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Advances in Forensic Anthropology: Human Identification Through Modern Anatomical and Digital Technologies

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Human identification remains one of the most critical aspects of forensic science, particularly in cases involving mass disasters, criminal investigations, and unidentified human remains. This presentation explores recent advances in forensic anthropology, emphasizing the integration of three-dimensional imaging, computed tomography (CT), artificial intelligence, and digital reconstruction techniques for skeletal identification. Modern analytical approaches enable forensic experts to estimate biological profiles, trauma patterns, and postmortem intervals with greater accuracy while improving medico-legal investigations.

The session also discusses emerging technologies such as virtual autopsy, facial reconstruction, and forensic biometrics that complement traditional anthropological methods. Recent developments in multidisciplinary forensic investigations, combining anthropology, pathology, radiology, and molecular genetics, have strengthened the scientific reliability of forensic evidence. Future perspectives include AI-assisted skeletal analysis, automated identification systems, and international forensic collaboration to improve disaster victim identification and criminal justice outcomes.

Biography

Dame Sue Black is Professor of Anatomy and Forensic Anthropology at Lancaster University, United Kingdom. She is internationally recognized for her expertise in human identification, forensic anatomy, disaster victim identification, and forensic education. Her research has significantly advanced forensic anthropology and medico-legal investigations worldwide.