



UNIVERSITÀ
DEGLI STUDI
DI PADOVA

Curriculum Vitae

Family Name: Malgwi
Given Name: Isaac Hyeladi
Nationality: Nigerian
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Education:

- PhD in Animal and Food Science, Università di Padova (2019-)
- M.Sc. Master's in Animal Nutrition and Feed Safety Engineering
Hungarian University of Agricultural and Life Sciences (2016-2018)
- B.Sc. Bachelor's in Animal Sciences University of Maiduguri (2006-2012)

Research areas:

- Animal and food science
- Dry-cured ham (Meat) microbiology
- Metagenomics, nutrigenomics and nutrigenetics

PhD project:

Meat visual appearance (fat depth and fat color, marbling, drip loss, meat color, pH, hemorrhage, veining) and palatability (tenderness, juiciness, flavor, and taste) are important sensory qualities. These determine consumer quest and meat premiums. Strategies to improve quality fat deposition and quality intramuscular fat, IMF (also called marbling) composition of meat are crucial to human health, economic and environmental sustainability of animal production. Animal genetics, age, sex, environment, and dietary nutrients are known key factors affecting the rate of development of these traits in animals. Many Single Nucleotide Polymorphisms (SNPs) had revealed gene quantitative trait loci (QTLs), gene pathways, and enzyme co-factors for active genes associated with metabolic mechanisms for the trait development in farm animals. The nature of their correlation to dietary nutrient availability remains unclear. In my Ph.D. research, we will investigate best strategies based on the on-going revisions of the European Union (EU) guidelines and according to the Prosciutto Veneto production regulatory guidelines for pork from pigs destined for dry-cured ham within the circuit of protected designation of origin (PDO) ham production. Our novel approach includes:

- Matching nutriome (nutrient intake combination) with genotypes, and age, sex, body weights, or individual nutritional status of pigs from selected genotype (s) (Goland C21 pigs) to optimize and modulate cellular metabolic functions and to improve the quality and characteristics of the meat (pork), carcass yield, quality fresh and dry-cured hams while ensuring environmental sustainability.
- Microbiome analysis and investigation using metagenomics Next-generation sequencing technology (pigs and dairy cows). 16S rRNA gene sequencing for bacterial identification and characterization of pathogenic and non-pathogenic bacteria and microbes associated with the interior and exterior surfaces of dry-cured ham (meat), milk, and fecal samples.
- Application of next-generation non-invasive diagnostic methods in cattle and pigs: Near-Infrared Spectroscopy, NIRS and Fourier Transform Infrared Spectroscopy (FTIR); in animal and food product quality evaluation. A model or calibration curve for the prediction of dietary nutrient digestibility in pigs will be developed using NIRS spectra collected on fresh and dry fecal samples.

Supervisor:

Stefano Schiavon and Veronika Halas

Publications:

<https://scholar.google.it/citations?hl=it&user=XTDDQCIAAAJ>