

2nd World Congress on



ANIMAL SCIENCE & VETERINARY MEDICINE



03-04
NOVEMBER 2025



BANGKOK, THAILAND



Venue: Grand Mercure Bangkok Atrium
1880 New Petchaburi Rd, Bangkok, Khet Huai Khwang

Day 1

Scientific Program

November 03, 2025 | Bangkok, Thailand
Conference Hall : 4th Floor– Vivaldi Room

09:00 –09:15: Registrations

09:15 –09:30: Opening Ceremony

Keynote Presentations



09:30–10:10

Title: Efficacy of GPCR19 Agonists HY209 and HY3 in Atopic Dermatitis: Translational Results from Murine and Canine Models

Seung-Yong Seong
Shaperon, South Korea



10:10–10:50

Title: Ghrelin Levels in Dairy Calves: Influence of Postnatal Separation from the Dam

Francisco Javier Dieguez Casalta
Santiago de Compostela University, Spain

Group Photo | Coffee Break 10:50-11:10@ Foyer

Session Introduction

Tracks

Animal Nutrition and Feeding | Animal Welfare and Animal-Human Relations | Veterinary Medicine and Research | Recent Advances in Farm Animal Breeding | Poultry Science | Animal Science | Veterinary Epidemiology | Veterinary Forensics | Animal Reproduction and Genetics | Veterinary Microbiology | Animal Viral Diseases | Veterinary Embryology

Session Chair: Francisco Javier Dieguez Casalta

Session Co-Chair: Seung-Yong Seong

Oral Presentations

11:10–11:50

Title: Rhodococcus equi as an Infection in Goats: Pathological Findings

Gulnaz Duisekovna Ilgekbayeva, Bauyrzhan Kamalovich Otarbaev

Kazakh National Agrarian Research University, Kazakhstan

11:50–12:20

Title: The Use of Artificial Intelligence for Dairy Cattle Management

Serdal Dikmen

Bursa Uludag University, Turkey

12:20–12:40

Title: Shared Mountains, Separate Niches: Population Density and Habitat Partitioning of Himalayan Bears in the Greater Himalaya

Amar Paul Singh

Wildlife Institute of India & Zoological Survey of India, India

Lunch Break 12:40-13:40

13:40–14:10

Title: Prevalence and Antimicrobial Resistance of Mastitis Pathogens in Dairy Herds in Bangladesh: Molecular Insights and Risk Factor Analysis

Md. Abul Fazal

Chattogram Veterinary and Animal Sciences University, Bangladesh

14:10–14:40

Title: Strategies to Improve Heat Tolerance in Dairy Goats through Genetic Selection and Management Practices

Seyed Mahdi Hosseini

Huazhong Agricultural University, China

14:40–15:10

Title: Accuracy of Mixed Antibody Detection of Canine Parvovirus and Canine Distemper Infection in Dogs

Amira S Helal Hassenin

Zagazig University, Egypt

Coffee Break 15:10-15:20@ Foyer

15:20–15:50

Title: Forensic Acarology: the Importance of Mites in Forensic Investigations

Kaifa Nazim

Khalsa College of Veterinary and Animal Sciences-GADVASU, India

15:50–16:20

Title: Yet to be finalized

Anita Meena

Animal Husbandry Department, Government of Rajasthan, India

Panel Discussion & Certificate Felicitation

Day –1 Ends

Day 2

Scientific Program

Virtual Mode Zoom Meeting
(GMT+7) Time in Bangkok, Thailand

November 04, 2025 | Virtual

Oral Presentations

12:00–12:20

Title: Comprehensive Analysis of Probiotics against Aquaculture Pathogens using Co-occurrence and Bibliographic Coupling Approaches

Muhamad Firdaus Syahmi Sam-On

Universiti Kebangsaan Malaysia, Malaysia

12:20–12:40

Title: AI-Powered Toxicity Profiling of Veterinary Drugs and Feed Additives: A Predictive Framework for Livestock Safety

Amaan Arif

Amity University Uttar Pradesh, India

12:40–13:00

Title: Prevalence and Antimicrobial Resistance of Mastitis Pathogens in Dairy Herds in Bangladesh: Molecular Insights and Risk Factor Analysis

Md. Abul Fazal

Chattogram Veterinary and Animal Sciences University, Bangladesh

13:00–13:20

Title: Protective Role of Spirulina Against Arsenic-Induced Growth Suppression, Hematological Alterations, and Tissue Damage in Nile Tilapia

Md. Hamidur Rahman

Bangladesh Agricultural University, Bangladesh

13:20–13:40

Title: Mpox Outbreak Response: Regulatory and Public Health Perspectives from India and the World

Ritu Tiwari

Ministry of Health and Family Welfare, India

13:40–14:00

Title: FITC-D Permeability Assay to Analyze Loss in Gut Integrity during Coccidial Infections in Broiler Birds

Ananya Suresh

APL Global School, Chennai, Tamil Nadu, India

14:00–14:40

Title: Relationship between CF or NDF in Feed and Content of Fatty Acids in Sow Feces

Heiko Scholz

Anhalt University of Applied Sciences, Germany

14:40–15:00

Title: Effect of Guava Leaf Meal on Lipid Profile and Hemolymph pH Status of Giant African Land Snail (*Archachatina marginata*) during Dry Season

Abiona John Adesanya

Federal University of Agriculture, Nigeria

15:00–15:20

Title: Seroprevalence of Brucellosis in Camels in Bikaner and nearby Villages in Thar Desert of Rajasthan

Neharika Saxena

Rajasthan University of Veterinary & Animal Sciences, India

15:20–15:40	Title: Correlation between Panting Score of Suckler Cows and Heat Stress Heiko Scholz Anhalt University of Applied Sciences, Germany
15:40–16:00	Title: PhytoNanotechnology in Veterinary Virology: A Sustainable Approach to Control Newcastle Disease Virus (NDV) Alapati Phanidhara Sri Venkateswara University, Tirupati, India
16:00–16:20	Title: Veterinary Systems Innovation and Nutritional Approaches in Modern Animal Health Solutions Kevin Nyagwachi Jomo Kenyatta University of Agriculture and Technology, Kenya
16:20–16:40	Title: Camel Breeds of India: Contemporary Overview Anita Meena Animal Husbandry Department, Government of Rajasthan, India
16:40–17:00	Title: Forensic Acaralogy: the Importance of Mites in Forensic Investigations Kaifa Nazim Khalsa College of Veterinary and Animal Sciences-GADVASU, India

Panel Discussion



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HYBRID EVENT

KEYNOTE PRESENTATIONS
DAY 1



Seung-Yong Seong

Shaperon, Gangnam-gu Seoul, South Korea

Efficacy of GPCR19 Agonists HY209 and HY3 in Atopic Dermatitis: Translational Results from Murine and Canine Models

Atopic dermatitis (AD) remains a significant unmet medical need, and our studies demonstrate the efficacy of the GPCR19 agonist platform across species and administration routes. HY209, a GPCR19 agonist, has shown promising results in both murine and canine models. In murine models, topical application of HY209 significantly improved AD symptoms by inhibiting key inflammatory pathways. Translating these findings to a canine model, oral administration of HY209 (6 mg/kg) to six dogs with naturally occurring AD demonstrated substantial therapeutic benefit. The canine study results showed marked reductions in pruritus as measured by PVAS scores, with improvements observed from baseline through the 28-day treatment period. The CADESI-04 assessment also revealed significant decreases in lesion severity over the same timeframe. Treatment was administered twice daily (b.i.d.) for the first 14 days, followed by once daily (q.d.) dosing through day 28. Photographic documentation confirmed visible improvements in affected paw areas, with noticeable reduction in erythema and inflammation. HY3, another GPCR19 agonist compound, was evaluated through oral administration in DNCB-induced atopic mice. This second-generation compound showed marked clinical improvement as measured by EASI scores, with efficacy comparable to that achieved with the JAK inhibitor oclacitinib at the same dosage (10 mg/kg). Collectively, these results indicate that both HY209 and HY3 are promising therapeutic candidates for AD, offering efficacy through both topical and oral routes, and support further clinical development.

Biography:

Seung-Yong Seong is a professor at Seoul National University College of Medicine and Director of the Wide River Institute of Immunology. He is renowned for his pioneering research on the innate immune system, including the development of the DAMP model with Polly Matzinger, and for his studies on infectious diseases. Professor Seong has published widely in leading journals, is an active member of major microbiology and immunology societies and has received numerous national and international awards for his significant scientific contributions.



**Fco. Javier Dieguez*; Silvia Rojo-Montejo,
Margarita Rico, Ruth Rodriguez-Bermudez,
Ramiro Fouz**

Santiago de Compostela University, Spain

Ghrelin Levels in Dairy Calves: Influence of Postnatal Separation from the Dam

This study aimed to evaluate serum ghrelin concentrations in dairy calves managed under two different systems: (1) conventional separation from the dam immediately after birth and (2) dam-calf contact for at least 24 hours postpartum. Data were collected from eight Holstein dairy farms in Galicia, Spain. Serum samples were taken from 24 calves in the dam-calf contact system and 24 calves in the conventional system at three time points: just before separation (T1), two days after separation (T2), and seven days after separation (T3). Ghrelin concentrations were measured using a commercial ELISA kit, and statistical analyses were conducted using mixed linear models. Results revealed that calves allowed dam contact exhibited significantly lower ghrelin concentrations at all sampling times compared to those separated immediately after birth. These findings suggest that early maternal contact may reduce hunger-driven ghrelin secretion, likely due to improved satiety, reduced stress, and enhanced gut development. This study highlights the influence of early-life management on endocrine responses in dairy calves and supports the potential welfare and metabolic benefits of dam-calf contact systems. Further research is needed to explore the long-term impacts on calf development and production efficiency.

Biography:

Veterinarian graduated from the University of Santiago de Compostela (USC) in 2001 and earned a PhD there in 2007. He also holds a Diploma in Design and Statistics in Health Sciences (UAB, 2003) and a Master's in Health Research Methodology (UAB, 2007). Since graduation, he has worked on research projects focused on infectious diseases in domestic animals, particularly ruminants. He began teaching in 2008 in USC's Animal Production area and has coordinated several subjects. Currently, he leads a research group on milk and food quality. His interests include animal health, welfare, and wildlife management, and he is a resident of the ECAWBM.



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SPEAKER PRESENTATIONS

DAY 1



**Ilgekbayeva G.D.*, Maulanov
A.Z., Otarbayev B.K.*,
Kurman S., Kadeev A.**

Kazakh National Agrarian Research University,
Republic of Kazakhstan



Rhodococcus equi as an Infection in Goats: Pathological Findings

Rhodococci are aerobic, Gram-positive, pleomorphic, and nonmotile bacteria that are found in soil and thrive on the simple nutrients provided by herbivore manure.

Foals become infected when they ingest or inhale soil, dust, or fecal particles containing the bacteria during the first few days of life. Inhalation of virulent *R. equi* aerosols from the environment and intracellular replication in alveolar macrophages are important components of the pathogenesis of *R. equi* pneumonia in foals. Virulence in foals is associated with the presence of plasmids.

The aim of our research was to examine the pathological changes in goats inoculated with different *Rhodococcus equi* plasmids to create a foal model. An experimental study of rhodococcosis was conducted on Saanen goats weighing 16-22 kg, divided into 4 groups of 3 animals each. Animals in the first group were administered *R. equi* without plasmids, the second group received *R. equi* VapB, and the third group received *R. equi* VapN intravenously at a dose of 7 ml. Control animals did not receive the drug. At the end of the observation period (50 days), all animals were killed and subjected to postmortem examination. Animals in the experimental and control groups were maintained under identical housing and feeding conditions throughout the study period.

No postmortem differences were observed between animals in the first group and those in the control group. Animals in the second and third groups showed marked enlargement of the mesenteric and mediastinal lymph nodes, degenerative changes in the parenchymal organs, and inflammation of the small intestine.

Biography:

Gulnaz Duisekovna Ilgekbayeva completed her postgraduate studies at the Kazakh Research Institute of Veterinary Medicine, where she successfully defended her dissertation for the degree of Candidate of Biological Sciences (PhD). She then completed her doctoral studies at the Department of Microbiology and Infectious Diseases at the Kazakh National Agrarian University, where she defended her dissertation for the degree of Doctor of Veterinary Sciences (D.Sc.). She is an Academician of the International Academy of Informatization.

She is a professor in the Department of Biological Safety at the Kazakh National Agrarian Research University.

Biography:

Bauyrzhan Kamalovich Otambaev, candidate of Veterinary Sciences, Associate Professor.

He has graduated from the Veterinary Faculty of the Alma-Ata Zooveterinary Institute in 1995. He defended his Candidate's dissertation at the Department of Microbiology and Infectious Diseases at the Kazakh National Agrarian University (KazNAU) in 2004. Since 1995, he has worked in scientific and educational institutions, progressing from junior research fellow to Associate Professor at the Department of Biological Safety. He has participated in several scientific projects focused on young livestock preservation, epizootic safety, and livestock development. His research interests include microbiology, biopreparations, diagnosis, and prevention of animal diseases. Author of over 70 scientific publications, including a monograph, textbooks, and patents.

He is currently an Associate Professor in the Department of Biological Safety at the Kazakh National Agrarian Research University.



Serdal Dikmen

Bursa Uludag University, Turkey

The Use of Artificial Intelligence for Dairy Cattle Management

Artificial intelligence (AI) is transforming dairy cattle management by enhancing efficiency, productivity, and animal welfare. The term 'artificial intelligence' was first mentioned by John McCarty in 1956, and since then there has been a phenomenal growth in this field. AI-powered technologies such as machine learning, computer vision, and predictive analytics enable real-time tracking of dairy cattle health, reproduction, nutrition, and milk production. Artificial and automated milking systems with AI can optimize milking frequency, detect mastitis at an early stage, and increase milk yield forecasting. AI-based precision feeding systems offer customized nutritional programs, reducing waste and maximizing feeding efficiency. Wearable sensors and computer vision software track cow behavior, gait, and rumination patterns around the clock to detect lameness, estrus, and disease at an early stage. AI-based decision support systems integrate environment and physiology information to minimize heat stress, both improving animal productivity and comfort. AI also amplifies genetic selection by analyzing massive data sets for optimizing breeding procedures for higher production and disease resilience. For that achievement, different challenges exist ranging from data aggregation, the need for robust algorithms, and data privacy issues affecting farms. AI will keep on promoting sustainability by reducing the usage of resources and greenhouse gas emissions with economic viability. Existing applications, limitations, and potential of AI in dairy farming have been highlighted in this review, placing importance on its role towards precision livestock farming and animal welfare as well as sustainable milk production.

Biography:

Prof. Dr. Serdal Dikmen has completed his PhD at the age of 28 years from Uludağ University and postdoctoral studies from Florida University at the Department of Animal Sciences. Then he got his Professor position at the age of 39. He has published more than 100 papers in reputed journals.



Amar Paul Singh

Wildlife Institute of India & Zoological Survey of India

Shared Mountains, Separate Niches: Population Density and Habitat Partitioning of Himalayan Bears in the Greater Himalaya

Although the broad distribution patterns of Asiatic black bears and Himalayan brown bears are relatively well documented, their regional population status and habitat preferences remain poorly understood. To address this gap in a landscape where both species coexist, we deployed 117 grid-based camera traps in Dhauladhar Wildlife Sanctuary between May 2023 and December 2024, totaling 4,238 trap nights. Using a spatial presence-absence framework, we estimated higher densities for HBB (4.67 individuals/100 km²) than ABB (1.90 individuals/100 km²). A multiscale approach was applied to evaluate habitat preferences, with environmental variables computed at multiple scales to identify the best-fitting predictors for each species. Generalized additive models revealed that ABB were strongly associated with moist and mixed forests near croplands at low-mid elevations, while HBB exhibited broader ecological tolerance, using coniferous forests and alpine grasslands across mid-high elevations. Habitat suitability predictions indicated that 16.30% of the area was suitable for ABB and 24.13% for HBB, with 11.77% representing overlapping suitable habitat in mid-elevation forests—potential hotspots of coexistence or competition. Our findings highlight Dhauladhar WLS as a key protected area within the Greater Himalaya, supporting one of the richest populations of Himalayan bears, particularly HBB. This study provides critical ecological baselines and spatial insights to guide targeted management and conservation strategies for both species, while contributing to their broader conservation across the Himalayan range.

Biography:

Amar is a PhD scholar and a wildlife researcher affiliated with three prestigious institutes of India, Wildlife Institute of India, Zoological Survey of India and Forest research Institute of India. He is specializing in large carnivores' ecology, and human-wildlife interactions in the Himalayan region. His work integrates field surveys, camera trapping, and advanced spatial modeling to study population dynamics, habitat preferences, and conflict. He has contributed to research on population estimation, multiscale habitat selection, niche overlap, and the impacts of climate change on wildlife distributions across Asia. His long-term goal is to provide science-based insights for conservation management and policy, supporting the protection of threatened animal populations across their range.



Md. Abul Fazal

Chattogram Veterinary and Animal Sciences University, Bangladesh

Prevalence and Antimicrobial Resistance of Mastitis Pathogens in Dairy Herds in Bangladesh: Molecular Insights and Risk Factor Analysis

This study investigated the diversity and antimicrobial resistance (AMR) profiles of *Staphylococcus*, *Streptococcus*, *Klebsiella* spp., and *E. coli* associated with subclinical mastitis (SCM) in Bangladeshi dairy herds, along with key risk factors. Quarter milk samples were collected from 284 lactating cows across 30 farms. Using the California Mastitis Test, 178 cows (62.7%) were diagnosed with at least one SCM-affected quarter. Bacterial isolates were identified using conventional methods and PCR, with AMR and virulence genes detected molecularly. Among *Staphylococcus* spp., *S. chromogenes* (65.7%) was predominant, followed by *S. epidermidis*, *S. haemolyticus*, *S. aureus*, and *S. sciuri*. Prevalence of *Streptococcus* spp., *E. coli*, and *Klebsiella* spp. was 39.9%, 18.0%, and 6.7%, respectively. High resistance to ampicillin and amoxicillin/clavulanic acid was observed in *S. aureus* and *S. sciuri*, while *S. chromogenes*, *S. haemolyticus*, and *S. epidermidis* showed high resistance to cefepime. Multidrug resistance was widespread. The *mecA* gene was detected in *S. aureus* (32.1%) and *S. chromogenes* (6%), while *pvl* and *tst* virulence genes were found in *S. sciuri*, *S. haemolyticus*, and *S. aureus*. Risk factors identified included older age, early lactation, firm udder condition, prior mastitis, and antimicrobial use for *Staphylococcus* spp., and lack of quarantine and front-left quarter infection for *E. coli*. These findings underscore the need for targeted mastitis control, improved antibiotic stewardship, and farm-level biosecurity in Bangladesh's dairy sector.

Biography:

Md. Abul Fazal completed his Ph.D. in Microbiology and Veterinary Public Health from Chattogram Veterinary and Animal Sciences University at the age of 45. He currently serves as the Director of the Apollo Poultry and Dairy Diagnostic Laboratory in Cumilla. Previously, he worked as a Lecturer in the Department of Microbiology and Veterinary Public Health at the same university. Dr. Fazal has published over eight research papers in reputed scientific journals and has accumulated nearly 100 citations. He has a strong research interest in both classical and molecular microbiology.



Seyed Mahdi Hosseini

Huazhong Agricultural University, Wuhan, China

Strategies to Improve Heat Tolerance in Dairy Goats through Genetic Selection and Management Practices

Heat stress poses a significant challenge to dairy goat production, particularly in regions with rising temperatures due to climate change. This study explores strategies to enhance heat tolerance in dairy goats through a combination of genetic selection and effective management practices. Genetic approaches, such as identifying heat-tolerant traits and leveraging genomic tools like Marker-Assisted Selection (MAS) and Genomic Selection, offer long-term solutions for improving thermal adaptability. Concurrently, management practices such as optimized nutrition, housing modifications, and seasonal breeding adjustments provide immediate relief from heat stress. By integrating genetic and management strategies, dairy goat producers can achieve sustainable productivity while mitigating the adverse effects of heat stress. This paper highlights key physiological and genetic mechanisms underlying heat tolerance, practical breeding programs, and adaptive management techniques, presenting a holistic approach to enhancing resilience in dairy goat systems.

Biography:

Mahdi has completed his PhD from Huazhong Agricultural University. He has published more than 40 papers in reputed journals and has been serving as an editorial board member of repute.

A. S. H. Hassenin^{1*}, Aneela Durrani¹Department of Animal Medicine, Faculty of Veterinary Medicine, Zagazig University, Egypt*²Department of Veterinary Clinical Sciences, College of Veterinary Medicine, Lahore, Pakistan**Accuracy of Mixed Antibody Detection of Canine Parvovirus and Canine Distemper Infection in Dogs**

Wide spread infections in canine are caused by parvovirus (CPV) and distemper virus (CDV) in most countries. Their detection for specific isolates infection and mixed one is very common in most countries not using vaccination against these virus Mixed antibody titer detection is very high and significant in most cases - The study goal was to confirm accuracy of mixed infection with high level in spite of using vaccination to control infection. SDS Page test with ELISA compared using Passive detection of antibody neutralization test and CDV multiclinal epitopes analysis using sera collected from dog and commercial developed monoclonal antibodies in lab admitted. Monoclonal Antibody detection with following vaccination is significantly high than c one virus infection. Compared to passive virus detection.

Keywords: Mixed; F protein; Parvo; Canine; Accuracy; Distemper.



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HYBRID EVENT

Zoom Meeting (GMT+7) Time Bangkok, Thailand

VIRTUAL PRESENTATIONS

DAY 2



Muhamad Firdaus Syahmi Sam-on

Universiti Kebangsaan Malaysia, Selangor, Malaysia

Comprehensive Analysis of Probiotics against Aquaculture Pathogens using Co-occurrence and Bibliographic Coupling Approaches

The management of pathogenic microbes in aquaculture remains a major challenge, as conventional antibiotic-based methods contribute to the emergence of antibiotic-resistant bacteria in aquatic environments. Probiotics have emerged as sustainable and eco-friendly alternatives for disease control and improved fish health; however, their global research trends have yet to be systematically mapped and analysed. Bibliometric analysis offers a robust quantitative approach for evaluating large scientific datasets, with tools such as VOSviewer enabling the visualisation of emerging research patterns. This review investigates global research trends on probiotic applications for pathogen management in aquaculture through bibliometric and co-word analyses of publications indexed in the Scopus database. Bibliographic coupling identified six main clusters: (1) probiotic–host gut interaction, (2) probiotics in tilapia culture, (3) disease resistance in fish and shellfish, (4) *Bacillus* as a dominant probiotic genus, (5) probiotics as antibiotic alternatives, and (6) probiotic–prebiotic (synbiotic) applications. Co-word analysis further revealed three major thematic areas: animal nutrition and health, microbial ecology and gut microbiome, and experimental models of probiotics. Overall, publication trends show a marked increase in probiotic-related studies over the past three decades, reflecting their growing significance in sustainable aquaculture and pathogen management. This bibliometric review underscores the evolving scientific focus on probiotics as critical agents for disease control and environmental sustainability in aquaculture systems.

Biography:

Dr Muhamad Firdaus Syahmi Sam-on obtained his PhD in Microbiology from Universiti Putra Malaysia at the age of 26 and was appointed as a Senior Lecturer at the Department of Food Sciences, Universiti Kebangsaan Malaysia, at 27. His research focuses on probiotics, microbial pathogens, and sustainable microbial solutions for aquaculture and food safety. He has presented his work as an invited speaker at several international conferences in Japan, Indonesia, and Thailand, and has published research articles in leading journals such as *Microbial Pathogenesis* and *Food Bioscience*.



Amaan Arif

Amity University Uttar Pradesh, India

AI-Powered Toxicity Profiling of Veterinary Drugs and Feed Additives: A Predictive Framework for Livestock Safety

Background: Veterinary pharmacology increasingly relies on chemical agents and feed additives to enhance productivity and disease resistance in livestock. However, unintended toxic effects—ranging from hepatic and renal damage to neurological impairments—pose a significant threat to animal health, food safety, and regulatory compliance. Traditional toxicity assessments are time-consuming, ethically constrained, and often lack species-specific predictability. There is an urgent need for intelligent, scalable, and rapid screening methods to assess compound safety.

Objective: This study aims to develop an AI-driven toxicity prediction framework that evaluates the toxic potential of veterinary drugs and feed additives, ensuring proactive risk management in livestock systems.

Methods: A curated dataset of 1,200 compounds with known veterinary toxicological profiles was compiled from PubChem, TOXNET, and species-specific toxicology databases. Molecular descriptors, ADMET features, and physicochemical properties were extracted using RDKit. Machine learning models—including Random Forest, Support Vector Machines, and Deep Neural Networks—were trained to predict multi-organ toxicity endpoints (hepatotoxicity, nephrotoxicity, neurotoxicity) across species such as bovine, ovine, and avian livestock. Model performance was validated using ROC-AUC, precision-recall curves, and 10-fold cross-validation.

Results: The ensemble deep learning model achieved an overall prediction accuracy of 91.3%, with high sensitivity and specificity across toxicity classes. Toxicity risk heatmaps and compound clustering revealed species-specific sensitivities, allowing informed compound selection and formulation design.

Conclusion: This AI-powered toxicity profiling tool provides a rapid, non-invasive, and species-aware risk assessment platform for veterinary applications. Its adoption could reduce reliance on animal testing, accelerate regulatory decision-making, and improve animal welfare standards.

Biography:

Amaan Arif is a passionate and multidisciplinary researcher with a strong academic foundation in Biotechnology, complemented by hands-on experience in bioinformatics, toxicology, artificial intelligence, and machine learning. His research interests lie at the intersection of life sciences and computational technology, with a focus on using AI-driven methods to solve complex biological problems, such as drug toxicity prediction, disease biomarker identification, genome analysis, and neurodevelopmental disorders.

He has contributed to various projects involving transcriptomics, metabolomics, and microbial analysis, and is particularly interested in the application of deep learning for genome prediction, mental health research, and toxicological risk assessment. Amaan is also actively exploring novel approaches in antimicrobial resistance, cardiotoxicity, and structural biology, aiming to integrate data-driven methods into public health and pharmaceutical research.



Md Sazzad Hossain, Md Hamidur Rahman*, Md Kamrujjaman

Department of Aquaculture, Bangladesh Agricultural University, Bangladesh

Protective Role of Spirulina Against Arsenic-Induced Growth Suppression, Hematological Alterations, and Tissue Damage in Nile Tilapia

Arsenic contamination jeopardizes aquaculture productivity and food safety. This research investigated whether dietary Spirulina (*Arthrospira platensis*) can mitigate arsenic-induced toxicity in Nile tilapia (*Oreochromis niloticus*). We fed tilapia for 60 days on arsenic-contaminated diets (15 mg As/kg feed) supplemented with Spirulina at 0, 10, 20, or 30 g/kg (T_0 - T_3 ; triplicate tanks per treatment). We then assessed growth performance, feed utilization, hematology, arsenic residues in muscle, and histopathology of the intestine and liver. Fish receiving 10 g/kg Spirulina (T_1) showed the most significant final weight and specific growth rate, improved feed conversion efficiency, and the highest survival (~91%), outperforming fish on arsenic-only diets (T_0). Hemoglobin increased and glucose levels normalized in Spirulina-fed fish, suggesting alleviation of arsenic stress. Muscle arsenic concentrations were lowest in T_1 and highest in T_3 . Histological examination revealed severe villus atrophy and hepatic vacuolization/necrosis in T_0 , whereas spirulina, particularly at 10 g/kg, restored intestinal villi and hepatic architecture. Overall, Spirulina supplementation, optimally at 10 g/kg, ameliorated arsenic toxicity by enhancing growth and physiological status, preserving tissue integrity, and reducing toxicant accumulation. The findings support the use of Spirulina as a functional feed additive to produce healthier, arsenic-safe tilapia suitable for human consumption.

Biography:

Md. Hamidur Rahman is a Lecturer at Bangladesh Agricultural University with over five years of teaching and research experience in aquaculture. He obtained a CGPA of 3.859 (Out of 4.00) in Honours and 3.984 (Out of 4.00) in Masters. With 28 publications, including 12 international papers, 6 as first author, and 4 as corresponding author, he has established himself as a promising researcher. His work focuses on fish nutrition, feed efficiency, and health management in aquaculture species such as seabass and grouper. Through his contributions, he aims to enhance sustainable aquaculture production and address global challenges in food security.



Ritu Tiwari*, Poornima Gulati, Rajeev Singh Raghuvanshi

Indian Pharmacopoeia Commission, Ministry of Health and Family Welfare,
Government of India, India

Mpox Outbreak Response: Regulatory and Public Health Perspectives from India and the World

Monkeypox is a zoonotic viral disease caused by the monkeypox virus. India reported its first confirmed mpox case on July 15, 2022, necessitating an immediate response. The World Health Organisation has declared a global health emergency due to the increase in the number of cases worldwide. The perspective discusses the challenges and strategies to be implemented by Indian and global healthcare systems in dealing with the monkeypox outbreak.

This correspondence focuses on the national and international outbreak of the monkeypox virus. It also discusses the recommendations put forward by WHO. It also elaborates on the strategy and steps to be put into action by the government and the citizens of the nation.

The recent mpox outbreak has posed challenges to healthcare systems. Therefore, a coordinated approach involving healthcare providers, government organisations, and the public is required to control the mpox outbreak. Further research is needed to understand the virus and develop effective interventions for future outbreaks.

Biography:

Dr. Ritu Tiwari possesses over 28 years of extensive experience in the field of drug analysis, with particular emphasis on pharmacovigilance, phytochemistry, and herbal medicines. She is currently appointed to the Scientific Officer, Pharmacovigilance Division at the Indian Pharmacopoeia Commission, under the Ministry of Health and Family Welfare, Government of India. Throughout her tenure, she has made significant contributions across various divisions, having been affiliated with the Indian Pharmacopoeia since 1998. Dr. Tiwari has authored numerous distinguished research publications focusing on herbal medicines, quality control, and phytopharmaceuticals. Additionally, she serves as a National Accreditation Board for Testing and Calibration Laboratories (NABL) assessor at the national level.



Ananya Suresh*, Ramesh Selvaraj

*APL Global School, Thoraipakkam, Chennai, 600097, India

Department of Poultry Science, University of Georgia, USA

FITC-D Permeability Assay to Analyze Loss in Gut Integrity during Coccidial Infections in Broiler Birds

Poultry coccidiosis is characterized by damage to the epithelial lining of the intestines, leading to increased paracellular passage of non-absorbable markers, such as fluorescein isothiocyanate-dextran (FITC-Dextran), into the bloodstream and eventual impaired production performance. The objective of this study is to measure the coccidiosis-induced decrease in gut integrity and production performances in broilers. A total of 216 birds were randomly divided into two treatment groups, Control and Coccidia, in six replications (n=6) with 18 birds/pen. On d14, birds were challenged orally with *Eimeria acervulina*, *E. maxima* and *E. tenella* at 62,500, 12,500 and 12,500 oocysts/bird. Weekly body weight gain (BWG), feed consumption (FC) and feed conversion ratio (FCR) were measured. On d 14, 21, and 28, gut integrity was measured through fluorescein isothiocyanate-dextran (FITC-Dextran) permeability assay. Data were analyzed by ANOVA ($P < 0.05$). Coccidiosis infection decreased ($P < 0.05$) the BWG on d 14-21 by 15% and on d 21-28 by 26%. Coccidiosis infection decreased ($P < 0.05$) the FC on d 21-28 by 20%. Coccidiosis infection decreased ($P < 0.05$) the FCR on d 14-21 by 14%. Coccidiosis infection increased ($P < 0.05$) the gut permeability on d 21 by 63% and on d 28 by 25%. It can be concluded that mixed coccidiosis infection decreased the production performance and resulted in loss of gut integrity until 14 days post-infection. FITC-Dextran analysis can be used as an assay for measuring loss in gut integrity in broiler birds.

Biography:

Ms. Ananya Suresh is a Grade 11 student from APL Global School, Chennai, with a strong academic interest in life sciences and has participated in science fairs and academic workshops demonstrating a commitment to problem solving and scientific enquiry. Beyond academics, Ananya has been shortlisted in Global Essay Competition of John Locke Institute, UK and is a gold medalist in the Cambridge Science Competition (2024). She aspires to pursue higher education in the health, biomedical or data science field, with the goal of driving innovation and positive change on a global scale.

Biography:

Dr. Ramesh Selvaraj received his doctor of veterinary medicine degree and master's degree from Tamil Nadu Veterinary and Animal Sciences University, a second master's degree from Oregon State University, and his doctoral degree in immunology from the University of California, Davis. Selvaraj's laboratory is the first ever to identify and characterize chicken T regulatory cells. He teaches "Nutritional Immunology in the Animal System" to graduate and undergraduate students at UGA. A Poultry Science Association member since 2001, he has regularly served as section program chair and judge of student presentations at the annual meetings.



Heiko Scholz* and Kathleen Schlegel

Anhalt University of Applied Sciences, Bernburg, Germany

Relationship between CF or NDF in Feed and Content of Fatty Acids in Sow Feces

In recent years, in addition to crude fiber, the analysis of structural carbohydrates via NDF and ADF has also been emphasized in the analysis of pig feed in order to better meet the requirements for intestinal health and thus also animal welfare. The nutritional situation of sows appears to be very complex. It is therefore necessary to check whether fecal sample analyses are suitable for describing the fermentation pattern.

In the first step, 5 companies were selected for the investigations. The rations of sows in the transit phase were then analyzed and the faecal samples of at least 6 sows per farm were also recorded. The feed and fecal samples were analyzed in an accredited external laboratory. In addition to fatty acids, the levels of nitrogen and selected minerals were also analyzed in the faeces.

There were no differences between the farms in terms of manure particle distribution, but more than 80% of the manure had a particle size of less than 0.063 mm. The ratio of the fatty acids acetic, propionic and butyric acid in the feces of the sows was on average 60 % - 24 % - 16 %. However, very strong variations in the SCFA content of the feces ranging from 2.1 g to 7.0 g per kg DM could be detected. Very high correlations were found between the levels of fatty acids in the feces and the NDF content of the feed (e.g.: NDF and acetic fatty acid: $r = + 0.839$; $p = 0.005$). An exponential regression with a coefficient of determination of 79 % was calculated between the NDF content of the feed and the concentration of acetic acid in the sows' feces.

Biography:

Professor Dr. Heiko Scholz completed an apprenticeship as a skilled worker in plant production, specializing in arable farming and crop production. He then attended the agricultural college in Haldensleben, graduating as a state-certified agricultural technician with a focus on agricultural informatics. This was followed by five years of agricultural studies at Anhalt University of Applied Sciences in Bernburg, specializing in agricultural economics. After a three-year research stay at the State Teaching and Research Institute for Animal Production and Technology of Saxony-Anhalt in Iden-Rohrbeck, Professor Scholz earned his doctorate in agricultural sciences from the Institute of Animal Breeding and Husbandry with Veterinary Clinic at the Faculty of Agriculture of Martin Luther University Halle-Wittenberg.

Since 2008, he has been a research associate at Anhalt University of Applied Sciences in Bernburg, specializing in animal production and the economics of animal production. His work includes both research and lectures.



**Abiona, J. A.*, Jimoh, B. O., Afolabi, W. O., Oke, O.E.,
Ajiboye, O. O and Onagbesan, M. O**

Federal University of Agriculture, Abeokuta, Nigeria

Effect of Guava Leaf Meal on Lipid Profile and Heamolyph pH Status of Giant African Land Snail (*Archachatina marginata*) during Dry Season

This study determines the effect of guava leaf meal on lipid profile and heamolyph pH of Giant African Land Snail (*Archachatina marginata*). A total of Fifty Snails (50) snails weighing 150 g-180 g were used for this study. Ten snails each were distributed into five different treatments with ten replicates each in a completely randomized design. Guava leaf meal was administered at 0g, 5g, 10g, 15g and 20g per treatment. After 15 weeks of administration of guava leaf meal, haemolymph was collected from all the treatments. Parameter monitored were cholesterol, high density lipoprotein and low density lipoprotein together with haemolymph pH. Result showed that Guava leaf meal had significant effect on cholesterol ($P<0.001$), high density lipoprotein ($P<0.001$) and low density lipoprotein ($P<0.001$). However, its effect on pH was not significant ($P>0.05$). Guava leaf meal at 15 and 20 g/kg reduced cholesterol and similarly reduced low density lipoprotein. It is obvious from the study that guava leaf meal at 15g and 20g/kg of feed reduced cholesterol and Low density lipoprotein which is an indication that it can be used to improve health status of both human and animal.

Biography:

Abiona John Adesanya is the current deputy Dean of College of Animal Science and Livestock Production of Federal University of Agriculture, Abeokuta, Nigeria. He has keen interest in working with Giant African Land Snails. He has published more than 85 papers in reputed journals both in local and international. He is the current secretary of Nigerian Malacology Society with passion for research in both Mollusc and other Livestock species.



Heiko Scholz* and Kathleen Schlegel

Anhalt University of Applied Sciences, Bernburg, Germany

Correlation between Panting Score of Suckler Cows and Heat Stress

The Hamburg Earth System Model MPI-ESM has so far been used to model scenarios for global warming and it is expected that temperatures will be around 4.8 °C higher by 2100. A comparable statement with different scenarios is shown by HEMPEL et al. (2019). In addition, phases with long periods of heat have been increasingly observed in the last 5 years, which makes it more difficult for grazing animals in particular to adapt to these conditions. These statements must be taken into account and evaluated for suitable measures to reduce the stress factors in relation to heat stress.

For the assessment of possible signs of heat stress, the cattle's respiratory rate, heartbeat and rectal temperature are very frequently recorded internationally as indicators. The frequency of respiration was measured and recorded according to GAUGHAN et al. (2000). For this purpose, breaths were recorded over a period of 1 minute. However, it must also be noted that the respiratory rate does not always increase in the animals with increasing heat stress, as shown by the studies of SPIERS et al. (1994) and GAUGHAN et al. (1999). The PANTING SCORE (PS) according to GAUGHAN et al. (2008) or TUYTTENS et al. (2014) could be determined from the data, which would then enable a classification of possible heat stress in the animals. The 5 time zones of the day of 06:00, 09:00, 12:00, 15:00 and 18:00 were again used to describe the change in the respiratory rate of the suckler cows. Due to the grazing activities of the herd, the recordings were always made with a time interval of ± 30 minutes. The frequency of respiration can be categorized according to Netzwerk Fokus Tierwohl (NFT, 2024), as shown in Figure 5, and used for evaluation.

A mean value of 32 ± 6 breaths per minute was determined in the resting state of the suckler cows (fluctuations 18 to 44). Due to the data structure and based on the evaluations from the literature, 3 temperature ranges were determined: [1] up to a maximum of 24 °C, [2] 24 to a maximum of 30 °C and [3] more than 30 °C at midday. On the cool days, the panting score changed only insignificantly over the course of the day. On days with medium and also high midday temperatures, it was very clear that the highest Panting score was recorded at 15:00. Towards the evening, a tendency towards a drop in breathing rates could be detected.

Biography:

Professor Dr. Heiko Scholz completed an apprenticeship as a skilled worker in plant production, specializing in arable farming and crop production. He then attended the agricultural college in Haldensleben, graduating as a state-certified agricultural technician with a focus on agricultural informatics. This was followed by five years of agricultural studies at Anhalt University of Applied Sciences in Bernburg, specializing in agricultural economics. After a three-year research stay at the State Teaching and Research Institute for Animal Production and Technology of Saxony-Anhalt in Iden-Rohrbeck, Professor Scholz earned his doctorate in agricultural sciences from the Institute of Animal Breeding and Husbandry with Veterinary Clinic at the Faculty of Agriculture of Martin Luther University Halle-Wittenberg.

Since 2008, he has been a research associate at Anhalt University of Applied Sciences in Bernburg, specializing in animal production and the economics of animal production. His work includes both research and lectures.



Neharika Saxena*

College of Veterinary & Animal Science, Rajasthan University of Veterinary & Animal Sciences, India

Seroprevalence of Brucellosis in Camels in Bikaner and nearby Villages in Thar Desert of Rajasthan

Brucellosis is a hideous illness of camels in India. It is caused by *Brucella melitensis* and *Brucella abortus*. The main symptoms of this disease in camels are hygroma and orchitis.

Seroprevalence of Brucellosis was studied by RBPT and ELISA from 177 serum samples of camel. Serum samples were collected from Bikaner and nearby villages Gadwala, Gadola, and Naurangdesar. The study included 108 males and 69 females aged between 0.2 and 20 years. Of these, 15 camels (8.47%) were found positive, including 7 males (6.48%) and 8 females (11.59%). Variable prevalence was observed. Highest prevalence was observed in the camel more than 12 years of age. Lowest prevalence was observed in camels aged 8-12 years. ELISA results indicated prevalence of 1.20% in the 5-8 years age group and 0.60% in camels aged 8-12 years and over 12 years. This investigation highlights the presence of Brucellosis among camels in Bikaner and surrounding areas of Rajasthan, underlining its zoonotic potential and the associated public health risk for individuals exposed to infected animals, raw milk, or meat.

Keywords: Bikaner, Brucellosis, Camel, ELISA, Prevalence, RBPT.

Biography:

Dr Neharika saxena is working as an assistant professor in Apollo college of veterinary medicine, jaipur, India. She is an ARS net exam qualified and phd in Veterinary public health, She is masters in veterinary public health and epidemiology. She has published many papers and books on Veterinary public health and epidemiology.



Kevin Nyagwachi

Jomo Kenyatta University of Agriculture and Technology, Nairobi, Kenya

Veterinary Systems Innovation and Nutritional Approaches in Modern Animal Health Solutions

Veterinary Systems Innovation and Nutritional Approaches in Modern Animal Health Solutions: With a background in Animal Health, Production, and Processing (BSc), and currently pursuing an MSc in Animal Nutrition, I offer a multidisciplinary approach to animal care, veterinary diagnostics, and feeding systems. My academic and field experience spans vaccine production at KEVEVAPI, livestock management, laboratory diagnostics, and nutrition advisory. I have worked with dairy and poultry systems, conducted voluntary work in university biology and biochemistry labs, and supported field station logistics. My focus is integrating sustainable and ethical animal care solutions with scientific research and welfare compliance for global application.

Biography:

Kevin Nyagwachi holds a Bachelor of Science in Animal Health, Production & Processing from Jomo Kenyatta University of Agriculture and Technology (JKUAT) and is currently pursuing a Master of Science in Animal Nutrition. He is interning at the Kenya Veterinary Vaccines Production Institute (KEVEVAPI) where he supports vaccine development and livestock health monitoring. His prior experience includes working with dairy and poultry systems, conducting voluntary research support in university biology and biochemistry labs, and participating in veterinary field programs. Kevin's research interests lie in animal nutrition, welfare, One Health, and innovative feeding strategies.



Alapati Phanidhara

Sri Venkateswara University, Andhra Pradesh, India

PhytoNanotechnology in Veterinary Virology: A Sustainable Approach to Control Newcastle Disease Virus (NDV)

Newcastle Disease Virus (NDV) is a highly virulent, enveloped RNA virus that primarily infects poultry chicken and wide range of avian species causing substantial economic loss to poultry industry. Despite regular vaccination programs, frequent disease outbreaks are common due to frequent mutations in the NDV genome, leading to the emergence of the mutant strains and continuous field persistence of the virus. This enhances the need for enhanced protective and environment-friendly therapeutic strategies. The excessive use of synthetic drugs like antimicrobials and vaccines has led to the accumulation of harmful chemical residues in the environment, leading to environmental pollution and antimicrobial resistance (AMR). Green Nanotechnology facilitates production of plant-based metal nanoparticles for use as multifunctional, therapeutic agents against NDV.

PhytoNanoparticles or Plant-based Nanoparticles of *Aegle marmelos* fruit extract were synthesized by green synthesis method and characterized through UV-visible spectroscopy, Zeta potential, FTIR, particle size analysis, and dynamic light scattering (DLS) techniques. The antiviral activity against NDV tested in embryonated chicken eggs (ECEs) displayed lower hemagglutination titres in nanoparticle-treated and untreated samples than those of the virus-treated samples. Histopathology study of the heart and liver tissues of NDV treated samples showed severe cellular degeneration, necrosis and nuclear infiltration, compared to the nanoparticle-treated and untreated control samples which showed reduced cellular degeneration and inflammation, suggesting their protective and antiviral nature. The antioxidant, antibacterial, antifungal and anticancer properties of the green synthesized nanoparticles indicated the synergistic role of phytonanoparticles, suggesting further insights into the impact of the metallic cores and plant phytochemicals.

Keywords: Green nanotechnology, Nanoparticles (NPs), *Aegle marmelos* (Am), PhytoNanoparticles, Newcastle Disease Virus (NDV), Histopathology, Biocompatible, Cellular degeneration, Necrosis, inflammation, Embryonated Chicken Eggs (ECEs), Hemagglutination, Synergistic, Immunomodulatory and Antimicrobial Resistance (AMR).

Biography:

Ms. Alapati Phanidhara is an enthusiastic researcher from the Department of Virology, Sri Venkateswara University, Tirupati, Andhra Pradesh, India, where she is currently pursuing her Ph.D. in Virology on Plant-based nanoparticles to control NDV.

Inclined towards research, she worked on Human Papilloma Virus (HPV) during her M.Sc. project. She began her professional career as a Senior Research Fellow at the National Research Centre for Citrus (now Central Citrus Research Institute), Nagpur, Maharashtra, where she worked on diagnostics for Citrus Tristeza Virus. She later served

as a Research Associate at the Central Research Institute for Dryland Agriculture (CRIDA), Hyderabad, focusing on baculoviruses as biopesticides (*Achaea janata* Granulosisvirus and *Spodoptera litura* Nucleopolyhedrosisvirus). Her industrial research experience includes roles as Officer (R&D) at Indian Immunologicals Limited, Senior Research Associate (R&D) at Sri Biotech India Ltd., and Senior Executive (QRD) at AIRIS Pharma Ltd., Hyderabad, where she worked on animal viruses (Rabies virus) and *Bacillus thuringiensis* (Bt) as a biopesticide. She has six research publications in reputed journals. She continues to explore Green Nanotechnology and its applications in veterinary virology as part of her doctoral research.

Index

Seung-Yong Seong	10
Francisco Javier Dieguez Casalta	11
Gulnaz Duisekovna Ilgekbayeva, Bauyrzhan Kamalovich Otarbaev	14
Serdal Dikmen	16
Amar Paul Singh	17
Md. Abul Fazal	18
Seyed Mahdi Hosseini	19
Amira S Helal Hassenin	20
Amaan Arif	23
Vikas Vohra	24
Md. Hamidur Rahman	25
Ritu Tiwari	26
Ananya Suresh	27
Heiko Scholz	28, 30
Abiona John Adesanya	29
Neharika Saxena	31
Kevin Nyagwachi	32
Kaifa Nazim	33



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