

## ***CURRICULUM VITAE***

**Natalie Armour Manginsay, BVSc, MAM, PhD, Dip. ACPV**

**Associate Clinical Professor, Avian Medicine**

Poultry Research and Diagnostic Laboratory  
Department of Pathobiology and Population Medicine  
College of Veterinary Medicine  
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## **EDUCATION:**

**2014**                      **PhD, Veterinary and Biomedical Sciences**  
The University of Georgia, Athens, GA

### Title of Dissertation

An Evaluation of the Molecular Epidemiology and Transmission of Avian *Mycoplasma* Genotypes in Commercial Poultry.

**2010**                      **Master of Avian Medicine (MAM)**  
The University of Georgia, Athens, GA

**2004**                      **Bachelor of Veterinary Science (BVSc)**  
The University of Pretoria, South Africa

## **EXPERIENCE:**

**2015-current**            **Associate Clinical Professor, Avian Medicine**  
Poultry Research and Diagnostic Laboratory  
Department of Pathobiology and Population Medicine  
College of Veterinary Medicine  
Mississippi State University

Primary functions include the provision of laboratory diagnostic support to Mississippi's poultry industry as part of a weekly rotation with other poultry veterinarians; supervision of the laboratory's Poultry Serology and AGID sections; conducting on-site field visits as part of diagnostic support; and addressing poultry health problems through independent and/or collaborative work on applied research projects. Teaching functions include coordinating and conducting field trips for veterinary and graduate students; training of graduate students in the Master of Veterinary Science, Poultry Specialty program; and involvement in the College of Veterinary Medicine's graduate and professional teaching program.

**2009-2014**              **Graduate Assistant**  
Department of Population Health  
College of Veterinary Medicine  
The University of Georgia

**2009-2010: Master of Avian Medicine (MAM) program.**

Courses completed:

Avian Diseases, POPH 6050; Clinical Avian Medicine, POPH 6100; Avian Medicine Clinical Rounds, POPH 6121; Avian Necropsy, POPH 6141; Poultry Disease and Management Interaction, POPH 6160L; Avian Pharmacology and Toxicology, POPH 6800; Avian Diagnostic Microbiology and Lab, POPH 7060 and 7060L; Avian Virus Diseases and Lab, POPH 8050 and 8050L; Problems in Poultry Diseases and Parasites, POPH 8110; Avian Medicine Seminar, POPH 8150; Scientific Manuscript Writing, POPH 8160; Histopathology for Poultry Medicine Residents, POPH 8240L; Poultry Nutrition with Application to Avian Medicine, POUL 8150; Avian Medicine Externship, POPH 6210.

GPA: 4.0

Proficiencies gained:

Performance of farm visits, disease investigations and technical advising for integrated poultry companies in the USA and internationally.  
Avian necropsy examinations and health evaluations.  
Laboratory techniques in avian microbiology, virology and histopathology.  
Presentation of research findings and case reports at regional and national meetings.  
Scientific writing, including research papers and industry publications.

**2011-2014: Doctorate program in Veterinary and Biomedical Sciences.**

Courses completed:

General Biochemistry and Molecular Biology, BCMB 6000; Introductory Biostatistics I, BIOS 7010; Responsible Science, GENE 8650; Immunology, IDIS 6100; Advanced Immunology, Special Topics in Immunology, IDIS 8550; IDIS 8100; Advanced Studies in Infectious Diseases, IDIS 8010; Composition, Organization and Evolution of Genomes, MIBO 8270L; Special Topics in Population Health, POPH 8230; Seminar in Infectious Diseases, IDIS 8160; Doctoral Research, VETM 9000.

GPA: 4.0

Proficiencies gained:

Experimental design and performance of bird studies.  
Laboratory techniques used in avian mycoplasma diagnostics (serology, mycoplasma isolation and titration, DNA extraction, polymerase chain reaction (PCR), real-time quantitative PCR and PCR-RFLP (restriction fragment length polymorphism)).  
Use of computational tools and databases for genomic DNA analysis.  
Establishment and application of DNA sequence databases.  
Statistical analysis of research data.  
Presentation of research findings, case reports, lectures and seminars at regional, national and international meetings.  
Scientific writing, including research papers and industry publications.  
Critical review and discussion of published research.

**2005-2009**

**State Veterinarian**

Allerton Provincial Veterinary Laboratory  
KwaZulu-Natal Department of Agriculture and Environmental Affairs  
KwaZulu-Natal, South Africa

- 2005: Wildlife and Ovine / Caprine veterinarian and Responsible Professional Officer (RPO) of the Parasitology laboratory.
- 2006 – 2009: Poultry veterinarian and RPO of Avian Virology and Serology, Avian Bacteriology and Molecular Biology laboratories. Various other species (Bovine, Ovine / Caprine, Porcine, Canine / Feline, Wildlife) and laboratory section (Bacteriology, Mycology, Mammalian Serology, Parasitology, Biochemistry, Toxicology, Milk Hygiene, Reproduction, Rabies) responsibilities during this period, due to veterinary staff shortages.

Primary functions involved the provision of a professional veterinary diagnostic and advisory service, and carrying out disease surveys to facilitate the monitoring of controlled and other animal diseases. Responsibilities included laboratory management, personnel management, training and budget control.

**2007**

**Acting Deputy Director: Laboratory Services**

KwaZulu-Natal Department of Agriculture and Environmental Affairs,  
KwaZulu-Natal, South Africa

Primary functions involved the overall management Allerton Provincial Veterinary Laboratory, which was one of the largest veterinary laboratories in South Africa, comprising 11 laboratory sections (Avian Virology and Serology, Mammalian Serology, Bacteriology, Mycology, Parasitology, Biochemistry, Toxicology, Milk Hygiene, Reproduction, Rabies, Molecular Diagnostics) and employing approximately 40 staff members (including veterinary, technical, administration and support staff). Responsibilities included personnel management, administration, budget and asset management, and overall management of the Laboratory Information Management and Quality Management systems.

**PROFESSIONAL LICENSES:**

- 2015-current: Veterinary Faculty License, Mississippi Board of Veterinary Medicine
- 2004-2021: Veterinary Registration, South African Veterinary Council (SAVC)

## **BOARD CERTIFICATIONS:**

2011-current:           Diplomate of the American College of Poultry Veterinarians (ACPV)

## **OTHER CERTIFICATIONS:**

2023                    American Association of Veterinary Medical Colleges (AAVMC) 2022-2023 Leadership Academy Graduate

2017                    National Poultry Improvement Plan (NPIP) Avian Influenza Workshop, Poultry Research and Diagnostic Laboratory, University of Georgia

2010                    Poultry Tunnel Ventilation Workshop, Departments of Poultry Science and Agricultural Engineering, University of Georgia

2009                    Poultry Winter Ventilation Workshop, Departments of Poultry Science and Agricultural Engineering, University of Georgia

## **PROFICIENCY TESTS PASSED:**

2015-2022            2015, 2016, 2017, 2018, 2019, 2020, 2021 and 2022 National Veterinary Services Laboratory (NVSL) / National Animal Health Laboratory Network (NAHLN) Avian Influenza Virus (AIV) RRT-PCR Proficiency Tests.

## **HONORS AND AWARDS:**

2023                    AAAP Program Advisory Committee (N. Armour Manginsay chair) received Top Performing Committee Award, American Association of Avian Pathologists

2022                    Best Field Case/Diagnostic Report Award, American Association of Avian Pathologists

2020                    AAAP Research Priorities Committee (N. Armour chair) received Top Performing Committee Award, American Association of Avian Pathologists

2013	A.S. Rosenwald Student Poster Award, American Association of Avian Pathologists
2013	Houghton Trust International Travel Grant to attend the 18 <sup>th</sup> Congress of the World's Veterinary Poultry Association in Nantes, France, The Houghton Trust
2012	Student Travel Award to attend the 19 <sup>th</sup> Congress of the International Organization for Mycoplasmaology in Toulouse, France, International Organization for Mycoplasmaology (IOM)
2011	Dean David P. Anderson Fellowship, College of Veterinary Medicine, University of Georgia
2010	Reed Rumsey Award, American Association of Avian Pathologists
2004	Clinic Group Prize, Faculty of Veterinary Science, University of Pretoria
2002-2004	KwaZulu Natal Department of Agriculture and Environmental Affairs Full Academic Scholarship
2000	Anatomy Prize, Faculty of Veterinary Science, University of Pretoria
1998	<i>Dux Litterarum</i> , Howick High School, KwaZulu-Natal, South Africa

#### **ACADEMIC HONOR SOCIETIES:**

The Society of Phi Zeta, Xi Chapter, University of Georgia

#### **COMMITTEES SERVED ON:**

2023-present	Member of the Mississippi State University Division of Agriculture, Forestry and Veterinary Medicine (DAFVM) Faculty Senate
2023-present	Animal Working Group meeting of the Mississippi Board of Animal Health, November 21, 2023, Jackson, MS
2021-present	Chair: American Association of Avian Pathologists (AAAP) Program Advisory Committee
2018-2021	Assistant Chair: AAAP Program Advisory Committee
2021-2022	Member of the American Veterinary Medical Association (AVMA) Convention Education Program Committee (CEPC)

2021-2022	Past Chair: AAAP Research Priorities Committee
2018-2021	Chair: AAAP Research Priorities Committee
2019-2021	Member of the AAAP Outreach Committee
2016-present	Member of the Mycoplasma Technical Committee, National Poultry Improvement Plan (NPIP)
2019	Member of the IDEXX Advisory Board
2015-2018	Member of the American College of Poultry Veterinarians (ACPV) Examinations Committee
2012-2015	Member of the ACPV Continuing Education Committee
2014-2015	Member of the 19 <sup>th</sup> World Veterinary Poultry Association Congress Scientific Committee, World Veterinary Poultry Association (WVPA)
2008-2009	Member of the KwaZulu-Natal Poultry Institute (KZNPI) Council
2006-2009	Member of the KwaZulu-Natal Coccidiosis Working Group
2006-2007	Member of the KwaZulu-Natal Branch, South African Veterinary Association

#### **PROFESSIONAL MEMBERSHIPS:**

2023-present	United States Animal Health Association (USAHA)
2016-present	American Association of Veterinary Laboratory Diagnosticians (AAVLD)
2015-present	American Veterinary Medical Association (AVMA)
2015-present	Mississippi Veterinary Medical Association (MVMA)
2011-present	American College of Poultry Veterinarians (ACPV)
2011-2014	International Organization for Mycoplasmaology (IOM)
2009-present	World Veterinary Poultry Association (WVPA)
2009-present	American Association of Avian Pathologists (AAAP)
2004-2013	South African Veterinary Association (SAVA)
2005-2013	Poultry Group of the SAVA
2005-2013	Livestock Health and Production Group of the SAVA
2004-2006	Wildlife Group of the SAVA

#### **UNIVERSITY SERVICE**

2023	Search Committee for the Executive Director of the Mississippi Veterinary Research and Diagnostic Laboratory System
2023	Search Committee for the new Assistant Professor, Avian Medicine at the Poultry Research and Diagnostic Laboratory
2022	Interviewer for the Mississippi State University College of Veterinary Medicine, DVM Program

2021	Interviewer for the Mississippi State University College of Veterinary Medicine, DVM Program
2020	Interviewer for the Mississippi State University College of Veterinary Medicine, DVM Program

## **COURSE AND WORKSHOP INSTRUCTION:**

### Undergraduate level courses

1. Guest lecturer; ANSI 201: Pig and Poultry Production, University of KwaZulu-Natal; “Avian Influenza”; May 2008.
2. Guest lecturer; POPH 3730: Poultry Health, University of Georgia; “Musculoskeletal Diseases of Poultry”; Fall semester 2012.
3. Guest lecturer; POPH 3730: Poultry Health, University of Georgia; “Avian Mycoplasmosis”; Fall semesters 2012 and 2013.
4. Guest lecturer; PO 4033: Diseases of Poultry, Mississippi State University; “Poultry Disease Case Studies”; Spring semesters 2016 to 2023.
5. Guest instructor PO 4334: Broiler Production; Poultry Necropsy Lab; Mississippi State University; Fall semester 2018.

### Graduate / Professional level courses

1. Substitute instructor; POPH 6141: Avian Necropsy; University of Georgia; Fall semester of 2011 and Spring, Summer and Fall semesters 2012 and 2013.
2. Guest lecturer; POPH 7060: Avian Diagnostic Microbiology; “*Enterococcus cecorum*”; University of Georgia; Spring semesters 2013 and 2014.
3. Poultry Section Coordinator and Instructor; CVM 5183: Special Species, Mississippi State University; “Respiratory Bacterial Diseases of Poultry”, “Fungal Diseases of Poultry”, “Nutritional, Metabolic and Other Noninfectious Diseases of Poultry” and “Poultry Case Study”; Spring semesters 2015 to 2022 (Instructor) and 2023 (Instructor and Poultry Section Coordinator).
4. Poultry Section Coordinator and Instructor; CVM 5273: Population Medicine, Mississippi State University; Poultry field trip day; Summer and Fall semesters 2017, and Spring, Summer and Fall semesters 2018 to 2022 (Instructor) and 2023 (Instructor and Poultry Section Coordinator).
5. Instructor; CVM 7000-DIS: Poultry Bacterial and Fungal Diseases, Mississippi State University; “Avian Mycoplasmosis”; Summer semesters 2016 to 2019, 2021 to 2023.
6. Course coordinator and Instructor; CVM 7000-DIS: Poultry Medicine and Management; Mississippi State University; Fall semester 2018, Spring semester 2019, Fall semesters 2021 and 2023.



7. Instructor; CVM 8113: Advanced Diseases of Poultry, Mississippi State University; “Mycoplasmosis”, “Clostridial Diseases”, Fungal Diseases” and “Nutritional Diseases”; Summer or Fall semesters 2015 to 2023. Additionally taught “Protozoa” and “Miscellaneous Musculoskeletal Diseases” 2022 to 2023.
8. Instructor; CVM 8790: Laboratory Diagnostic Services; Mississippi State University; Spring, Summer and Fall semesters 2015 to 2023.
9. Instructor; CVM 8990: Economic and Performance Medicine; ACPV Training; Spring 2020, 2022, 2023.

### Workshop Instruction

1. **Armour, N.K.** “*Mycoplasma gallisepticum*”, “Mycoplasma Testing”, “Sample Collection and Submission” and “Fluorescent Antibody Lab”. (Invited Workshop Instructor). National Poultry Improvement Plan 2023 Mycoplasma Diagnostic Workshop, University of Georgia, Athens, Georgia. March 1-2, 2023.
2. **Armour, N.K.** “*Mycoplasma gallisepticum*”, “Mycoplasma Testing” and “Sample Collection and Submission”. (Invited Workshop Instructor). National Poultry Improvement Plan 2021 Mycoplasma Remote Learning Workshop. March 23-24 and 26, 2021.
3. **Armour, N.K.** Poultry Field Sample Collection Training. Presentation and lab for Mississippi Board of Animal Health field technicians. PRDL, Pearl, MS. October 24<sup>th</sup>, 2019.
4. **Armour, N.K.** “*Mycoplasma gallisepticum*”, “Mycoplasma Testing”, “Sample Collection and Submission” and “Fluorescent Antibody Lab” (Invited Workshop Instructor). 2019 National Poultry Improvement Plan Mycoplasma Diagnostic Workshop, University of Georgia, Athens, Georgia. August 27-28, 2019.
5. **Armour, N.K.** “Mycoplasma Testing”, “Sample Collection and Submission” and “Fluorescent Antibody Lab” (Invited Workshop Instructor). 2018 National Poultry Improvement Plan Mycoplasma Diagnostic Workshop, University of Georgia, Athens, Georgia. April 24-25, 2018.
6. **Armour, N.K.** “Mycoplasma Testing”, “Sample Collection and Submission” and “Fluorescent Antibody Lab” (Invited Workshop Instructor). 2017 National Poultry Improvement Plan Mycoplasma Diagnostic Workshop, University of Georgia, Athens, Georgia. March 28-29, 2017.
7. **Armour, N.K.** “Mycoplasma Testing”, “Sample Collection and Submission” and “Fluorescent Antibody Lab” (Invited Workshop Instructor). “Experiences with Mycoplasma: Past, Present and Future” (Banquet Guest Speaker). 2016 National Poultry Improvement Plan Mycoplasma Diagnostic Workshop, University of Georgia, Athens, Georgia. March 1-2, 2016.
8. **Armour, N.K.** “Skeletal Diseases of Poultry. Presentation and necropsy demonstration” and “Skin, Feather and Carcass Quality”. (Invited Workshop Instructor). Alltech Advanced Poultry Health Course, Lexington, KY. May 14-18, 2013.

9. **Armour, N.K.** “Skeletal Abnormalities of Poultry: Tibial Dyschondroplasia, Osteopenia and Rickets”, “Infectious Musculoskeletal Diseases of Poultry: Osteomyelitis, Femoral Head Necrosis and Spinal Abscessation” and “Skin, Feather and Carcass Quality”. (Invited Workshop Instructor). Advanced Poultry Health Course, University of Georgia, Athens, Georgia. May 24-31, 2012.
10. **Armour, N.K.** “Biology of the Mycoplasmas”, “*Mycoplasma synoviae*”, “*Mycoplasma meleagridis*” and “*Mycoplasma iowae*”. (Invited Workshop Instructor). 2011 National Poultry Improvement Plan Mycoplasma Diagnostic Workshop, University of Georgia, Athens, Georgia. August 2-4, 2011.
11. **Armour, N.K.** “Infectious Musculoskeletal Diseases of Poultry”. (Invited Workshop Instructor). Advanced Poultry Health Course, University of Georgia, Athens, Georgia. May 16-20, 2011.

## **GRADUATE STUDENT INSTRUCTION / MENTORSHIP**

### External Examiner for the following student

Mashikoane Raphela                      Master’s dissertation (MSc Veterinary Tropical Diseases),  
University of Pretoria, December 2013.

### Graduate Committee Member for the following students

Shelby Harris                                  Master of Science, Veterinary Medical Science (Poultry),  
Mississippi State University, 2015-2016.

Jessica Hockaday (DVM)                  Master of Science, Veterinary Medical Science (Poultry),  
Mississippi State University, 2016-2018 (graduated).

Eric Orozco (DVM)                          Master of Science, Veterinary Medical Science (Poultry),  
Mississippi State University, 2018-2020 (graduated).

Hailey Quercia (DVM)                      Master of Science, Veterinary Medical Science (Poultry),  
Mississippi State University, 2019.

Gunnar Dunnam (DVM)                      Master of Science, Veterinary Medical Science (Poultry),  
Mississippi State University, 2021-2023 (graduated).

Hugo Ramirez (DVM)                        Master of Science, Veterinary Medical Science (Poultry),  
Mississippi State University, 2022-2024 (graduation pending).

Rebecca Mackey (MS) PhD, Veterinary and Biomedical Sciences, Mississippi State University, 2020-2025 (graduation pending). Joined PhD committee in Fall 2023.

Major Professor and Graduate Committee Chair for the following student(s).

Leslie Johnson (DVM) Master of Science - Veterinary Medical Science (Poultry), Mississippi State University, 2017-2019 (graduated).

Rachel Thiemann (DVM) Master of Science - Veterinary Medical Science (Poultry), Mississippi State University, 2020-2022 (graduated).

Marcela Arango (DVM, MS) Master of Science - Veterinary Medical Science (Poultry), Mississippi State University, 2023-2025 (graduation pending).

**PEER-REVIEWED PUBLICATIONS:**

Published manuscripts

1. Thiemann R., Dalton M.F., Rose H., Baughman B., Butler B, Adcock K., Nemeth N. and **Armour N.** An investigation of the cause of wild turkey mortality in Mississippi. *Avian Dis.* 66:237-242. 2022.
2. Thiemann R., Thornton J.K., Stayer P., Riley E., Clark R., **Armour N.** and Pulido-Landinez M. A novel presentation of *Clostridium perfringens* in young broilers. *Avian Dis.* 66:205-212. 2022.
3. Hein R., Koopman R., Garcia M., **Armour N.**, Dunn J., Barbosa T, Martinez A. Review of Poultry Recombinant Vector Vaccines. *Avian Dis.* 65(3):438-452. 2021
4. Lopes M.C., Fonseca C.S., Amaral C.I., Saraiva L.H., Oliveira L.B., da Silva D.H.L., Moreira M.V.L, da Silva F.J.M, **Armour N.K.** and Ecco R. Pathology of severe urolithiasis in a flock of egg-laying hens. *Braz J Vet Pathol.* 14(1):40-45. 2021.
5. Martin, J.E., McKeegan, D.E.F., Magee, D.L., **Armour, N.** and Pritchard, D. Pathological consequences of low atmospheric pressure stunning in broiler chickens. *Animal.* Published online 26 June 2019. DOI: <https://doi.org/10.1017/S1751731119001411>
6. **Armour N.K.** and Ferguson-Noel N. Evaluation of the egg transmission and pathogenicity of *Mycoplasma gallisepticum* isolates genotyped as ts-11. *Avian Path.* 44(4):296-304. 2015.
7. **Armour N.K.**, Laibinis V.A., Collett S.R. and Ferguson-Noel N. The development and application of a *Mycoplasma gallisepticum* sequence database. *Avian Path.* 42(5):408-415. 2013.
8. Brinson D.L., Williams S.M., Parker W.A., **Armour N.K.** and Collett S.R. Pathology in Practice. Histomoniasis. *J Am Vet Med Assoc.*, 238(8):987-989. 2011

## BOOK CHAPTERS / SUB-CHAPTERS:

1. **Armour N.K.** *Mycoplasma gallisepticum* in Diseases of Poultry, 14<sup>th</sup> ed. D.E. Swayne, M. Boulianne, C.M. Logue, L.R. McDougald, V. Nair, and D.L. Suarez, eds. Wiley-Blackwell Publishing, Hoboken, NJ. 2020.

## OTHER PUBLICATIONS:

1. **Armour Manginsay N.** Mississippi State University's Veterinary Research and Diagnostic Laboratory System: An Update on Recent Changes. *Emerging Trends – A Newsletter of the Mississippi Poultry Association*, Issue 2, p11. 2023.
2. **Armour Manginsay N.** Training Veterinarians for the Poultry Industry: Mississippi State University's Poultry Master's Degree Specialization Program for Veterinarians. *Emerging Trends – A Newsletter of the Mississippi Poultry Association*, Issue 3, p9-11. 2022.
3. **Armour N.** Infectious Bursal Disease: A Hidden Adversary. *Emerging Trends – A Newsletter of the Mississippi Poultry Association*, Issue 2, p29-33. 2021.
4. Thiemann R., Butler A., and **Armour N.** An Investigation of the Cause of Wild Turkey Mortality in Mississippi. Spittin' & Drummin' – 2021 Mississippi Wild Turkey Report. Mississippi Department of Wildlife, Fisheries, and Parks.
5. Tabler T., **Armour N.**, Moon J., Wells J. Infectious Bronchitis in Commercial Chickens. *Emerging Trends – A Newsletter of the Mississippi Poultry Association*, Issue 4, p16-19. 2020.
6. **Armour, N.K.**, McCarter S., Gingerich E., Tourville J., Schaal T., Swayne D., Heard D. and Ferguson-Noel N. 2020 Research Priorities of the American Association of Avian Pathologists. <https://aaap.memberclicks.net/research-priorities-committee-members>. November 2020.
7. **Armour, N.K.**, Burleson M., Gingerich E., Genger S., Schaal T., Glisson J., Ferguson-Noel N. and Smith J. 2019 Research Priorities of the American Association of Avian Pathologists. <https://aaap.memberclicks.net/research-priorities-committee-members>. November 2019.
8. **Armour N.K.** and Pulido M. *Gallibacterium anatis* – An Emerging Pathogen of Poultry? *aviNews Latin America*. p61-69. March 2019. (Published in Spanish).
9. **Armour N.K.** and Pulido M. *Gallibacterium anatis* – An Emerging Pathogen of Poultry? *aviNews Brazil*. p75-83. March 2019. (Published in Portuguese).
10. **Armour N.K.** Defending Our Flocks Against Trojan Horses. *Emerging Trends – A Newsletter of the Mississippi Poultry Association*, Issue 4, p1-9. 2018.
11. **Armour N.K.** 2017. Maximizing the Potential of Serology for Poultry Disease Diagnosis and Flock Monitoring. *Emerging Trends – A Newsletter of the Mississippi Poultry Association*, Issue 3, p9-13. 2017.
12. **Armour N.K.** and Garcia M. 2014. Current and Future Applications of Viral-Vectored Recombinant Vaccines in Poultry. *The Poultry Informed Professional*, Issue 134, p1-9. July / August 2014. Reprinted with permission by Engormix (<http://en.engormix.com/MA-poultry->

[industry/health/articles/current-future-applications-viral-t39410/165-p0.htm](https://www.aphis.usda.gov/industry/health/articles/current-future-applications-viral-t39410/165-p0.htm)), October 7, 2016.

13. **Armour N.K.** and Ferguson-Noel N. 2012. Current Approaches to MG control. *Avian Insight*, Vol 3, p1-3. 2012.
14. **Armour N.K.**, Williams S.M., and Collett S.R. 2011. *Enterococcus cecorum*-related arthritis and osteomyelitis in broilers and broiler breeders. *The Poultry Informed Professional*, Issue 117, p1-7. March / April 2011.

## PRESENTATIONS:

### Published Abstracts for Oral and Poster Presentations

1. **Armour Manginsay N.**, Pulido-Landinez M., Magee D., and Rose H. An Unusual Outbreak of Erysipelas in Commercial Broiler Breeder Chickens. American Association of Veterinary Laboratory Diagnosticians (AAVLD)/United State Animal Health Association (USAHA) Annual Meeting, National Harbor, MD. October 12-18, 2023.
2. **Armour Manginsay N.**, Yan L., Rose H., Pace L., Banda A, and Watson J. Highly Pathogenic Avian Influenza: The Mississippi Experience. American Association of Avian Pathologists (AAAP) Annual Meeting, Jacksonville, FL. June 11-14, 2023.
3. **Armour Manginsay, N.**, Pulido M, Rose H., Banda A. Mackey R., Sellers H., Stayer P. and Riley E. Case Report: Investigating Unusual Outbreaks of Neurologic Disease in Broiler Chickens. American Association of Avian Pathologists (AAAP) Annual Meeting, Philadelphia, PA. July 29-August 2, 2022. **2022 AAAP Best Field Case/Diagnostic Report Award Recipient.**
4. **Armour, N.K.**, McCarter S., Gingerich E., Tourville J., Schaal T., Swayne D., Heard D. and Ferguson-Noel N. 2020 Research Priorities of the American Association of Avian Pathologists. American Association of Avian Pathologists (AAAP) Virtual Annual Meeting. August 2020.
5. **Armour, N.K.**, Burlison, M., Gingerich, E., Genger, S., Schaal, T., Glisson, J., Ferguson-Noel, N, and Smith, J. 2019 Research Priorities of the American Association of Avian Pathologists. American Association of Avian Pathologists (AAAP) Annual Meeting, Washington, D.C. August 2-5, 2019.
6. **Armour, N.K.** Current Approaches to Mycoplasma Diagnosis and Control. **Invited Speaker.** North Central Avian Disease Conference, Minneapolis, MN. March 11-12, 2019.
7. **Armour, N.K.**, Drown, M., King, S., Malinak, C., Roza-Sutherland, K. and Magee, D. Analysis and Application of Average ELISA Titers for Mississippi Poultry. American Association of Avian Pathologists (AAAP) Annual Meeting, Denver, CO. July 13-17, 2018.
8. **Armour, N.K.**, Baughman, B., Magee, D., and Malinak, C. High Mortality in Adult Broiler Breeder Chickens with *Gallibacterium anatis* and *Escherichia coli* Septicemias.

- American Association of Avian Pathologists (AAAP) Annual Meeting, Indianapolis, IN. July 21-25, 2017.
9. **Armour, N.K.** An Analysis of Recent *Gallibacterium anatis* Isolations: Some Interesting and Unusual Findings. American Association of Avian Pathologists (AAAP) Annual Meeting, Indianapolis, IN. July 21-25, 2017.
  10. **Armour, N.K.**, Baughman, B., Austin, F., Magee, D., Riley, E., Stayer, P., and French, D. Ochroconosis and Ricketts in Commercial Broiler Chicks. American Association of Avian Pathologists (AAAP) Annual Meeting, San Antonio, TX. August 6-9, 2016.
  11. **Armour, N.K.** and Ferguson-Noel, N. Evaluating the Egg Transmission and Pathogenicity of *Mycoplasma gallisepticum* Isolates of the Ts-11 Genotype. World Veterinary Poultry Association (WVPA) Congress, Cape Town, South Africa. September 7-11, 2015.
  12. **Armour, N.K.** and Ferguson-Noel, N. Horizontal Transmission Characteristics of Recent *Mycoplasma synoviae* Isolates. American Association of Avian Pathologists (AAAP) Annual Meeting, Boston, MA. Jul 11-14, 2015.
  13. **Armour, N.K.** and Ferguson-Noel, N. Evaluation of the Egg Transmission of ts-11 and ts-11-like *Mycoplasma gallisepticum* Isolates. American Association of Avian Pathologists (AAAP) Annual Meeting, Denver, CO. Jul 26-29, 2014.
  14. **Armour, N.K.** and Ferguson-Noel, N. Evaluation of the Fomite Transmission of Two *Mycoplasma synoviae* Genotypes. International Poultry Scientific Forum, Atlanta, GA. Jan 27-28, 2014.
  15. **Armour, N.K.**, Laibinis, V. A., and Ferguson-Noel, N. Differentiation of Recent US *Mycoplasma gallisepticum* Isolates from MG Vaccine using PCR-RFLP. Science of Veterinary Medicine Symposium, University of Georgia, Athens, GA. Oct 10, 2013 (Poster). **Third place in the Graduate Student Poster Presentations.**
  16. **Armour, N.K.**, Laibinis, V. A., and Ferguson-Noel, N. Differentiation of Recent South African *Mycoplasma gallisepticum* Isolates from Vaccine Using PCR-RFLP. XVIIIth Congress of the World Veterinary Poultry Association (WVPA) Nantes, France. 19-23 August 2013. **Houghton Trust International Travel Grant Recipient.**
  17. **Armour, N.K.**, Laibinis, V. A., and Ferguson-Noel, N. Differentiation of Recent US *Mycoplasma gallisepticum* Isolates from MG Vaccine using PCR-RFLP. American Association of Avian Pathologists (AAAP) Annual Meeting, Chicago, IL. Jul 20-23, 2013 (Poster). **Winner of the A. S. Rosenwald Student Poster Award.**
  18. **Armour, N.K.**, Laibinis, V. A, Collett, S. R. and Ferguson-Noel, N. Using Targeted Genetic Sequencing to Investigate the Epidemiology of *Mycoplasma gallisepticum* in South Africa. 2013 One Health Symposium, University of Georgia, Athens, GA. March 21-23, 2013. (Poster)
  19. **Armour, N.K.** and Collett S. R. An Intestinal Health Evaluation System that Correlates with Bird Performance. International Poultry Scientific Forum, Atlanta, GA. Jan 28-29, 2013.
  20. **Armour, N.K.**, Ferguson-Noel, N., Gustin, S. J., Laibinis, V. Comparative Evaluation of the Transmissibility of Two *Mycoplasma synoviae* Isolates from MS Outbreaks In Arkansas. American Association of Avian Pathologists (AAAP) Annual Meeting, San Diego, CA. Aug 3-7, 2012.

21. **Armour N.K.**, Laibinis V., and Ferguson-Noel N. Targeted Sequencing of South African *Mycoplasma gallisepticum* Isolates Reveals Novel Genotypes. 19th Congress of the International Organization for Mycoplasmaology (IOM). Toulouse, France. July 15-20, 2012 (Poster). ***IOM Student Travel Award Recipient.***
22. **Armour N.K.**, Laibinis V., and Ferguson-Noel N. Sequencing of South African *Mycoplasma gallisepticum* isolates reveals novel genotypes. American Association of Avian Pathologists (AAAP) Annual Meeting, St. Louis, MO. July 16-19, 2011 (Poster).
23. **Armour N.K.**, Ferguson-Noel N., Gustin S. J., and Collett S. R. Evaluation of the Pathogenicity and Transmissibility of Two Recent *Mycoplasma synoviae* Isolates from Arkansas. American Association of Avian Pathologists (AAAP) Annual Meeting, Atlanta, GA. August 1-4, 2010. ***Winner of the Reed Rumsey Award, American Association of Avian Pathologists.***

Co-Authored Published Abstracts for Oral and Poster Presentations

1. Huffman Rose H. and **Armour Manginsay N.** Myotendinopathy and Iliotibialis Muscle Rupture in Broiler Breeder Cockerels. American Association of Veterinary Laboratory Diagnosticians (AAVLD)/United State Animal Health Association (USAHA) Annual Meeting, National Harbor, MD. October 12-18, 2023. (Poster)
2. Thiemann, R., Thornton, J., Stayer P., Riley E., Clark R., **Armour N.** and Pulido-Landinez M. A Case of Necrotic Enteritis in Young Broilers. 71st Western Poultry Disease Conference, Vancouver, BC, Canada. April 3-6, 2022.
3. Thiemann R., Hubbard S. and **Armour N.** Comparison of ATP Bioluminescence to Traditional Colony Counting for Bacterial Enumeration of Treated and Non-treated Hatching Eggs. 2022 International Poultry Scientific Forum, Atlanta, GA. January 24-25, 2022. ***Southern Conference on Avian Diseases (SCAD) Best Student Presentation Award.***
4. Thiemann, R., Jones K., **Armour N.**, Linares J., Stayer P., Riley E., Clark R., Clark B. and Putnam M. Evaluation of Serologic Responses to Various GA08 Infectious Bronchitis Virus Vaccination Protocols in Commercial Breeder Pullets (Part A). American Association of Avian Pathologists (AAAP) Virtual Annual Meeting. July 30-August 2, 2021.
5. Jones K., Thiemann R., Clark B., Collin E., Roh H., Linares J., Stayer P., Riley E., Gilbert R., Clark R., **Armour N.** and Putnam M. Part B: Evaluation of RT-PCR Takes to Various GA08 Infectious Bronchitis Virus Vaccination Protocols in Commercial Broiler Breeder Pullets. American Association of Avian Pathologists (AAAP) Virtual Annual Meeting. July 30-August 2, 2021.
6. Thiemann R., Dalton M.F., Rose H., Baughman B., Butler A. and **Armour, N.** An Investigation of the Cause of Wild Turkey Mortality in Mississippi. 2021 Virtual International Poultry Scientific Forum. January 25-26, 2021.
7. Yang T., **Armour N.**, Pulido-Landinez M., Banda A., Rose H. and Baughman B. Characterization of Neuropathologic Lesions Associated with Avian Reovirus Infection in Commercial Broiler Chickens. American College of Veterinary Pathologists Annual

- Meeting, San Antonio, TX. November 9-13, 2019. *ACVP/AAVLD Diagnostic Pathology Travel Award. Second place: ACVP Young Investigator Award (Diagnostic Pathology).*
8. Johnson L., Wills R., Carter B., Stayer P., Banda A. and **Armour N.** An Investigation of Variables Associated with Mortality in a Broiler Complex in Mississippi. 2019 International Poultry Scientific Forum, Atlanta, GA. February 11-12, 2019.
  9. Johnson L.B., Stayer P., Carter B., Banda A. and **Armour N.K.** An Investigation of Variables Associated With Reduced Livability in a Broiler Complex in Mississippi. American Association of Avian Pathologists (AAAP) Annual Meeting, Denver, CO. July 13-17, 2018.
  10. Linares J.A., Roh H., Jones K., Johnson L., Hockaday J., **Armour N.** Field Experience with GA08 + Mass Vaccinated Broilers in a Complex Using Ark Vaccine and Experiencing Ark Rolling Reactions. American Association of Avian Pathologists (AAAP) Annual Meeting, Denver, CO. July 13-17, 2018.
  11. Johnson L., Hockaday J., **Armour N.**, Berry R. and Baughman B. Case Report: Lymphoproliferative Disease Virus in a Wild Turkey from Louisiana. 2018 International Poultry Scientific Forum, Atlanta, GA. January 29-30, 2018.

Other Presentations at Regional, National or International Meetings:

1. **Armour Manginsay N.** Regional Disease Update: Southeastern U.S. **Invited Speaker.** National Meeting on Poultry Health, Processing, and Live Production, Ocean City, MD. September 25-27, 2023.
2. **Armour Manginsay N.** MSU College of Veterinary Medicine Update. **Invited Speaker.** Mississippi Poultry Association Annual Convention, Miramar Beach, FL. September 14-16, 2023.
3. **Armour Manginsay N.** PRDL Disease Update and Sample Submission. **Invited Speaker.** Mississippi Poultry Association Poultry Management School, Starkville, MS. May 17, 2023.
4. **Armour Manginsay N.** Avian Influenza: Diagnostic Laboratory Experience. **Invited Speaker.** Mississippi Poultry Association Poultry Health Seminar, Jackson, MS. February 15, 2023.
5. **Armour, N.K.** PRDL Case Submission Protocol & Disease Update. **Invited Speaker.** Mississippi Poultry Association Poultry Health Seminar, Jackson, MS. February 15, 2022.
6. **Armour, N.K.** PRDL Disease Update and Sample Submission. **Invited Speaker.** Mississippi Poultry Association Poultry Management School, Starkville, MS. May 17, 2022.
7. **Armour, N.K.,** Pulido M., Rose, H., Banda A., Stayer P. and Riley E. A New Differential for Neurologic Disease in Chickens? **Invited Speaker.** Emerald Coast Veterinary Conference, Miramar Beach, FL. July 8-9, 2021.
8. **Armour, N.K.** PRDL Serology and Mycoplasma Update. **Invited Speaker.** Mississippi Poultry Association Virtual Poultry Health Seminar. February 16-17, 2021.
9. **Armour, N.K.** Writing and Speaking for a Scientific Audience. **Invited Speaker.** American College of Poultry Veterinarians (ACPV) Virtual Annual Workshop. July 2020.



10. **Armour, N.K.** PRDL Update. Mississippi NPIP Annual Meeting. **Invited Speaker.** Pearl, MS. Sept 24, 2019.
11. **Armour, N.K.** MSU College of Veterinary Medicine Update. **Invited Speaker.** Mississippi Poultry Association Annual Convention, Miramar Beach, FL. September 14, 2019.
12. **Armour, N.K.** Backyard Poultry: Introduction and Regulations. **Invited Speaker.** Mississippi Veterinary Medical Association Summer Conference, Orange Beach, AL. July 12, 2019.
13. **Armour, N.K.** Backyard Poultry: Important Respiratory Diseases. **Invited Speaker.** Mississippi Veterinary Medical Association Summer Conference, Orange Beach, AL. July 12, 2019.
14. **Armour, N.K.** Reo Gone Rogue? A Case Investigation. **Invited Speaker.** Mississippi Poultry Association Poultry Management School, Starkville, MS. May 7, 2019.
15. **Armour, N.K.** Reo Gone Rogue? A Case Investigation. **Invited Speaker.** Mississippi Poultry Association Poultry Health Seminar, Jackson, MS. March 6, 2019.
16. **Armour, N.K.** Mississippi State University College of Veterinary Medicine Update. **Invited Speaker.** Mississippi Poultry Association Poultry Management School, Starkville, MS. May 16, 2018.
17. **Armour, N.K.** *Mycoplasma gallisepticum*. **Invited Speaker.** Mississippi Poultry Association Poultry Management School, Starkville, MS. May 16, 2018.
18. **Armour, N.K.** Backyard Poultry: An Introduction. **Invited Speaker.** 2018 Mississippi Veterinary Medical Association (MVMA) Winter Conference, Starkville, MS. February 22-24, 2018.
19. **Armour, N.K.** Backyard Poultry: Important Respiratory Diseases. **Invited Speaker.** 2018 Mississippi Veterinary Medical Association (MVMA) Winter Conference, Starkville, MS. February 22-24, 2018.
20. **Armour, N.K.** Not Your Garden-Variety Galli: The Many Faces of *Gallibacterium anatis* Infection in Recent Poultry Cases. **Invited Speaker.** Emerald Coast Veterinary Conference, Miramar Beach, FL. June 30-July 1, 2017.
21. **Armour, N.K.** Africa to America: How I Became a Poultry Veterinarian and Some Interesting Cases. **Invited Speaker.** Mississippi State University College of Veterinary Medicine Pathology Club, Starkville, MS. October 19<sup>th</sup>, 2016.
22. **Armour, N.K.** Sample Collection and Submission Updates. **Invited Speaker.** National Poultry Improvement Plan Regional Meeting, Pearl, MS. June 22, 2016.
23. **Armour, N.K.** *Mycoplasma synoviae* in Mississippi. **Invited Speaker.** Mississippi Poultry Association Poultry Management School, Starkville, MS. May 18, 2016.
24. **Armour, N.K.** *Mycoplasma synoviae* in Mississippi. **Invited Speaker.** Mississippi Poultry Association Poultry Health Meeting, Pearl, MS. February 24, 2016.
25. **Armour, N.K.** and Collett, S. R. **Invited Speaker.** Managing Intestinal Flora: The Seed, Feed and Weed System. Alltech Canada 3<sup>rd</sup> Annual Poultry Round Table, Banff, Canada. October 1, 2013.
26. **Armour, N.K.** and Collett, S. R. FACET: An Intestinal Health Evaluation System that Correlates with Bird Performance. **Invited Speaker.** Alltech Canada 3<sup>rd</sup> Annual Poultry Round Table, Banff, Canada. October 1, 2013.

27. **Armour, N.K.** and Ferguson-Noel, N. *Mycoplasma synoviae* Transmission Studies. **Invited Speaker.** Poultry Diagnostic and Research Center Seminar. Department of Population Health, College of Veterinary Medicine, University of Georgia, Athens, GA. April 8, 2013.
28. **Armour, N.K.** and Ferguson-Noel, N. *Mycoplasma gallisepticum* Strains in South Africa and Worldwide. **Invited Speaker.** The Mycoplasma Seminar, South African Veterinary Association (SAVA) Poultry Group, Johannesburg, South Africa. October 17-18, 2012.
29. **Armour, N.K.** and Ferguson-Noel, N. Experiences with the F-strain. **Invited Speaker.** The Mycoplasma Seminar, South African Veterinary Association (SAVA) Poultry Group, Johannesburg, South Africa. October 17-18, 2012.
30. **Armour, N.K.** and Ferguson-Noel, N. Using Molecular Tools to Investigate the Epidemiology of *Mycoplasma gallisepticum*. **Invited Speaker.** Poultry Diagnostic and Research Center Seminar. Department of Population Health, College of Veterinary Medicine, University of Georgia, Athens, GA. August 20, 2012.
31. **Armour, N.K.** and Collett, S. R. Poultry Performance Starts with Intestinal Health: Seed, Feed and Weed. **Invited Speaker.** Alltech 28<sup>th</sup> Annual International Symposium, Lexington, Kentucky. May 20-23, 2012.
32. **Armour, N.K.** and Ferguson-Noel, N. The South African MG Project. South African Poultry Association Annual Meeting, Johannesburg, South Africa. May 31-June 2, 2011.

Coauthored Other Presentations at Regional, National or International Meetings:

1. Thiemann R., Vidal A., Stayer P., Riley E., Clark R., Gilbert R. and **N. Armour.** Mycotoxin Detection in Feed and Animals: New Diagnostics. 56th National Meeting on Poultry Health, Processing, and Live Production. Ocean City, MD. September 27-29, 2021.
2. Thiemann R., Vidal A., Stayer P., Riley E., Clark R., Gilbert R. and **N. Armour.** Evaluation of Mycotoxins and Their Metabolites in Broiler Feed and Blood Throughout Production. Emerald Coast Veterinary Conference, Miramar Beach, FL. July 8-9, 2021.