Oladipupo Ridwan Bello

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EDUCATION

Ph.D. in Animal Sciences, 2025
University of Maryland, College Park, USA
Dissertation: Exploring the Drivers of Public T Cell Receptors Using Deep Learning and Transcriptomics

M. Sc. in Animal Breeding & Genetics (Distinction), 2019
University of Ibadan, Nigeria
Thesis: Relationship Between Milk Yield and Udder Traits in White Fulani Cows

Graduate Animal Scientist (Distinction), 2016
Exam: Graduate Animal Scientist Examination
Body: Nigerian Institute of Animal Science (NIAS)

B. Agric. in Animal Science (First Class Honors), 2015
University of Ibadan, Nigeria
Project: Variations in Hematological and Serum Biochemical Indices Among White Fulani Bulls, Ouda Rams, and West African Dwarf Bucks

RELEVANT SKILLS

- Proficient in R and Python for statistical analyses, bioinformatics, and data visualization.
- Extensive experience with high-performance compute clusters and Bash scripting.
- Proficient in the analyses of bulk RNA, single-cell RNA, DNA, ChIP, and ATAC-Seq data.
- Proficient in GWAS and metagenome analyses.
- Proficient in applying machine learning to biological sequence data.
- Familiar with recombinant DNA technology.
- Adept at troubleshooting system and computing errors on Windows, MacOS, and Linux.

RESEARCH EXPERIENCE

Doctoral Research Assistant (January 2021 – August 2025)
Department of Animal and Avian Sciences
University of Maryland, College Park, USA

- **Evaluated the role of public (shared) T cell receptors in human and bovine immunity**
  - Designed and trained a high-performance convolutional neural network classifier to distinguish public and private T cell receptor nucleotide sequences.
  - Evaluated the structural implication of TCR publicness using structural modeling.
  - Isolated T cell receptor sequences from single-cell RNA-Seq data and examined the transcriptome profile of public and private T cells.
  - Functionally characterize T cells with public and private receptor sequences to identify candidate genes that are associated with T cell receptor publicity.
  - Integrated GWAS of important traits to identify the role of public T cells in complex traits.
  - Examined the relationship between gut microbial diversity and public T cell receptor diversity in surrounding tissues.
- **Evaluated the genetic and epigenetic mechanisms of Marek's disease resistance in chicken**
  - Examined the gene expression profile of Marek's disease resistant and susceptible chicken lines with bulk

RNA-Seq to identify candidate genes that are associated with Marek's disease resistance.
- o Used ChIP-Seq and ATAC-Seq to corroborate and resolve candidate genes identified by RNA-Seq.
- o Leveraged the highly inbred nature of the chicken lines to identify RNA editing events and associated genes potentially contributing to Marek's disease resistance.
- o Examined the biological functions and implicated pathways of co-expressed candidate genes.

National Youth Service Corps (NYSC) Member (April 2016 – April 2017)
Faculty of Agriculture, Adekunle Ajasin University, Akungba-Akoko, Ondo, Nigeria
- Served as a project assistant in the Ondo State cocoa (*Theobroma cacao*) revolution project, managing the cocoa nursery situated on the campus.
- Supervised undergraduate tests and examinations.

Intern—Cocoa Research Institute of Nigeria, Ibadan, Nigeria (July – August 2014)
- Served in the entomology unit as a research assistant on the use of neem extract (*Azadirachta indica*) as an organic pesticide for cocoa (*Theobroma cacao*).
- Served in the pathology unit as a research assistant on evaluating the potency of candidate fungicides on black pod disease of cocoa.

Intern—Teaching & Research Farm, University of Ibadan, Nigeria (April – June 2014)
- Served as a farm attendant at the poultry, piggery, rabbitry, and dairy units of the research farm.

TEACHING EXPERIENCE

Teaching Assistant (January 2021 – August 2025)
Department of Animal and Avian Sciences
University of Maryland, College Park, USA

Fall 2023, Spring 2024, Fall 2024, Spring 2025: ANSC 101 & 103 (Principles of Animal Science Lab)
- Demonstrated animal handling, stockmanship, and health care to students on the farm and in the lab.
- Introduced students to experimental design and statistical analyses used in animal research.
- Proctored and graded laboratory reports, tests, and exams.

Spring 2023: ANSC 627/327 (Quantitative and Molecular Genetics)
- Held weekly TA office hours to assist students with the course materials.
- Led course review sessions and graded exams.

Fall 2021: Teaching Assistant for ANSC 447 (Physiology of Mammalian Reproduction Lab)
- Demonstrated gross anatomy and histology of livestock to students in the lab.
- Proctored and graded tests and laboratory reports

Tutorial Assistant (March 2017 – September 2018)
Department of Animal Science, University of Ibadan, Nigeria
- Coordinated and led tutorials on molecular and quantitative genetics for undergraduate students.
- Coordinated and led tutorials on probability, probability distributions, and design of experiments for undergraduate students.

PUBLICATIONS

https://scholar.google.com/citations?user=NLChCFgAAAAJ&hl=en

Bello, O. R., A. O. Salako, A. S. Akinade, and M. Yakub. (2023). Relationship between milk yield and udder morphology traits in White Fulani cows. *Dairy, 4 (3)*, 435-444.

Ewuola, E. O., Adeyemi, A. A., & **Bello, O. R.** (2017). Variations in hematological and serum biochemical indices among White Fulani bulls, Ouda rams, and West African Dwarf bucks. *Nigerian Journal of Animal Production*, *44* (1), 136-143.

MAJOR CONFERERNCE PRESENTATIONS

Bello, O. R., & Johnson, P. L. F. (Jan 2025). Public T Cell Receptors in Bovine Immunity. *Plant and Animal Genome Conference*.

Bello, O. R., Chu, Q., & Song, J. (July 2023). Temporal profiling of the bursa transcriptome reveals systemic differences induced by Marek's disease virus. *Poultry Science Meeting*.

RELEVANT HONORS AND AWARDS

- Jacob K. Goldhaber Travel Grant (2025): Graduate School, University of Maryland, College Park, USA
- Animal Health and Care Academy Fellow (2024/2025 cohort): Minorities in Agriculture, Natural Resources, and Related Sciences (MANRRS)
- Shaffner Award for Second Place in Poultry Research (2022): 35th Annual Symposium, Department of Animal and Avian Sciences, University of Maryland, College Park, USA
- Dean's Fellowship (2021): Graduate School, University of Maryland, College Park, USA
- EducationUSA Opportunity Funds Program Fellow (2019): United States Embassy and Consulate in Nigeria
- University of Ibadan Master's Scholarship and Tutorial Assistantship (2017): University of Ibadan, Nigeria
- Overall Best Candidate, Graduate Animal Scientist Exam (2016): Nigerian Institute of Animal Science (NIAS)
- Best in Animal Physiology & Reproductive Physiology, Graduate Animal Scientist Exam (2016): NIAS
- Best in Cattle, Sheep, and Goat Production, Graduate Animal Scientist Exam (2016): NIAS
- Best in Swine Production, Graduate Animal Scientist Exam (2016): NIAS
- Best in Animal Products and Processing, Graduate Animal Scientist Exam (2016): NIAS
- Joint Winner, Annual Senator Kaka Inter-Varsity Quiz Competition (2015): Animal Science Students Association of Nigeria (ASSAN), University of Ibadan, Nigeria
- Joint Winner, Inter-Departmental Sports Quiz Competition, Faculty of Agriculture and Forestry, University of Ibadan (2014)
- Best student, Practical Year Training program (PYTP), Faculty of Agriculture and Forestry, University of Ibadan (2013/14 Session)
- Dean's Honors Roll, Faculty of Agriculture and Forestry, University of Ibadan (2011/12 – 2013/14 Session)
- Gamaliel Onosode Prize for Academic and Leadership Excellence, Faculty of Agriculture and Forestry, University of Ibadan (2011/12 Session)
- Best Senior School Student in Agricultural Science, Saint Saviour's High School (2008/09 Session)

LEADERSHIP AND EXTRA-CURRICULAR ACTIVITIES

- Member, Minorities in Agriculture, Natural Resources and Related Sciences (MANRRS), University of Maryland (2024 – 2025)
- Member, Sustainable Development Goals Community Development Service (SDG-CDS) Group, National Youth Service Corps (April 2016 – April 2017)
- Public Relations Officer, Nigerian Association of Agricultural Students, University of Ibadan, Nigeria (2014/15)
- Student Representative, Students Union Representative Council, University of Ibadan, Nigeria (2013/14)
- Research Member, Students' Farm Research Foundation, University of Ibadan, Nigeria (2012/13 – 2014/15)
- Finance Minister, Tedder Hall of Residence, University of Ibadan, Nigeria (2012/13)