EXPLORING HUMAN SCENT WITH INSTRUMENTS AND CANINES

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Human scent is defined as the most abundant volatile organic compounds (VOCs) that are present in the headspace of a collected scent sample. The types of compounds that constitute human scent originate from the secretions a variety of glands, as well as the metabolism of these secretions by bacteria. A combination of the presence and abundance of human scent VOCs provides a chemical profile that is characteristic to an individual and therefore, can be recognized as a biometric measurement. In forensic science, human scent has been used as a form of associative evidence, as well as a scent source for human scent discriminating canines. Instrumental evaluations and canine field trials were both conducted to evaluate the discriminating capabilities of VOCs from biological specimens (i.e. hand odor, hair, fingernail and saliva) of different individuals. This presentation will highlight the results of those studies and present a scientific foundation for human scent.