



The own capital of ILVO is looking for a

PhD researcher: Digital Twin Pig – welfare and behaviour model

Vacancy number
Place of employment

EV/2022/004/T&V115
Burgemeester Van Gansberghelaan 115 bus 1 - 9820 Merelbeke

Are you interested in what a digital twin for pigs could do? Do you like working with data and love to do programming? You want to help with innovative research? Then you are the new colleague we are looking for!

Job description

KULeuven and ILVO are looking for a PhD student for the topic 'Digital twinning for pig farming', applied to pig welfare and behaviour.

Pig farmers have many different aspects to consider in their business. Much of this complexity comes from the fact that every animal needs appropriate care and that production, health, welfare and environment are interrelated. However, with state-of-the-art sensor, camera's, models (such as agent-based models) and artificial intelligence, it is becoming possible to estimate or predict the emotional state of a pig. This can then be used to predict welfare problems or simulate normal behaviour.

A digital twin can ensure that:

- (1) pig farms can be managed more efficiently with more focus on the individual,
- (2) different scenarios can be modelled and their effects predicted ('serious gaming'),
- (3) unexpected behaviour can be detected / predicted, and tackled fast.
- (4) pig welfare increases.

As a PhD researcher, your tasks within this project involve:

- ✓ collect data (e.g. via sensors and cameras in the barn) and analyse this data
- ✓ create a "digital twin" model to simulate and predict the 'reaction' of a pig (in terms of behaviour, physiology, stress, etc.)
- ✓ write scientific papers and complete a PhD thesis as a final goal
- ✓ give presentations about your progress and results for colleagues, conferences, sector, etc.
- ✓ stay up to date with the recent scientific insights
- ✓ follow training courses (professional and personal competences).

Our organization

Flanders Research Institute for Agriculture, Fisheries and Food (ILVO) is a **multidisciplinary research institute** of the Flemish government, with a focus on supporting **sustainable agriculture, horticulture, fisheries and food research**.

Drawing on the 5 important ILVO values - *Positivity, Proactivity, Professionalism, Working Together and Being an Example*, we are steadily growing ILVO as a **socially relevant center of expertise**. We work together within a culture of open, honest discussion and mutual trust.

And ... now you might be able to play a role in this wonderful story!

We employ more than 700 people, about half of which are researchers. Approximately 35% of the personnel works for the Flemish government; the rest is employed by ILVO's Own Capital funding based on project and contract research.

Your Profile

- ✓ You recently obtained a Master degree in Engineering, Bio-engineering, Sciences or similar
- ✓ You meet the generic conditions to carry out a PhD [Doctoral grants: requirements and regulations - ILVO Vlaanderen](#)
- ✓ You have knowledge of programming e.g. Python, R
- ✓ You have a good background in data analysis and modelling
- ✓ You have a good written and spoken knowledge of English

Advantages

- ✓ You are interested in animal husbandry
- ✓ You have experience with complex models (such as agent-based models, game theory, machine learning or artificial intelligence) or are willing to learn this

Candidate Skills

- ✓ You have an analytical mind and can tackle your work in a structured way
- ✓ You can work independently but are also a team player
- ✓ You have a fluent pen

Our offer

We offer you a 4 year PhD position in a collaboration between ILVO and KULeuven

- ✓ The doctoral scholarship is initially granted for 1 year and can be extended to 4 years, after a favorable evaluation. The scholarship is free of personal income tax, but does contribute to your social security (e.g. pension).
- ✓ The **grant amount** is 2,323.91 net (2,673.31 gross) for the first 2 years. For the final 2 years the amount is 2431,29 net (2796,86 bruto).

Foreseen start of the PhD position: 01/09/2022

How to apply?

You can apply online via [Jobs - ILVO Vlaanderen](#) . This vacancy will remain open until we have found a suitable candidate, so be quick.

The following documents should be attached as **one pdf-file**:

- Motivation letter
- CV
- A copy of your diploma
- An overview of your study results

Candidates found fit (based on CV screening) will be invited for a selection interview. Please include a telephone number and e-mail address where you can be reached during the day..



For more info please contact

Job content:

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