PhD position in Animal Nutrition and Health

The Institute of Agricultural and Fisheries Research (ILVO) and Gembloux Agro-Bio Tech (GxABT), Liège University (Belgium) are announcing a position for a PhD student to work on the biological mechanisms behind early life programming in pig husbandry. The successful candidate will join a research team of scientists working on pig nutrition, gut microbiota, metabolomics and molecular biology and will be positioned at two institutions. The animal experiments and part of the analyses will be performed at ILVO in Melle (Belgium), while others will be done at GxABT. Therefore, the candidate must be flexible and interested in a multidisciplinary approach.
The project has a duration of 4 years, when the PhD title should be obtained. The candidate should ideally start in October-November 2017.

Project title :

Long-lasting optimization of gut health by decreasing the dietary crude protein level: from the maternal diet to the piglets' diet after weaning.

Project summary :

Weaning is a stressful event as the piglets are separated from the mother, mixed with other litters and transferred to another environment. Moreover, they need to adapt to the ingestion of only solid feed. During this period, the piglets have an increased susceptibility for infections such as *E. coli*, called weaning diarrhea. A reduced protein diet can have positive effects on the prevalence of weaning diarrhea. Several hypotheses exist to explain the positive effects of a low protein diet on gut health, all related to an interaction between diet-host-microbiota.
Interestingly, some nutritional manipulations applied to the mother or during the early-life developmental window, have been shown to program the animal on a long-term. In this way, maternal dietary strategies might prepare the piglets to better cope with weaning stress (by establishing a 'positive' gut microbiota, assisting in the gut maturation). The central aim of the project is to determine (1) if and how a maternally provided low crude protein diet affects the digestive tract and the metabolism of the offspring on a long-term, (2) how gut microbiota play a role in this. The effect of a low-protein diet provided to weaned piglets will be investigated as well.

Candidate profile :

- You hold a master degree, with distinction, in applied biological sciences (bioscience engineering), veterinary sciences, biology, or another field relevant to the topic, obtained not longer than 5 years ago. If you are doing research at a research institute or university, you were under a research contract for not longer than 12 months.
- You should have knowledge or be interested in:
  - *in vivo* animal experiments, pig husbandry
  - Molecular biology methods (ELISA, Western Blot, qRT-PCR, etc.)

    - (16S) sequencing, bioinformatics
- You must comply with the Belgian regulations on the use of laboratory animals (FELASA) or be ready to do so by following the appropriate training during the first year of the research
- You should be motivated to learn different techniques, and flexible to work sometimes in Melle while other times in Gembloux.
- You should have good communication and writing skills in English. Knowledge of Dutch or French is an asset.

Host laboratories:

Animal Husbandry, ILVO, under supervision of Sam Millet
Food Safety, ILVO, under supervision of Marc Heyndrickx
Precision Livestock and Nutrition Unit, Gembloux Agro-Bio Tech (Liège University), under supervision of Nadia Everaert and Martine Schroyen

How to apply:

Please send your CV and motivation letter to Nadia Everaert and Sam Millet by email (nadia.everaet@ulg.ac.be and sam.millet@ilvo.vlaanderen.be) before 30th of August 2017. For questions you can contact Nadia Everaert or Sam Millet, after the 16th of August.

Between the first and 15th of September 2017, selected candidates will be invited for an interview (at ILVO or by skype).