Curriculum Vitae

Elena Nalon was born on 6 September 1973 in Venice (Italy).

In 1998 she obtained her B.A. degree with Masters in English and Portuguese from Ca’Foscar University in Venice (Italy).

After following a vocational training in web design, she became a multimedia technician at the University of Padua Language Centre, where she worked for more than ten years.

In 2010 she obtained the qualification of Doctor of Veterinary Medicine (DVM) from the University of Padua (Italy).

In December 2010, Elena started her PhD research at the Faculty of Veterinary Medicine of Ghent University, in cooperation with the Institute for Agricultural and Fisheries Research (ILVO). Her PhD project was funded by the Agency for Innovation by Science and Technology in Flanders.

In April 2016, she became diplomate of the European College of Animal Welfare and Behavioural Medicine (ECAWBM). She is currently programme leader for farm animals at Eurogroup for Animals in Brussels.

Elena Nalon is author and co-author of several publications in peer-reviewed international journals.

Invitation

Public defence of the doctoral thesis of

Elena Nalon

December 16th, 2016
The Chancellor of Ghent University has the honour of inviting you to attend the public defence of the doctoral thesis of

Elena Nalon

Title of the thesis:

Lameness in sows: visual assessment and effects on mechanical nociceptive thresholds

The defence will take place on Friday, 16th of December 2016 at 4 pm in the auditorium D of the Faculty of Veterinary Medicine, Salisburylaan 133, B-9820, Merelbeke.

After the defence you are kindly invited to the reception.

Please confirm your attendance to the reception by e-mail by December 6 2016 at the very latest at elena.nalon@gmail.com

Summary

Lameness affects a significant proportion of breeding sows in the European Union. Yet so far there is no systematic way to assess it, and little is known about the effects of lameness on pain perception.

The first specific objective of this thesis was to develop a “tagged” visual analogue scale (tVAS) to score lameness, similar to those that are in use in human and veterinary medicine to score pain. The first part of this thesis presents the results of a study involving 108 observers in which the inter- and intra-observer repeatability of this tVAS were compared with that of a 5-point and a 2-point ordinal scale with the same verbal descriptors. Compared to the 2-point scale, both the tVAS and the 5-point scale had a superior repeatability and a higher correlation with the experts’ scores.

The newly developed tVAS was used to select 12 lame and 12 healthy sows for a study investigating the effect of lameness on nociception (i.e., perception of painful stimuli). The results showed that lame limbs had a higher sensitivity to mechanical nociceptive stimuli compared to sound limbs. This is an indication that lame sows develop hyperalgesia (i.e., a higher sensitivity to painful stimuli) in the affected limbs. The effects of hyperalgesia on the welfare of sows are not yet fully understood and will require further research. We also discussed several other factors that were shown to influence the mechanical nociceptive thresholds in sows.

Finally, this thesis investigated some of the main methodological aspects of mechanical nociceptive threshold testing in sows. For this study, we selected eight healthy sows, and we measured the mechanical nociceptive thresholds and the variability between repeated measurements at nine different anatomical locations, with two instrument configurations (hand-held probe vs. limb-strapped actuator) and with 1- versus 3-minute intervals between five consecutive measurements. The variability between consecutive measurements was generally high and depended on anatomical location and instrument used. Several factors affected mechanical nociceptive thresholds, all of which need to be accounted for when using this methodology.

In the future, it will be important to better understand the effects of different causes and severity of lameness on hyperalgesia and animal welfare. This is ideally done by combining behavioural data (such as feeding motivation, activity budgets, cognitive bias) with other parameters that can be measured for instance with visual gait scoring, force plate analysis, kinematics, nociceptive threshold testing, and necroscopic findings. It will also be important to investigate the effects of different types of treatments on hyperalgesia in naturally occurring cases of lameness.