

LGC Forensics News

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Issue 04 | January 2012

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Coastal path murder mystery revealed

In the summer of 1989, Peter and Gwenda Dixon took a last walk along the Pembrokeshire coastal path at the end of their holiday, only to be shot dead and robbed for a debit card. It was the second double murder in the neighbourhood in four years.

It all began in December 1985, when Richard Thomas and his sister Helen were murdered at their Pembrokeshire home in Scoveston Manor and the building set on fire. Three and a half years later in 1989, the Oxfordshire couple Peter and Gwenda Dixon were shot at close range on the coastal path near Little Haven. Peter Dixon's debit card was taken and money later accessed from his account using his pin number.

Seven years later, five teenagers aged 15 and 16 walking through fields by the Mount Estate School, Milford Haven were threatened by a man with a



shotgun who raped a 16-year-old girl at knifepoint and indecently assaulted a 15-year-old girl.

Dyfed Powys Police re-opened its investigations into the two double murders (code named Operation Ottawa) and asked our team of scientists to re-examine hundreds of pieces of evidence collected from the three separate crimes. Each had much in common – a shotgun, ropes, and a balaclava, and were confined to a small part of Pembrokeshire.

Combining different types of forensics expertise proved particularly effective in uncovering all the physical evidence and revealing complex links ➤

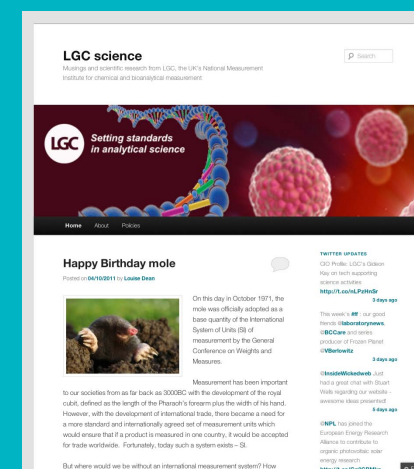
Any tweeters or bloggers out there?

Did you know the LGC Group has its own twitter feed and science blog?

Both have been up-and-running for approximately four months and not only announce news from LGC's four divisions (Forensics, Genomics, Standards and Science & Technology), but share interesting and relevant industry information.

Apart from the news pages of the LGC website, the twitter feed is the best channel to receive official news from LGC Forensics.

So, here's an invitation to follow LGC Forensics on twitter: (<http://twitter.com/LGCGroup>) and keep an eye on LGC's science blog (www.blog.lgcgroup.com)



◀ between the crimes. The four-year investigation relied on combining new approaches to finding evidence with cutting-edge scientific analysis techniques – and the experience to interpret the connections between one type of evidence and another.

Thanks to the meticulous re-examination of hundreds of pieces of evidence, John Cooper was finally convicted of three brutal crimes committed over a period of 11 years.

It was one of the most complex and detailed forensic science investigations carried out by police. After an eight-week trial at Swansea Crown Court, the suspect, John Cooper, was convicted of the murders of Richard and Helen Thomas, and of Peter and Gwenda Dixon. He was also convicted of separate charges of rape, sexual assault and attempted robbery.

In summing up, the judge said Cooper could have evaded capture, were it not for substantial forensic advances since the crimes were committed.

The camera never lies – Milly Dowler

Milly Dowler's disappearance resonated throughout communities all over the UK. For years, there were no clues as to what happened to her. It was as if she had vanished into thin air.

Teenager Amanda (Milly) Dowler vanished as she walked home from a railway station after school on 21 March 2002. Her remains were found six months later in woods in Yateley Heath, Hampshire.

Levi Bellfield, a former wheel clamber, was a prime suspect – but the police could find nothing to connect him with Milly's death. Bellfield had been convicted at the Old Bailey in 2008 of three attacks on women in West London. He killed 19 year-old Marsha McDonnell in February 2003 and 22 year-old Amelie Delagrangre in August 2004, by striking them on the head with a blunt instrument. In May 2004, he attempted to murder Kate Sheedy, 18, by deliberately running her over in a car.

Milly had disappeared just yards from where Bellfield and his family rented a flat. While dental records had confirmed that the remains found six months later were Milly, too much time had passed to enable forensic scientists to determine the cause of death. So the team concentrated on trying to find a link with Bellfield.

Two vital discoveries were made.

Our Digital and Document Forensics Team examined CCTV footage of the area in which Bellfield lived and eliminated all but one vehicle from the investigation, comparing the make and model with CCTV images of Bellfield's vehicle. Our technical adviser Andy Laws was able to confirm exactly where and when Milly disappeared.



Using CCTV footage from cameras along the stretch of road where Milly was thought to have disappeared, we tracked and helped identify everyone that passed a specific camera during a 50-minute period. Andy Law's analysis and further investigation by Surrey Police found that Milly did not pass this camera, thus confirming the time and place of her disappearance.

Levi Bellfield was successfully tried and convicted for the kidnap and murder of Milly Dowler, ending a case that had shocked and puzzled the nation for many years.

With that time-specific evidence and the positive identification of Bellfield's vehicle Surrey Police were able to provide evidence to sustain the prosecution that led to Bellfield's conviction.

Result!

From the merest trace to a major discovery: Jessica Andrews wins a Metropolitan Police Service Award for her tenacious efforts.

Lead Forensic Scientist Jessica Andrews has recently won a Judge's Commendation for her outstanding forensic work for a Metropolitan Police Service (MPS) murder investigation.

Back in August 2009, the MPS launched a missing person investigation. The detailed forensic examination that followed of the missing man's home uncovered pieces of forensics evidence that Jessica and her forensic team matched to the missing man, leading the investigating pathologist to believe that the man had been murdered and dismembered in his home. So far, his body has never been found.

After the Met identified a suspect, Jessica needed to obtain a reference DNA profile of the missing man to confirm his identity.

Our Specialist Crime Team carried out paternity testing on the man's family, extracting DNA from a toothbrush that was thought to have been used by him.

This reference DNA profile was used to match against blood and tissue found in the home.

The suspect was then linked to the murder scene by blood found on a rucksack which the suspect was carrying when arrested – as this could have come from the missing man. A second link was made using 'touch DNA', a highly sensitive forensic method used to extract DNA from very small samples, such as skin cells left behind on an object after it has been touched.



It linked the suspect to a bathroom tap at the crime scene. A third link was then established by Tom Geddes of the Marks and Traces Team, linking the suspect to the crime scene through footwear analysis.

In July 2010, Jessica Andrews' expert witness testimony at the Old Bailey helped the prosecution's case against the suspect, who was subsequently found guilty and sentenced to life imprisonment.

Missing evidence: digital microscope takes the sting out of e-crime

Clive Carmichael-Jones and Clifford May have given businesses some vital food for thought about how to prevent, identify and solve e-crime in the corporate world. Their Missing Evidence breakout session was one of several key presentations and workshops on the agenda at the London e-crime Congress in March 2011. All designed to unlock the mysteries of digital crime.

The congress attracted over 500 professionals from 45 countries, representing businesses and institutions engaged in the design and co-ordination of corporate security strategy, safeguarding digital assets, protecting customers, responding to incidents and managing operations or investigations.

Clive and Clifford showed how organisations tend to approach security incidents from the wrong angle, often failing to identify the true causes and the people involved – and then went through the process of working out a forensic-ready strategy for dealing with every kind of IT security breach.

What you do from the moment you discover an incident is critical to establish exactly what happened and who is involved.

- How do you carry out an investigation without giving it away to the people involved?
- How can you make sure you've sufficient evidence to make a case for dismissal or prosecution - and recover your losses too?
- How do you protect and present your evidence?
- How can you protect and preserve your business assets without disrupting everyday business activities?

Evidence can exist anywhere that information is recorded – on internal/external computer hard drives, exchangeable media, network devices such as firewalls, IDS/IDP devices and proxy servers, mobile phones, SIM cards, CCTV recordings, cameras, satellite navigation systems and more. Any document, whether it's on the desk, in a file, in the post – the shredder or the waste bin – could hold the key to a successful outcome. Deleted or hidden files, handwritten notes, access logs, text messages, call and chat logs, web browser histories and so on, can all reveal vital clues to help find out who is involved and what they have done.

Over the years, we've built up substantial expertise in this field, using our security-cleared ISO9001-accredited analysts to recover evidence from PCs, laptops, mobile phones, cellular networks, CCTV cameras and other digital devices in order to

solve cases of e-crime. E-crimes range from petty grievances and industrial espionage to potentially lethal terrorist activities.

Recently we were able to collate digital evidence to help convict British Airways computer software engineer, Rajib Karim, who was found guilty of plotting to commit terrorist attacks on aircraft. Our facial comparison and imagery expertise proved vital in helping police to unlock information on CCTV footage and mobile phone usage during the 2008 Osbaston House murder investigation, as well as to help prove the authenticity of images of Osama Bin Laden.



22 budding young forensic scientists start their apprenticeship

We have just launched our new apprenticeship scheme, offering school leavers a valuable and novel route into a career in forensic science.

A total of 22 apprentices have enrolled in the scheme, with each group of five apprentices based at one of several LGC Forensics UK sites. The 18-month Advanced Apprenticeship Scheme will enable apprentices to gain a total of five different qualifications including: BTEC HND (equivalent of two A-levels), a Level 3 NVQ and Key Skills (Maths, English and ICT at Level 2).

After an initial assessment, the scheme will enable apprentices to share their time between various departments within LGC Forensics, allowing them to learn a range of skills while acquiring hands-on experience and practical competencies. As part of the UK Government National Apprenticeship Scheme run by the National Apprenticeship Service and funded through the Skills Funding Agency (SFA), the scheme's training will be delivered by ex-forensic scientist, geneticist and lecturer Robert Green, in collaboration with the Midlands-based Birmingham Metropolitan College (BMET).

Commenting on the value of the LGC Forensics apprenticeship scheme, Simon Jukes, LGC's Group Learning & Development Manager said: "While the UK's forensic science industry is undergoing an enormous transformation, it needs to guarantee the continuing development of its own skills base. Independent forensic service providers are obliged to adhere to the Government's apprenticeship drive and this is one way in which LGC is working to provide secure employment for young people interested in a future in forensic science."

LGC Scientists row on to victory for Victim Support

It was all hands to the oars on 15 May 2011, as our intrepid scientists set out to compete in the annual Rotary Club of Abingdon Vesper's Dragon Boat Day on the Thames at Abingdon. Over 20 dragon boat teams yelled, screamed, crashed and drummed as they rowed downstream in the cause of charity.

Dragon Boat racing is an ancient Chinese tradition over 2000 years old and is one of Britain's most competitive water sports.

It's a great way to raise money and it's spectacular, colourful, exciting and fun! The boat itself is basically a 40-foot long narrow boat, decorated with a Chinese dragon head and tail, and propelled by a crew of 16 paddlers who are kept in rhythm by a drummer. An experienced member of the event



organisation crew steers the boat to make sure everyone has a fun but safe time on the water.

20 LGC Forensics scientists, dressed in lab coats, latex gloves, safety specs, face masks and hairnets, volunteered to take part and raise money for Victim Support. Victim Support is a national charity who provide free and confidential help to victims of crime, witnesses, their family, friends and anyone else directly affected by crime in England and Wales. The charity also provides a national voice for victims and witnesses and campaign for change.

While we didn't score too highly in the winning stakes, we came second in the fancy dress competition and managed to raise a total of £1,102 - £734 going to Victim Support and the rest to Rotary Club Charities.

Thanks so much to all those who came along to support us. Hopefully we'll be doing it all again next year – Sunday, 13 May 2012. Any volunteers?



Get in touch

LGC Forensics News is produced with you in mind, so please get in touch with your feedback and any ideas you have for future issues.

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