



## **Job opening PhD research:**

### **Evaluation, validation and optimisation of sensors in Precision Livestock Farming: position & behavioural monitoring of pigs and measuring techniques for indoor air quality**

#### ▪ **Project description:**

“Smart Sensors” combined with ICT are considered as one of the main solutions to secure food for 9 billion persons in a sustainable and profitable manner. ILVO, as a multidisciplinary research institution, focusses with the ISense project on an important strategic mission: increase sustainability, efficiency, animal welfare, food quality and safety through concrete innovations applying sensor technology in agriculture, fisheries and the food sector.

In the ISense project, three PhD researchers will cooperate on three different topics: Precision livestock farming, precision crop farming and biosensors. The research on precision livestock farming will focus on two main objectives with the common target of applying sensors in precision livestock farming:

- The development of a measuring technique for indoor air quality of pig fattening facilities in relation to ventilation efficiency (mainly CO<sub>2</sub>) and emissions (mainly ammonia) through the use of relatively cheap and custom-off-the-shelf (COTS) sensors.
- Use and validate an ultra-wide-band and/or camera system to monitor the position and behaviour of pigs in order to automatically detect behavioural or welfare problems.

The experimental work will be carried out on the ILVO site at Melle/Merelbeke.

#### ▪ **Profile:**

Candidates should hold an MSc degree, with preference towards bio-engineering or civil engineering or animal sciences, or equivalent through competence or experience. An interest in animal farming, animal behaviour and welfare in conjunction with technical & mathematical competence is requested. Experience in experimental design, data processing (statistics) and sensors or image processing is considered advantageous. A scientific attitude is necessary.

## ▪ Practical information:

Candidates may contact ing. Annelies Van Nuffel ([annelies.vannuffel@ilvo.vlaanderen.be](mailto:annelies.vannuffel@ilvo.vlaanderen.be); +32 9 272 27 56), dr. ir. Peter Demeyer ([peter.demeyer@ilvo.vlaanderen.be](mailto:peter.demeyer@ilvo.vlaanderen.be); +32 9 272 27 64) or prof. dr. Frank Tuytens ([frank.tuytens@ilvo.vlaanderen.be](mailto:frank.tuytens@ilvo.vlaanderen.be) +32 9 272 26 05) for more information regarding the content of this PhD position.

For more information regarding the scholarship and legal procedure: dr. Björn Possé ([bjorn.posse@ilvo.vlaanderen.be](mailto:bjorn.posse@ilvo.vlaanderen.be) ; + 329 272 25 37), Onderzoekscoördinatie ILVO, Burg. Van Gansberghelaan 96 bus 1, 9820 Merelbeke.

Interested candidates ought to send a letter of motivation and CV, **before August 1st 2014**, to the Administrator-General of ILVO, [Joris Relaes](mailto:Joris.Relaes@ilvo.vlaanderen.be) ([Joris.Relaes@ilvo.vlaanderen.be](mailto:Joris.Relaes@ilvo.vlaanderen.be)).