

Curriculum Vitae

Afroza Akter, PhD
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EMPLOYMENT

Postdoctoral Scholar, Department of Animal Science, University of California, Davis (January 2023 to present)

EDUCATION

- PhD **Animal Science**, University of Tennessee, Knoxville; Concentration: Epidemiology, early diagnosis, microbiome analysis of Bovine Respiratory Disease
Dissertation: *Temporal changes in hematological, immunological, and nasopharyngeal microbiome in newly received stocker cattle* (Defended: November 2021)
Advisor: Dr. Liesel Schneider
- Intercollegiate Minor in Statistics**, Business Analytics and Statistics, University of Tennessee, Knoxville (Fall 2021)
Advisor: Dr. Liesel Schneider
- MS **Animal Breeding and Genetics**, Chittagong Veterinary and Animal Sciences University, Bangladesh (2017)
Thesis: *Genetic gains of different trait from simulated goat population based on Superovulation*; Advisor: Dr. Md. Kabirul Islam Khan
- DVM **Veterinary Medicine**, Chittagong Veterinary and Animal Sciences University, Bangladesh (2015)
Clinical report: *Evaluation of hematological parameters of pyometra affected dog in madras veterinary college clinics*; Advisor: Dr. A.K.M. Saifuddin

AWARDS AND FELLOWSHIP

- 2021 *Bruce and Cleo Cox award* for **outstanding academic performance and departmental involvement**, Department of Animal Science, University of Tennessee, Knoxville
- 2020 *Bruce and Cleo Cox award* for **academic accomplishment and departmental contribution**, Department of Animal Science, University of Tennessee, Knoxville
- 2019 *Bruce and Cleo Cox award* for **academic accomplishment and departmental contribution**, Department of Animal Science, University of Tennessee, Knoxville
- 2018 *President Gold Medal award* for outstanding academic performance in DVM, President, Government of Peoples Republic of Bangladesh
- 2015 *National Science and Technology Fellowship*, Ministry of Science and Technology, Government of Peoples Republic of Bangladesh

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RESEARCH EXPERIENCE

- 2023-present **Postdoctoral Scholar**, Department of Animal Science, University of California, Davis; Conducting research on methane emission reduction, manuscript writing, supervising interns
- 2022 **Postdoctoral Researcher**, Department of Animal and Range Science, New Mexico State University; Statistical analysis of research data, manuscript writing, supervising graduate students
- 2018-2021 **Graduate Research Assistant**, Department of Animal Science, University of Tennessee, Knoxville; Helped in statistical consultancy, data analysis, IACUC protocol development, conducting PhD research experiments, manuscript writing
Worked on a project on the development of *Animal Disease Spread Model (ADSM)* and training materials in collaboration with **USDA-APHIS**
- 2017-2018 **Scientific Officer**, Project: Development of chickens suitable for meat and egg production under semi-scavenging system using reciprocal crossing between hilly and Fayoumi chickens, Chittagong Veterinary and Animal Sciences University, Bangladesh; assessed sustainability of Fayoumi and hilly chicken cross, performed PCR and Gel Electrophoresis, assessed genetic diversity and gene flow
- 2015-2017 **MS Research**: ration formulation for goat, performed estrous synchronization, superovulation, data analysis, and thesis writing
- 2014-2015 **DVM clinical report**: data collection, data analysis, writing report

TEACHING EXPERIENCE

- Spring 2021 Teaching Assistant; Course: Design and Analysis of Biological Research; helped in lab preparation, exam proctoring, and grading assignments and exam
- Fall 2020 Teaching Assistant; Course: Global Animal Agriculture Systems and Societies; helped in exam proctoring, and grading assignments and exam
- Spring 2020 Teaching Assistant; Course: Design and Analysis of Biological Research; instructed lab and class on simple linear regression, helped in lab preparation, exam proctoring, and grading assignments and exam
- Fall 2019 Teaching Assistant; Course: Livestock management/well-being; helped in lab preparation, exam proctoring, and grading assignments and exam
- Spring 2019 Teaching Assistant; Course: Introduction to Animal Science; helped in exam proctoring, and grading assignments and exam
- Fall 2018 Teaching Assistant; Course: Animal Health Management; helped in lab preparation, exam proctoring, and grading assignments and exam

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PEER REVIEWED RESEARCH PUBLICATIONS

1. Hunkler, C., **A. Akter**, L. G. Schneider, L. Strickland, M. Caldwell, and T. N. Rowan. 2024. Predicting immunization status at arrival in Tennessee stocker calves. *The Bovine Practitioner*, 58(1): 19-32.
2. Zubia, K., **A. Akter**, B. Carter, M. McDaniel, G. Duff, and C. Loest. 2023. Effects of supplementing milk replacer with essential amino acids on blood metabolites, immune response, and nitrogen metabolism of Holstein calves exposed to an endotoxin. *Journal of Dairy Science*, 106(8): 5402-5415.
3. **Akter, A.**, M. Caldwell, G. M. Pighetti, E. A. Shepherd, C. C. Okafor, E. Eckelkamp, L. Edwards, and L. G. Schneider. 2021. Hematological and immunological responses to naturally occurring bovine respiratory disease in newly received beef calves in a commercial stocker farm. *Journal of Animal Science*, 100(2): 1-12.
4. **Akter, A.**, M. Caldwell, G. Pighetti, and L. G. Schneider. 2020. Effect of castration on hematological and immunological parameters in newly received stocker calves in a commercial stocker operation. UTIA Beef and Forage Center Research Report 2020.
5. Khan, M. K. I., M. Ali, **A. Akter**, S. Zaman and G. Miah. 2018. Characterization of hilly chickens in consideration of climate change factors: light and heat. *Brazilian Journal of Poultry Science*, 20(04): 731-736.
6. Khan, M. K. I., A. M. A. M. Z. Siddiki, M. R. Ali, and **A. Akter**. 2017. Identification of best performer hilly chickens of Bangladesh in consideration of climate change factors: light and heat. *Indian Journal of Animal Sciences*, 87(8):991-995.

CONFERENCE PAPER, ABSTRACT, & POSTER PRESENTATIONS

1. **Akter, A.**, H. Zhao, S. Wang, and E. Kebreab. Grape pomace supplementation reduced methane emissions and improved milk quality in dairy cows. *Annual Meeting of American Dairy Science Association (ADSA)*, June 16-19, 2024.
2. **Akter, A.** Effect of grape pomace supplementation on methane emissions and milk quality in dairy cows. *California Dairy Sustainability Summit*, March 26, 2024.
3. **Akter, A.**, M. Caldwell, G. Pighetti, E. A. Shepherd, M.T. Henniger, P.R. Myer, and L. G. Schneider. Changes in the nasopharyngeal bacterial communities of recently received stocker cattle. *Annual Conference of Research Workers in Animal Diseases (CRWAD)*, December 3-7, 2021.
4. **Akter, A.**, E. A. Shepherd, M. Caldwell, G. Pighetti, and L. G. Schneider. Immunological changes in response to treatment of bovine respiratory disease in newly received commercial stocker calves. *Annual Conference of American Society of Animal Science (ASAS)*, July 14-18, 2021.

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5. **Akter, A.**, M. Caldwell, G. Pighetti, and L. G. Schneider. 2020. Effect of castration on hematological and immunological parameters in newly received stocker calves in a commercial stocker operation. *UTIA Beef and Forage Center Research Report 2020*.
6. **Akter, A.**, M. Caldwell, G. Pighetti, and L. G. Schneider. Effects of naturally occurring bovine respiratory disease on immune parameters in stocker beef cattle. *UT beef and forage center annual research and recommendation meeting*, December 15, 2020.
7. **Akter, A.**, M. Caldwell, G. Pighetti, and L. G. Schneider. Immunological response to naturally occurring bovine respiratory disease in stocker cattle during early management. *Annual Conference of Research Workers in Animal Diseases (CRWAD)*, December 5-8, 2020.
8. **Akter, A.**, M. Caldwell, G. Pighetti, and L. G. Schneider. Hematological and physiological changes observed in commercial stocker operation during early management. *Annual Conference of American Society of Animal Science (ASAS)*, July 19-23, 2020.
9. **Akter, A.**, E. Eckelkamp, L. Edwards, C. Okafor, G. Pighetti, M. Caldwell, P. Myer, and L. G. Schneider. Differentiation of the nasopharyngeal microbiomes in stocker calves experiencing BRD associated activity change. *UT beef and forage center annual research and recommendation meeting*, December 17, 2019.
10. **Akter, A.** and L. G. Schneider. Use of Animal Disease Spread Model to evaluate a projected outbreak of foot-and-mouth disease in Tennessee. *UT beef and forage center annual research and recommendation meeting*, December 18, 2019.
11. **Akter, A.**, L. G. Schneider, L. Holmstrom, and M. Schoenbaum. A modeling toolkit to evaluate a simulated outbreak of foot-and-mouth disease: The Animal Disease Spread Model. *Annual Conference of Research Workers in Animal Diseases (CRWAD)*, December 1-4, 2018.

DATA ANALYSIS AND LAB SKILLS

Statistical Software

1. SAS: correlation, regression, mixed modelling, logistic regression, study designing.
2. R: data mining and machine learning, microbiome data analysis
3. STATA: regression (OLS, Logistic, Poisson, and Negative Binomial)
4. JMP 12+: regression (simple, multiple, logistic), decision tree, Neural Networks, cluster analysis

Lab skills: ELISA, PCR, Gel Electrophoresis, and DNA extraction

Field skills: Animal handling, sample collection (including biological and behavior data), accelerometer data extraction and processing.