COLORADO MESA UNIVERSITY

2023-2024 Faculty Colloquium Series

THE SCENT OF DEATH

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In the aftermath of recent fires in Maui cadaver dogs were relied on to find the dead. Cadaver dogs, or human remains detection (HRD) dogs, are trained to give a trained final response (TFR) in the presence of the odor of human cadavers. HRD dogs may also give a TFR in the presence of the residual scent. A TFR has been used in court to show that human remains were at a location, linking a car or house to an alleged perpetrator.

Colorado Mesa University's (CMU) Forensic Investigation Research Station (FIRS) is examining the limits of the dog's detection through a study examining the error rate of dog-handler teams on residual odor in blind test, using scented and unscented suitcases in a blind test. Errors may result, in part, from poor training, cognitive bias on the part of the handlers, or the dog has an "off" day.

In addition, we are working with Salk Institute Assistant Professor Sreekanth Chalasani to determine the composition of odor. Small fabric "twisters" are placed on decomposing remains for passive sampling of the volatile organic compounds that create odor. We placed "twisters" on 4 humans, 3 soil samples, the suitcase from the study above, and are hoping for samples from 4 animals.

Why is this important? The first reason is for court cases that rely on an HRD dog to link the defendant to a body – if that is the only link, and that link has a significant error rate, there may be a wrongful conviction. The second reason could be to build a machine that detects what the dogs' scent, but are not limited by getting tired, by heat, or handler ability. This would allow searches, like the one in Maui, to proceed faster and more accurately.

Wednesday, November 1, 2023 · 12-1 pm · CTL (Lib 139)