Victoria Anthony Uyanga, Ph.D.

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Research Interest

- Research interest includes poultry nutrition, stress physiology, gut health, functional amino acids, immunology, alternative feed ingredients, and animal welfare.
- Proficient in modern scientific research techniques to study critical and emerging challenges to poultry production, health, and well-being.

Education

Doctor of Philosophy in Animal Nutrition and Physiology

- Department of Animal Nutrition and Feed Sciences, Shandong Agricultural University, China. March 2019-June 2022. Major Advisor: Prof Dr. Hai Lin.
- Dissertation: The functional roles and mechanisms of l-citrulline in heat stressed and immune challenged chickens.

Masters of Agriculture in Animal Physiology

- Department of Animal Physiology. Federal University of Agriculture, Abeokuta, Nigeria. January 2016-July 2018. Major Advisor: Prof Dr. Okanlawon M. Onagbesan.
- Dissertation: Effects of age of broiler breeders and egg storage duration on egg quality, blastodermal characteristics, hatchability and chick quality.

Professional Diploma in Education

- School of Vocational Studies
- Federal College of Education, Oshiele, Abeokuta, Nigeria. June 2017-June 2018.

Bachelor of Agriculture in Animal Science

- Department of Animal Science, Faculty of Agriculture, University of Uyo, Uyo, Nigeria. October 2008-September 2014. Major Advisor: Prof Dr. Isongesit Solomon.
- Dissertation: Effects of feeding dumpsite forage (Calapogonium mucunoides) on the haematology and histology of the kidney and liver of Rabbits (Oryctolagus cuniculus)

Professional Experience

Assistant Professor of Animal Science 10.2024 to Present
Lincoln University of Missouri, USA

1. Develop and deliver undergraduate and/or graduate courses in animal science
   a) Instructor - AGR-101: Introduction to Animal Science (SP 25; FA 25)
   b) Instructor - AGR 339: Poultry Production and Lab (FA 25)
   c) Instructor - AGR-300: Meat Science (SP 25)
   d) Instructor - AGR-421: Ethics and Welfare in Animal Agriculture (SP 25)
   e) Instructor - AGR 320A: Animal Breeding and Genetics (FA 25)
   f) Instructor - AGR 331: Animal Feeds and Nutrition (FA 25)
   g) Instructor - AGR-308: Beef Cattle Production and Lab (SP 25)
   h) Instructor- AGR 521: Pasture-Based Livestock Production (FA 25)
2. Design course materials, including syllabi, lectures, labs, exams, and assignments, and assess student performance.
3. Mentor undergraduate and graduate students, advising on academic progress, career pathways, and professional development.
4. Conduct original research within the area of animal science, with emphasis on nutrition, physiology, welfare, and production.
5. Collaborate with other researchers, institutions, farm employees, extension educators, producers, and industry partners to conduct interdisciplinary research that advances knowledge and practical solutions in animal science
6. Participate in grant writing, scholarships, conference presentations, and other professional services.

Postdoctoral Research Associate 05.2023 to 09.2024
Iowa State University, USA

1. Taught classes and laboratory techniques on modern poultry production trends with a focus on broiler, layer, and turkey industries.
   a). Teaching Assistantship- ANS 223: Poultry Science - 3 credit unit- Fall 2023
2. Co-led the Organic Agriculture Research and Extension Initiative (OREI) research project integrating poultry production with vegetables, and cover cropping practices using pasture-raised poultry systems.
3. Conducted poultry research trials covering studies related to immunology, gut physiology, performance, behavior, meat quality, and welfare in chickens
4. Participate in grant writing, scholarships, conference presentations, and other professional services.
5. Engagement with relevant scientific communities and societies

Associate Professor 10. 2022 to 04. 2023
Shandong Agricultural University, Tai'an, China

1. Participated in undergraduate and postgraduate teaching, mentoring, and research activities
2. Taught classes on Academic writing in English for graduate students
3. Conducted scientific research in the fields of animal nutrition, animal physiology, and molecular biology
4. Applied for competitive external research funding such as the Research Fund for International Scientists (RFIS) by the National Natural Science Foundation of China.
5. Timely publication of research findings in peer-reviewed scientific journals

6. Worked with the International Office to facilitate the internationalization program of the institution

Extension Agent 2018 - 2019
N-Power-Agricultural Development Programme (AKADEP), Uyo, Nigeria
1. Communicated with local farmers on recent agricultural practices
2. Worked with farm management to create simple, intuitive interactions and experiences.
3. Participated in fourth weekly training and meetings organized by senior extension agents

Assistant Examiner 2018; 2017
West African Examination Council (WAEC), Abeokuta, Nigeria
1. Worked with the examination council to score and grade candidates
2. Maintained project timeline, reporting, and optimal workflow.
3. Attended training workshops for sensitization and updates

Teaching Practice 2017-2017
Bioku Grammar School, Lanlate, Ogun State, Nigeria
1. Completed six (6) weeks of teaching practice for teacher-training certification
2. Taught students agriculture and animal science subjects
3. Evaluated and graded student's performances

Graduate Intern 2017 - 2017
Obasanjo Farms Nig. Ltd, Nigeria
1. Worked with hatchery personnel on routine farm operations such as egg handling, egg storage, incubation, and hatching
2. Carried out quality assurance such as egg candling tests to discover losses and optimize usability
3. Completed assigned tasks and ensured adherence to farm biosecurity measures

Animal Husbandry Instructor and Laboratory Attendant 2014 - 2015
Command Day Secondary School, Oyo State, Nigeria
1. Completed mandatory one (1) year teaching and training of students in animal science subject
2. Taught students animal husbandry techniques and practical on poultry and rabbitry
3. Evaluated and graded student's performances for assignments, mid-terms, and promotion examinations

Research Experience

Postdoctoral Research Associate 2023- 2024

Department of Animal Science, Iowa State University, United States of America

1. Conducted poultry research trials, including mixing feed, poultry husbandry, weighing and feeding birds, collecting samples, performing sample analysis, generating data, data analysis, and publication
2. Applied and molecular assays supporting poultry work in the laboratory such as nucleic acid extraction, qRT-PCR, ELISA, flow cytometry, hematoxylin and eosin staining, immunohistochemistry, and behavioral assessment
3. Data interpretation, publication, and presentation
4. Assisted with poultry science laboratory training for the fall session
5. Assisted with mentoring and training other graduate and undergraduate students
6. Management, organization, and coordination of team activities and laboratory engagements

Doctoral Researcher 2019- 2022

Department of Animal Nutrition and Feed Science, Shandong Agricultural University, China

1. Conducted primary research with broilers and laying hens: routine management, feeding, common injections, surgical procedures such as intracerebroventricular cannula insertion, microinjections and laparotomy.
2. Extensive experience with various cellular and molecular biology techniques, such as nucleic acid extraction, RT-PCR, ELISA, spectrophotometry, flow cytometry, electrophoresis and western blotting, paraffin embedding, hematoxylin and eosin staining, and immunohistochemistry
3. Experienced with biotelemetry tools and software for physiological monitoring such as core body temperature sensors, infrared thermography, and rectal thermometers
4. Outstanding collaborative skills, organizational skills, and engagement in teamwork

Graduate Researcher 2016-2018

Department of Animal Physiology, Federal University of Agriculture Abeokuta, Nigeria

1. Managed research projects sponsored by the Association of African Universities (AAU) that focused on the influence of age of broiler breeders and egg storage duration on egg quality, blastodermal characteristics, hatchability, and chick quality
2. Performed standard biology techniques including embryo culture and isolation, cell counting, mortality staging
3. Conducted egg quality evaluation for broiler breeder eggs based on flock ages and pre-incubation storage durations
4. Routine egg management, incubation practices, and hatching of fertile eggs
5. Troubleshooting hatchery problems such as examining hatch debris and categorization of embryonic mortality
6. Data collection, record keeping, statistical analysis, and report generation for fertility and hatchability indices.

Graduate Internship 2017

Hatchery Unit, Obasanjo Farms Nigeria (OFN) Limited, Nigeria

1. Monitoring hatchery performance by taking daily data to assess fertility, hatchability, egg weight loss, chick quality, and embryo mortality
2. Assisted with routine quality control in hatchery such as disinfection, fumigation, and quarantine.
3. Prepared quarterly reports on work practices for presentation and documentation
4. Demonstrated skills essentials for hatchery management such as incubation, candling, sorting and grading, transferring, and hatching of eggs
5. Adoption of essential biosecurity measures and the management of hatchery waste

Undergraduate Internship 2013-2014

University of Uyo Teaching and Research Farm, Uyo, Nigeria

1. Conducted primary research on rabbit rearing, crossbreeding, kindling, and hutch management
2. Nutrition-based experiments evaluating the influence of heavy metals in rabbit diets
3. Routine poultry management practices
4. Feed formulation and feed evaluation techniques

Completed Research Projects

Postdoctoral Period

1. Effects of arginine silicate (ASI) supplementation in late lay hens. IACUC-23-207. January to April, 2024
2. Introduction to Poultry Science 223. IACUC-21-223. August to November, 2023
3. Immunological studies in chickens. Funded by USDA-AFRI-SAS. IACUC Number-22-113. September to October, 2023
4. Integrating vegetable, poultry, and cover cropping practices to enhance resiliency in organic production Systems. Funded by USDA-NIFA-OREI. IACUC Number-23-047. June to September, 2023
5. Poultry Laser Enrichment. Funded by USDA-NIFA. IACUC Number-22-219. June 2023

Graduate School

1. **Uyanga**, V.A. 2022. The Functional Roles and Mechanisms of L-Citrulline in Heat Stressed and Immune Challenged Chickens. Doctoral Dissertation. Department of Animal Nutrition and Feed Science, Shandong Agricultural University, Tai'an, China
2. **Uyanga**, V.A. 2018. "Effects of Age of broiler breeders and egg storage duration on egg quality, blastodermal characteristics, hatchability and chick quality". Master's Thesis, Department of Animal Physiology, Federal University of Agriculture, Abeokuta, Nigeria.
3. **Uyanga**, V.A. 2018. "Perception of public and private secondary schools students' towards agriculture as a career choice: A case study of Odeda Local Government Area,

Ogun state". Professional Diploma project to Federal College of Education Osiele, Abeokuta, Nigeria.

4. **Uyanga**, V. A 2014. Effects of feeding dumpsite forage (*Calapogonium mucunoides*) on the haematology and histology of the kidney and liver of Rabbits (*Oryctolagus cuniculus*). B. Agric. Research submitted to Department of Animal Sciences, University of Uyo, Uyo, Nigeria.

Student Advisory

1. Primary supervisor (Undergraduate students; B.Sc., Lincoln University; 2024 - Present)
   - Travayle A. Abron
   - Alainnah M. Anthony
   - Brooklyn C. Blair
   - Dacey A. Colbert
   - Courtney-Nicole D. Cooper
   - Shasmo O. Desalle
   - Marissa R. Haller
   - Serenity M. Henderson
   - Kenja L. Johnson
   - Alayzia A. Lucas
   - Noah J. Luebbering
   - Mya M. Moore
   - Austin J. Noah
   - Maddalen R. Prenger
   - Isaiah A. Reedus
   - Nyema N. Stewart
   - Maximus D. Threet
   - Layla S. White
2. **Co-Advisor:** (Graduates; M.Sc., Lincoln University; 2024 – Present)
   - Dylan Knipker
   - Sadiat Onileowo
3. **Trainees:** (3 Undergraduates; 1 Msc; 1 PhD student)
   - Brooke Miller, BSc, Iowa State University, 2024
   - Courtney Wuebker, BSc, Iowa State University, 2024
   - Marlen Lopez, BSc, Iowa State University, 2024
   - Yuyang Cao, MSc, Iowa State University, 2024
   - Michael Carroll, PhD, Iowa State University, 2024

Grants and Research Scholarships

1. **USDA-NIFA Evans Allens Research Grant.** 2025. The Effects of Feeding Spent Hemp Biomass. (Co-PI; Approved, $150, 000)
2. **Center for Excellence for Global Food Security and Defense Grant.** 2025. Collaborative Network for Monitoring Emerging Plant and Animal Disease for Food Security. (Co-PI; Pending, $100, 000)
3. **Title III program funds for Train-the-Trainer.** 2025– Lincoln University of Missouri ($3, 000)
4. **Postdoctoral Research Fellowship** – Department of Animal Science, Iowa State University, May 2023
5. **National Natural Science Fund of China -Research Fund for International Scientists (NSFC-RFIS), 2023.** The role of TRPV1/eNOS signaling in L-citrulline-induced nitric oxide production and thermoregulation in Chickens (Grant No. 32350410421) (PI; Approved, 40, 000 RMB)
6. **International Students Grant from Shandong Provincial Government** (Awarded twice), March 2022 and June 2022 (20, 000 RMB)
7. **Doctoral Fellowship**, Shandong Agricultural University, China, 2019- 2022 (Full scholarship for tuition and stipends)
8. **Association of African Universities (AAU)** - Small grants for theses and dissertations: 2017/2018 academic year ($2, 000)
9. **Association of African Universities (AAU)** - AAU 2017 Graduate Internship Grant ($600)

Honors and Awards

1. Second Prize Winner, 2022 Graduate Students Academic and Innovation Award at Shandong Agricultural University. May 2022.
2. Excellent presentation award during the "One Health for Food Systems Online Conference: Integrating Veterinary, Food, Animal, Agriculture, and Engineering Sciences," July 20 – 31, 2020 sponsored by the University of California, Davis, Western Institute for Food Safety and Security.
3. Character Award from Postgraduate Students Association (PGSA-FUNAAB), 2018
4. Award of Honor from the National Agency for Food Drugs Administration and Control (NAFDAC-NYSC CDS), 2015
5. Commendation from Office of the Dean, Student Affairs, University Of Uyo, 2014.
6. National Association of Agricultural Students (NAAS), University of Uyo Chapter, 2010.

Publications

1. **Uyanga, V.A.,** Elmore, K.M., Carroll, M.R., & Bobeck, E.A. (2025). Dietary arginine silicate inositol supplementation supports egg quality and bone metabolism in late phase laying hens. Poultry Science, 104(11), 105673. doi:10.1016/j.psj.2025.105673

2. **Uyanga, V.A.,** Mahmud, S., Cash, K., Epple-Farmer, J., & Andrei, A. (2025). PSVII-25 Undergraduate students' knowledge and perception of welfare and ethical issues in animal agriculture. J Anim Sci, 103(Supplement_3), 669-670. doi:10.1093/jas/skaf300.756

3. **Uyanga, V.A.,** Ogundipe, T.G., Ejeromedoghene, O., Ere-Richard, A.A., and Okon, E. E. (2025). Hydrogel composites and their potential application in animal production and health. Animal Research and One Health,00:1-12. doi:10.1002/aro2.70019

4. Oke, O.E., Oni, A.I., Akosile, O.A., Oliyide, K. M., Ishola, C.A., Logunleko, M.O., **Uyanga, V.A.** (2025). Heat Stress and Gut Microbiome Dynamics in Poultry: Interplay, Consequences, and Mitigation Strategies. Animal Research and One Health, 00:1-20. doi:10.1002/aro2.70046

5. Liu, H., Tang, C., Wang, H., Xu, K., **Uyanga, V.A.,** Sun, M., Jiao, H. (2025). Effects of a low crude protein diet supplemented with crystalline amino acids on the laying performance and intestinal health of laying hens challenged with *Salmonella enteritidis*. Journal of Animal Physiology and Animal Nutrition. doi:10.1111/jpn.70017

6. Oke, O.E., **Uyanga, V.A.,** Oretomiloye, F., and Abioja, M.O. (2025). Editorial: Climate-smart livestock production: strategies for enhanced sustainability and resilience. Frontiers in Veterinary Science, Volume 12 - 2025. doi:10.3389/fvets.2025.1638289

7. Amevor, F.K., **Uyanga, V.A.,** Wu, L., Xu, D., Shu, G., Wang, Y., and Zhao, X. (2025). Enhancing poultry health and productivity through the liver-gut axis with integrated nutritional and immunological approaches: a mini-review. Frontiers in Physiology 16. doi 10.3389/fphys.2025.1537099

8. Liu, J., Zheng, X., Khattak, S., Qv, Y., Wang, Y., **Uyanga, V.A.,** Huo, Y., Liu, Z., Cui, Y., Chen, Y., Liu, Y. (2025). A systematic review of post-harvest rice fortification: Technologies, sensory characteristics, consumer acceptance, and bioavailability. Food Chemistry 2025, 485, 144491.

9. Liu, Y., Qv, Y., Sun, J., Zheng, X., **Uyanga, V.A.**, Wang, Y., Cui, Y., Tang, C., Liu, J., Chen, Y. (2025). Structural, functional and proteomic changes of proteins during rice yellowing. Food Chemistry: X 2025, 31, 103112.

10. Li, X., **Uyanga, V.A.,** Jiao, H., Wang, X., Zhao, J., Zhou, Y., Li, H. and Lin, H. (2024). Effects of low dietary calcium and lipopolysaccharide challenges on production performance, eggshell quality, and bone metabolism of laying hens. Frontiers in Physiology, 15. doi:10.3389/fphys.2024.1396301

11. **Uyanga, V.A.,** Bello, S.F., Bosco, N.J., Jimoh, S.O., Mbadianya, I.J., Kanu, U.C., Okoye, C.O., Afriyie, E., Mak-Mensah, E., Agyenim-Boateng, K.G., Ogunyemi, S.O., Nkoh, J.N.,

Olasupo, I.O., Karikari, B., Ahiakpa, J.K. (2024). Status of Agriculture and Food Security in post-COVID-19 Africa: Impacts and Lessons Learned. *Food and Humanity*, 100206. doi:10.1016/j.foohum.2023.100206

12. Li, K., **Uyanga, V.A.,** Wang, X., Jiao, H., Zhao, J., Zhou, Y., Li, H., Lin, H. (2024). Allicin Promotes Glucose Uptake by Activating AMPK through CSE/H2S-Induced S-Sulfhydration in a Muscle-Fiber Dependent Way in Broiler Chickens. *Molecular Nutrition & Food Research* 68, 2300622.doi: 10.1002/mnfr.202300622

13. Oke, O.E., O.A. Akosile, A.I. Oni, I.O. Opowoye, C.A. Ishola, J.O. Adebiyi, A.J. Odeyemi, B. Adjei-Mensah, **Uyanga, V.A.** and Abioja, M.O. (2024). Oxidative stress in poultry production. Poultry Science 103:104003. doi 10.1016/j.psj.2024.104003

14. Adebayo, M.O., Abiona, J.A., **Uyanga, V.A.,** Onagbesan, O.M., Oke, O.E. (2024). Growth and reproductive performance of broiler breeders reared to puberty under the open-sided housing in a tropical environment. *Animal Production Science* 64, doi: 10.1071/AN23183

15. Oke, O.E., Akosile, O.A., **Uyanga, V.A.,** Oke, F.O., Oni, A.I., Tona, K., Onagbesan, O.M. (2024). Climate change and broiler production. *Veterinary Medicine and Science* 10, e1416.doi: 10.1002/vms3.1416

16. Zhang, F., Liu, J., **Uyanga, V.A.,** Tang, C., Qu, Y., Qin, X., Chen, Y., Liu, Y. (2024). Preparation and functional properties of rice bran globulin-chitooligosaccharide-quercetin-resveratrol covalent complex. Journal of the Science of Food and Agriculture 2024, 104 (9), 4977-4988.

17. **Uyanga, V.A.,** Sun, L., Liu, Y., Zhang, M., Zhao, J., Wang, X., Jiao, H., Onagbesan, O.M., Lin, H. (2023). Effects of arginine replacement with L-citrulline on the arginine/nitric oxide metabolism in chickens: An animal model without urea cycle. *Journal of Animal Science and Biotechnology* 14, 9. doi: 10.1186/s40104-022-00817-w

18. **Uyanga V.A.,** Ejeromedoghene, O., Lambo, M.T., Alowakennu, M., Alli, Y.A., Ere-Richard, A.A., Min, L., Zhao, J., Wang, X., Jiao, H., Onagbesan, O.M., Lin, H. (2023). Chitosan and chitosan-based composites as beneficial compounds for animal health: Impact on gastrointestinal functions and biocarrier application. *Journal of Functional Foods,* 104:105520. doi: 10.1016/j.jff.2023.105520

19. **Uyanga, V.A,** Musa, T., Oke, O.E., Zhao, J., Wang, X., Jiao, H., Onagbesan, O.M., Lin, H. (2023). Global trends and research frontiers on heat stress in poultry from 2000 to 2021: A bibliometric analysis. *Frontiers in Physiology* 14, 1123582. doi:10.3389/fphys.2023.1123582

20. **Uyanga, V.A.,** Bello, S.F., Qian, X., Chao, N., Li, H., Zhao, J., Wang, X., Jiao, H., Onagbesan, O.M., Lin, H. (2023). Transcriptomics Analysis Unveils Key Potential Genes Associated with Brain Development and Feeding Behavior in the Hypothalamus of L-Citrulline-fed Broiler Chickens. *Poultry Science*, 103136. doi:10.1016/j.psj.2023.103136

21. Onagbesan, O.M., **Uyanga, V.A.,** Oso, O., Tona, K., Oke, O.E. (2023). Alleviating heat stress effects in poultry: updates on methods and mechanisms of actions. *Frontiers in Veterinary Science,* 10.doi:10.3389/fvets.2023.1255520

22. Adebayo, M., Abiona, J., **Uyanga, V.A.,** Onagbesan, O., Oke, O. (2023). Differential growth rate of three broiler breeder chicks raised to puberty under the conventional open-sided housing in a tropical environment. Animal-science proceedings 14, 310

23. Tang, C., Kong, W., Wang, H., Liu, H., Shi, L., **Uyanga, V.A.,** Zhao, J., Wang, X., Lin, H., Jiao, H. (2023). Effects of fulvic acids on gut barrier, microbial composition, fecal ammonia emission, and growth performance in broiler chickens. *Journal of Applied Poultry Research* 32, 100322. doi: 10.1016/j.japr.2022.100322

24. Liu, Y., **Uyanga, V.A.,** Jiao, H., Wang, X., Zhao, J., Zhou, Y., Lin, H. (2023). Effects of feeding strategies on eggshell quality of laying hens during late laying period. *Poultry Science* 102, 102406. doi: 10.1016/j.psj.2022.102406

25. Liu, M., **Uyanga, V.A.,** Cao, X., Liu, X., Lin, H. (2023). Regulatory effects of the probiotic *Clostridium butyricum* on gut microbes, intestinal health, and growth performance of chickens. *The Journal of Poultry Science*, 60, 2023011. doi: 10.2141/jpsa.2023011

26. Afriyie, E., Ahiakpa, K., **Uyanga, V.,** Okoye, C., Adejoke, A., Ogunyemi, S.O., Mbadianya, J., Akinyemi, F., Aluko, O., Acquah, P., Karikari, B., Jimoh, S. (2023). Improving agriculture and food security in Africa: Can the one health approach be the answer? *Qeios* 66UHUI, 1-18. doi: 10.32388/66UHUI

27. **Uyanga, V.A.,** Oke, E.O., Amevor, F.K., Zhao, J., Wang, X., Jiao, H., Onagbesan, O.M., Lin, H. (2022). Functional roles of taurine, L-theanine, L-citrulline, and betaine during heat stress in poultry. *Journal of Animal Science and Biotechnology,* 13:23, doi: 10.1186/s40104-022-00675-6.

28. **Uyanga, V.A.,** Zhao, J., Wang, X., Jiao, H., Onagbesan, O.M., Lin, H. (2022). Dietary L-citrulline modulates the growth performance, amino acid profile, and the growth hormone/insulin-like growth factor axis in broilers exposed to high temperature. *Frontiers in Physiology* 13. 937443. doi: 10.3389/fphys.2022.937443

29. **Uyanga, V.A.,** Zhao, J., Wang, X., Jiao, H., Onagbesan, O.M., Lin, H. (2022). Effects of dietary L-citrulline supplementation on nitric oxide synthesis, immune responses and mitochondrial energetics of broilers during heat stress. *Journal of Thermal Biology,* 105:103227, doi:10.1016/j.jtherbio.2022.103227

30. **Uyanga V.A.,** Xin, Q., Sun, M., Zhao, J., Wang, X., Jiao, H., Onagbesan, O.M., Lin, H. (2022). Research note: Effects of dietary l-arginine on the production performance and gene expression of reproductive hormones in laying hens fed low crude protein diets. *Poultry Science,* 101(5):101816, doi:10.1016/j.psj.2022.101816.

31. **Uyanga, V.A.,** Zhao, J., Wang, X., Jiao, H., Onagbesan, O.M., Lin, H. (2022). Dietary L-citrulline influences body temperature and inflammatory responses during nitric oxide

synthase inhibition and endotoxin challenge in chickens. *Stress*. 25: 74-86. doi:10.1080/10253890.2021.2023495

32. **Uyanga, V.A.,** Liu, L., Zhao, J., Wang, X., Jiao, H., Onagbesan, O.M., Lin, H.(2022). Central and peripheral effects of L-citrulline on thermal physiology and nitric oxide regeneration in broilers. *Poultry Science,* 101, 101669. doi: 10.1016/j.psj.2021.101669

33. Gbadegesin, L.A., Ayeni, E.A., Tettey, C.K., **Uyanga, V.A.,** Aluko, O.O., Ahiakpa, J.K., Okoye, C.O., Mbadianya, J.I., Adekoya, M.A., Aminu, R.O., Oyawole, F.P., Odufuwa, P. (2022). GMOs in Africa: Status, adoption and public acceptance. *Food Control,* 141:109193, doi: 10.1016/j.foodcont.2022.109193.

34. Xin, Q., **Uyanga, V.A**., Jiao, H., Zhao, J., Wang, X., Li, H. et al., (2022). Insulin-like growth factor-1 is involved in the deteriorated performance of aged laying hens. J Anim Sci 100, skac286.doi: 10.1093/jas/skac286

35. Oke, O.E., Oso, O.M., Logunleko, M.O., **Uyanga, V.A.,** Akinyemi, F., Okeniyi, F.A., Akosile, O.A., Baloyi, J.J., Onagbesan, O.M. (2022). Adaptation of the White Fulani cattle to the tropical environment. *Journal of Thermal Biology* 110:103372. doi: 10.1016/j.jtherbio.2022.103372

36. **Uyanga, V.A**., Amevor, F.K., Liu, M., Cui, Z., Zhao, X., Lin, H. (2021). Potential implications of citrulline and quercetin on gut functioning of monogastric animals and humans: A comprehensive review. *Nutrients* 13(11): 3782 doi: 10.3390/nu13113782

37. **Uyanga, V.A,** Wang, M., Tong, T., Zhao, J., Wang, X., Jiao, H., Onagbesan, O.M., Lin, H. (2021) L-Citrulline influences the body temperature, heat shock response and nitric oxide regeneration of broilers under thermoneutral and heat stress condition. *Frontiers in Physiology,* 12:671691. doi:10.3389/fphys.2021.671691

38. **Uyanga, V.A.,** Okanlawon, O.M., Onwuka, C.F.I., Emmanuel, E., Lin, H. (2021). Coronavirus disease 2019 (COVID-19) and poultry production: Emerging issues in African countries, *World's Poultry Science Journal.* 77*:* 153-174, doi: 10.1080/00439339.2021.1874848

39. Oke, O.E., **Uyanga V.A.,** Iyasere, O.S., Oke, F.O., Majokdunmi, B.C., Logunleko, M.O., Abiona, J.A., Nwosu, E.U., Abioja, M.O, Daramola, J.A., Onagbesan, O.M. (2021). Environmental stress and livestock productivity in hot-humid tropics: Alleviation and future perspectives. *Journal of Thermal Biology*. 100:103077. doi: 10.1016/j.jtherbio.2021.103077

40. **Uyanga, V.A**., Jiao, H., Zhao, J., Wang, X., Lin, H. (2021). Dietary L-citrulline supplementation modulates nitric oxide synthesis and anti-oxidant status of laying hens during summer season. *Journal of Animal Science and Biotechnology,* 11, 103. doi: 10.1186/s40104-020-00507-5

41. Oke, O.E., Wheto, M., **Uyanga V.A.,** Aluko, F. A., Abiona, J.A., Adeleke, M.A., Ogbebor, C.O. (2021). Embryonic development and early juvenile growth of nigerian local chickens

in crosses with exotic broiler breeder under humid tropical conditions. *Asian Journal of Animal Sciences*, 15: 60-66. doi: 10.3923/ajas.2021.60.66

42. **Uyanga, V.A.**, Onagbesan, O.M., Abiona, J.A, Egbeyale, L.T, Oke, O. E, Akinjute, O. F. (2020). Blastodermal development, hatchability and chick quality of Marshall® broiler breeders of different flock ages during egg storage. *Journal of Animal Physiology and Animal Nutrition.* 00: 1– 9. doi: 10.1111/jpn.13403

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49. Iyasere, O.S., Oyeniran, V.J., Oyawale, O., Adeniyi, D., **Uyanga, V.A**. (2018). Social facilitation between commercial broilers and Nigerian indigenous chicks and its effect on their welfare. *Agricultura Tropica et Subtropica*, 51 (4), 139–146. doi:10.2478/ats-2018-0016.

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51. Sikiru, A.B, Makinde, O.J., Opoola, E., and **Uyanga, V.A.** (2018). In-vitro evaluation of Tamarindus indica as novel resources of use in tropical animal production and management. *Nigerian Journal of Animal Science*. 2018, 20 (3): 251-256

Digital Communications and Press

1. Lincoln agriculture students evaluate meat in hands-on learning experience by Alex Naughton, July 17th, 2025. https://www.lincolnu.edu/news/2025/07/appraising-meat-lincoln-university-of-missouri.html

2. OAAD agricultural research group survey, 2024/2025. by Dr. Victoria Anthony Uyanga. May 23, 2025. https://www.linkedin.com/pulse/oaad-agricultural-research-group-survey-20242025-uyanga-koypf

3. "Episode #12 - The intersection of poultry nutrition and immunology" by Dr. Victoria Anthony Uyanga. September 6, 2023. The Poultry Nutrition Black Belt Podcast. https://www.wisenetix.com/blog/poultrynutritionblackbelt-the-intersection-of-poultry-nutrition-and-immunology ; https://www.youtube.com/watch?v=F2IhcFZG5iM&t=6s

4. Featured blog publication on the INASP AuthorAID platform titled "COVID-19 and poultry production: Emerging issues in African countries" https://www.authoraid.info/en/news/details/1455/

Book Chapters

1. **Victoria A. Uyanga,** Semiu F. Bello, Folasade O. Oke, Okanlawon M. Onagbesan, Oyegunle E. Oke. Chapter 18 - The effects of heat stress in broiler production. Future perspectives in broiler rearing: Incorporating the broiler point of view (ed. Dr Henry van den Brand). Burleigh Dodds Science Publishing (Accepted).

2. **Victoria A. Uyanga,** Nesrein M Hashem, Oyegunle E. Oke. Chapter 8: "Effect of Microplastic on Animal's Reproductive Physiology" to be Published in "Microplastic in Animal and Human Physiology: Toxicity, Mechanisms and Mitigation" Publisher: Elsevier ISBN: 9780443456350. (Abstract Accepted).

Academic Presentations

Oral presentations

1. **Victoria A. Uyanga**, Aminu S. Sulaiman, Bakari A. Husaini. Abstract 243: Comparative Effects of Probiotics, Prebiotics, and Synbiotics on Growth Performance, Carcass Traits, Immune Function, and Gut Morphology of Turkeys. Poultry Science Association 2025 Annual Meeting on July 17, 2025

2. **Victoria A. Uyanga**, Li Lan, Jingpeng Zhao, Xiaojuan Wang, Hongchao Jiao , Dr. H. Li. Abstract 338: Fasting heat production and metabolic responses of L-citrulline-fed broiler chickens subjected to acute heat stress conditions. Poultry Science Association 2025 Annual Meeting on July 17, 2025

3. **Victoria A. Uyanga,** S. Mahmud, K. Cash, J. Epple-Farmer, and A. Andrei. Knowledge and perception of animal welfare and ethical issues among undergraduate students in agricul ture. 62nd Annual Meeting Missouri Acdemy of Sciences, April 11-12, 2025.

4. **Victoria Uyanga,** Kevin Bolek, and Elizabeth Bobeck. 2024. Abstract 196P: MicroLife Prime direct-fed microbial exerts immunomodulatory effects in broiler chickens challenged with Salmonella Enteritidis. Poultry Science Association 2024 Annual Meeting.

5. Elizabeth Bobeck, **Victoria Uyanga** and Kevin Bolek. 2024. Abstract 256P: A Bacillus-based direct fed microbial altered growth performance and circulating immune cell populations post-Salmonella Enteriditis challenge in broiler chicks. Poultry Science Association 2024 Annual Meeting.

6. Aderanti I. Oni, **Victoria A. Uyanga,** Emmanuel O. Oke and Emmanuela Nwosu. 2024. Abstract 228P: Evaluation of synergistic influence of early age thermal manipulation with selenium and vitamin E on juvenile growth, antioxidant status and physiological responses of heat-stressed broiler chickens. Poultry Science Association 2024 Annual Meeting.

7. **Victoria Anthony Uyanga.** 2023. Case Study 3: In-Ovo Sexing Techniques, at the Adisseo Poultry Leaders of Tomorrow Workshop October 11-13, 2023

8. **Victoria Anthony Uyanga**. 2020. COVID-19 & Agricultural Production in Nigeria. The Third Annual Conference of Belt and Road/South-South Cooperation Agricultural Education, Science and Technology Innovation League (BRSSCAL) November 25-28, 2020, Hainan, China

9. **Victoria Anthony Uyanga.** 2020. L-Citrulline induces hypothermia via dysregulation in NOS-COX-PGE pathway and its down-regulation of ATP production via PGC1α signaling. One Health for Food Systems Conference: Integrating Veterinary, Food, Animal, Agriculture, and Engineering Sciences.

10. **Victoria Anthony Uyanga**, O. M. Onagbesan, J. A. Abiona, L. T. Egbeyale, and O. E. Oke. 2018. Effects of age of broiler breeders and egg storage duration on blastodermal growth of chicken embryo in Proceedings of the 43rd Annual Conference of the Nigerian Society of Animal Production, Owerri, Nigeria 1: 116, APRW 76.

Poster Presentations

1. **Victoria Anthony Uyanga**, S. Mahmud, K. Cash, J. Epple-Farmer, and A. Andrei. PSVII-25: Undergraduate students' knowledge and perception of welfare and ethical issues in animal agriculture. 2025 ASAS-CSAS Annual Meeting, July 8, 2025
2. **Victoria Anthony Uyanga**, Lan Li, Jingpeng Zhao, Xiaojuan Wang, Hongchao Jiao, Okanlawon M. Onagbesan and Hai Lin. 2024. Abstract 435P: Protective effects of L-Citrulline on the intestinal junction markers of broiler chickens fed arginine-deficient diets with or without dexamethasone," Poultry Science Association Annual Meeting, 2024
3. **Victoria Anthony Uyanga**, Jingpeng Zhao, Xiaojuan Wang, Hongchao Jiao, and Hai Lin. 2021. Abstract #362: Effects of dietary L-Citrulline supplementation on the nitric oxide

synthesis and mitochondrial bioenergetics in the breast muscle of heat-stressed broilers at the Virtual 2021 PSA Annual Meeting on July 19-22, 2021.

4. **Victoria Anthony Uyanga,** Jingpeng Zhao, Xiaojuan Wang, Hongchao Jiao, and Hai Lin. 2021. Abstract #366: Protective effect of L-Citrulline on the growth performance of cyclic heat-stressed broilers via modulation of hypothalamic GH/IGF-1 pathway proteins at the Virtual 2021 PSA Annual Meeting on July 19-22, 2021.

Workshops and Trainings for Teaching and Learning

1.	College Classroom (Fall 2024) ***The Center for the Integration of Research, Teaching and Learning (CIRTL) Network***	September to December, 2024
2.	Teaching with Transparency Evidence-Based Approaches to Foster Student Motivation and Engagement. ***The Center for the Integration of Research, Teaching and Learning (CIRTL) Network***	November 2, 2023
3.	Fostering Student Belonging through Inclusive Language. ***The Center for the Integration of Research, Teaching and Learning (CIRTL) Network***	October 11, 2023
4.	College Classroom (Fall 2023) ***The Center for the Integration of Research, Teaching and Learning (CIRTL) Network***	September to December, 2023
5.	Writing an Effective Teaching Philosophy Statement Section 1 (Fall 2023). ***The Center for the Integration of Research, Teaching and Learning (CIRTL) Network***	September 29, 2023
6.	Beyond participation: Inclusive Perspectives on Student Engagement and Feedback (Fall 2023) ***The Center for the Integration of Research, Teaching and Learning (CIRTL) Network***	September 28, 2023
7.	Preparing Your Teaching Demo for a Job Interview (Summer 2023) ***The Center for the Integration of Research, Teaching and Learning (CIRTL) Network***	July 13, 2023

Professional Training and Certifications

1. Social and behavioural science to address AMR in agrifood systems 2025
   Food and Agriculture Organization (FAO-MOOC). 30 June – 28 July 2025
2. Grazing Essentials 2024
   Noble Research Institute
3. Beef Cattle Artificial Insemination School 2024
   Lincoln University College of Agriculture
4. AVMA Guidelines for the Euthanasia of Animals: 2020 Edition 2023
   AALAS Learning Library
5. Biosafety/Biosecurity Basic 2023
   The Collaborative Institutional Training Initiative (CITI Program)
6. Investigators, Staff, and Students 2023
   The Collaborative Institutional Training Initiative (CITI Program)
7. Working with Swine in Research Settings 2023
   The Collaborative Institutional Training Initiative (CITI Program)
8. Time Management Fundamentals 2023
   LinkedIn Learning & Project Management Institute, Inc.
9. Strategic Thinking Tips to Solve Problems and Innovate 2023
   LinkedIn Learning & Project Management Institute, Inc.
10. Problem-Solving Techniques 2023
    LinkedIn Learning & Project Management Institute, Inc.
11. Data Science and Analytics Career Paths and Certifications: First Seps 2023
    LinkedIn Learning
12. NIH Guidelines 2023
    Environmental Health and Safety (EH&S) Training, Iowa State University
13. Biohazardous Materials: An Introduction 2023
    Environmental Health and Safety (EH&S) Training, Iowa State University
14. Biological Risk Assessments for Researchers 2023
    Environmental Health and Safety (EH&S) Training, Iowa State University
15. Bloodborne Pathogens and Sharps Safety 2023
    Environmental Health and Safety (EH&S) Training, Iowa State University
16. Biohazardous Materials: An Introduction 2023
    Environmental Health and Safety (EH&S) Training, Iowa State University
17. Biohazardous Materials: An Introduction 2023
    Environmental Health and Safety (EH&S) Training, Iowa State University
18. Personal Protective Equipment 2023
    Environmental Health and Safety (EH&S) Training, Iowa State University
19. Laboratory Safety: Chemical Storage 2023
    Environmental Health and Safety (EH&S) Training, Iowa State University
20. Laboratory Safety: Spill Procedures 2023
    Environmental Health and Safety (EH&S) Training, Iowa State University
21. Laboratory Safety: Core Concepts 2023
    Environmental Health and Safety (EH&S) Training, Iowa State University

22. Emergency Response Guide Video 2023
Environmental Health and Safety (EH&S) Training, Iowa State University
23. Fire Safety and Fire Extinguisher Training 2023
Environmental Health and Safety (EH&S) Training, Iowa State University
24. Autoclave Operation for Sterilizing 2023
Environmental Health and Safety (EH&S) Training, Iowa State University
25. Drug-Free Workplace 2023
Environmental Health and Safety (EH&S) Training, Iowa State University
26. Building Supportive Communities: Clery Act and Title IX (Full Course) 2023
Iowa State University – SCORM
27. Fundamentals of Western Blotting Course #1 to #5 2022
BIO-RAD Academy
28. Research Writing in the Sciences 2022
Author Aid, International Network for the Availability of Scientific Publications (INASP)
29. Exploring One Health Lessons 2022
One Health Student Committee (OHSC), University of Guelph
30. Exploring One Health Lessons 2021
One Health Student Committee (OHSC), University of Guelph
31. Global Youth Leadership Programme 2020,2021
32. Techniques for publishing in Highly Selective Journals at Cell Press 2020
Elsevier Researcher Academy on Campus
33. Research for Life MOOC: 2019
Elsevier Foundation and Food and Agricultural Organization of the United Nations (FAO)
34. Open data management, Nutrition and Land 2018
UK Department of International Development (DFID)
35. Research Writing in the Sciences 2018
Author Aid, International Network for the Availability of Scientific Publications (INASP)
36. Project Management Practitioner 2015
Project Management Professional Institute (PMPI)
37. Level II Competence certificate in Health, Safety and Environment (H.S.E.) 2015
Project Management Professional Institute (PMPI)
38. Graduate Animal Scientist 2014
Nigerian Institute of Animal Science (NIAS)
39. Certification of National Service 2014
National Youth Services Corps (NYSC), Federal Republic of Nigeria

Service to Institutions and Professional Organizations

University Service

1. Member, Educational Policies - Faculty Senate committee at Lincoln University 2025-Present
2. Member, International education and study abroad advisory committees at Lincoln University 2025-Present
3. Member, College of Agriculture (CAEHS) Research Seminar Committee at Lincoln University 2025-Present

4. Member, Graduate Faculty Committee at Lincoln University 2024-Present
5. Public outreach and community engagement programs
   a) Missouri State Fair (August 7-17, 2025)
   b) Tipton FFA Career Fair (December 10, 2025)
   c) Vaccine education clinic and extension (October 10-13, 2024)

Professional Committees

1. USDA-AFRI Review Panel_Social Implications of Food and Agriculture Technologies | NIFA 2025-Present
2. ASAS 2024 Non-Ruminant Nutrition Program Committee National Committees 2024-Present
3. Poultry Science Association 2024-Present
   Invited Reviewer - Immunology Section (2024)
   Invited Reviewer- Metabolism and Nutrition: Feed Additives (2026)
4. Topical Advisory Panel Member of Agriculture MDPI 2024-Present
   Agriculture | Topical Advisory Panel

Editorial Roles

1. Associate Editor_Frontiers in Veterinary Science 2025-Present
   Frontiers in Veterinary Science | Animal Nutrition and Metabolism
2. Guest Editor - Animals MDPI 2024-Present
   Animals | Special Issue : Metabolic, Health, and Productivity Challenges in Poultry Production
3. Research Topic Editor -Frontiers in Physiology **2024-Present**
   Frontiers | Integrated Approaches to Understanding and Improving Poultry Health, Immunity, and Productivity: Unraveling the Role of Metabolism
4. Research Topic Editor - Frontiers in Veterinary Science 2024-2025
   Frontiers | Climate-Smart Livestock Production: Strategies for Enhanced Sustainability and Resilience
5. Handling Editor 2024
   a) Frontiers in Climate - Climate Risk Management
   b) Frontiers in Microbiology - Microorganisms in Vertebrate Digestive Systems
   c) Frontiers in Climate -Climate Adaptation

Ad hoc Review contributions

1. World's Poultry Science Journal, Taylor and Francis Publishers 2025-Present
2. Reproduction in Domestic Animals, Wiley Publishers 2025-Present
3. Poultry Science, Elsevier Publishers 2023-Present

4. Scientific Reports, Nature Portfolio 2024-Present
5. Heliyon, Elsevier Publishers 2024-Present
6. Frontiers in Sustainable Food Systems, Frontiers Publishers 2024-Present
7. Frontiers in Animal Science, Frontiers Publishers 2024-Present
8. Frontiers in Veterinary Science, Frontiers Publishers 2023-Present
9. Frontiers in Immunology, Frontiers Publishers 2023-Present
10. Frontiers in Microbiology, Frontiers Publishers 2023-Present
11. Poultry Science, Elsevier Publishers 2023-Present
12. Journal of Functional Foods, Elsevier Publishers 2023-Present
13. Journal of Thermal Biology, Elsevier Publishers 2023-Present
14. Journal of Agriculture and Food Research, Elsevier Publishers 2023-Present
15. Cogent Food and Agriculture, Taylor and Francis Publishers 2023-Present
16. Animals- MDPI Publishers 2023-Present
17. Poultry- MDPI Publishers 2024-Present
18. Agriculture - MDPI Publishers 2023-Present
19. Genes - MDPI Publishers 2024-Present
20. Microbiology- MDPI Publishers 2024-Present
21. Veterinary and Animal Science, Elsevier Publishers 2023-Present

22. Acta Tropica Journal, Elsevier Publishers	2022-Present
23. Oxidative Medicine and Cellular Longevity, Hindawi Publishers	2022-Present
24. Journal of Applied Animal Research, Taylor & Francis Publishers	2022-Present
25. Journal of Agricultural Extension and Rural Development, Spring Publishers	2022-Present
26. Journal of Animal Physiology and Animal Nutrition; Wiley Publishers	2021-Present

Volunteer services

1. ***Vice President, Agriculture Honor Society*** International Agriculture Honor Society of Gamma Sigma Delta, Lincoln University Chapter, Missouri. Chapters – Gamma Sigma Delta	May 19, 2025
2. ***Academic Judge*** Show Your Blue Stripes research conference, Lincoln University, Missouri	April 3, 2025
3. ***Staff Adviser, Missouri FFA Judging – Poultry Section*** Department of Agriculture and Environmental Sciences, Lincoln University, Missouri	March 11, 2025
4. ***Co-Adviser, Agricultural Club*** Department of Agriculture and Environmental Sciences, Lincoln University, Missouri	January 15, 2025
5. ***Academic Judge*** State Science & Technology Fair of Iowa – Larry Schwinger Seminar competition.	April 5, 2024
6. ***Academic Judge*** 8th Annual Three Minute Thesis (3MT) preliminary competition, Iowa State University	October 25, 2023
7. ***Poultry Section Leader*** Academic Quadrathlon, Department of Animal Science, Iowa State University	October 3, 2023
8. ***English Instructor*** The ENGIn Program: Help Ukrainians Learn English	2023 -2024
9. ***Facilitator*** Study at SDAU: 2nd edition of Global Universities Programs and Scholarship Series (GUPASS). https://africanacademicdoctors.org/sdau-china-at-oaad-gupass/	March 24, 2023
10. ***Financial Secretary*** Organization of African Academic Doctors (OAAD)	2021 -2023

11. ***General Secretary*** Agriculture group-Organization of African Academic Doctors (OAAD)	2020-Present
12. ***Team Leader*** E-Library Cataloguing Committee, Nigerians in Diaspora Eduction (NIDO)	2021
13. ***Head-of-Class*** Department of Animal Physiology, Federal University of Agriculture, Abeokuta	2016-2018
14. ***Vice President*** NYSC CDS Group – National Agency for Food Drugs Administration and Control (NAFDAC)	2014
15. ***General Secretary*** NYSC CDS Group – National Agency for Food Drugs Administration and Control (NAFDAC)	2014
16. ***General Secretary*** National Association of Agricultural Students (NAAS), University of Uyo	2013

Conferences Attended

1. 2025 Poultry Science Association (PSA) Annual Meeting. Held at Raleigh Convention Center, Raleigh, North Carolina from July 14-17, 2024.

2. 2024 Poultry Science Association (PSA) Annual Meeting. Held at The Galt House Hotel, Louisville, Kentucky from July 15-18, 2024.

3. 2024 Profitability, Experience, Advancement and Knowledge (PEAK) Convention organized by the Midwest Poultry Federation (MPF) at Minneapolis Convention Center from April 17 to 19, 2024.

4. 2023 Iowa Egg Industry Symposium organized by the Iowa State University Extension and Outreach, November 9, 2023.

5. Poultry Leaders of Tomorrow Workshop, organized by Adisseo Feed Solutions, USA from October 11-13, 2023.

6. 2023 Iowa Swine Day organized by the Iowa State University Extension and Outreach, Iowa Pork Industry Center, June 29, 2023.

7. 2023 Georgia Precision Poultry Farming Conference –Virtual, organized by Department of Poultry Science, University of Georgia; May 2, 2023.

8. Advancing Climate Smart Agriculture: FAO E-Learning Academy, November 8, 2022.

9. Symposium on Biotechnology and Modern Agriculture, Shandong Agricultural University. November 27, 2022.

10. The African Biogenome Project. Organization of African Academic Doctors (OAAD), Paper to Product Initiative, December 8, 2021.

11. Poultry Science Association Annual Meeting-Virtual, July 19-22, 2021.

12. Exploring One Health Learning Series, One Health Student Committee, University of Guelph, May 17th - 30th, 2021.

13. The 9th National Member Congress and 2021 academic seminar of livestock environmental hygiene branch of China Animal Husbandry and Veterinary Society, Shandong, China. April, 16th 2021.

14. The Third Annual Conference of Belt and Road/South-South Cooperation Agricultural Education, Science and Technology Innovation League (BRSSCAL), Hainan China, November 25-28, 2020.

15. One Health for Food Systems Online Conference: Integrating Veterinary, Food, Animal, Agriculture, and Engineering Sciences," University of California, Davis, Western Institute for Food Safety and Security, July 20 - 31, 2020.

16. 2019 Wuhan Forum of World Renowned Scientist Lecturing in Hubei. International Conference on Green Feeds and Animal Products Safety, Wuhan, China.

17. 43rd Annual Conference of the Nigerian Society for Animal Production (NSAP), Owerri, Nigeria. 2018.

18. The Maiden Capacity Workshop by the Nigerian Society for Environmental Conservation (NSEC), 2018.

19. 5th Nigerian Women in Agricultural Research and Development (NiWARD) Conference, 2018.

20. 41st Annual Conference of the Nigerian Society for Animal Production (NSAP), Ibadan, Nigeria, 2016.

21. The 4th and 5th ASAN-NIAS Joint Annual Conferences, 2014; 2015.

22. The Nigerian Society for Animal Production (NSAP) Conference, 2014.

Professional Membership

1. American Society of Animal Science (ASAS)
2. Poultry Science Association (PSA)
3. The Global Academy- Working on Global Goals
4. National Center for Faculty Development & Diversity (NCFDD)
5. Organization of African Academic Doctors (OAAD)

Core competencies

1. Proficient in livestock and poultry related task
2. Hardworking and detail-oriented personality
3. Effective communication skills
4. Excellent leadership and management skills
5. Responsible conduct of research
6. Easily adaptable and willing to learn

Computer proficiency (hardware and software)

1. Office suites - Microsoft Office, WPS office
2. Presentation and designing software - PowerPoint, Canvas, Biorender
3. Word processing software - Microsoft Word, Outlook, Grammarly, Endnote
4. Data management and Analytics - SAS, GraphPad Prism, FlowJo, R software, Excel
5. Communication and collaboration tools - Zoom, MS Teams, Skype
6. Email management -Outlook, Gmail, Yahoo
7. Social media management- LinkedIn, Twitter, Research Gate

Research skills

1. Livestock and poultry management
2. RNA extraction and RT-qPCR techniques
3. Enzyme-linked immunosorbent assay
4. Western blotting technique
5. Flow cytometry
6. Immunohistochemistry and Histology
7. SeaHorse Metabolic Assay
8. Light and fluorescent microscopy
9. Biotelemetry and thermal Imaging
10. Academic writing and Research communication

Vision for Developing an Internationally Recognized and Externally Funded Research Program Focused on Poultry Science

During my graduate program and professional career, I have developed and executed research programs that addressed key issues in poultry production. I attribute the success of my research projects to key pillars, including the scientific approach adopted from research conceptualization to execution, engagement in active collaboration with relevant stakeholders, and time-sensitive research decisions to meet scientific relevance. My research journey, from graduate studies to the present, has focused on poultry nutrition and physiology, with an emphasis on amino acid metabolism, heat stress mitigation, thermoregulation, immunomodulation, and functional ingredients for poultry health.

My research on heat stress in poultry examined the central regulation, physiological responses, and strategies for heat stress mitigation. The novelty of this project was the discovery that a non-essential amino acid, L-citrulline (found naturally in watermelon rinds), would regulate the core body temperature and alleviate the negative effects of heat stress and endotoxin challenge in laying hens and broiler chickens. I utilized innovative approaches, including transcriptomics and microbiome profiling, and expanded on these observations to develop a strategic nutrition program for laying hens and broiler chickens. To support the breeding strategy of developing "long-life" layer strains with increased laying persistency and sustained egg quality, my research was sponsored by Kent Nutrition Group to examine feed additives that would improve the welfare and productivity of aged hens. Through this work, I successfully established nutritional regimens that would support calcium metabolism, bone mineralization, and eggshell quality in late-laying hens. In another industry-sponsored project from Phibro Animal Health Corporation, I co-examined the mechanism of action of probiotics during salmonella colonization in broiler chickens using gene and protein expression analysis, gut biomarkers and immunophenotyping of leukocyte markers. Additionally, I recently demonstrated how low dietary calcium and endotoxin challenge would dysregulate bone homeostasis and metabolism, with detrimental effects on the performance and eggshell quality of aged laying hens. I intend to continue building this research by examining feed ingredients and nutraceuticals that possess physiological benefits to improve the productivity, health, and welfare outcomes of poultry species, especially in this antibiotic-free era of animal production.

As part of the Organic Agriculture Research and Extension Initiative (OREI) research project to solve critical organic agriculture issues, I integrated poultry production with vegetables and cover cropping practices using pasture-raised poultry systems. This provided a good alternative to the traditional confinement production system, enhancing poultry productivity, welfare, and land use efficiency. In an ongoing project, I am evaluating the impacts of forage supplementation to laying hens, with the goal of determining how supplemental forage influences the gut health, welfare and productivity of slow and fast growing broiler strains. In the OREI project, we

implemented a One Health approach, which integrated professionals from diverse fields including Poultry Science, Horticulture, Soil Science, and Meat Science, to gain comprehensive insight into the interconnectedness of the animal, human, and environmental interface and provide practical recommendations to farmers. I envision collaborating with researchers from diverse disciplines to develop integrated solutions to poultry production challenges.

My goal is to develop an advanced poultry science research program focused on consolidating animal research, modern molecular biology tools, and innovative methodologies. To progress this endeavor, I will utilize my extensive experience in poultry nutrition, management, stress physiology, welfare, and immunology to develop an interdisciplinary poultry research program with the following research interests:

(1) Nutritional dynamics of protein and amino acids for poultry health and productivity

Amino acids are essential in poultry production, supporting protein synthesis, organ development, gut integrity, and immune function. While previous works has largely focused on defining amino acid requirements, there is an increasing need to explore their broader metabolic, functional, and environmental implications. My research program will adopt an interdisciplinary approach to advance amino acid nutrition in poultry, with the goal of optimizing performance, meeting physiological demands, and enhancing environmental sustainability. Potential research areas include precision amino acid feeding across different production phases, formulating reduced–crude protein diets supplemented with synthetic amino acids, developing controlled-release delivery systems through microencapsulation, and investigating the immunomodulatory effects of functional amino acids. This project will examine the regulatory roles of key amino acids, such as branched-chain amino acids, arginine, threonine, and citrulline, under both normal and challenged conditions (including heat stress, enteric infections, endotoxins, and metabolic disorders), to define their requirements and optimal inclusion for maximizing physiological functions. Additionally, this research will evaluate the physiological and environmental impacts of amino acid nutrition through early-life interventions, digestibility assays, pair feeding trials, and through the use of *in-ovo*, *in vitro* and *in vivo* experiments.

(2) Utilization of agro-industrial byproducts and sustainable feed ingredients in poultry nutrition

Agro-industrial by-products (AIBPs) that are not intended for human consumption can be used as alternatives to conventional feedstuffs to produce animal products without triggering the food-feed competition. My research plans to focus on sustainability in poultry production systems, specifically through the utilization of agro-industrial byproducts such as fruit juice industry leftovers, oilseed industrial by-products, distillers' grain by-products, and insects based agro-food waste. These by-products have known bioactive compounds, which may become nutraceuticals that can promote the health and well-being of poultry. This research program will assess their nutritional value and functional dietary fiber derived from AIBPs using *in vitro*

models, feeding and digestibility trials, and data-driven modelling to determine their optimal inclusion levels. The research plan is grounded in a One Health perspective, as a multidisciplinary endeavor involving the animal, plant, and environmental sectors which will help transform agro waste into valuable resources for poultry production while improving environmental sustainability.

(3) Management strategies to enhance poultry resilience to environmental stressors

Poultry production is becoming increasingly vulnerable to heat stress and other environmental challenges that compromise the health and overall welfare of birds. My research will seek to enhance the understanding of heat stress response, identify new molecular signatures and metabolites, and develop management strategies that enhance the physiological resilience of poultry. A component of my research program centers on the intersection of environmental contaminants and poultry health, with emphasis on microplastics. Although microplastic exposure is well-established in aquatic species, its effects in poultry are largely unknown. Commercial poultry are exposed to microplastics primarily through contaminated feed ingredients, drinking water, litter and dust within poultry houses, and degradation of plastic equipment, particularly in free-range systems. Drawing from my recent work on environmental and stress physiology, I aim to characterize how environmental stressors and emerging contaminants affect poultry behavior, health, and welfare. I plan to identify bioactive compounds, molecular pathways of toxicity, examine nutrient-gene interactions, assess key welfare indicators (air and litter quality, foot pad and mobility conditions etc.), and develop management interventions that would mitigate environmental stress in poultry.

(4) Understanding the connection between stress and poultry welfare via the gut-brain axis

When chickens are exposed to environmental stressors such as heat stress or endotoxin challenge, they undergo behavioral changes, intestinal dysregulation, and inflammatory responses. The brain and gut are connected and participate in bidirectional communication, which highlights the potential benefits of gut microbiome-modulation approaches to improve behavioral responses, health and performance in poultry. An imbalance of the gut microbiota can affect immune response, heighten stress and fear responses, and contribute to problematic behaviors such as feather pecking and cannibalism. This research program will investigate the intricate relationship between the gut and behavioral disorders in poultry managed under health and stress conditions using *in vitro* and *in-vivo* models, early life interventions, feeding trials, metabolic assays, vision-based behavioral monitoring system, and microbiome profiling. Additionally, this research will evaluate the physiological roles of key additives such as probiotics, amino acids (citrulline and tryptophan) and metabolites in regulating poultry health and welfare through the gut-brain axis.

The successes and scientific achievements from my research program are demonstrated by my publications in established peer-reviewed journals, a strong record of scientific relevance evidenced by an increasing number of citations, and a growing record in attracting extramural funding. The findings from these investigations will be disseminated through presentations at relevant conferences such as the International Poultry Scientific Forum, Poultry Science Annual Meeting, and American Society of Animal Science Meetings, and publications in peer-reviewed journals. Overall, I aim to establish a research program that serves as a training ground for students and collaborates closely with researchers and industry partners to test innovative solutions in real-world settings.

I plan to actively pursue research funding from governmental agencies (including USDA, NSF, NRC-SARE, and NIH), organizations (U.S. Poultry & Egg Association, Egg Industry Centre), industry sponsors, and collaborative partnerships with other researchers. I intend to develop a strong collaboration with industry partners in Indiana State such as Elanco, Corteva Agriscience, AgriNovus Indiana, Maple Leaf Farms, and Primient, among others, creating room for industry-sponsored research that will address the emerging challenges of the poultry industry. I also plan to collaborate with experts from various fields, including agronomy, animal production, engineering, biotechnology, feed manufacturing, and waste management. This collaboration will contribute to developing precision feeding and nutritional intervention programs, improving poultry health and management issues, and advancing One Health initiatives. Furthermore, by collaborating with the prestigious faculty and staff at Purdue University, allied research institutes, and colleagues from U.S and international institutions, I would commit to developing an internationally recognized Poultry science research program as part of the One Health Initiative at the Department of Animal Science, Purdue University.

By employing a holistic scientific approach that integrates animal nutrition, physiology and immunology, my research plan will generate actionable insights to address critical or emerging issues in poultry production, health, welfare and environmental sustainability. In the next five years, this research program will advance sustainable poultry nutrition and production practices by developing nutritional guidelines for functional amino acids, and the utilization of agro-industrial byproducts in poultry feed. In ten years, the program will expand to address environmental stressors and the complexities of gut-brain-microbiome axis in both research and production settings, with emphasis on improving food production systems for global food security and One Health. I envision a poultry science research program guided by three principles: (1) developing research that is based on sound scientific rigor and complies with relevant regulations and ethical standards, (2) studies that are relevant and applicable to the poultry industry and would benefit Indiana State, the United States, and the global food system, and (3) fostering collaborations and sharing findings with other researchers, industry partners, and academic institutions.

Teaching philosophy

As an educator, my desire to teach extends beyond merely passing on information; it entails a transformative process where I share ideas, concepts, and interact with others in a wholesome manner to shape their thinking, philosophy, and outlook on life. My goal as a teacher is to inspire my students to self-study and critical thinking. Students should be exposed to real-life scenarios and practical conditions to integrate the poultry science lectures and their practice, further reinforcing their learnings and scientific understanding. I have led practical training for on-farm poultry assessment (foot pad scoring, gait scoring, tonic immobility, inversion testing), diet formulation, feed mixing and proximate analysis of feedstuff for undergraduate and graduate students. Across my courses, I emphasize how nutritional strategies influence bird health and welfare, how production practices affect food safety and environmental outcomes, and how interdisciplinary collaboration strengthens sustainable poultry systems.

My teaching experience spans my undergraduate, and graduate education, as well as my professional career, providing me with a broad pedagogical foundation and adaptability across diverse learner populations. Early in my career, I taught Animal Husbandry to high school students (9th and 12th grade) during Nigeria's National Youth Service Corps, where I developed lesson plans, assessments, and examinations. I later served as an Assistant Examiner for the West African Examination Council in 2017 and 2018, gaining experience in standardized assessment and learning outcome evaluation. During my Master's program, I completed a professional diploma in education that included a supervised 3-month teaching internship, strengthening my understanding of pedagogy, learner-centered instruction, and curriculum design. I further honed my teaching skills while working as an Associate Professor of Animal Science at Shandong Agricultural University (SDAU), China, where I taught graduate students academic writing and research communication through in-person and online modalities. My teaching experience at SDAU equipped and enhanced my inclusive teaching practices, intercultural mindset, and ability to engage diverse learners, which are skills essential for contemporary land-grant institutions such as Purdue.

My poultry-focused teaching philosophy was further developed during my postdoctoral training at Iowa State University, where I served as a teaching assistant for ANS 2230: Poultry Science. In this course, I interacted with the students for 2.5 hours weekly to introduce them to core concepts in poultry sciences using a variety of active and experiential learning approaches. During laboratory sessions, I led the students to participate in broiler rearing and management, feed formulation, meat quality assessment, egg quality test, and egg dye test. This allowed the students to interact directly with the animals, both individually and in small groups creating a dynamic learning environment. Following a pre-training period, students worked in small groups

to design broiler feeding trials, collected and analyzed data, then presented their findings for peer to peer evaluation. Field-based experiential learning was reinforced through industry visits to commercial poultry operations and teaching farms, such as the Iowa Turkey Federation and the Robert T. Hamilton Poultry Teaching and Research Farm, which allowed the students to gain experiential learning through direct interaction with industry professionals. These experiences reflect my commitment to integrating classroom instruction with real-world applications to develop a One Health-oriented poultry science education.

As an Assistant Professor at Lincoln University of Missouri, I develop and deliver undergraduate and graduate courses, including Introduction to Animal Science, Poultry Production, Animal Nutrition, and Ethics and Welfare in Animal Agriculture. I have updated the animal production courses to incorporate small-group research projects and course-based undergraduate research experiences (CUREs). Students receive practical training in poultry welfare assessment, nutrient requirements of poultry, least cost diet formulation, and proximate analysis of feedstuffs. Additionally, I integrate interdisciplinary learning by collaborating with other faculty for co-teaching initiatives, industry partners and organizations (such as the Missouri Department of Agriculture and the Missouri Beef Industry Council) to expose students to trending industry issues (such as Highly Pathogenic Avian Influenza (HPAI) and New World screwworm (NWS) outbreaks) and interdisciplinary (Pasture to Plate and Pastured Poultry) projects. These instructional strategies directly connect the nutrition, physiology, and welfare of poultry to their efficient and sustainable production, which are key components of a One Health framework. In addition, I am actively engaged in competitive grant development (Capacity Building Grant and Higher Education Challenge Grants Program) geared towards enhancing instructional laboratories and ensuring students gain access to modern analytical tools and methodologies. My goal is to create an experiential learning environment that emphasizes the relevance of research in addressing animal industry needs, as students will gain practical experience that prepares them for future careers in the agricultural sector.

As an instructor and mentor, I facilitate student success by establishing and communicating clear learning objectives and student expectations at the beginning of each course or research project. I strive to create a positive and inclusive learning environment where students feel comfortable expressing their ideas, actively contribute to the learning process, and stay motivated to engage with the learning material. I encourage open dialogue and regular feedback, which allows me to assess students' understanding in real time and provide constructive guidance and encouragement that support their academic growth. My assessment philosophy emphasizes application, synthesis, and problem-solving, rather than rote memorization. At the undergraduate level, I evaluate students' mastery of foundational concepts, ability to apply critical thinking, and engagement in hands-on learning activities. At the graduate level, I focuses on independent research skills, scientific inquiry, and scholarly communication through research projects, presentations and publications. I employ educational tools including regular assessments,

interactive discussions (such as during research team and journal club meetings), and one-on-one mentoring sessions that allow me to identify student strengths and attend to areas needing improvement. I conduct formative evaluation using tests, quizzes, and lab practical scores to monitor student's engagement, learning outcomes, and academic performance. Summative evaluations using laboratory practicum, examinations, research presentations, and research reports are completed at the end of each semester to evaluate students' knowledge, skill acquisition, and technical competencies. In addition, an anonymous, self-assessment survey is completed by the student's pre/post-course initiation to gather qualitative feedback on the effectiveness of the teaching-learning process for each course.

Beyond formal coursework, I am committed to mentoring students and supporting their professional development. I have served as an academic judge for student competitions, including the Poultry Academic Quadrathlon, Three-Minute Thesis (3MT), and the State Science & Technology Fair of Iowa, providing feedback on scientific rigor and communication skills. At Lincoln University, I advise undergraduate animal science students and participate in outreach activities that engage high school students, FFA members, and underrepresented populations in agricultural sciences. I serve as the co-advisor to the Tri-Agriculture Students Club, Academic judge for the Blue Stripes Conference, Member for Missouri State Fair Committee, and the Staff Advisor for Undergraduate Animal Science majors. These roles have allowed me to mentor young scientists and encourage their passion for science and technology. I am committed to continuous growth and self-development as such my recent trainings with the Center for the Integration of Research, Teaching, and Learning (CIRTL) Network for programs, including *The College Classroom* and workshops on inclusive student engagement and feedback. These trainings have strengthened my use of evidence-based and inclusive teaching practices that promote student success across diverse backgrounds and learning styles.

At Purdue University, I aim to contribute to the Department of Animal Sciences by delivering high-impact poultry science education that integrates nutrition, welfare, physiology, and production systems within a One Health framework. Purdue's One Health initiative emphasizes the interconnectedness of animal health, human health, and environmental sustainability. My teaching philosophy aligns directly with this framework by integrating nutrition, physiology, welfare, management, and data-driven decision-making into poultry science education. My teaching goal is to prepare students to think critically, work across disciplines, and apply science-based solutions to advance poultry production, animal welfare, and food system sustainability.