

ISAE Creativity Award 2020/21

The recipient of the 2021 ISAE Creativity Award was Professor **Daniel M. Weary**. Dan's research represents a highly creative and successful attempt to assess and improve the welfare of farm and laboratory animals. He has published more than 300-refereed articles, and these have been cited almost 30,000 times, making Dan the most highly cited author in both animal welfare and applied animal behaviour.

Dan is perhaps best known for his work on the development of novel methods for assessing pain and other negative affective states. This includes his pioneering empirical and theoretical work on the use of vocalizations as a reliable indicator of need, and the development and application of a range of behavioural, cognitive and motivational testing methods to assess pain and other negative affects. A number of his conceptual and methodological contributions are summarized in his paper entitled "Behavioural evidence of felt emotions: approaches, inferences and refinements."

It is one thing to detect negative affect, but quite another to tackle the thorny issue of how such affective states ultimately contribute to a diminished quality of life. Dan has provided the conceptual groundwork for how negative affect can lead to 'suffering' (the root of many public concerns about welfare), his work on the effects of providing animals agency, and his more recent theoretical work on Bayesian conceptions of animal welfare. Some of his conceptual work on animal welfare is summarized in the paper "Understanding the multiple conceptions of animal welfare."

Many welfare issues are the result of poor housing and management practices. Dan's work in this area has been characterized by his innovative approach to design, and the rich variety of outcomes addressed ranging from practical measures related to health and production through to novel predictions related to cognitive performance and affect. These features are illustrated in his work on housing for lactating sows, laboratory rodents and dairy cows and calves, as summarized for example in his paper "Understanding weaning distress".

Dan has been a pioneer in the use of behaviour (including especially automated measures) for the early detection and prediction of disease in animals (e.g., "Using behaviour to predict and identify ill health in animals"). This work has focused on the use of changes in social behaviour as early indicators of disease and has provided a basis for the rapid growth in research and development of commercially available equipment and algorithms for automated health assessments on farms.

Finally, Dan's work is among the first to combine experimental, quantitative work and qualitative methods including interviews, focus groups and online town halls to understand perspectives of animal caregivers and the public with regards to animal care (e.g., "Public concerns about dairy-cow welfare: how should the industry respond"). This work has motivated new research better targeted at perceived constraints and illustrates a new trend towards interdisciplinary research to address societal concerns. One recent example of Dan's innovative approach in this area is his new scientific research using facial expressions of human participants as an objective measure of their responses to procedures used on farm animals.

More information about Professor Dan Weary work can be found [here](#).



Selected relevant publications:

1. Weary, D.M., P. Droege, and V.A. Braithwaite. 2017. Behavioural evidence of felt emotions: approaches, inferences and refinements. *Adv. Stud. Behav.* 49:27-48.
2. Weary, D.M., J.A. Robbins. 2019. Understanding the multiple conceptions of animal welfare. *Anim. Welfare* 28:33-40.
3. Weary, D.M., Jasper, J., Hötzel, M. 2008. Understanding weaning distress. *Appl. Anim. Behav. Sci.* 110: 24-41.
4. Weary, D.M., J.M. Huzzey, and von Keyserlingk. 2009. Board Invited Review: Using behavior to predict and identify ill health in animals. *J. Anim. Sci.* 87:770-777.
5. Weary, D.M., and M.A.G. von Keyserlingk. 2017. Public concerns about dairy-cow welfare: how should the industry respond? *Anim. Prod. Sci.* 57:1201-1209.

