

keyinfo

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Delivering Information from Key Forensic Services Ltd

KFS to launch world's first "While you Wait" DNA profiling service.

Key Forensic Services is gearing up for this summer's landmark DNA event; the launch of the world's first 'While you Wait' DNA service in conjunction with the introduction of the Next Generation DNA chemistries, collectively known as 'DNA-17'.

The way in which DNA profiling is undertaken changes for ever and rapid DNA profiling becomes not just a reality, but an absolute game-changer.

Following the successful launch of the **RapidHIT® in 2012**, KFS is now validating Life Technologies' NGMSelect™ Express kit. NGMSelect Express™ cartridges are now being supplied with RapidHIT® instruments sold in the UK and will enable compliance with the National DNA Database. They will produce DNA profiles with 17-loci in two hours, with less than ten minutes hands-on time.

NGMSelect Express™ cartridges feature a flexible design, allowing operators to run from one to seven samples in a single run, as well as room temperature cartridge storage.

Some improvements over the current SGM Plus system include:

- Increase in discrimination
- Increased sensitivity, resulting in a greater chance of obtaining a useable profile from low levels of DNA
- Increased robustness against substances which may inhibit the generation of a DNA profile.

Key Forensic Services is the leader in the deployment of RapidHIT® technology in the UK and will initially be utilising it in our own laboratories, providing our customers with an ultra fast-DNA profiling service in just two hours, a unique service and the first of its kind in the UK.

Commenting on the introduction of this service, **Key Forensic Services Group Managing Director Paul Hackett said:** 'This really is a game-changer for the whole of forensic science and law enforcement in the UK. KFS will be offering an unrivalled service for the most urgent of investigations. This is something which a few years ago we could only dream about. I am genuinely excited about this; it represents a major achievement in the advancement of forensic science, which I feel privileged to be a part of. The impact of generating matches from the NDNAD within two hours of samples being recovered from a either a crime scene



or the victim of a violent attack, have been the subject of theoretical debate for decades. KFS, working closely with police forces, will finally be able to turn theory into reality, detecting perpetrators of crime in unprecedented timeframes which will reduce the opportunity for them to commit further offences.'



Key info meets...

Colin Murray

...Recently Key Info met up with **retired Detective Chief Inspector Colin Murray, formerly of Kent Constabulary**, the lead investigator in the M25 Rapist case (Antoni Imiela). Had Rapid DNA technology been around at the time of this major investigation, Imiela would not have had

the opportunity to commit a further sexual assault of a 10 year-old girl, whilst his DNA sample was being processed.

[Read The Antoni Imiela >> Investigation inside this issue.](#)

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The Antoni Imiela Investigation

The Lead Detective's Perspective

An appalling sex attack carried out on a 10 year old girl in 2002, led to a massive manhunt, which, over a period of 13 months would eventually lead to the capture and conviction of serial sex-offender **Antoni Imiela**, known as the 'M25 Rapist'. This was to be the biggest linked police enquiry since the hunt for the Yorkshire Ripper.

Detective Chief Inspector Colin Murray of Kent Constabulary (now retired), led the investigation right from the first of Imiela's attacks carried out in November 2001, on a defenceless 10-year-old schoolgirl whom he kidnapped from outside a community centre in Ashford, Kent, and took to woodland where he brutally raped her.

DNA-bearing material was recovered from the girl and was fast-tracked through the Forensic Science Service's Lambeth laboratory in 36 hours, producing a full male profile. This DNA profile was searched against the National DNA Database®, but to the surprise and disappointment of Colin Murray and his investigative team, it did not produce a match with any known offender.

This led to the investigative team conducting a 'mass-screen' of nearly 2,000 males in the locality, but again this was to disappoint, as no match was found.

The next attack, in July 2002, was of a 30-year-old woman who was raped in Earlswood, in Surrey.

Following the rapes of a 26-year-old woman on Putney Common in London on the same day in July 2002, a 52-year-old woman on Wimbledon Common, London in August 2002, and a 26-year-old woman in Epsom, Surrey,

also in August 2002, the investigative team collected the DNA of 1,000 local males, but could still not generate a match with the DNA left behind on the victims.

In October 2002, Imiela abducted a 14-year-old girl in Stevenage, Hertfordshire and raped her at knifepoint. Despite the horrific ordeal, the girl was able to provide a good description and a photo-fit image was created. This and the other attacks became the subject of a BBC TV 'Crimewatch' special, in which Detective Chief Inspector Murray appealed to the public for assistance in tracking down the perpetrator. The photo-fit image of the offender was shown during the programme and led to an anonymous caller identifying Imiela. It turned out that Imiela had tried unsuccessfully, to force himself on her on her own doorstep.

Railway worker Imiela was tracked down and asked to provide a DNA sample. Commenting on this, Detective Chief Inspector Murray told us:

'I recall at the time when we asked Imiela to provide a DNA mouth-swab he asked how long it would take for his sample to be analysed and a DNA profile generated. He was told by the officer that it would take approximately seven days.'

'This sticks in my mind because during that seven day period Imiela went on to commit a further brutal attack, abducting and indecently assaulting a 10-year-old girl in Birmingham.

Tellingly, during this attack Imiela told the victim he had nothing to lose!

'Had today's rapid DNA profiling technology been available back then, we would have produced Imiela's DNA profile in under two hours and been able match his DNA to that found on his string of victims. He would not have gone on to commit that sickening attack in Birmingham.'

Forensic scientists found hairs in Imiela's car with DNA matching that of the 10-year old Birmingham girl.

Imiela's DNA sample matched the DNA from the first rape, and following a dramatic 4-vehicle pursuit and stop, he was finally arrested in December 2002.

The Forensic Science Service pulled out all the stops to quickly generate an evidential DNA profile from Imiela and he was charged with multiple offences.

When asked about the affect of Imiela's arrest on his victims, Detective Chief Inspector Murray said:

'When I was able to tell one of Imiela's victims that we had arrested him, she reacted by saying: Tonight, for the first time since I was attacked, I will be able to sleep with the light off.'

Imiela went on trial and was convicted of every offence. He received a life sentence.

Summing up his feelings on the case, Detective Chief Inspector Murray said:

'This was one of the most harrowing and complex cases of my 30 year career as an investigator. The actions of this evil man not only impacted on his victims destroying their lives, but also on the wider communities. Parents were afraid to let their young children out of their sight and many disrupted their daily routines to ensure they escorted their kids to and from school.'

'A source of particular sorrow for me is the fact that the amazing rapid DNA technology which has been launched recently, was not available back then. If it had been, our forensic strategy would have been radically different and Imiela would not have been left to his own devices to go on and commit a further hideous crime.'

KFS Sponsors St. Mary's Sexual Assault Referral Centre 12th Annual Conference

As part of our sponsorship package, Group Managing Director Paul Hackett recently gave a presentation to delegates at the St. Mary's SARC 12th Annual Conference, on the future of DNA profiling and in particular, the potential impact of much more sensitive and faster DNA processing techniques (including the RapidHIT®) on the operational activities of SARCs.

Paul's presentation followed an insightful address given by the Forensic Science Regulator, Andrew Rennison, in which Mr Rennison highlighted the need for uniformity, consistency and the adoption of accredited quality standards across the network of SARCs. This presentation

set the scene for Paul to underline the importance of environmental monitoring and avoidance of accidental contamination, as the near future will see more and more highly discriminating DNA profiling techniques being used in the investigation of sexual offences.

The conference attracted SARC staff from across the country, spanned two days and was held in the architecturally impressive Manchester Old Town Hall.

RapidHIT® draws an international crowd at Security and Policing 2014

Over 3,500 UK and international visitors converged on FIVE near Farnborough for the Home Office Security and Policing 2014 Exhibition.

In addition to receiving organised trade delegations from Mongolia, Peru, Canada, Libya, Kenya, Jamaica and Botswana, we also welcomed The UK Government's Minister for Crime Prevention Mr Norman Baker to the KFS stand. Mr Baker was accompanied by the Government's Chief Scientific Adviser Professor Bernard Silverman, and was keen to understand when our RapidHIT® instruments will enter service with England and Wales Police forces.

KFS Marketing Manager Paul Whitehouse is seen here showing the RapidHIT instrument to the Crime Prevention Minister, Norman Baker, who was accompanied by Chief Scientific Adviser Professor Bernard Silverman



Late News

We have been short-listed as a finalist in the West Midlands Business Masters Awards 2014!

The Awards take place on 18th June.



WEDS JUNE
18TH

BSI Inspection

Following our annual BSI audit over two days in March, KFS has continued to meet registration requirements to ISO9001:2008.

Northern Tech Awards Success!



Key Forensic was recently voted one of the top 50 fastest growing technology companies in the north of England. The accolade was bestowed upon us at the GP Bullhound Northern Tech Awards. Receiving the award on behalf of KFS was Dr Roger King, Director of Operations.

Judging the entrants were: Chris Allen, founder of Laterooms; Simon Clark chairman of the BVCA; Garry Partington, chief executive, RealityMine; Steve Purdham, founder of Three Rings; Charles Sharland, founder of AppSense; and Alan White ex-chief executive of N Brown.

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Casefile Corner



CCTV Analysis plays pivotal role in Attempted Rape Case

In this case, the Defendant had been charged with the attempted rape of a young female in London. The Defendant had been visiting London with a colleague whilst on leave from the Foreign Legion.

The young female victim had been attacked and knocked to the ground whilst out jogging near to her home in NW London. Her attacker sexually assaulted her and fortunately, his attempt to rape her was prevented by a passer-by who chased the attacker from the scene.

The Defendant was arrested a short time later in a nearby street. The Defendant was positively identified as the attacker by the victim and by the witness who had chased him from the scene. Police enquiries established the existence of CCTV which, whilst of relatively poor quality, showed a male of similar appearance and wearing similar clothing as the Defendant running from the crime scene.

The Defendant vehemently denied the allegations stating that the offender must have been his friend who was also in the area at the time of the alleged offence. Police enquiries failed to trace

the defendant's colleague. The defendant was remanded in custody awaiting trial on charges of attempted rape and sexual assault.

The Defence team submitted the CCTV evidence to Key Forensic Services for detailed analysis and the case was assigned to Steve Lamb, a Reporting Manager within Key's Digital Forensic Unit. At first glance, the CCTV appeared to support the Prosecution assertion that the male seen running from the crime scene was very similar in appearance to the Defendant.

Using the very latest forensic analysis equipment and techniques, very minor differences in style and design of the white training shoes worn by the attacker and those seized from the Defendant at the time of his arrest were established.

Although the differences were minor, they were sufficient to establish that the shoes worn by the

attacker seen running from the crime scene could not be the same as those recovered from the Defendant at the time of his arrest.

During the trial, the victim stated that she could not be certain that the Defendant was her attacker and the witness who had chased the attacker from the scene admitted that he had lost sight of the attacker for some time between the crime scene and the location of his arrest.

The new evidence in relation to the differences in the shoes prompted the Metropolitan Police to initiate further enquiries and established that the defendant's colleague (who had been wearing similar clothing) had left the United Kingdom shortly after this incident and had since been arrested in France for a similar offence using the same modus operandi. The Defendant in this case was acquitted.

KFS teamwork helps to convict killer who wiped out a whole family.

KFS scientists from across the business worked together to support the high profile investigation into the killing of the Ding family in their Northamptonshire home.

Businessman Anxiang Du stabbed Jifeng "Jeff" Ding, his wife Ge "Helen" Chui, and their daughters Xing and Alice to death at their Northampton home in April 2011.

Du demanded money from business associate Mr Ding and, when he refused, he stabbed him 23 times and his wife 13 times. He then went upstairs to a bedroom and killed their daughters Xing, 18, who was also known as Nancy, and 12-year-old Alice.

Following the murders, Du then lay down and slept in the house, he later woke up and stole the family's lease car and tried unsuccessfully, to track down another business partner, before fleeing the country.

Du was eventually arrested in Morocco in July 2012 and extradited back to the UK in February 2013.

Coventry's National Head of Biology, Helen Haworth was called to the scene and was there for several days, conducting a detailed examination of the bodies and the Ding home.

Helen immediately identified a significant amount of blood spatter, plus hand, finger and footwear marks in blood, giving a strong indication of the sequence of events, including the assertion that the assault had begun in the kitchen where Jeff, and then Helen were murdered. The assailant had gone up the stairs, leaving a blood mark on the bannister which came from Jeff and Helen, the assailant murdered the two girls whilst they were in the same bedroom. One of the girls had made a 999 call during the

attack and the outline of her mobile phone was seen in blood on the floor. The assailant went back down the stairs leaving another blood mark in Alice and Nancy's mixed blood. On return to the kitchen the blood stained knife was put onto the worktop.

The assailant then stood at the kitchen sink presumably to wash himself and the weapon. The sink was subsequently removed and taken to our Warrington lab, where it was examined by Martin Beale and the team using the LCV enhancement technique. Martin was able to establish the presence of blood, which when DNA profiled, was found to belong to 'Jeff' Ding.

Helen called her colleagues Reporting Managers David Jarratt-Knock, Martin Beale and Ali Green to attend the scene during the final day to chemically enhance, and then examine, the footwear marks left in blood.

Helen also found a loose button with some threads still attached, within the clothing folds of one of the victims which did not originate from any clothing worn by that person or others in the house. This indicated that the button had been torn off the assailant's clothing by the victim during a struggle.

Biology Reporting Manager and Team Leader Steve Harrington subsequently examined the Ding's stolen car once it had been recovered. Steve found chemical traces of blood in an area of foot well carpet. The carpet was recovered and then taken back to the laboratory.

This carpet was then re-examined in laboratory conditions, no blood was visible to the naked eye and therefore it was subjected to taping using heavy pressure resulting in some blood flakes being recovered. These blood flakes yielded a partial DNA profile belonging to 'Jeff' Ding.

Ultimately Helen gave evidence in court in front of High Court Judge, Mr Justice Flaux.

Speaking after the verdict, Steve Chappell, Chief Crown Prosecutor for the East Midlands said: "The jury had the option to consider a verdict of manslaughter, but has delivered a verdict that he was fully responsible for his actions and is guilty of murder".

The combination of this teamwork and the various forensic outcomes played a critical role in the prosecution and conviction of Anxiang Du. He was jailed for life with a minimum of 40 years.

Commenting on this appalling crime, Helen Haworth said: **'This was a case where the combined experience and resources of our scientific staff was used to maximise the opportunity to identify and recover all possible forensic evidence and to help piece together the sequence of events on that tragic day. It is certainly one I will remember'**.



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