual Faculty, 2012
Auburn University - Appointed to Graduate Faculty, 2010
Poultry Science Association - Early Achievement Award in Extension, 2008
Alabama FFA Association - Honorary State FFA Degree, 2006
Sigma Xi - Promoted to Full Member, 2005

Contributions

TEACHING

Courses Taught – Have taught graduate seminar FDSC/POUL 7950 twice a year since 2011 until my departure from AU in 2023. Has been a guest lecturer for the following courses: Poultry Health, Food Microbiology, Poultry Medicine and Advanced Poultry Feeding.

Have graduated thirteen graduate students (12 Masters and 1 PhD). Has been on the committee of twenty three successful graduate committees (14 MS and 9 PhD). Currently has four graduate students (2 MS and 2 PhD) and is on five graduate committees (3 MS and 2 PhD).

RESEARCH/CREATIVE

Article-Length Publications (Author Contributions), *denotes contributor

a. Book Chapter

3. **Macklin, K.S.**, and R. Hauck, ed., Overview of Helminthiasis in Poultry, in the 12th edition of *The Merck Veterinary Manual*. 2019. Merial Select, Inc., Duluth, GA.
<https://www.merckvetmanual.com/poultry/helminthiasis/helminthiasis-in-poultry> (25%)
2. **Macklin, K.S.**, ed., Overview of Helminthiasis in Poultry, in the 11th edition

of *The Merck Veterinary Manual*. 2013. Merial Select, Inc., Duluth, GA.
http://www.merckmanuals.com/vet/poultry/helminthiasis/overview_of_helminthiasis_in_poultry.html (100%).

1. Norton, R.A. and **K.S. Macklin**, eds., Helminthiasis, in the 10th edition of *The Merck Veterinary Manual*. 2009. Merial Select, Inc., Duluth, GA. (50%).

Refereed Journal Articles (*Student or post-doctorate contribution under direct supervision)

78. *Orellana, L., D. Neves, J. Krehling, R. Burin, P. Soster, L. Almeida, A. Urrutia, *L. Munoz, *C. Escobar, *M. Bailey, B. Chaves-Cordoba, C. Williams, M. Rebollo and **K. Macklin** Effect of translucency and eggshell color on broiler breeder egg hatchability and hatch chick weight. *Poultry Science* 102(9). <https://doi.org/10.1016/j.psj.2023.102866>
77. *Munoz, L.R., *M.A. Bailey, J.T. Krehling, D.V. Bourassa, R. Hauck, W.J. Pacheco, B. Chavez-Cordoba, *K.S. Chasteen, *A.A. Talorico, *C. Escobar, A. Pietruska, and **K.S. Macklin**. 2023. Effects of dietary yeast cell wall supplementation on growth performance, intestinal *Campylobacter jejuni* colonization, innate immune response, villus height, crypt depth, and slaughter characteristics of broiler chickens inoculated with *Campylobacter jejuni* at d 21. *Poultry Science* 102(5), 1-11.
<https://doi.org/10.1016/j.psj.2023.102609> (25%).
76. Carrisosa, M., M.T. Terra-Long, J. Cline, **K.S. Macklin**, T. Dormitorio, C. Wang and R. Hauck. 2022. Multilocus sequence typing of *Eimeria maxima* in commercial broiler flocks. *Avian Disease* 66(4), 1-7.
<https://doi.org/10.1637/aviandiseases-D-22-00040> (10%).
75. Fatemi, S.A., **K.S. Macklin**, L Zhang,
. 2022. Improvement in the immunity- and vitamin D₃-activity-related gene expression of coccidiosis-challenged Ross 708 broilers in response to the in ovo injection of 25-hydroxyvitamin D₃. *Animals* 12(19), 2517 <https://doi.org/10.3390/ani12192517> (5%)
74. *Bailey, M.A., J.B. Hess, J.T. Krehling and **K.S. Macklin**. 2022. Effects of feed-through sulfur on growth performance, atmospheric ammonia levels, and footpad lesions in broilers raised beginning with built-up litter. *Animals* 12(17), 2206. <https://doi.org/10.3390/ani12172206> (40%)
73. Fatemi, S.A., K.E.C. Elliot, **K.S. Macklin**, A. Bello and E.D. Peebles. 2022. Effects of the in ovo injection of vitamin D₃ and 25-Hydroxyvitamin D₃ in Ross 708 broilers subsequently challenged with coccidiosis: II immunological and inflammatory responses and small intestine histomorphology. *Animals* 12(8), 1027. _____

72. *Bailey, M.A., D.V. Bourassa, J.T. Krehling, *L. Munoz, K.S. Chasteen, *C. Escobar and **K.S. Macklin**. 2022. Effect of common litter management practices on the prevalence of *Campylobacter jejuni* in broilers. *Animals* 12(7), 858. <https://doi.org/10.3390/ani12070858> (20%).
71. *Pal, A., A. Jackson, A. Urrutia, **K.S. Macklin**, S. B Price, R. J. Buhr and D.V. Bourassa. 2022. Bacterial composition of settled dust during growout of broiler chickens. *Poultry Science*.101(2) <https://doi.org/10.1016/j.psj.2021.101602> (5%).
70. Smith, R., R. Hauck, **K. Macklin**, S. Price, T. Dormitorio and C. Wang. 2021. A review of the lesser mealworm beetle (*Alphitobius diaperinus*) as a reservoir for poultry bacterial pathogens and antimicrobial resistance. *Worlds Poultry Science*. <https://doi.org/10.1080/00439339.2022.2003172> (5%).
69. Pacheco, W., D.B. Patino, J.I. Vargas, J.P. Gulizia, **K. Macklin**, T.J. Biggs. 2021. Effect of partial replacement of inorganic zinc with zinc methionine and manganese methionine on live performance and breast myopathies of broilers. *Journal of Applied Poultry Research*. 30(4) <https://doi.org/10.1016/j.japr.2021.100204> (5%).
68. Pal, A., M. R. Riggs, A. Urrutia, R.C. Osborn, A.P. Jackson, M.A. Bailey, **K.S. Macklin**, S.B. Price, R.J. Buhr and D.V. Bourassa. 2021. Investigation of the potential of aerosolized *Salmonella* Enteritidis on colonization and persistence in broilers from Day 3 to 21. *Poultry Science*. 100(12) <https://doi.org/10.1016/j.psj.2021.101504> (5%).
67. Beckmann, J.F., T. Dormitorio, S.O. Oladipupo, M.T. Bethonico, K. Lawrence, **K. Macklin** and R. Hauck. 2021. *Heterakis gallinarum* and *Histomonas meleagridis* DNA persists in chicken houses years after depopulation. *Journal of Veterinary Parasitology*. 298 <https://doi.org/10.1016/j.vetpar.2021.109536> (10%).
66. *Brooks, L.A., M.A. Bailey, J.T. Krehling, *K.S. Chasteen and **K.S. Macklin**. 2021. A comparison of colonizing ability between *Salmonella* Enteritidis and *Salmonella* Heidelberg in broiler chickens challenged through feed administration. *Foodborne Pathogens and Disease*. 18(11) <https://doi.org/10.1089/fpd.2021.0016> (30%).
65. Pal, A., M.A. Bailey, *A.A. Talorico, J.T. Krehling, **K.S. Macklin**, S.B. Price, R.J. Buhr and D.V. Bourassa. 2021. Impact of poultry litter *Salmonella* levels and moisture on transfer of *Salmonella* through associated generated dust. *Poultry Science* 100(8). <https://doi.org/10.1016/j.psj.2021.101236> (10%).

64. Price, P.T., T. Gaydos, H. Legendre, J. Krehling, **K. Macklin**, and J.C. Padgett. 2021. Production Layer Salmonella Enteritidis control through dry fed pre & probiotic products. Brazilian Journal of Poultry Science, 23, <https://doi.org/10.1590/1806-9061-2020-1418> (20%)
63. *Talorico, A.A., *M.A. Bailey, *L.R. Munoz, *K.S. Chasteen, *A. Pal, J.T. Krehling, D.V. Bourassa, R.J. Buhr and **K.S. Macklin**. 2021. The use of Roller Swabs for Salmonella Detection in Poultry Litter. Journal of Applied Poultry Research 30(3). <https://doi.org/10.1016/j.japr.2021.100163> (40%)
62. Carrisosa, M., S. Jin, B.A. McCrea, **K.S. Macklin**, T. Dormitorio and R. Hauck. 2021. Prevalence of select intestinal parasites in Alabama backyard poultry flocks. Animals. 11(4), 939. <https://doi.org/10.3390/ani11040939> (5%)
61. *Bailey, M.A., J.B. Hess, J.T. Krehling and **K.S. Macklin**. 2021. Broiler performance and litter ammonia levels as affected by sulfur added to the bird's diet. Journal of Applied Poultry Research 30(2) <https://doi.org/10.1016/j.japr.2021.100159> (40%)
60. *Munoz, L., W. Pacheco, R. Hauck and **K. Macklin**. 2021. Evaluation of commercially manufactured animal feeds to determine presence of *Salmonella*, *Escherichia coli* and *Clostridium perfringens*. Journal of Applied Poultry Research. 30 (2). <https://doi.org/10.1016/j.japr.2021.100142> (40%)
59. Philpot, S.C., K.R. Perryman, **K.S. Macklin**, W.A. Dozier. 2021. Growth performance, carcass characteristics, ileal microbiota and amino acid digestibility of broilers fed diets varying in supplemental copper concentrations and amino acid density from 1 to 32 days of age. Journal of Applied Poultry Research, <https://doi.org/10.1016/j.japr.2020.100135>. (5%).
58. Ovi, F.K., C. Bortoluzzi, T.J. Applegate, C.R. Starkey, **K.S. Macklin**, A. Morey and W.J. Pacheco. 2021. Effects of pre-pelleting whole corn inclusion on broiler performance, intestinal microbiota and carcass characteristics. Journal of Applied Poultry Research, 30(2), <https://doi.org/10.1016/j.japr.2020.100114>. (5%).
57. *Chadwick, E.V., *L. MacKay, J.T. Krehling and **K.S. Macklin**. 2020. Inoculation route and serotype after Salmonella recovery in the broiler's digestive tract. Avian Disease, 64 (4), 467-470. <https://doi.org/10.1637/0005-2086-64.2.123> (40%).
56. Poudel, A. Y. Kang, R.K. Mandal, A. Kalalah, P. Butaye, T. Hathcock, P. Kelly, P. Walz, **K. Macklin**, R. Cattley, S. Price, F. Adekanmbi, L. Zhang, S. Kitchens, B. Kaltenboeck and C. Wang. 2020. Comparison of microbiota, antimicrobial resistance genes and mobile genetic elements in flies and the

feces of sympatric animals. FEMS Microbiological Ecology, 96 (4), fiae027. <https://doi.org/10.1093/femsec/fiae027> (5%).

55. Hamilton, M., X. Ma, B. McCrea, M. Carrisosa, **K. Macklin**, C. Zhang, X. Wang and R. Hauck. 2020. Influence of *Eimeria* spp. infection on chicken jejunal microbiota and the efficacy of two alternative products against the infection. Avian Disease, 64 (2), 123-129. <https://doi.org/10.1637/0005-2086-64.2.123> (10%).
54. Cloft, S.E., S.J. Rochell, **K.S. Macklin**, and W.A. Dozier. 2019. Effect of dietary amino acid density and feed allocation during the starter period on 41 days of age growth performance and processing characteristics of broiler chickens given coccidiosis vaccination at hatch. Poultry Science, 98 (10), 5005-5016. (10%).
53. Cloft, S.E., S.J. Rochell, **K.S. Macklin**, and W.A. Dozier. 2019. Effects of pre-starter diets varying in amino acid density given to broiler chickens given coccidiosis vaccination at hatch. Poultry Science, 98 (10), 4878-4888. (10%).
52. Poudel, A., T. Hathcock, P. Butaye, Y. Kang, S. Price, **K. Macklin**, P. Walz, R. Cattley, A. Kalalah, F. Adekanmbi and C. Wang. 2019. Multidrug-resistant *Escherichia coli*, *Klebsiella pneumoniae* and *Staphylococcus* spp. in houseflies and blowflies from farms and their environmental settings. International Journal of Environmental Research and Public Health. 16, 3583-3595. (5%).
50. Velasquez, C.G., **K.S. Macklin**, S. Kumar, M. Bailey, P.E. Ebner, H.F. Oliver, F.S. Martin-Gonzalez and M. Singh. 2018. Prevalence and antimicrobial resistance patterns of *Salmonella* isolated from poultry farms in southeastern United States. Poultry Science, 97 (6), 2144-2152. (15%).
49. Li, L., M. Luther, **K. Macklin**, D. Pugh, J. Li, J. Zhang, J. Roberts, B. Kaltenboeck and C. Wang. 2017. Chlamydia gallinacea: a widespread emerging Chlamydia agent with zoonotic potential in backyard poultry.
48. Gradl, J., P. Curtis, K. Keener, **K. Macklin** and R. Norton. 2016. Moisture content and moisture quantity of sweated chicken eggs in two storage environments. Journal of Applied Poultry Research, 25 (2), 1-8. (15%).

47. *Bailey, M.A., **K.S. Macklin** and *J.T. Krehling. 2015. Low prevalence of *netB* and *tpeL* in historical *Clostridium perfringens* isolates from broiler farms in Alabama. *Avian Disease*, 59 (1), 46-51. (50%)
46. *Bailey, M.A., **K.S. Macklin** and *J.T. Krehling. 2013. Use of a multiplex PCR for the detection of toxin-encoding genes *netB* and *tpeL* in strains of *Clostridium perfringens*. *ISRN Veterinary Science*, <http://www.hindawi.com/isrn/veterinary.science/2013/865702/> (50%)
45. *Williams, Z.T. and **K.S. Macklin**. 2013. Stratification of bacterial concentrations from upper to lower, in broiler litter. *Journal of Applied Poultry Research*, 22 (3), 492-498. (40%)
44. Dormitorio, T.V., J.J. Giambrone and **K.S. Macklin**. 2013. Detection and isolation of infectious laryngotracheitis virus on a broiler farm after a disease outbreak. *Avian Disease*, 57 (4), 803-807. (30%)
43. *Williams, Z.T. and **K.S. Macklin**. 2013. Reduction of Salmonella and ammonia emissions in broiler litter using sulfuric acid and aluminum sulfate. *International Journal of Poultry Science*, 12 (6), 328-334. (50%)
42. *Williams, Z.T., Blake, J.P. and **K.S. Macklin**. 2012. The effect of sodium bisulfate on Salmonella viability in broiler litter. *Poultry Science* 91(9): 2083-2088. (50%)
41. Berghaus, R.D., D.L. Mathis, R. K. Bramwell, **K.S. Macklin**, J.L. Wilson, M.J. Wineland, J.J. Maurer, and M.D. Lee. 2012. Multilevel analysis of environmental *Salmonella* prevalences and management practices on 49 broiler breeder farms in four south-eastern states, USA. *Zoonoses and Public Health* 59:365-374. (15%)
40. Shaw, A.L., **K.S. Macklin** and J.P. Blake. 2012. Phytase supplementation in a reduced calcium and phosphorous diet fed to broilers undergoing an *Eimeria* challenge. *The Journal of Poultry Science* 49(3): 178-182. (30%)
39. Ou, S.-C., J.J. Giambrone and **K.S. Macklin**. 2012. Detection of infectious laryngotracheitis virus from darkling beetles and their immature stage (lesser mealworm) by quantitative polymerase chain reaction and virus isolation. *Journal of Applied Poultry Science*. 21(1): 33-38. (30%)
38. McCrea, B.A., M.A. Leslie, L.M. Stevenson, **K.S. Macklin**, L.J. Bauermeister and J.B. Hess. 2012. Live performance characteristics, pathogen load and foot pad lesions in range-reared heritage vs. conventional turkeys (*Meleagris gallopavo*). *International Journal of Poultry Science* 11(7): 438-444. (20%)

37. Ou, S.-C., J. Giambrone, **K. Macklin**. 2012. Comparison of a Taqman® real time PCR with a loop-mediated isothermal amplification assay for detection of Infectious Laryngotracheitis. *Journal of Veterinary Diagnostic Investigation*. 20(10): 1-4. (15%)
36. Shaw, A. L., F. van Ginkel, **K. Macklin**, J. Blake. 2011. Effects of phytase supplementation in broiler diets on a natural *Eimeria* challenge in naive and vaccinated birds. *Poultry Science*, 90: 781-790. (30%)
35. Ou, S.-C., J. Giambrone, **K. Macklin**. 2011. Infectious laryngotracheitis vaccine virus detection in water lines and effectiveness of sanitizers for inactivating the virus. *The Journal of Applied Poultry Research*, 20(2), pp. 223-230. (40%)
34. Shaw, A.L., **K.S. Macklin** and J.P. Blake. 2010. Effects of vitamin U on intestinal morphology in broilers undergoing a Salmonellosis challenge. *Journal of Applied Animal Research*. 37: 145-151. (20%)
33. **Macklin, K.S.** and J.T. Krehling. 2010. The use of metam-sodium to reduce bacteria in poultry litter. *Journal of Applied Poultry Research*, 19(3): 274-278. (80%).
32. Shaw, A., L. Stevenson and **K.S. Macklin**. 2010. Improving research at universities to benefit the poultry industry. *Journal of Applied Poultry Research*, 19(3): 307-311. (40%).
31. Pavia, D.M., **K.S. Macklin**, S.B. Price, J.B. Hess, D.E. Conner, and M. Singh. 2010. Efficacy of a commercial concrete sealant against *Listeria* spp.: A model for poultry processing facilities. *Journal of Applied Poultry Research*, 19: 146-151. (20%).
30. Thanissery, R., J.L. McReynolds, D.E. Conner, **K.S. Macklin**, P.A. Curtis and Y.O. Fasina. 2010. Evaluation of the efficacy of a yeast extract in reducing intestinal *Clostridium perfringens* levels in broiler chickens. *Poultry Science* 89:2380-2388. (15%)
29. Pavia, D.M., M. Singh, **K.S. Macklin**, S.B. Price, J.B. Hess and D.E. Conner. 2010. Evaluation of concrete sealant for the elimination of *Clostridium perfringens* and *Bacillus subtilis*: A poultry processing plant model. *International Journal of Poultry Science* 9: 212-216. (25%).
28. Paiva, D.M., M. Singh, **K.S. Macklin**, S.B. Price, J.B. Hess and D.E. Conner. 2009. Antimicrobial activity of commercial concrete sealant against *Salmonella* spp: A model for poultry processing plants. *International Journal of Poultry Science* 8 (10): 939-945. (25%).

27. Shaw, A.L., **K.S. Macklin** and J.P. Blake. 2009. Effects of vitamin U on ameliorating coccidial and salmonellosis challenges in broilers. *Journal of Applied Animal Research*. 36: 17-22. (35%)
26. Bilgili, S.F., J.B. Hess, J.P. Blake, **K.S. Macklin**, B. Saenmahayak and J.L. Sibley. 2009. Influence of bedding material on foot pad dermatitis in broiler chickens. *Journal of Applied Poultry Research* 18: 583-589. (15%)
25. **Macklin, K.S.**, R.A. Norton and S.J. Ewald. 2009. Effect of the major histocompatibility complex (MHC) on the inhibition of induced cellulitis development in a broiler chicken model. *Avian Diseases* 53 (2): 297-300. (80%)
24. Hess, J.B. **K.S. Macklin** and B.A. McCrea. 2008. Litter beetle (*Alphitobius diaperinus* Panzer) counts in broiler houses treated with a range of insecticides. *Journal of Applied Animal Research*, 33:127-131. (40%).
23. Lien, R.J., **K.S. Macklin**, J.B. Hess, W.A. Dozier III and S.F. Bilgili. 2008. Effects of early skip-a-day feed removal and litter material on broiler live and processing performance and litter bacterial levels. *International Journal of Poultry Science*. 7(2): 110-116 (30%).
22. Bano, L., I Drigo, **K.S. Macklin**, S.W. Martin, R.S. Miller, R.A. Norton, O.A. Oyarzabal and S.F. Bilgili. 2008. Development of a polymerase chain reaction assay for specific identification of *Clostridium colinum*. *Avian Pathology*, 37(2): 179-181. (20%).
21. McCrea, B.A., **K.S. Macklin**, R.A. Norton, J.B. Hess and S.F. Bilgili. 2008. Recovery and genetic diversity of *Escherichia coli* isolates from deep litter, shallow litter and surgical shoe covers. *Journal of Applied Poultry Research*, 17(2): 237-242. (35%).
20. **Macklin, K.S.**, J.B. Hess and S.F. Bilgili. 2008. In-house windrow composting and its effects on foodborne pathogens. *Journal of Applied Poultry Research*, 17: 121-127. (90%).
19. Giambrone, J.J., O. Fagbohun and **K.S. Macklin**. 2008. Management practices to reduce infectious laryngotracheitis virus in poultry litter. *Journal of Applied Poultry Research*, 17: 64-68. (40%).
18. McCrea, B.A. and **K.S. Macklin**. 2006. Effect of different cleaning regimens on recovery of *Clostridium perfringens* on poultry live haul containers. *Poultry Science*, 85(5):909-913. (40%)
17. McCrea, B.A., **K.S. Macklin**, R.A. Norton, J.B. Hess and S.F. Bilgili. 2006. A longitudinal study of Salmonella and Campylobacter jejuni isolates from

day of hatch through processing using automated ribotyping. *Journal of Food Protection*, 69(12):2908-2914. (30%).

16. **Macklin, K.S.**, J.B. Hess, S.F. Bilgili and R.A. Norton. 2006. The use of in-house composting to reduce bacterial numbers between growouts. *Journal of Applied Poultry Research*, 15: 531-537. (75%)
15. McCrea, B.A., R.A. Norton, **K.S. Macklin**, J.B. Hess and S.F. Bilgili. 2005. Recovery and genetic similarity of *Salmonella* from broiler house drag swabs versus surgical show covers. *Journal of Applied Poultry Research*, 14: 694-699. (30%)
14. Wang, C., **K.S. Macklin**, J.T. Krehling, and R.A. Norton. 2005. Influence of infectious bursal disease and chicken anemia vaccines on the development of cellulitis and myositis lesions in cage-reared broilers. *Journal of Applied Animal Research*, 27: 65-69. (30%)
13. Oyarzabal, O.A., **K.S. Macklin**, R.S. Miller, and J.M. Barbaree. 2005. Evaluation of agar plates for direct enumeration of *Campylobacter* spp. from poultry carcass rinses. *Applied and Environmental Microbiology*, 71: 3351-3354. (25%)
12. **Macklin, K.S.**, J.B. Hess, S.F. Bilgili, and R.A. Norton. 2005. Bacterial levels of pine shavings and sand used as poultry litter. *Journal of Applied Poultry Research*, 14: 238-245. (60%)
11. Wang, C., R.A. Norton, **K.S. Macklin**, and J.T. Krehling. 2005. The effect of chicken anemia and infectious bursal disease vaccines and Marek's disease virus on the development of cellulitis and myositis lesions in floor-reared MHC-defined broiler chickens. *Journal of Applied Animal Research*, 27: 1-5. (40%)
10. van Santen, V.L., B. Kaltenboeck, K.S. Joiner, **K.S. Macklin**, and R.A. Norton. 2004. Real-time quantitative PCR-based serum neutralization test for detection and titration of neutralizing antibodies to chicken anemia virus. *Journal of Virological Methods*, 115: 123-135 (5%)
9. Downs, K.M., R.A. Norton, J.B. Hess, and **K.S. Macklin**. 2004. Micronutrient strategies for the control of cellulitis in broilers. *Nutrition Abstracts and Reviews. Series B, Livestock Feeds and Feeding*, 74: 33N-37N. (25%)
8. Downs, K.M., R.A. Norton, **K.S. Macklin**, and J.B. Hess. 2003. The potential for vitamin E and zinc-amino acid complex to reduce cellulitis in broilers. *Journal of Applied Animal Research*, 23: 25-32. (25%)

7. **Macklin, K.S.**, S.J. Ewald, and R.A. Norton. 2002. Major histocompatibility complex (MHC) effect on cellulitis among different chicken lines. *Avian Pathology*, 31: 371-376. (80%)
6. Wilder, T.D., J.M. Barbaree, **K.S. Macklin** and R.A. Norton. 2001. Differences in the pathogenicity of various bacterial isolates used in an induction model for gangrenous dermatitis in broiler chickens. *Avian Disease*, 45: 659-662. (40%)
5. Norton, R.A., **K.S. Macklin**, and B.L. McMurtrey. 2000. The association of various isolates of *Escherichia coli* from the United States with induced cellulitis and colibacillosis in young broiler chickens. *Avian Pathology*, 29: 571-574. (50%)
4. **Macklin, K.S.** and R.A. Norton. 2000. The efficacy of vitamin E in the prevention of cellulitis in broiler chickens experiencing scratches in a challenge model. *Avian Disease*, 44: 701-705. (60%)
3. Downs, K.M., J.B. Hess, **K.S. Macklin**, and R.A. Norton. 2000. Dietary zinc complexes and vitamin E for reducing cellulitis incidence in broilers. *Journal of Applied Poultry Research*, 9: 319-323. (25%)
2. **Macklin, K.S.**, R.A. Norton, and B.L. McMurtrey. 1999. Scratches as a component in the pathogenesis of avian cellulitis in broiler chickens exposed to multiple cellulitis origin *Escherichia coli* isolates collected in different regions of the United States. *Avian Pathology*, 28: 573-578. (80%)
1. Norton, R.A., **K.S. Macklin**, and B.L. McMurtrey. 1999. Evaluation of scratches as an essential element in the development of avian cellulitis in broiler chickens. *Avian Diseases*, 43: 320-325. (50%)

Papers and Lectures

Over sixty-five proceeding papers and invited talks, as well as over 175 abstracts that were produced either as the senior or junior PI.

Contracts and Grants

Extramural Funding Received – over \$5 million as PI or co-PI

OUTREACH/EXTENSION

Outreach/Extension Publications

Books

7. Ernst, M., H. Pepper, I. Hanning, K. McAnally, M. Williams, M. Brown, W. Murphy, W. Sneed, A. Carter, W. Bates, M.R. Smith and **K.S. Macklin**, contributors. Dec., 2015. Managing Risk: Regulations, Food Safety and Costs for On-farm Poultry Processing in Tennessee. University of Tennessee Extension System. 22pp. (15%).
6. Curtis, P. and **K.S. Macklin**, eds., Auburn Tailgating Times. 2014. iPhone app. Auburn University Food Systems Institute. (10%).
5. **Macklin, K.S.**, J.B. Hess and P. Curtis, eds. 2014. Proceedings of the 2013 Quadrennial National Poultry Extensionist Meeting, pp 46, Orange Beach, AL, October 22-23. (70%)
4. Blake, J.P., J.B. Hess and **K.S. Macklin**, eds. 2012. Proceeding of the 2012 National Poultry Waste Management Symposium, pp. 153, Shreveport, LA, Oct. 23-25. (30%)
3. Blake, J.P., J.B. Hess and **K.S. Macklin**, eds. 2010. Proceeding of the 2010 National Poultry Waste Management Symposium, pp. 153, Greensboro, NC, Oct. 26-28. (25%)
2. Hess, J.B. J.P. Blake, **K.S. Macklin** and C. Coufal, eds. 2008. Proceeding of the National Poultry Waste Management Symposium, Balancing Economic and Environmental Issues, pp. 153, Des Moines, IA, Oct 21-23. (15%)
1. **Macklin, K.S.** and M.K. Eckman, eds., Field Diagnosis of Coccidiosis in Chickens. 2007. Merial Select, Inc., Gainesville, GA. 32 pp. (80%)

Articles published through Alabama Cooperative Extension System (ACES)

47. Chasteen, K. and **K. Macklin**. 2022. Backyard worm control. ANR-2851. January 2022. (60%)
46. **Macklin, K.**, Hess, J.B., J.P. Blake and **K.S. Macklin**. 2021. Feeding game birds: pheasant, quail and partridge. ANR-1343. July 2021. (15%).
45. **Macklin, K.**, J.B. Hess, J.O. Donald and J.P. Blake. 2021. Construction of a dead-poultry composter. ANR-0604. June 2021. (10%).
44. Pacheco, W., **K. Macklin**, and P. Brown. 2020. Economic impact of a new poultry feed mill in Alabama. ANR-2673. Oct. 2020. 2 pp. (15%)
43. Woods, K., D. Bourassa, **K. Macklin**, and W. Pacheco. 2020. CDC Investigating outbreaks of Salmonella from backyard poultry. www.aces.edu. August 2020. 2 pp. (20%).

42. Hess, J.B., W.J. Pacheco, S. Bonilla, J.I. Vargas, D. Bourassa and **K.S. Macklin**. 2020. Nutricion para la cria domestica de gallinas. ANR-2641. May 2020. 7 pp. (10%).
41. **Macklin, K.S.** and R.A. Norton. 2020. What can poultry teach us about surviving Coronavirus? May 2020. 2 pp. (80%).
40. Bourassa, D.V., K.L. Woods, W.J. Pacheco and **K.S. Macklin**. 2020. Enhancing egg quality & safety in small flocks. April 2020. ANR-2642. 4 pp. (20%).
39. Bourassa, D.V., A. Giron, K.L. Woods, W.J. Pacheco and **K.S. Macklin**. 2020. Mejora de la calidad e inocuidad de huevos en pequenos gallineros. April 2020. ANR-2657. 4 pp. (15%).
38. **Macklin, K.S.** 2020. Making LIFE Work – Raising your own chickens? Think first. April 2020. ACES-2604. 1 pp. (100%).
37. Hess, J.B and **K.S. Macklin**. 2020. Protecting Backyard Flocks. April 2020. ANR-2399. 2 pp. (50%).
36. **Macklin, K.S.** 2020. Avian Influenza FAQ. ANR-2304. March 2020, 2 pp. (100%).
35. Norton, R.A., **K. Macklin**, and R. Hauck. 2020. Novel Coronavirus update: March 11, 2020. www.aces.edu. 2 pp. (40%).
34. Norton, R.A., **K. Macklin**, and R. Hauck. 2020. Novel Coronavirus update: Feb 21, 2020. www.aces.edu. 2 pp. (40%).
33. Norton, R.A., **K. Macklin**, and R. Hauck. 2020. Novel Coronavirus update: Feb 4, 2020. www.aces.edu. 2 pp. (40%).
32. **Macklin, K.S.**, S. Bonilla, W.J. Pacheco and D.B. Bourassa. 2019. Bioseguridad para las aves de traspatio, ANR-2611. Dec. 2019. 2 pp. (10%)
31. **Macklin, K.S.**, J.P. Blake, J.B. Hess, W.D. Berry, R.A. Voitle and T.A. Hess. 2019. Bobwhite quail embryo development. ANR-1410. Nov. 2019. 1 pp. (10%).
30. Pacheco, W.J., D.V. Bourassa, **K.S. Macklin** and J.B. Hess. 2019. Broiler chicken development from day 1 to day 50. ANR-2482. Nov. 2019. 1 pp. (10%).

29. **Macklin, K.S.**, J.P. Blake, J.B. Hess, W.D. Berry, R.A. Voitle and T.A. Hess. 2019. Chicken embryo development. ANR-1408. Nov. 2019. 1 pp. (10%).
28. **Macklin, K.S.**, J.P. Blake, J.B. Hess, W.D. Berry, R.A. Voitle and T.A. Hess. 2019. Pheasant embryo development. ANR-1411. Oct. 2019. 1 pp. (10%).
27. Bourassa, D., **K. Macklin**, W. Pacheco. 2019. Washing raw poultry can lead to foodborne illness. <https://www.aces.edu/blog/topics/food-safety-general/washing-raw-poultry-can-lead-to-foodborne-illness/> Aug. 2019. 2 pp. (10%).
26. Hess, J.B. and **K.S. Macklin**. 2019. Evaluating water quality for poultry. ANR-1201. June 2019. 4 pp. (25%)
25. Hess, J.B., **K.S. Macklin**, G.R. Strother. 2019. Poultry pest management. ANR-0483. May 2019. 6 pp. (25%).
24. Bourassa, D., W. Pacheco and **K. Macklin**. 2019. Protect yourself from Salmonella in backyard poultry. www.aces.edu. May 2019. (15%).
23. Hess, J.B. and **K.S. Macklin**. 2019. Nutrition for backyard chicken flocks. ANR-1317. May 2019. 7 pp. (10%).
22. Hess, J.B. and **K.S. Macklin**. 2019. Feeding game birds: pheasants, quail and partridges. ANR-1343. May 2019. 11 pp. (20%).
21. Hess, J.B., **K.S. Macklin** and J.P. Blake. 2019. Home layer flock management suggestions. ANR-2549. May 2019. 3 pp. (20%).
20. **Macklin, K.** 2017. Avian Influenza Faq. Alabama Cooperative Extension Services, ANR-2304. March 2017. p. 1-2. (100%)
19. **Macklin, K.**, J. Hess, J. Blake. 2017. Biosecurity for Backyard Poultry Flocks. Alabama Cooperative Extension Services, ANR-2319. March 2017. p. 1-2. (75%)
18. **Macklin, K.**, J. Cline and F. Hoerr. 2017. Submitting poultry samples to the Alabama state diagnostic laboratories. Alabama Cooperative Extension Services, ANR-2390. March 2017. p. 1-2. (85%)
17. Hess, J.B. S.F. Bilgili, J.P. Blake and **K.S. Macklin**. 2012. Backyard poultry husbandry and health training. PPA23 Success Story. AL Cooperative Extension System (25%).

16. Hess, J.B. S.F. Bilgili, J.P. Blake and **K.S. Macklin**. 2011. Avian embryology posters aid in science education. PPA23 Success Story. AL Cooperative Extension System (15%).
15. Hess, J., **K. Macklin**, J. Blake. 2011. Home Layer Flock Management Suggestions. *Timely Information* (3 pp. p.). Agriculture and Natural Resources, Alabama Cooperative Extension System. (30%).
14. **Macklin, K.**, J. Hess, J. Blake. 2011. Biosecurity for Backyard Poultry Flocks. *Timely Information* (2 pp. p.). Agriculture and Natural Resources, Alabama Cooperative Extension System. (75%)
13. Hess, J.B. S.F. Bilgili, J.P. Blake and **K.S. Macklin**. 2010. Avian embryology posters aid in science education. PPA23 Success Story. AL Cooperative Extension System (15%).
12. **Macklin, K.**, J. Cline and F. Hoerr. 2010. Submitting poultry samples to the Alabama state diagnostic laboratories. Alabama Cooperative Extension Services, Timely Information. July 2010. p. 1-2
http://www.aces.edu/timelyinfo/Poultry/2010/July/Submitting_Samples.pdf
(85%)
11. **Macklin, K.**, et al. 2009. Thriving in Challenging Times: The Road Ahead. Alabama Cooperative Extension System. EX-0084. 30 pp. April 2009. (5%).
10. Hess, J.B. S.F. Bilgili, J.P. Blake and **K.S. Macklin**. 2009. Avian embryology posters aid in science education. PPA23 Success Story. AL Cooperative Extension System (15%).
9. Hess, J.B., S.F. Bilgili, J.P. Blake and **K.S. Macklin**. 2008. Broiler grower litter seminars. PPA23 2008 Success Story. 1 pp. (25%)
8. Hess, J.B., **K.S. Macklin**, S.F. Bilgili and J.P. Blake. 2008. In-house windrow composting – how, when and why. Alabama Cooperative Extension Services, Timely Information. April 2008. p. 1-2
<http://www.aces.edu/timelyinfo/Poultry/2008/April/psApril08.pdf> (30%)
7. Blake, J.P., J.B. Hess and **K.S. Macklin**. 2007. Nutrition for backyard chicken flocks. Alabama Cooperative Extension System article ANR-1317. Spring 2007 (15%)
6. Hess, J.B. and **K.S. Macklin**. 2006. Helping the community understand Avian Influenza. PPA23 2006 Success Story. (20%)

5. **Macklin, K.S.** and J.J. Giambrone. 2006. In-house composting of poultry litter: Controls disease causing microorganisms and saves the environment. AU Ag Illustrated. Fall 2006. (85%)
4. **Macklin, K.S.**, J.B. Hess and R.A. Norton. 2006. Minimizing avian influenza risks in backyard poultry flocks. Alabama Cooperative Extension Services, Timely Information. March 2006. p. 1-2. URL: <http://www.aces.edu/timelyinfo/Poultry/2006/March/psMar20.pdf> (75%)
3. Langcuster, J. J.B. Hess, **K.S. Macklin** and R.A. Norton. 2006. Avian flu: frequently asked questions. Alabama Cooperative Extension Services, Timely Information. February 2006. p. 1-2. URL: <http://www.aces.edu/timelyinfo/Poultry/2006/February/psFeb28.pdf> (20%)
2. Norton, R.A., **K.S. Macklin** and J.B. Hess. 2006. Avian influenza – biosecurity and public health concerns. Alabama Cooperative Extension Services, Timely Information. February 2006. p. 1-3. URL: <http://www.aces.edu/timelyinfo/Poultry/2006/February/psFeb06.pdf> (20%)
1. Hess, J.B. and **K.S. Macklin**. 2005. Success Story: Litter beetle control measures accessed. Alabama Cooperative Extension System. (20%)

Popular Press Articles (*Student contribution)

Book Chapter

1. **Macklin, K.S.** 2014. Pressure on the poultry industry: putting a stop to all antibiotics is complicated. In: Auburn Speaks – On Food Systems, 2014. p. 46-51. (80%).

Magazine Articles

Over 115 published magazine articles

Extension Presentations – Over 300 extension presentations given.

Service

University Service - AU

Service to the University

2021-2023	Senate Rules Committee
2019-2020	Senate Selection Committee
2019-2023	Institutional Animal Use and Care Committee – member

2019-2021	Alabama Cooperative Extension System Poultry PPT – leader
2016-2022	Department Representative to the University Senate
2016 & 2018	Grievance Panel Chair
2015-2018	Faculty Grievance Committee
2013-2017	Patent Committee
2009-2013	Traffic Appeals Committee - Chair
2007-2009	Traffic Appeals Committee - Member
2006-present	Treasurer to the Auburn Chapter of Sigma XI
2005-2011, 2022	Judge for the Auburn University Graduate Student Forum

Service to the College of Agriculture

2021	CoAg Poster Judge
2020-2022	CoAg Colloquium Committee
2020	Search Committee chair for the AUFSI Director
2019-2021	CoAg Team Leader – Animal Systems
2020	CoAg Promotion and Tenure Committee Chair
2018-2020	CoAg Promotion and Tenure Committee
2018-2019	CoAg Dept of Poultry Science Dept Head Search Committee
2017-2018	CoAg Team Leader – Animal Production
2015-2016	CoAg Dean Search Committee
2010-2014	Budget Advisory Committee
2011-2013	Ag Illustrated Committee
2011-2013	College IT Committee

Service to the Department of Poultry Science

2021-2022	Search committee for Animal Physiologist Assistant Professor
2021-2022	Search committee for Poultry Extension Specialist/Assistant Professor
2021-2023	Faculty Mentor Committee Chair
2021-2023	Promotion and Tenure Committee Chair
2021-2023	Member of the Processing Plant Committee
2020	Search committee chair for the POUL Animal Wellbeing Assistant/Associate Professor
2016	Search committee chair for the joint CVM/POUL Poultry Health Assistant/Associate Professor
2015-2023	Member of the farm committee
2014	Search committee for Feed Mill Extension Specialist/Assistant Professor
2013	Department affiliate faculty committee - member
2013	Search committee for Poultry Production Assistant Professor
2013	Search committee for the Communication Specialist – search 2
2013	Search committee for the Communication Specialist – search 1
2012-2018	Chair of the information technology committee

2012-2013	Department strategic planning committee – member
2010-2013	Co-advisor to the Poultry Science Club
2008	Search committee for the Department of Poultry Science Recruiter.
2007	Search committee for lab manager with Robert Norton
2006-2010	Advisor to the Poultry Science Club
2006-2011	Provide content to the Departmental web page that is pertinent to Alabamians interested in poultry and poultry production
2006	Member of the search committee for the Departmental Recruiter
2006	Member of the search committee for the Farm Superintendent
2005-2023	Member of the Extension Committee
2004-2019	Chair of the Poultry Science Building Committee
2003-2004	Move coordinator into the poultry science building
2002-2011	Member of the Information Technology Committee

2. Professional Societies

2021- present	Poultry Science Association - Member of the Early Achievement in Research Committee - Member
2019-2021	Alabama Poultry and Egg Association – Ad hoc board member
2018	NE1942 Rewrite Committee - Member
2017	Southern Conference on Avian Disease - President
2014-present	National 4-H Poultry and Egg Conference Committee - Member
2014-2018	Poultry Science Association - Member of the Food Safety and Health Committee
2014-present	Southern Conference on Avian Disease - Director
2012-2014	US Poultry and Egg Associations – Poultry Production and Health Seminar Planning Committee
2011-present	Alabama Poultry and Egg Association – Annual Meeting Planning Committee
2011-present	Alabama Avian Health Advisory Board - Member
2009-2013	Triennial Poultry Extension Workshop - Chair
2006-2017	Content provider for the webpage for Poultry Science Association - This position is responsible for keeping the webpage up to date with current topical news that affects poultry.
2008-2012	Program Chair for 2012 Annual Meeting of Poultry Science Association.
2005-2012	Member of Poultry Science Association Extension Committee
2005-2012	National Poultry Extension Workshop - Planning Committee
2005-2009	Triennial Poultry Extension Workshop - Co-Chair
2005	Poultry Science Association Information Technology Liaison