

Forensic Research & Technology

October 31-November 02, 2016 San Francisco, USA

Forensic Sociology: Towards an integrated research agenda

Derek Layder

University of Leicester, UK

Investigative research is a sociology-based framework but eminently suited to forensic science. Criminal behavior or activity (violence, extortion, robbery, or serial murder) is understood as an outcome of the intersecting influences of four principal social domains -along with their sub-dimensions of power and temporality. 'Psychobiography' traces 'perpetrators' psychological states of mind, intertwined with social involvements, emotions and preferred modes of interpersonal control -as they unfold over time. 'Situating activity' examines face to face encounters (between victims and perpetrators) and the importance of emergent meanings. 3] 'Social settings' are the proximate social locations of criminal activities and significantly influence criminal conduct. 'Contextual resources' (wider societal influence of such factors as -class gender, ethnicity and age) in both material (money, goods) and symbolic (values, beliefs) forms. Additionally, different (domain) forms of 'power & control' and 'temporality' significantly affect the unfolding narratives of crime. The strengths of such a program are: 1] Brings together sociology, psychology, philosophy, anthropology and other strands of forensic science to form a unified interdisciplinary research program, 2] Common focus around emotion and interpersonal control. 3] Integrated approach allows diverse, but complementary theories and research approaches, to work in unison, based on a unique combination of theory-testing and theory-generating approaches in the context of multi-strategy and mixed methods research.

dlayder@talktalk.net
dl6@lei.ac.uk

Detection of lamp amplified Amelogenin gene using a binary deoxyribozyme sensor

Alexandra Smith, Tosha Dupras and Dmitry Kolpashchikov

University of Central Florida, USA

Sex identification of unknown remains is crucial to personal identification of human remains in anthropology and forensics. When conventional methods, such as metric or morphological analysis, are not an option due to the fragmented or prepubescent remains, molecular diagnostics are needed. The amelogenin gene, found on sex (X and Y) chromosomes, is the most common molecular marker used for sex determination because it exhibits sexual dimorphism in size and sequence. Here we develop a new method for fluorescent and visual easy-to-use analysis of amelogenin gene for sex identification. In this assay, human DNA is amplified during a period of 15 min by isothermal loop mediated amplification (LAMP) followed by analysis by a binary deoxyribozyme sensors for 60-20 min. High selectivity of the amelogenin sequences of Y and X chromosome was demonstrated. The assay promises to simplify molecular-based sex determination of human remains.

alexandra.s@knights.ucf.edu