SUPPORTING MEDICAL DETECTION DOGS

Making the most of dogs' amazing abilities to sniff out cancer

Cancer detection with dogs, pioneered worldwide by Medical Detection Dogs, has been shown to have significant potential for the non-invasive secondary screening of cancer in humans, particularly for those cancers that are difficult to diagnose.

Cancer detection dogs are trained to recognize the odour in biological samples and to signal back to their trainers when they identify the odour. To communicate with their trainers, the dogs are conditioned to use signalling conventions such as sitting down in front of positive samples. Signalling in this way goes against their natural behaviours, which limits the signal's reliability. Often the dogs' behaviour deviates from the expected range of responses, leaving the trainer confused about the dog's signal.

The canine detection interface currently being developed by The Open University's ACI team, working with Medical Detection Dogs, can revolutionise cancer detection through a dog's sense of smell and by placing dogs at the heart of these detection practices. This builds communication with their trainers in more natural and spontaneous ways, reducing levels of confusion between the dogs and their trainers.

As well as enhancing the reliability of cancer detection techniques, the canine-centred computer-supported approach being developed, aims to broaden the scope of communication and capture the smallest details, beyond simple 'positive sample' or 'negative sample' responses. This could significantly increase the potential of cancer detection with dogs as a form of non-invasive secondary screening in the early diagnosis of cancer, making cancer screening a lot easier on those going through such a difficult process.

The OU's Animal Computer Interaction (ACI) work

The Open University (OU) is improving the quality and ethicality of collaboration between working animals and the humans they support: helping animals as they help us. The OU's Animal Computer Interaction (ACI) laboratory is developing pioneering technology that has the potential to address the significant societal need to make advanced technological interactions accessible to animals.

The technology and practices being developed focus on putting the animal at the heart of the design process, ensuring the animal's natural behaviours and preferences inform the activities we ask them to undertake. Creating animal-centric technology means opening up new possibilities for making our increasingly 'smart' homes and cities more accessible and inclusive for working animals just like the humans they assist.

The OU believes that knowledge should be shared, communicated and ultimately advanced for the benefit of society at large. This groundbreaking research will help change and save lives.