Galyna DUKHTA[1] – Jaap VAN MILGEN[2] – György KÖVÉR[3] – Veronika HALAS[4]

**Modeling nutrient flows and partitioning for growth in meat and egg producing chickens**

galyna.dukhta@ke.hu

[1]Department of Animal Nutrition, Kaposvár University, Hungary; research assistant/PhD student
[2]PEGASE, Agrocampus Ouest, INRA, Saint-Gilles, France; senior scientist
[3]Department of Mathematics and Informatics, Kaposvár University, Hungary; associate professor
[4]Department of Animal Nutrition, Kaposvár University, Hungary; associate professor

Recently, a mechanistic dynamic growth model has been developed and validated for an average commercial broiler bird of the flock. The model simulates the nutrient flows within the body, partitioning of digestible nutrient intake through metabolism and predicts the body composition of a broiler in a time interval typical for meat types chicken. There were two aims of our *in silico* study. To investigate whether this broiler growth model can be used, firstly, for rearing broiler breeder pullets until 20 weeks of age and, secondly, for rearing pullets of the layer type hen, by only modifying key parameters. The broiler model was challenged with the recommendation of Aviagen Ross guideline on dietary nutrient content and restricted feed allowance. The parametrization of the model for layer pullets was based on literature data, and the feed composition, as well as simulaion of daily feed intake, were set according to Babolna Tetra recommendation. The main difference between meat type and egg producing layer pullets are in genetic potential for maximum and mean protein deposition, the *ad libitum* feed intake, and the precocity that reflects the early or late maturating of the bird. This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 633531.

# LXI.
# GEORGIKON NAPOK

*61th Georgikon Scientific Conference*