

Deependra Paneru

Ph.D., Poultry Science, University of Georgia, Athens, GA

dpaneru@uga.edu

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RESEARCH INTERESTS

Poultry nutrition and health researcher with expertise spanning gut health and intestinal integrity, skeletal biology, mycotoxicology, and the gut microbiome. Particular focus on nutritional and management strategies that improve bird health, welfare, productivity, and resilience to disease and environmental stressors.

EDUCATION

University of Georgia <i>Ph.D. in Poultry Science</i>	Athens, GA, USA 2022 – 2026
University of Arkansas at Pine Bluff <i>M.S. in Agricultural Regulations</i>	Pine Bluff, AR, USA 2019 – 2021
Tribhuvan University <i>B.S. in Agriculture</i>	Kathmandu, Nepal 2013 – 2017

RESEARCH EXPERIENCE

Graduate Research & Teaching Assistant <i>Department of Poultry Science, University of Georgia</i>	Athens, GA, USA 2022 – 2026
<ul style="list-style-type: none">Designed and conducted multiple research projects evaluating the effects of mycotoxins, coccidiosis, and heat stress on productivity, gut health, immunity, and bone health in poultry, resulting in numerous peer-reviewed publications.Conducted in vitro and molecular assays including FITC-dextran gut permeability, ELISA, qPCR, and flow cytometry; assessed bone and body composition by DEXA and micro-CT.Applied statistical analyses (SAS, R, JMP) to longitudinal and factorial datasets.	
Graduate Research Assistant <i>Department of Agriculture, University of Arkansas at Pine Bluff</i>	Pine Bluff, AR, USA 2019 – 2021
<ul style="list-style-type: none">Conducted research on antibiotic alternatives, incorporating fenugreek seeds and <i>Bacillus</i>-based probiotics into broiler diets, which modulated cecal microbiota and improved immune responses and growth in broiler chickens.	

TECHNICAL SKILLS

- Microbiome analysis – QIIME2, metagenomics
- Molecular biology – qPCR, ELISA, gene expression
- Immunology – flow cytometry
- Gut health – FITC-dextran permeability assays, intestinal histomorphology
- Bone & body composition – DEXA, micro-CT
- Statistical analysis – SAS, R, JMP
- Feed formulation & nutritional modeling

TEACHING & MENTORING

Teaching Assistant, University of Georgia 2022 – 2026
Integrated Animal Nutrition (POUL 3750) and Global Agriculture & World Culture (AESC 2050)

- Assisted with undergraduate instruction, grading, and student mentoring in applied animal science and nutrition courses.

Undergraduate & High-School Student Mentor 2023 – 2026

- Provided hands-on training in laboratory techniques, experimental design, data analysis, and scientific communication for students working within the department.

LEADERSHIP & SERVICE

Project Lead – ACRB Regeneration Initiative, University of Georgia 2023 – 2026

- Led a departmental project on the regeneration and conservation of heritage poultry breeds, coordinating breeding management, data collection, and health monitoring in support of the department's research, teaching, and outreach missions.

International Workshops & Academic Events Support 2023 – 2026

- Volunteered in the organization and execution of international workshops and academic events hosted by the Department of Poultry Science, University of Georgia.

HONORS & AWARDS

- **Certificate of Excellence (Oral Presentation)** – 2025 International Poultry Scientific Forum. *Comparative analysis of body composition and bone microarchitecture in wild-type and restricted ovulator hens.*
- **Certificate of Excellence (Oral Presentation)** – 2024 Poultry Science Association Annual Meeting. *Effects of subclinical mycotoxin exposure and coccidial challenge on growth performance, body composition, gut health and egg production during pullet-to-layer transition period.*
- **First Place (Poster Presentation)** – 2024 Graduate Student Forum, University of Georgia. *Effects of deoxynivalenol-contaminated corn DDGS on growth performance, gut health, and immune response in pullets.*

PUBLICATIONS

Peer-Reviewed Journal Articles (25 total; 11 as first author)

1. Gyawali, I., M. K. Sharma, S. Gudidoddi, D. Goo, D. J. Lee, **D. Paneru**, Y. Kim, and W. K. Kim. 2026. Dietary *Artemisia annua* leaf powder modulates intestinal response and cecal microbiota of broiler chickens during peak *Eimeria* infection. *Poultry Science* 105:107061.
2. **Paneru, D.**, M. K. Sharma, H. Shi, D. Goo, J. Lee, R. Shanmugasundaram, and W. K. Kim. 2026. Interactive effects of the feed-borne mycotoxin deoxynivalenol and a mixed-species *Eimeria* challenge on layer pullets during the transition to lay. *Poultry Science* 105:106724.
3. **Paneru, D.**, D. White, M. Sharma, J. Gonzalez, and W. Kim. 2026. Effect of Replacing Conventional Corn with Corn Containing Thermostable α -Amylase Enzyme (AMY797E) in Standard and Low-Energy Diets in Laying Hens. *Animals* 16:582.
4. **Paneru, D.**, F. S. Mahdavi, V. P. R. Keshavareddy, S. K. R. Ragyari, and W. K. Kim. 2026. Comparative analysis of body composition and bone microarchitecture in wild-type and restricted ovulator hens. *Journal of Applied Poultry Research* 35:100653.
5. **Paneru, D.**, M. K. Sharma, D. Goo, H. Shi, T. J. Applegate, L. Chai, R. Shanmugasundaram, and W. K. Kim. 2025. Interactive effects of dietary deoxynivalenol and coccidial infection on growth

- performance, immune response, oxidative status, and gut health in pullets. *Poultry Science* 104:105462.
6. **Paneru, D.**, D. L. White, M. K. Sharma, J. M. Gonzalez, and W. K. Kim. 2025. Evaluation of Enogen® corn as a replacement for conventional corn in standard and energy-deficient diets for pullets. *Journal of Applied Poultry Research* 34:100578.
 7. Wang, J., H. Shi, D. White, H. Ko, **D. Paneru**, M. Sharma, R. Patterson, and W. K. Kim. 2025. Effects of liquid yeast cell wall on growth performance, intestinal development, immunity, and cecal *Salmonella* population of broilers. *Poultry Science* 104:105551.
 8. Lee, J., H. Ko, D. Goo, M. K. Sharma, G. Liu, H. Shi, **D. Paneru**, V. S. R. Choppa, B. Maertens, C. Sol, and W. K. Kim. 2025. Effects of dietary supplementation with a polyherbal based product on sporozoites viability and on growth performance, lesion score, gut permeability, oocyst shedding count, tight junction, pro-inflammatory cytokine, and antioxidant enzyme in broiler chickens challenged with *Eimeria spp.* *Poultry Science* 104:105002.
 9. Lee, J., D. Goo, M. K. Sharma, H. Ko, H. Shi, **D. Paneru**, V. S. R. Choppa, G. Liu, and W. K. Kim. 2025. Effects of graded yeast cell wall supplementation on growth performance, immunity and intestinal development of broiler chickens raised in floor pens for 42 days. *Poultry Science* 104:104695.
 10. Shuaib, M., A. Hafeez, **D. Paneru**, W. K. Kim, M. Tahir, A. Pokoo-Aikins, O. Ullah, and A. Sufyan. 2025. Exploring the Potential Effects of Soybean By-Product (Hulls) and Enzyme (Beta-Mannanase) on Laying Hens During Peak Production. *Animals* 15:98.
 11. **Paneru, D.**, M. K. Sharma, H. Shi, D. Goo, V. S. R. Choppa, I. Gyawali, R. Shanmugasundaram, and W. K. Kim. 2025. Effects of deoxynivalenol contaminated corn distiller's dried grains with solubles on growth performance, body composition, immunological response, and gastrointestinal health in young pullets. *Poultry Science* 104:104611.
 12. Goo, D., J. Lee, **D. Paneru**, M. K. Sharma, H. R. Rafieian-Naeini, F. S. Mahdavi, I. Gyawali, S. R. Gudidoddi, G. Han, and W. K. Kim. 2024. Effects of branched-chain amino acid imbalance and dietary valine and isoleucine supplementation in modified corn-soybean meal diets with corn distillers dried grains with solubles on growth performance, carcass quality, intestinal health, and cecal microbiome in Cobb 500. *Poultry Science* 103:104483.
 13. Shi, H., V. S. R. Choppa, **D. Paneru**, and W. K. Kim. 2024. Effects of phytase and 25-hydroxycholecalciferol supplementation in broilers fed calcium-phosphorous deficient diets, with or without *Eimeria* challenge, on growth performance, body composition, bone development, and gut health. *Animal Nutrition* 18:S2405654524001355.
 14. Shi, H., **D. Paneru**, M. K. Sharma, J. Lee, H. R. R. Naeini, F. S. Mahdavi, and W. K. Kim. 2024. Phytase, 25-hydroxyvitamin D3 and cocci vaccination to broilers fed a calcium and phosphorus-reduced diet under *Eimeria spp.* challenge: effects on growth performance and intestinal health. *Poultry Science* 103:104326.
 15. Goo, D., A. K. Singh, J. Choi, M. K. Sharma, **D. Paneru**, J. Lee, H. R. Katha, H. Zhuang, B. Kong, B. Bowker, and W. K. Kim. 2024. Different dietary branched-chain amino acid ratios, crude protein levels, and protein sources can affect the growth performance and meat yield in broilers. *Poultry Science* 103:104313.
 16. Lee, N., M. K. Sharma, **D. Paneru**, E. D. Ward, W. K. Kim, and J. H. Suh. 2024. Metabolomic analysis reveals altered amino acid metabolism and mechanisms underlying *Eimeria* infection in laying hens. *Poultry Science* 103:104244.
 17. **Paneru, D.**, G. Tellez-Isaias, W. G. Bottje, E. Asiamah, A. A. A. Abdel-Wareth, M. Salahuddin, and J. Lohakare. 2024. Immune modulation and cecal microbiome changes in broilers fed with fenugreek seeds and *Bacillus*-based probiotics. *Poultry Science* 103:104130.

18. Sharma, M. K., J. Lee, H. Shi, H. Ko, D. Goo, **D. Paneru**, S. D. Holladay, R. M. Gogal, and W. K. Kim. 2024. Effect of dietary inclusion of 25-hydroxyvitamin D₃ and vitamin E on performance, gut health, oxidative status, and immune response in laying hens infected with coccidiosis. *Poultry Science* 103:104033.
19. Goo, D., H. Ko, M. K. Sharma, V. S. R. Choppa, **D. Paneru**, H. Shi, and W. K. Kim. 2024. Comparison of necrotic enteritis effects on growth performance and intestinal health in two different meat-type chicken strains Athens Canadian Random Bred and Cobb 500. *Poultry Science* 103:103599.
20. **Paneru, D.**, M. K. Sharma, H. Shi, J. Wang, and W. K. Kim. 2024. Aflatoxin B1 Impairs Bone Mineralization in Broiler Chickens. *Toxins* 16:78.
21. **Paneru, D.**, G. Tellez-Isaias, W. G. Bottje, E. Asiamah, A. A. A. Abdel-Wareth, M. Salahuddin, and J. Lohakare. 2024. Modulation of Immune Response and Cecal Microbiota by Dietary Fenugreek Seeds in Broilers. *Veterinary Sciences* 11:57.
22. **Paneru, D.**, G. Tellez-Isaias, M. A. Arreguin-Nava, N. Romano, W. G. Bottje, E. Asiamah, A. A. A. Abdel-Wareth, and J. Lohakare. 2023. Effect of fenugreek seeds and *Bacillus*-based direct-fed microbials on the growth performance, blood biochemicals, and intestinal histomorphology of broiler chickens. *Frontiers in Veterinary Science* 10:1298587.
23. Shuaib, M., **D. Paneru**, A. Hafeez, M. Tahir, and W. K. Kim. 2023. The Chemical Composition of Soyhulls and Their Effect on Amino Acid and Nutrient Digestibility in Laying Hens during the Peak of Production. *Animals* 13:2808.
24. Choi, J., D. Goo, M. K. Sharma, H. Ko, G. Liu, **D. Paneru**, V. S. R. Choppa, J. Lee, and W. K. Kim. 2023. Effects of Different *Eimeria* Inoculation Doses on Growth Performance, Daily Feed Intake, Gut Health, Gut Microbiota, Foot Pad Dermatitis, and *Eimeria* Gene Expression in Broilers Raised in Floor Pens for 35 Days. *Animals* 13:2237.
25. **Paneru, D.**, G. Tellez-Isaias, N. Romano, G. Lohakare, W. G. Bottje, and J. Lohakare. 2022. Effect of Graded Levels of Fenugreek (*Trigonella foenum-graecum* L.) Seeds on the Growth Performance, Hematological Parameters, and Intestinal Histomorphology of Broiler Chickens. *Veterinary Sciences* 9:207.

CONFERENCE PRESENTATIONS

Conference Abstracts (25)

1. **Paneru, D.**, H. Ko, I. Gyawali, D. Lee, A. Gautam, J. O. Sorbara, and W. K. Kim. 2026. Redefining calcium requirements in laying hens through phytase superdosing and low-phosphorus diets. International Poultry Scientific Forum.
2. **Paneru, D.**, F. S. Mahdavi, V. P. R. Keshavareddy, S. K. R. Ragyari, and W. K. Kim. 2025. Comparative analysis of body composition and bone microarchitecture in wild-type and restricted ovulator hens. International Poultry Scientific Forum.
3. **Paneru, D.**, O. Tejada, and W. K. Kim. 2025. Effects of Pearlzyme® (Protease) supplementation on growth performance, nitrogen-corrected apparent metabolizable energy, and amino acid digestibility in broiler chickens fed reduced crude protein and amino acid diets. International Poultry Scientific Forum.
4. **Paneru, D.**, V. S. R. Choppa, and W. K. Kim. 2025. Effects of Pearlzyme® (Protease) supplementation on growth performance, nutrient utilization, and immune response in broiler chickens. International Poultry Scientific Forum.
5. H. Ko, **D. Paneru**, M. D. Costa, V. Kuttappan, and W. K. Kim. 2025. Effect of dietary supplementation of a postbiotic and phytogetic blend on laying performance and colibacillosis in

- laying hens challenged with avian pathogenic *Escherichia coli* Serotype O78. International Poultry Scientific Forum.
6. H. R. Rafieian-Naeini, **D. Paneru**, H. R. Katha, S. Carnaccini, and W. K. Kim. 2025. Negative Impact of *Eimeria spp.* on the reproductive tract of Laying Hens with minimal influence of Mycotoxins from contaminated corn DDGS. International Poultry Scientific Forum.
 7. C. A. Waters, R. Adhikari, J. T. Lee, **D. Paneru**, W. K. Kim, R. Kriseldi, M. Elliot, L. Zhang, K. Wamsley, and P. Adhikari. 2025. Understanding the branched-chain amino acid interactions on bone morphology of pullets (6–12 weeks of age). International Poultry Scientific Forum.
 8. C. A. Waters, R. Adhikari, J. T. Lee, **D. Paneru**, W. K. Kim, R. Kriseldi, M. Elliot, L. Zhang, K. Wamsley, and P. Adhikari. 2025. Understanding the branched-chain amino acid interactions on bone morphology of pullets at 18 weeks of age. International Poultry Scientific Forum.
 9. **Paneru, D.**, M. Sharma, H. Shi, D. Goo, J. Lee, R. Shanmugasundaram, and W. Kim. 2024. Effects of subclinical mycotoxin exposure and coccidial challenge on growth performance, body composition, gut health and egg production during pullet-to-layer transition period. Poultry Science Association Annual Meeting.
 10. **Paneru, D.**, H. Naeini, V. Choppa, H. Ko, F. Mahdavi, R. Shanmugasundaram, and W. Kim. 2024. Effects of mycotoxin-contaminated corn distillers' dried grains with solubles on growth performance, gut health, and immune function in four to eight week old pullets. Poultry Science Association Annual Meeting.
 11. **Paneru, D.**, M. Sharma, H. Shi, H. Naeini, V. R. Choppa, D. Goo, R. Shanmugasundaram, and W. Kim. 2024. Effect of Sub-Clinical Mycotoxin Exposure on Growth Performance and Immune Response in *Eimeria*-Challenged Pullets. International Poultry Scientific Forum.
 12. **Paneru, D.**, D. White, Y. Kawashima, and W. Kim. 2024. Effects of Panaferd®, a natural carotenoid source from *Paracoccus carotinifaciens*, on the performance, egg quality, yolk pigmentation, and carotenoid composition of eggs in laying hens. International Poultry Scientific Forum.
 13. Shi, H., **D. Paneru**, M. Sharma, F. Mahdavi, V. Choppa, D. Goo, J. Lee, H. Ko, and W. Kyun Kim. 2024. Effects of phytase, 25-hydroxyvitamin D3 and cocci vaccination on growth performance, body composition and gut integrity of broilers fed with a calcium and phosphorus-reduced diet under *Eimeria spp.* challenge. International Poultry Scientific Forum.
 14. Gyawali, I., M. Sharma, S. Gududoddi, **D. Paneru**, D. Goo, and W. Kim. 2024. Assessment of *Artemisia annua* supplementation for mitigating *Eimeria* infection and improving gut health in broiler chickens. Poultry Science Association Annual Meeting.
 15. Goo, D., A. Singh, J. Choi, M. Sharma, **D. Paneru**, J. Lee, and W. Kim. 2024. Effects of the different ratios of branched chain amino acids (BCAAs) on growth performance, meat quality, and intestinal health in broilers fed with low and high crude protein diet. International Poultry Scientific Forum.
 16. Goo, D., J. Choi, G. Liu, J. Lee, M. Sharma, **D. Paneru**, V. Choppa, H. Shi, and W. Kim. 2024. Dietary supplementation of valine and isoleucine have different effects on growth performance, carcass weight, and intestinal health in broiler chickens. Poultry Science Association Annual Meeting.
 17. Sharma, M., J. Lee, G. Liu, H. Shi, H. Ko, D. Goo, **D. Paneru**, and W. Kim. 2024. Dietary supplementation of 25-hydroxyvitamin D3 or Vitamin E partially alleviates the adverse effect of mixed *Eimeria* infection on the skeletal health parameters of laying hens. Poultry Science Association Annual Meeting.
 18. Sharma, M., G. Liu, H. Shi, D. Goo, J. Lee, H. Ko, V. S. Choppa, **D. Paneru**, F. Mahdavi, H. Naeini, B. Marshall, and W. Kim. 2024. Effects of *Artemisia annua* supplementation of

performance and gut health of laying hens infected with *Eimeria spp.* International Poultry Scientific Forum.

19. **Paneru, D.**, M. Sharma, J. Wang, and W. Kim. 2023. Effects of graded levels of Aflatoxin B1 on broiler bone quality and jejunal calcium and phosphorus transporter gene expression. Poultry Science Association Annual Meeting.
20. **Paneru, D.**, M. Sharma, D. Goo, J. Choi, and W. Kim. 2023. Interactive effects of feeding naturally contaminated corn distillers dried grains with solubles and *Eimeria* infection on egg production and gut health in laying hens. International Poultry Scientific Forum.
21. Sharma, M., **D. Paneru**, and W. Kim. 2023. Effects of different levels of dietary calcium on femur and keel bone mineralization of Hy-Line W-36 laying hens at post-peak production. Poultry Science Association Annual Meeting.
22. Goo, D., H. Shi, M. Sharma, J. Lee, G. Liu, **D. Paneru**, J. Choi, and W. Kim. 2023. Tracking of bone mineral parameters using DEXA and MicroCT scans in two different broiler strains Cobb 500 and Ross 708 for 42 days. Poultry Science Association Annual Meeting.
23. **Paneru, D.**, G. Tellez-Isaias, E. Asiamah, W. Bottje, and J. Lohakare. 2022. Fenugreek (*Trigonella foenum-graecum* L.) seeds and *Bacillus* based direct-fed microbials alter the immune response and cecal microbiota in broiler chickens. Poultry Science Association Annual Meeting.
24. Singh, A., **D. Paneru**, J. Wang, and W. Kim. 2022. Effects of different ratios of branched-chain amino acids on growth performance and body composition of broilers. Poultry Science Association Annual Meeting.
25. **Paneru, D.**, G. Tellez-Isaias, W. Bottje, and J. Lohakare. 2021. Effect of different dietary levels of fenugreek seeds powder on the growth performance of broiler chickens. Poultry Science Association Annual Meeting.

PROFESSIONAL SERVICE

Professional Memberships

- Poultry Science Association (PSA)
- World Poultry Science Association (WPSA)
- International Scientific Association for Probiotics and Prebiotics (ISAPP)

Peer Review

- Ad hoc reviewer for *Veterinary and Animal Science*, *Poultry Science*, *Scientific Reports*, *BMC Microbiology*, *Frontiers in Veterinary Science*, and *Veterinary Medicine and Science*.
- Manuscript reviews completed: 15 across 2024–2026 (2024: 5 manuscripts for 3 journals; 2025: 9 manuscripts for 7 journals; 2026: 1 manuscript for 1 journal).