Dr Sara Short. BSc. PhD. MCSFS.

Senior forensic scientist
specialising in forensic biology

Forensic scientist since: 1986

Summary

With more than 31 years' experience in a range of forensic science services Dr Sara Short is a leading and renowned expert in her chosen field of forensic biology.

During her career Dr Short has been involved in reporting over 1,000 criminal cases requiring expertise in DNA, DNA profiling, blood, blood pattern interpretation, body fluids, semen, hairs, textile fibres and damage to clothing. These cases have included amongst others murder, rape, cold case reviews, assaults, car crime and burglaries.

Before joining Forensic Equity in 2010 Sara was employed by the Forensic Science Service where she was responsible for attending scenes of crime to recover trace evidence in-situ and subsequently the reporting of many hundreds of cases involving biological evidence.

Experience

- Leading forensic biologist with over 31 years' experience.
- Internationally recognised forensic scientist having reported on over one thousand criminal cases; giving expert forensic opinion for both the defence and prosecution.
- Highly experienced senior court reporting scientist; having appeared as an expert witness in a range of courts including Crown court, Magistrates court and overseas Courts in Jersey and Portugal: Sara has also prepared cases for Appeals in the UK and in Australia.
- Highly experienced forensic biologist and registered forensic practitioner in all aspects of human contact traces and body fluids (blood, semen, saliva, urine and faeces).
- Recognised as a leading authority in blood pattern analysis and interpretation.
- Eminently experienced in forensic body fluids analysis including defining its evidential significance.
- Scientific expert in the assessment of damage to clothing.
- Leading forensic scientist in the analysis of stomach contents as an aid to time of death estimates.
- Leading scientific expert in DNA analysis and interpretation.
- Qualified in the use of a range of DNA methods including the use of MLP and SLP as well as amplification methods from HLA DQa, STR Quad, SGM, SGM Plus (through to the low template methods of LCN and HSP DNA SenCE) and now DNA-17 and Y STR analysis (from Y12, Y-Filer to Y23). Also occasional cases involving mitochondrial DNA sequencing.
- Holds significant expertise in scene examination strategies and evidence recovery procedures including recovery, continuity and contamination issues.
- Experienced in criminal paternity testing and analysis, with the ability to undertake calculations for the likelihood that any relative of a defendant could instead be the true father of a child in a disputed case.
- Experienced and qualified trainer in all aspects of forensic biology, DNA, blood pattern analysis and body fluids having delivered a number of training courses to defence solicitors and barristers, the police, scenes of crime officers and other government bodies.

Areas of expertise

Forensic biology
Blood pattern analysis (BPA)
Body fluid analysis
Clothing damage analysis
DNA profiling
Forensic hair analysis

Experience (continued)

- Visiting lecturer at the Universities of Wolverhampton and previously at Derby for their undergraduate forensic science courses and Nottingham Trent for staff training on Bayes interpretation issues.

Committee memberships

- Professional Member of the Chartered Society of Forensic Sciences
- Registered forensic practitioner in human contact traces – DNA, body fluids and blood pattern analysis the CRFP (Council for the Registration of Forensic Practitioners) prior to the register being closed in 2009.

Notable work

- Presented a paper in relation to the evaluation of DNA mixtures, entitled "Unsuitable for Statistical Evaluation. A Call to Action" at the Forensic Science Society conference at University of Teesside.
- Current reviewer for the Journal of Forensic and Legal Medicine (formerly Journal of Clinical Forensic Medicine).

Contributed to publications and academia including:

- "Contextualising genetics using forensic science." Raul Sutton and Sara Short. 2009 in Adams, D.J. "Developing problem solving skills in bioscientists" UK Centre for Biosciences HEA 21-26.
- "An examination of a contaminated seminal stain using absorption-elution and enzyme linked immunosorbent assay (ELISA)." Sara Bolton and James Thorpe. Journal of Forensic Sciences 1988 volume 33 number 3. pages 797-800.
- "Enzyme-linked immunosorbent assay for A and B water soluble blood group substances." Sara Bolton and James Thorpe. Journal of Forensic Sciences 1986 volume 31 no 1. pages 27-30.
- "Separation of Blood Group Substances ABH and Lewis in Mixtures of Body Fluids." Paper presented at the Proceedings of the International Symposium on Forensic Immunology at FBI Quantico, Virginia 1986.

Notable cases

- Appeal of Reed and Reed and Garmson [2009]

EWCA Crim 2698 upheld the thorough defence which Mr Garmson had already received from Dr Short at the original trial, in which he had dismissed his defence team.

- R – v – Anton Passley [2016]

Firearms possession: Mr Passley's DNA was found in a weak and low level mixture obtained from the spent bullet casing left at the scene of a shooting in Greater Manchester. CPS dropped the case once it was pointed out that the DNA could have secondarily transferred to the bullet casing.

- R – v – Darren February [2017]

In which the Crown used the presentation materials generated by the defence scientist Dr Sara Short to cover complex DNA mixtures involving advanced statistical software and where the source of the DNA did not assist with the issues in the case since it was the activity that led to the deposition of the DNA that was at issue.

Recommendations

"It went as well for us as it could, with the prosecution expert conceding secondary transfer as put forward by Dr Short in her report. Thank you for all of your assistance."
Garden Court Chambers

"A very big thank to Dr Short and to your team for getting the work done and the report turned around at such short notice. It is much appreciated."
Stokoe Partnership Solicitors

"Thank you again for all your help with this case, you've been great."
Reeds Solicitors