Dr. Md Salahuddin

Poultry Nutrition & Gut Health || Research Specialist ||

Poultry Center, The College of Agriculture, Food, and Natural Resources (CAFNR), Prairie View A&M University, Prairie View, TX 77446, USA

Email: mdsalahuddin@pvamu.edu || bau.salahuddin@gmail.com • Phone: +1-405-762-8508

ORCID: 0000-0003-0268-1084 • Google Scholar • ResearchGate • LinkedIn

RESEARCH INTERESTS

- Precision poultry nutrition and intestinal (gut) health
- Sustainable and alternative feed ingredients for cost-effective poultry production
- Gut microbiome modulation through feeding strategies
- Diet-gene interactions and intestinal function
- Application of AI/ML and IoT technologies in poultry nutrition and production

TECHNICAL & RESEARCH SKILLS

Poultry Nutrition & Production: Design and execution of controlled dietary trials (laying hens, broilers, quail); evaluation of feed additives and novel/alternative ingredients (*Spirulina platensis*, black soldier fly larvae, mushroom by-products); growth performance and feed-efficiency analysis; egg and meat quality assessment; blood biochemistry; IACUC-compliant animal research.

Gut Health & Histology: Tissue collection, embedding, sectioning, and staining; immunohistochemistry (IHC); immunofluorescence (IF); in situ hybridization (ISH); light, confocal, and transmission electron microscopy (TEM); quantitative image analysis.

Molecular Biology: RNA, DNA, and protein extraction; RT-qPCR; Western blotting; BCA assay; gel electrophoresis; intestinal organoid culture.

Microbiome & Bioinformatics: 16S rRNA sequencing data analysis and interpretation.

Data Analysis & Communication: Statistical analysis in R and SAS, including gene-expression and microbiome datasets; scientific writing; preparation of publication- and conference-quality tables and figures.

EDUCATION

Ph.D. in Agricultural Sciences (Poultry Nutrition) **Apr. 2019 - Mar. 2022**

Faculty of Agriculture, Shinshu University, Nagano, Japan

Dissertation: Effects of dietary nutrients on the structure and function of the chicken intestinal mucosa.

Advisor: Prof. Kohzy Hiramatsu, Ph.D.

M.Sc. in Animal Science **Jan. 2016 - Jun. 2017**

Department of Animal Science, Bangladesh Agricultural University, Mymensingh, Bangladesh

Thesis: Effect of transportation stress and post-transportation grazing periods on meat quality traits in Black Bengal goats.

Advisor: Prof. Md. Abul Kalam Azad, Ph.D.

B.Sc. in Animal Husbandry **Jan. 2011 - Oct. 2015**
Faculty of Animal Husbandry, Bangladesh Agricultural University, Mymensingh, Bangladesh
Excellent grades in coursework.

PROFESSIONAL APPOINTMENTS

Research Specialist || **Sept. 21, 2026-Present**
Poultry Center, The College of Agriculture, Food, and Natural Resources (CAFNR), Prairie View A&M University, Prairie View, TX, USA

Postdoctoral Researcher **Oct. 2023 - Sept. 20, 2026**
Poultry Center, The College of Agriculture, Food, and Natural Resources (CAFNR), Prairie View A&M University, Prairie View, TX, USA

Postdoctoral Researcher **Oct. 2022 - Sept. 2023**
Department of Nutritional Sciences, Oklahoma State University, Stillwater, OK, USA

Research Associate **Apr. 2022 - Aug. 2022**
Laboratory of Animal Functional Anatomy, Shinshu University, Nagano, Japan

Scientific Officer **Jun. 2017 - Sept. 2018**
Bangladesh Livestock Research Institute, Savar, Dhaka, Bangladesh

RESEARCH EXPERIENCE (GRADUATE RESEARCH ASSISTANTSHIPS)

Graduate Research Assistant **Apr. 2019 - Mar. 2022**

Faculty of Agriculture, Shinshu University, Nagano, Japan - Advisor: Prof. Kohzy Hiramatsu, Ph.D.

Ph.D. dissertation project funded by the Japanese Government (MEXT: Monbukagakusho) Scholarship:

- Demonstrated that dietary protein level alters the frequency and morphology of neurotensin (NT)-immunoreactive cells in the small intestine.
- Showed that dietary carbohydrate levels alter the morphology of the ileal mucosa.
- Found that dietary carbohydrate level changes the co-localization pattern of glucagon-like peptide-1 (GLP-1) and NT cells in the small intestine.
- Revealed that dietary carbohydrate level modifies the ultrastructure of enterocytes, particularly microvillar architecture.

Graduate Research Assistant **Jan. 2016 - Jun. 2017**

Department of Animal Science, Bangladesh Agricultural University, Mymensingh, Bangladesh - Advisor: Prof. Md. Abul Kalam Azad, Ph.D.

M.Sc. thesis project funded by the Bangladesh Agricultural University Research System and the National Science and Technology (NST) program:

- Showed that three days of post-transportation grazing mitigates transportation stress on physiological indices in Black Bengal goats.
- Documented improvements in meat quality following post-transportation grazing.
- Identified benefits for non-carcass characteristics.

Research Student **Oct. 2018 - Mar. 2019**

Laboratory of Animal Functional Anatomy, Shinshu University, Nagano, Japan - Advisor: Prof. Kohzy Hiramatsu, Ph.D.

- Conducted dietary-intervention research in Japanese quail focused on growth, feed conversion, and egg-production quality.
- Analyzed health indicators, including immune response, in relation to dietary changes.
- Assessed diet-related behavioral changes to evaluate well-being and adaptability.
- Presented findings at academic conferences in avian nutrition.

HONORS, FELLOWSHIPS & AWARDS

2022 Travel Grant, Japanese Poultry Science Association - 26th World's Poultry Congress, Paris, France.

2018-2022 Japanese Government (MEXT: Monbukagakusho) Scholarship.

2016-2017 National Science and Technology (NST) Fellowship, Government of the People's Republic of Bangladesh (M.Sc. thesis research).

2008 Education Board Scholarship for outstanding results in the Secondary School Certificate Examination.

GRANTS & FUNDING

Grant proposals submitted as Principal Investigator or Co-Principal Investigator total approximately **$5.55 million** and are currently under review; one proposal is internally recommended and one prior project was funded.

Role	Sponsor	Project Title (Status)	Amount	Period
PI	USDA–NIFA	SmartGut: AI-Integrated Gut-on-Chip System for Evaluating Antibiotic-Free Feed Strategies in Poultry. **(Medium Priority)-Not Funded**	**$300,000**	Jun 2026 – May 2028
PI	Faculty of Agriculture, Shinshu University	Dietary Carbohydrates as Modulators of Microvillar Architecture and Nutrient Absorption in Poultry. **(Funded)**	**$2,000**	2021 – 2022
Co-PI	USDA–NIFA	AI-Enabled Monitoring and Eco-Friendly Pomegranate By-Products to Enhance Breeder Poultry Reproduction Under Heat Stress. **(Submitted)**	**$300,000**	Jun 2026 – May 2028
Co-PI	USDA–NIFA	DSFAS: Eco-Friendly Selenium Nanoparticles and AI-IoT Monitoring for Enhanced Poultry Nutrition, Health, and Environmental Sustainability. **(Submitted)**	**$300,000**	Jun 2026 – May 2028
Co-PI	USDA–NIFA	Sustainable Soybean Meal Alternative in Layers: Impact on Egg Quality, Nutritional Value, Physicochemical Properties, and Consumer Acceptability. **(Submitted)**	**$300,000**	Jun 2026 – May 2028
Co-PI	USDA–NIFA	Partnership: Mushroom-Derived Supplements for Chicken Bone Health. **(Submitted)**	**$800,000**	Sep 2026 – Aug 2029

Role	Sponsor	Project Title (Status)	Amount	Period
Co-PI	USDA–NIFA	Harnessing the Power of Hemp Leaves and Biomass in the Diets of Poultry to Improve Productivity, Health, and Product Quality. **(Submitted)**	**$650,000**	Sep 2026 – Aug 2029
Co-PI	USDA–NIFA	Zn Schiff Base Complex as a Natural Eco-Friendly Alternative to Antibiotics for Sustainable Poultry Production. **(Submitted)**	**$650,000**	Sep 2026 – Aug 2029
Co-PI	NSF	Excellence in Research: AI-Driven Monitoring and Bio-Engineering Strategies for Resilient and Sustainable Poultry Production. **(Submitted)**	**$750,000**	Aug 2026 – Jul 2029
Co-PI	USDA–NIFA	Organic Hydroponic Barley for Cost-Stable Protein Replacement in Livestock Feeding Systems with AI/IoT Monitoring. **(Submitted)**	**$1,500,000**	Sep 2026 – Aug 2030
Co-PI	TAMUS REF Strategic Initiative (Research Equipment Grants)	Shared Modular Climate-Controlled Poultry Environmental Research Chamber for AI-Enabled and Climate-Resilient Livestock Studies Using IoT. **(Internal – Recommended)**	**$100,000**	Sep 2026 – Aug 2027

PEER-REVIEWED PUBLICATIONS (34)

Name in bold indicates the candidate.

1. **Salahuddin, M.,** Goswami, P.K., Abdel-Wareth, A.A.A., Stamps, K.G., Pech-Cervantes, A., Hitit, M. and Lohakare, J., 2026. Dietary brown mushroom stem powder modulates ileal morphology and barrier-related gene expression in layer chicks. Animals 2026, 16(14), 2254; https://doi.org/10.3390/ani16142254 (Journal Cover Story: Can mushroom by-products support gut health in young chicks?- AnimalsMDPI: https://www.linkedin.com/feed/update/urn:li:share:7500526675642843137/)
2. Tang, Y., Lu, P., Chen, H., Wong, S., **Salahuddin, M.,** Hasan, M., Alake, S.E., Kim, Y., Montgomery, M., Chowanadisai, W. and Smith, B.J., 2026. Zeaxanthin modulates early metabolic and inflammatory responses in db/db mice: associations with intestinal lipid handling and gut microbiome remodeling. *Biomolecules*, 16(6), p.818.
3. Abdel-Wareth, A.A., Ahmed, A.A., Taqi, M.O., **Salahuddin, M.** and Lohakare, J., 2026. Artificial intelligence applications in animal production systems for climate resilience and sustainability: a comprehensive review. *Agriculture*, 16(11), p.1146.
4. Goswami, P.K., **Salahuddin, M.,** Abdel-Wareth, A.A. and Lohakare, J., 2026. Greenhouse gas sequestration in poultry farming: strategies for sustainable production and environmental impact mitigation. *Poultry Science*, p.106646.
5. Osei-Akoto, A., Abdel-Wareth, A.A., **Salahuddin, M.,** Goswami, P.K. and Lohakare, J., 2026. Sustainable poultry production through novel nutrition and circular resource management. *Sustainability*, 18(8), p.3673.
6. **Salahuddin, M.,** Abdel-Wareth, A.A., Stamps, K.G., Carr, T.L., Gray, C.D., Aviña, A.M. and Lohakare, J., 2025. Dietary *Spirulina platensis* enhances immune responses and modulates gut microbiota and microbial function in laying hens. *Poultry Science*, p.105800.

7. Abdel-Wareth, A.A., **Salahuddin, M.,** Amer, S.A. and Lohakare, J., 2025. Dietary oregano and thyme bioactive lipid compounds enhance laying performance, egg quality, antioxidant capacity, and blood biochemistry in Hy-Line Brown hens. *Italian Journal of Animal Science*, 24(1), pp.2222–2234.
8. Abdel-Wareth, A.A., Ahmed, A., **Salahuddin, M.** and Lohakare, J., 2025. Application of artificial intelligence in rabbit husbandry: from reproductive monitoring to precision farming. *Frontiers in Veterinary Science*, 12, p.1679630.
9. Abdel-Wareth, A.A., Stamps, K.G., **Salahuddin, M.,** Balan, V., Mohammadi, M., Kim, W.K., Zhu, W., Ahmed, A.A., Gray, C.D., Aviña, A.M. and Rounds-Carter, T., 2025. Utilizing brown mushroom stem waste as an eco-friendly alternative to soybean meal in layer chick nutrition. *Frontiers in Veterinary Science*, 12, p.1637147.
10. Stamps, K.G., Abdel-Wareth, A.A., **Salahuddin, M.,** Balan, V., Mohammadi, M., Kim, W.K., Zhu, W., Ahmed, A., Rounds-Carter, T., Gray, C.D. and Aviña, A.M., 2025. Utilizing white mushroom stem powder as a sustainable substitute for soybean meal in layer chick diets. *Poultry Science*, p.105571.
11. **Salahuddin, M.,** Balan, V., Stamps, K., Abdel-Wareth, A.A.A., Mohammadi, M., Kim, W.K., Zhu, W. and Lohakare, J., 2025. Harnessing mushrooms for poultry nutrition: boosting health, immunity, and productivity. *Poultry Science*, 104(8), p.105223.
12. Gadzama, I.U., Ray, S., Méité, R., Mugweru, I.M., Gondo, T., Rahman, M.A., Redoy, M.R.A., Rohani, M.F., Kholif, A.E., **Salahuddin, M.** and Brito, A.F., 2025. *Chlorella vulgaris* as a livestock supplement and animal feed: a comprehensive review. *Animals*, 15(6), p.879.
13. **Salahuddin, M.,** Al-Amin, M., Hiramatsu, K. and Kita, K., 2025. Influences of short-term dietary carbohydrate restriction on the chicken cecal tonsil. *The Journal of Veterinary Medical Science*, 87(2), pp.207–214.
14. **Salahuddin, M.,** Abdel-Wareth, A.A., Rashwan, A.K., Hiramatsu, K., Fulzele, S. and Lohakare, J., 2024. The role of egg-derived nutrients in Alzheimer's disease: exploring potential benefits and biological insights. *Food Bioscience*, p.105096.
15. **Salahuddin, M.,** Abdel-Wareth, A.A.A., Stamps, K.G., Gray, C.D., Aviña, A.M.W., Fulzele, S. and Lohakare, J., 2024. Enhancing laying hen performance, egg quality, and blood biochemistry with *Spirulina platensis* supplementation. *Veterinary Sciences*, 11, 383.
16. Tang, Y., Hasan, M.M., **Salahuddin, M.,** Chowanadisai, W., Lucas, E., Tang, M. and Lin, D., 2024. Astaxanthin regulates gene expression in mouse small intestinal organoids in culture. *Current Developments in Nutrition*, 8.
17. Baybutt, R.C., Stafford, S., Gillam, B., Gamwell, C., Tang, Y., Hassan, M., **Salahuddin, M.** and Lin, D., 2024. Atlantic mackerel is protective in DSS-induced colitis rat models. *Current Developments in Nutrition*, 8.
18. Abdel-Wareth, A.A.A., Ali, A.H., Amer, S.A., Younis, E.M., Abdel-Warith, A.W.A., Kassim, A.S.N., **Salahuddin, M.** and Lohakare, J., 2024. Effects of dietary supplementation with zinc oxide or selenium nanoparticles and their combination on

rabbit productive performance, nutritional and physiological responses. *Italian Journal of Animal Science*, 23(1), pp.1258–1268.

19. Paneru, D., Tellez-Isaias, G., Bottje, W.G., Asiamah, E., Abdel-Wareth, A.A., **Salahuddin, M.** and Lohakare, J., 2024. Immune modulation and cecal microbiome changes in broilers fed fenugreek seeds and Bacillus-based probiotics. *Poultry Science*, 103(10), p.104130.
20. **Salahuddin, M.,** Hiramatsu, K., Al-Amin, M., Imai, Y. and Kita, K., 2024. Low dietary carbohydrate induces structural alterations in enterocytes of the chicken ileum. *Animal Science Journal*, 95(1), p.e13919.
21. Abdel-Wareth, A.A., Williams, A.N., **Salahuddin, M.,** Gadekar, S. and Lohakare, J., 2024. Algae as an alternative source of protein in poultry diets for sustainable production and disease resistance: present status and future considerations. *Frontiers in Veterinary Science*, 11, p.1382163.
22. **Salahuddin, M.,** Abdel-Wareth, A.A., Hiramatsu, K., Tomberlin, J.K., Luza, D. and Lohakare, J., 2024. Flight toward sustainability in poultry nutrition with black soldier fly larvae. *Animals*, 14(3), p.510.
23. Paneru, D., Tellez-Isaias, G., Bottje, W.G., Asiamah, E., Abdel-Wareth, A.A., **Salahuddin, M.** and Lohakare, J., 2024. Modulation of immune response and cecal microbiota by dietary fenugreek seeds in broilers. *Veterinary Sciences*, 11(2), p.57.
24. Al-Amin, M., **Salahuddin, M.,** Imai, Y. and Hiramatsu, K., 2023. Characteristics of enteroendocrine cells of White Leghorn chickens, *Gallus gallus*, before and after hatching. *The Journal of Poultry Science*, 60(2), p.2023029.
25. **Salahuddin, M.,** Hiramatsu, K., Nishimoto, I. and Kita, K., 2022. Dietary carbohydrate modifies the density of L cells in the chicken ileum. *Journal of Veterinary Medical Science*, 84(2), pp.265–274. (PMID: 34980756; PMCID: PMC8920715)
26. **Salahuddin, M.,** Hiramatsu, K. and Kita, K., 2022. Dietary carbohydrate influences the co-localization pattern of glucagon-like peptide-1 with neurotensin in the chicken ileum. *Domestic Animal Endocrinology*, 79, 106693. (PMID: 34973620)
27. **Salahuddin, M.,** Hiramatsu, K., Tamura, K. and Kita, K., 2021. Dietary carbohydrate effects on histological features of ileal mucosa in White Leghorn chicken. *Journal of Veterinary Medical Science*, 83(6), pp.952–956. (PMID: 33883363; PMCID: PMC8267207)
28. **Salahuddin, M.,** Hiramatsu, K. and Kita, K., 2020. Dietary protein level influences neurotensin-immunoreactive cells in the chicken ileum. *The Journal of Poultry Science*, 57(4), pp.297–302. (PMID: 33132730; PMCID: PMC7596033)
29. **Salahuddin, M.,** Azad, M.A.K., Das, S.K., Hossain, M.M., Hasan, M.N. and Hiramatsu, K., 2019. Effect of post-transportation grazing on the physiological condition and meat quality traits of Black Bengal goats. *Animal Science Journal*, 90(2), pp.264–270. (PMID: 30556247)
30. Talukder, M.A.I., Shahjahan, M., Habib, M.R., **Salahuddin, M.,** Rahman, S.M., Ali, M.Y., Munira, S., Miah, M.A.H., Billah, M.M., Rahman, S. and Bhuiyan, A.K.F.H.,

2019. Production and compositional studies of milk in local Pabna cows of Bangladesh. *Asian Journal of Medical and Biological Research*, 5(1), pp.48–51.

31. Talukder, M.A.I., Shahjahan, M., **Salahuddin, M.,** Munira, S., Haris, M.A., Miah, M., Habib, R., Billah, M.M., Rahman, S.M., Haque, M.N. and Yeasmin, M.N., 2018. Cattle production scenario in a few rural areas of Pabna district, Bangladesh. *International Journal of Natural and Social Sciences*, 5(1), pp.01–06.
32. Talukder, M.A.I., Shahjahan, M., Habib, M.R., Billah, M.M., **Salahuddin, M.,** Munira, S., Miah, M.A.H., Rahman, S.M., Najmul, M., Haque, M. and Yeasmin, N., 2017. Living standard of farmers and cattle-oriented marketing system in a few rural areas of Pabna district, Bangladesh. *International Journal of Natural and Social Sciences*, 4(4), pp.65–69.
33. Khan, S.H.R., **Salahuddin, M.,** Habib, M.R., Billah, M.M., Miah, M.A.H., Akhter, S. and Hashem, M.A., 2017. Effects of gamma irradiation on shelf life and quality of Black Bengal goat meat. *Asian-Australasian Journal of Food Safety and Security*, 1(1), pp.65–73.
34. **Salahuddin, M.,** Siddiqua, T., Hasan, M.N., Rana, M.S. and Azad, M.A.K., 2017. Status of housing profile and feeding management of Black Bengal goats in northern districts of Bangladesh. *Asian Journal of Medical and Biological Research*, 3(1), pp.61–65.
35. Alam, M.N., Kabir, A.K.M.A., Sakib, M.N., **Salahuddin, M.** and Azad, M.A.K., 2016. Impact of livestock rearing practices on public health and environmental issues in selected municipality areas of Bangladesh. *Bangladesh Journal of Animal Science*, 45(1), pp.44–51.

MANUSCRIPTS IN REVIEW / IN PREPARATION

1. **Salahuddin, M.,** Abdel-Wareth, A.A.A., and Lohakare, J. 2026. Single-Cell and Spatial Omics of the Poultry Intestine: From Microbiome Association to Cell-Specific Mechanism. *Frontiers in Physiology* (**Submitted**)-Mini-review
2. Fawaz, M.A., Ali, A.H.H., El-Sayed, H.G.M., Abd El-Hafez, A.A.M., Saleem, A.M., **Salahuddin, M.,** Lohakare, J., Hassan, H.A. and Abdel-Wareth, A.A.A., 2026. Combined effects of *Moringa oleifera* leaf powder and xylanase on growth performance, carcass traits, metabolic profiles, and gut microbial populations in broilers. *Food Bioscience*. **(Under Review)**
3. **Salahuddin, M.,** Goswami, P.K., Abdel-Wareth, A.A., Stamps, K.G., Carr, T.L., Gray, C.D., Aviña, A.M. and Lohakare, J. 2026. Dietary brown mushroom stem reshapes the cecal microbiome and mucosal immune response of layer chicks. *Gut Microbes* **(Submitted)**

CONFERENCE PRESENTATIONS & ABSTRACTS (16)

1. **Salahuddin, M.,** Goswami, P.K., Abdel-Wareth, A.A., Carr, T., Stamps, K., Balan, V., Mohammadi, M., Kim, W.K., Gray, C., Aviña, A., Carter, T., Williams, A. and Lohakare, J. Brown mushroom stem reprograms the layer chick gut microbiome and

mucosal immunity. Association of Research Directors Symposium, New Orleans, LA, March 28–31, 2026.

2. **Salahuddin, M.,** Stamps, K., Abdel-Wareth, A.A.A., Gray, C., Aviña, A.M.W., Carter, T., Carr, T. and Lohakare, J. *Spirulina platensis* supplementation reshapes gut microbiota and functional metabolic pathways in laying hens. Poultry Science Association Annual Meeting, July 14–17, 2025.
3. Abdel-Wareth, A.A.A., **Salahuddin, M.,** Stamps, K., Gray, C., Aviña, A.M.W., Carter, T., Carr, T. and Lohakare, J. Evaluating the potential of brown and white mushroom stem powders as sustainable alternatives to soybean meal in poultry diets. Poultry Science Association Annual Meeting, July 14–17, 2025.
4. Carr, T., **Salahuddin, M.,** Stamps, K., Abdel-Wareth, A.A.A., Gray, C.D., Aviña, A.M.W. and Lohakare, J. Exploring the immune-enhancing potential of *Spirulina platensis* and its impact on gut microbial diversity in laying hens. Southern Section/Western Section Joint Meeting, American Society of Animal Science, Arlington, TX, April 5–8, 2025.
5. Stamps, K.G., Abdel-Wareth, A.A.A., **Md Salahuddin,** Balan, V., Mohammadi, M., Kim, W.K., Zhu, W., Ahmed, A.A., Gray, C.D., Aviña, A.M.W., Carter, T.R., Carr, T., Williams, A., Bakare, A. and Lohakare, J. Exploring brown mushroom stem as a sustainable soybean meal alternative in layer chicks' diet. Southern Section/Western Section Joint Meeting, American Society of Animal Science, Arlington, TX, April 5–8, 2025.
6. Carter, T.R., Stamps, K.G., Abdel-Wareth, A.A.A., **Md Salahuddin,** Balan, V., Mohammadi, M., Kim, W.K., Zhu, W., Ahmed, A.A., Gray, C.D., Aviña, A.M.W., Carr, T., Williams, A., Bakare, A. and Lohakare, J. Evaluating white mushroom stem as a sustainable alternative to soybean meal in poultry nutrition. Southern Section/Western Section Joint Meeting, American Society of Animal Science, Arlington, TX, April 5–8, 2025.
7. **Salahuddin, M.,** Stamps, K., Abdel-Wareth, A.A. and Lohakare, J. Harnessing the power of *Spirulina platensis* to enhance immune response and reduce inflammation in laying hens. Algae Biomass Summit, Houston, TX, October 20–22, 2024.
8. Abdel-Wareth, A.A., **Salahuddin, M.** and Lohakare, J. Effect of dietary bioactive lipid compounds on performance, egg quality, antioxidant activities, and blood biochemistry of Hy-Line Brown hens during the late laying period. Poultry Science Association Annual Meeting, Louisville, KY, 2024.
9. Stamps, K., **Salahuddin, M.,** Abdel-Wareth, A.A. and Lohakare, J. Utilization of *Spirulina* as a feed additive in the diets of laying hens. Poultry Science Association Annual Meeting, Louisville, KY, 2024.
10. **Salahuddin, M.,** Hiramatsu, K., Abdel-Wareth, A.A.A. and Lohakare, J. Influence of dietary carbohydrate levels in shaping the enterocytes of the chicken ileum. Association of Research Directors Symposium, Nashville, TN, April 6–9, 2024.
11. Yashu, T., Peiran, L., Snami, E.A., Islam, P., **Salahuddin, M.,** Md Mehedi, H., Kim, Y., Montgomery, M., Edralin, L., Winyoo, C. and Lin, D. Zeaxanthin improves lipid

and glucose metabolism in type 2 diabetic mice. American Society for Nutrition, Boston, MA, July 22–25, 2023.

12. **Salahuddin, M.,** Hiramatsu, K. and Kita, K. Effects of dietary carbohydrate level on glucagon-like peptide-immunoreactive cells in the chicken small intestine. 26th World's Poultry Congress, Paris, France, 2022.
13. **Salahuddin, M.,** Sagawa, M., Tamura, K. and Hiramatsu, K. Morpho-histological and immunohistochemical study of the intestine of northern bobwhite quails. Spring Meeting of the Japan Poultry Science Association, March 27, 2021.
14. **Salahuddin, M.,** Sagawa, M., Tamura, K., Hiramatsu, K. and Ono, T. Distribution of glucagon-like peptide-1-immunoreactive cells in the small intestine of bobwhite quail. Spring Annual Meeting of the Japan Poultry Science Association, March 28, 2020.
15. **Salahuddin, M.,** Kita, K. and Hiramatsu, K. Influence of dietary carbohydrate level on histological changes of the chicken distal ileum. Fall Annual Meeting of the Japan Poultry Science Association, September 17, 2019.
16. Tamura, K., Satoh, M., Tanaka, H., Uchino, S., **Salahuddin, M.,** Hiramatsu, K. and Ono, T. Functional anatomy of the alimentary tract of northern bobwhites. 2nd International Conference on Tropical Animal Science and Production (TASP2019), 2019.

TEACHING EXPERIENCE

Term	Course / Role
Fall 2023	AGRI 1327 – Poultry Science (Undergraduate; in person, including laboratory). Delivered instruction with assigned faculty. Prairie View A&M University.
Spring 2024	AGRI 1311 – Dairy Science (Undergraduate; in person). Delivered instruction with assigned faculty. Prairie View A&M University.
Summer 2024	AGHR 4341 – Applied Algal Agronomy (Graduate; in person). Guest lecturer (upon request). Prairie View A&M University.
Fall 2024	AGRI 1327 – Poultry Science (Undergraduate; in person, including laboratory). Delivered instruction with assigned faculty. Prairie View A&M University.
Fall 2025	AGRI 1327 – Poultry Science (Undergraduate; in person, including laboratory). Delivered instruction with assigned faculty. Prairie View A&M University.
Summer 2026	CIRTL: "An Introduction to Evidence-Based Undergraduate Teaching" (teaching-development course). Texas A&M University.
Fall 2026	AGRI 1327 – Poultry Science (Undergraduate; in person, including laboratory). Delivered instruction with assigned faculty. Prairie View A&M University.

MENTORING & ADVISING

Prairie View A&M University, Prairie View, TX, USA **Oct. 2023 - Present**

Mentored undergraduate and graduate students across poultry-nutrition research. Guided undergraduates in tissue and blood sampling and trained them in sample preparation for histological analysis, including microscopic evaluation, interpretation, and documentation. Assisted graduate students with experimental design, supervised sample collection for histological and biochemical analyses, and provided hands-on training in analytical techniques relevant to their projects.

Oklahoma State University, Stillwater, OK, USA **Oct. 2022 - Sept. 2023**
Supervised two graduate students in developing a novel intestinal-organoid culture protocol. Provided hands-on training in tissue collection, processing, sectioning, and histological preparation (including immunohistochemistry), and in molecular techniques (RNA/DNA extraction, gel electrophoresis, protein extraction, BCA assay, Western blotting, and RT-qPCR). Trained students in microbiome analysis, including interpretation of 16S rRNA sequencing data, and supported experimental design, troubleshooting, data interpretation, and manuscript preparation.

Shinshu University, Nagano, Japan **Apr. 2019 - Aug. 2022**
Mentored six undergraduate and three graduate students in laboratory-based animal-science and molecular-biology research. Designed and taught a laboratory course covering sample collection and preparation, tissue embedding and sectioning, immunohistochemistry (IHC), immunofluorescence (IF), in situ hybridization (ISH), and imaging (light, confocal, and transmission electron microscopy), emphasizing hands-on training and critical analysis.

PROFESSIONAL SERVICE

Committee Service

- CARC Faculty Search Committee (Animal Systems Leader), Prairie View A&M University - recruit, screen, and evaluate candidates to strengthen research, teaching, and extension capacity.
- Abstract Review Committee, Association of 1890 Research Directors (ARD) Symposium - 2024 and 2026.

Journal Peer Review

Reviewer for: Biochemistry and Biophysics Reports; British Poultry Science; Discover Plants; Food Bioscience; Italian Journal of Animal Science; Journal of Applied Animal Research; Poultry Science; The Journal of Poultry Science; Scientific Reports; and Veterinary Medicine and Science.

CERTIFICATIONS

- CIRTL Associate: “An Introduction to Evidence-Based Undergraduate Teaching,” Graduate & Professional School, Texas A&M University (Sept. 2026).
- American Red Cross - Adult First Aid/CPR/AED (issued Jun. 2026; valid through Jun. 2028), conducted by Prairie View A&M University.

PROFESSIONAL DEVELOPMENT & TRAINING

- Write Winning Grant Proposals: A Seminar - CARC, Prairie View A&M University, Apr. 27–28, 2026.
- Maintaining Research Integrity: QRPs and AI in Research - Office of Research Compliance, Prairie View A&M University, Apr. 20, 2026.
- How to Handle Stress at Work - CARC, Prairie View A&M University, Apr. 23, 2025.
- The Pursuit of Progress II: Language Access Workshop - Prairie View A&M University, Dec. 11, 2024.
- Getting Started and Keeping Going: Overcoming Obstacles to Writing - Texas A&M University, Dec. 11, 2024.

- Title IX Training - Prairie View A&M University, Dec. 2, 2024.
- Strategic Thinking Workshop - American Management Association (via Prairie View A&M University), Nov. 12–13, 2024.
- Grantsmanship and Student Development Workshop - College of Agriculture, Food, and Natural Resources, Prairie View A&M University, Sept. 25, 2024.
- Managing Multiple Priorities, Projects, and Deadlines - Prairie View A&M University, Feb. 13, 2024.
- Email Writing for the Workplace - Prairie View A&M University, Feb. 6, 2024.
- How to Communicate with Tact and Professionalism - Prairie View A&M University, Feb. 5, 2024.
- The Pursuit of Progress: A Language Access Workshop - Prairie View A&M University, Dec. 12, 2023.
- FERPA: Family Educational Rights and Privacy Act (Full Course) - Prairie View A&M University, Nov. 28, 2023.
- Tools for an Ethical Workplace (Full Course) - Prairie View A&M University, Nov. 28, 2023.
- Building Supportive Communities: Clery Act and Title IX (Full Course) - Prairie View A&M University, Nov. 19, 2023.
- Clery Act Basics (Full Course) - Prairie View A&M University, Nov. 19, 2023.
- Export Controls & Embargo Training (Basic Course) - Prairie View A&M University, Oct. 30, 2023.

PROFESSIONAL MEMBERSHIPS

2023 – Present Member, Poultry Science Association (PSA).

2019 – Present Member, Japanese Poultry Science Association (JPSA).

2016 – 2018 Member, Bangladesh Animal Husbandry Society (BAHS).

REFERENCES

Available upon request.