PRESS RELEASE
Research Institute for Farm Animal Biology (FBN)
Dummerstorf, 2023 -02-10

European Network of Excellence prepares young women and men for a future in cutting-edge research

Two PhD students are conducting research in the Marie Skłodowska-Curie-MonoGutHealth" training network at the FBN

Daria De Leonardis (27) and Oyekunle John Oladosu (30), two young scientists from Italy and Nigeria, are among the eleven doctoral students of the innovative Marie Skłodowska-Curie Training Network "MonoGutHealth". They are working on their PhD dissertation at the Research Institute for Farm Animal Biology (FBN) in Dummerstorf in the research group of Professor Dr Cornelia C. Metges. The EU is funding the project at the FBN with around 500,000 Euros. The training includes several internships in companies and research institutes as well as regular international training at network partner institutions. A total of ten European countries are participating in this top-class training network.

The Marie Skłodowska-Curie Fellowship, funded by the EU's Horizon 2020 programme, aims to familiarise young scientists with international interdisciplinary cutting-edge research. During the three years of research, the young researchers can use state-of-the-art methods and techniques and gain experience in various laboratories. Specifically, the focus is on novel approaches in pigs and chickens before and shortly after birth to improve gut health. The "mono" in the acronym "MonoGutHealth" stands for "monogastric", for animals with only one stomach, as in pigs and chickens; "Gut" refers to the gut and "Health" to health.

Finding the optimal nutritional supplement for piglets

"In the Excellence Programme, young researchers are given first-class opportunities not only to work on a specific scientific topic with innovative methods in the course of their PhD research project , but also to get to know important research institutions in Europe from the inside," emphasised Professor Dr Cornelia C. Metges. The agricultural scientist supervises the Italian Daria De Leonardis in her research work.

The young veterinary biotechnologist from Brindisi (Italy), who studied at the University of Milan, is researching an optimised nutritional solution for piglets to improve their intestinal health and development as well as growth performance. Due to increasingly large litters, about 15 per cent of piglets show below-average birth weight and low energy reserves at birth. The research project investigates whether the addition of natural amino acids (glutamine) immediately after birth as a nutritional supplement promotes the healthy development of piglets. Glutamine has already been shown to be beneficial for intestinal maturation and inflammation prevention in piglets weaned from sow‘s milk.

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Detect and prevent worm infections in chickens

The PhD topic of Oyekunle John Oladosu from Ibadan (Nigeria), who completed his Master's degree at Lincoln University in New Zealand, is supervised by the agricultural scientist Dr Gürbüz Daș. Together they published a scientific paper in the journal Veterinary Parasitology (https://doi.org/10.1016/j.vetpar.2022.109795) at the end of last year. At the FBN, the two scientists have developed a new method for detecting parasite infections in chickens with the industrial partner TECODevelopment GmbH from Rheinbach (North Rhine- Westphalia). The new method is non-invasive, as it only requires faecal samples as biological material, is relatively easy to perform and has a high diagnostic accuracy.

Parasitic worm infections in the intestine (nematode infections) are a common problem in European poultry farms with access to the outdoors, limiting farm productivity and negatively affecting chicken health. The project of the livestock scientist from Nigeria aims in particular to identify metabolic parameters that are associated with better immune defence and resistance to worm infection.

Daria De Leonardis and Oyekunle John Oladosu would like to complete their three-year research programme at the FBN next year with a PhD at the Free University of Berlin in the Department of Veterinary Medicine.

Further information at https://monoguthealth.eu

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Photo selection

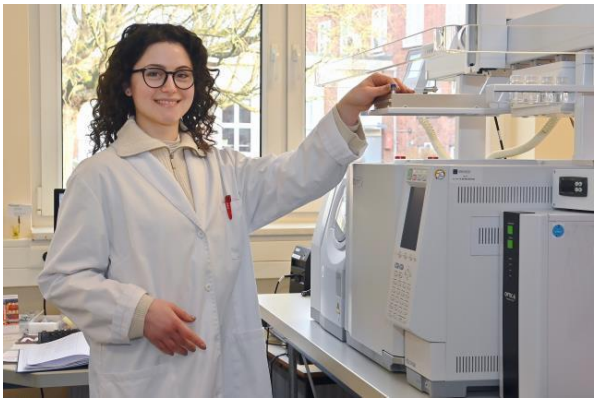

Photo: Joachim Kloock

The farm animal scientist Daria De Leonardis has a Master's degree in veterinary biotechnology and sees great potential in the MonoGutHealth programme to optimally prepare herself for a future in cutting-edge research. State-of-the-art equipment is available at the FBN for this purpose, including gas chromatography-mass spectrometry for analysing metabolites in plasma samples.

Photo: private

About three out of four emerging infectious diseases in humans are zoonotic, so human and animal health are closely linked. Oyekunle John Oladosu wants to help detect pathogens in animals more quickly and prevent infections effectively through new methods.