

Putting forensic science under the microscope

The world of the forensic scientist is far removed from the way it is portrayed on television, says **VIRGINIA MATTHEWS**

Amanda Burton's dogged Sam Ryan character in the TV series *Silent Witness* has helped put a whole profession under the microscope. According to many genuine forensic practitioners though, TV's portrayal of this once little-known and tiny employment sector – which exists to “use scientific procedures to produce evidence in a court of law” – may in some ways have done it a disservice. For not only, say critics, is Ryan's job rather more pathologist than forensic scientist, but her glamourisation of a job that was until recently barely known outside the laboratory, has led to an alarming outbreak of forensic science degree courses up and down the country.

Real-life cases

Semta – the Sector Skills Council for Science, Engineering and Manufacturing Technologies – believes that the number of university forensic science courses has more than doubled from 158 in 2002 to 373 in 2005. With real-life forensics-led cases such as the Soham murders emerging on a regular basis, the upward trend shows no signs of abating. While forensics is often twinned with a close cousin such as law or even psychology, it has become the fashion at some universities to link it with

'It has become the fashion to link forensics with something inappropriate such as tourism'

something wholly inappropriate such as tourism or even drama.

Students who find that both courses and jobs are more about examining clothing fibres under a microscope than carving up dead bodies and



Forensic Science Service

pontificating on causes of death may end up disappointed. Dr Carolyn Morton heads four separate forensics degree courses at the University of the West of England in Bristol – one of them a joint honours BSc with psychology. She believes that sadly, there simply aren't enough jobs to go around.

Her solution to the quandary of an estimated 1,000-plus new forensic science graduates per year chasing fewer than 3,500 highly scientific jobs is simple. While her degrees aim to be attractive and interesting – as befits this fast-moving line of work – their scientific content is non-negotiable.

“Forensics is one of the most fascinating areas of applied science, but it is important to ensure that all courses are made up of real hard science, not just the aspects of forensics that end up in the headlines,” says Dr Morton, whose single honours BSc in Forensic Science covers biology and chemistry, as well as fingerprinting, document examination and crime scene procedures.

Employment sectors

“If you are a good scientist with a grasp of analytical chemistry and genetics, then there are a number of

different employment sectors you may consider – including the pharmaceutical industry, environmental monitoring, water pollution work, genetics and DNA studies and medical technologies – as well as forensics."

There are three main areas of work for those who do make it to the first rung of the ladder as an assistant forensic scientist. First is chemistry – the examination of paint or chemicals as well as fire reconstruction work – second is biology, which involves DNA testing and examination of minute traces of blood or hair and thirdly, drugs and toxicology, including analysis of blood and urine samples in drink-driving cases.

The biggest employer in the field is the Forensic Science Service (FSS), a government owned company which gathers and analyses large amounts of forensic evidence for use in criminal proceedings. It operates 11 facilities throughout England and Wales and is the principal provider of forensic science services to the Criminal Justice System.

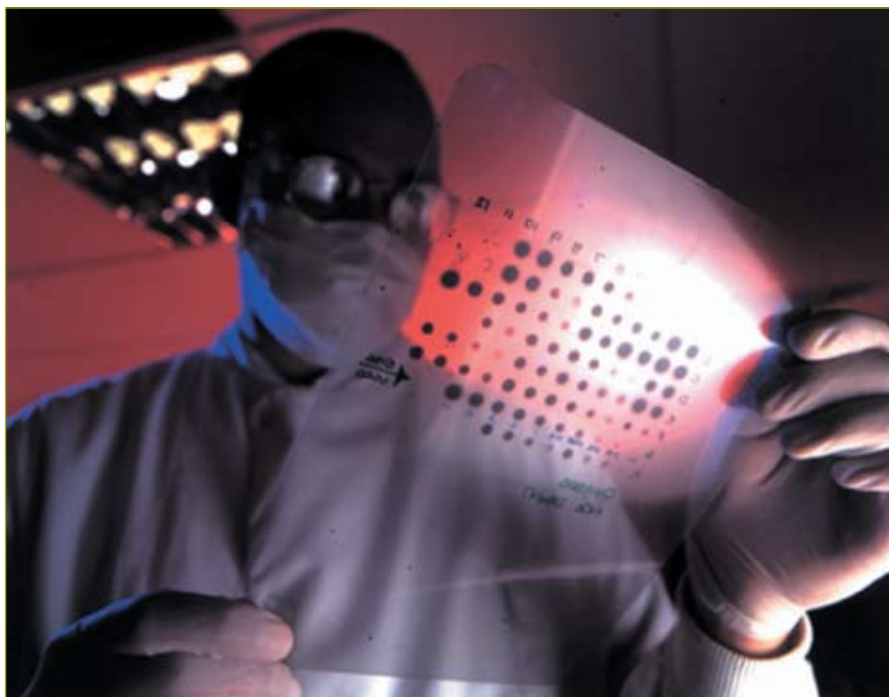
The guiding principle of forensic science is that "every contact leaves a trace" which can potentially be used to provide impartial scientific evidence linking a suspect to a scene of crime, a weapon or even a victim.

Work experience

The FSS cannot offer either work experience or lab visits due to the sensitive nature of its work. Recruitment takes place regularly on a business needs basis, however competition for these roles is high and the FSS takes on very few forensic scientists each year and often receives more than 1,000 applications per position.

Aside from FSS, other big employers in the forensics field are LGC – which is involved with analytical science and consumer protection work – and Forensic Alliance, a private organisation specialising in DNA profiling for police services. There are also openings with medical schools and private forensics labs.

A scene-of-crime officer or SOCO is another career, linked to forensics, that has been catapulted into the public mind courtesy of Sam Ryan



Forensic Science Service

and her cohorts, but in reality, many SOCO's are ex-police officers with additional specialist training. Forensic or crime scene photographer posts are also becoming a popular option, but are only open to those with the minimum requirement of a BTEC National Diploma in Photography.

Dr Morton agrees that TV drama has done much to stimulate interest in this previously little-known white-coat career, but she adds that genuine advances in forensics have helped fuel curiosity amongst the public.

"The sophisticated use of DNA analysis and DNA databases is happening in real life, not just in TV shows. When we hear that the death of Sarah Payne for example wouldn't have been solved without sophisticated forensic procedures, or when we read that the deciding factor in the original Sion Jenkins conviction was the minute pattern of bloodspots on his clothing, it is little wonder that so many young people are looking to this area of science for a career."

Crime scene

Of the 60 or so students doing forensics degrees at UWE – selected from perhaps 300 or 400 applicants each year – most, she says, want to work on crime scenes or in frontline forensics jobs. "We believe that by helping turn our students into good scientists, their

career choice does not need to be quite as narrow as they think."

Although the work requires a lot of patience and painstaking attention to detail, Dr Morton believes that a forensics post is very satisfying.

The average assistant forensic scientist may have at least four good GCSE grades (A-C) including English and either Maths or a Science, with at least one A level in either biology or chemistry, but many applicants to the FSS also have a PhD, Masters degree or other postgraduate qualification. Personal qualities include objectivity, integrity and an inquiring mind. Also important are logic and the ability to communicate highly complex scientific information to lay people.

It used to take between two and five years for a forensic scientist to reach the status of court reporting officer – someone who can deliver reports in court. With the new FSS fast-track scheme however, this is possible after 18 months.

For real life forensic scientists, typical starting salaries are around £14,000 or £15,000 with departmental heads earning around £50,000. Top-earning TV actress Amanda Burton will probably be sticking to the telly.

For further information see www.forensic.gov.uk
www.forensic-science-society.org.uk