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**CRIME
SCENE**
INVESTIGATION

CRIME SCENE TECHNOLOGY NEWS



www.csiequipment.com



Crime Scene Investigation Equipment Ltd is based in the beautiful County of Buckinghamshire, South East England. We are the oldest established company in the United Kingdom specialising in the manufacture and supply of quality materials for the Fingerprint, Scene of Crime and Forensic Investigator.

Staffed by ex-members of the Police and Security Services (British Military) we have a wealth of knowledge and expertise in all aspects of criminal and forensic investigation and therefore fully understand the problems and difficulties encountered by our customers.

It's for this reason, that for many years, we have continued to invest in new products and services that allow our customers around the world, to detect, apprehend and prosecute those individuals who choose to live outside the law.

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CRIME SCENE TECHNOLOGY NEWS

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CRIME SCENE TECHNOLOGY NEWS

EDITORIAL

CSI Ltd has just completed it's exhibition at the Forensics Europe Expo at Olympia London on the 19th & 20th April, where there was increased interest in M-Vac.

We are demonstrating the M-Vac system across Europe at this time. If you wish to arrange a demonstration please contact us. Enquiries from academic institutions are particularly welcome.

M-Vac is new to many forensic science providers and police services but one fact is certain that if they take steps to use M-Vac technology they will solve many difficult current and cold cases.

The experience internationally is that M-Vac is a sound investment, the outlay from experience being recovered by the first promptly solved M-Vac case.

M-Vac Systems has recently developed a special vented collection system, which improves the recovery of touch DNA from human skin, as part of their continued product development research programme.

UK M-Vac validations are currently being conducted by UK police services and academic institutions. Internationally, M-Vac has been in use for several years internationally and no problems have been experienced with M-Vac in mainstream service.

We continue to receive success stories with current and cold case work where M-Vac has proven to be instrumental in recovering DNA evidence in difficult cases across the World.

New certified DNA Free products are being produced by CSI Ltd and the article about the DNA Phantom of Heilbronn, explains why in Germany consumables for DNA search and recovery have to be certified DNA Free.

In this issue there are details of an exciting development in the finding and imaging of latent marks, using EVI Scan's non intrusive techniques, assisting in preventing DNA damage or contamination. We are looking forward to enquiries from clients about this ground breaking innovative system, which reduces the need to coat exhibits with chemicals in the processes of latent print development and imaging.



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**For More information or a demonstration
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The DNA Phantom of Heilbronn

Robert Milne MCSFS FSS MIAAI looks at the events which led to Germany creating their current rules concerning the prevention of contamination in forensic consumables



German Police search for evidence at the scene of the murder of a policewoman. Heilbronn 2007.

Police in Germany were puzzled by a series of crimes linked by female DNA first analysed in 2001, but linked back to a cold case of a murder of a 62 year old woman in Idar-Oberstein, Germany 1993. The 2001 Frieberg murder case was of a 61 year old man and DNA had been recovered from a kitchen drawer. This DNA was matched to DNA recovered from a cup in the 1993 case. Later in 2001 a matching DNA profile was found on a syringe containing heroin found in a wood near Gerolstein, Germany. Also a matching DNA profile was found on the remains of a half eaten cookie in a trailer, which had been broken in to near Budenheim also in Germany..

The linked scene trail went cold until 2004, when a matching DNA profile was found on a toy pistol recovered from the scene of a robbery of Vietnamese gemstone traders in Arbois France. The following year another matching profile was found on swabs taken from a projectile involved in a fight between two brothers in Worms, Germany. In 2006, German police then received the report of another DNA match from a stone used to smash a window at a burglary scene in Saarbrücken. A year later in 2007 another scene was matched by the same DNA profile at a burglary in an optometrist's store in Gallneukirchen, Austria.

The trail went cold again until March 2008 when DNA was profiled from swabs taken from a car used to transport the bodies of three Georgians killed on the 30th January 2008, in Heppenheim, Germany. Another DNA link was soon matched to DNA recovered from a burglary in a disused swimming pool in Niederstetten, Germany the same month.

■ Spuren des Phantoms

Die wichtigsten DNA-Fundorte von Mai 1993 bis Oktober 2008

Chronologie:

- 1 Idar-Oberstein
- 2 Freiburg
- 3 Gerolstein
- 4 Offenbach
- 5 Inntalstrecke*
- 6 Oberösterreich*
- 7 Heilbronn
- 8 Kornwestheim
- 9 Heppenheim
- 10/17 Saarbrücken
- 11 Oberstenfeld
- 12 Niederstetten
- 13 Mettlach
- 14 Saarhölzbach
- 15 Weinsberg
- 16 Mannheim



Another four cases of home invasion in Quierschied, Tholey and Riol followed in April 2008, all linked by the same DNA profile. Later that same month DNA was recovered from a burglary in an apartment in Oberstenfeld-Gronau, which also matched the series profile. In May another case was linked by DNA at the scene of the robbery of a woman in a club house in Saarhölzbach. Finally in October 2008, DNA was linked taken from the car belonging to an auxiliary nurse who was found dead near Weinsberg, Germany.

Police were puzzled by the lack of method links or any fingerprint or witness evidence tying in between the scenes in the 'series'. In 2009 a special task force was formed in an effort to apprehend the 'master' criminal who had eluded all previous attempts at detection. Police got an unexpected break in the enquiry in March 2009. Police sought the DNA profile of an unidentified man who had died in a fire in France. The DNA profile from this case turned out to be that of a female so police began to suspect the equipment used to sample DNA from the scene had become contaminated, so they re-sampled the fire scene and obtained a male DNA profile.

After the discovery that the linked series was a fiasco caused by DNA contaminated consumables, the source was found to be from Greiner Bio-One cotton swabs manufactured in Austria. The swabs were sterile but that did not mean DNA contamination free. The profile linking the scene was actually from a woman working in the swab factory. The result was that regulations regarding the prevention of DNA contamination in Germany were changed and all consumables for DNA use have to be tested by batch and certified **DNA FREE**.

All forensic consumables and kits supplied by CSI Ltd for DNA search & recovery are certified DNA Free by the same process using a German laboratory so that our products can be used with confidence.

Introducing DNA free kits for Forensic Investigation.



Grahame Sandling CSI Ltd

The company is pleased to announce that their range of certified DNA free products and consumables are available from stock. The previous article about the problems experienced in Germany up to 2009 highlights a professional approach to the problem by the German authorities, which we have been pleased to adopt. Our processes and procedures are in line with the UK Forensic Regulator's guidelines.

We have put together bespoke packs, containing exactly what is needed to collect DNA from a specific crime, so avoiding waste and streamlining the entire collection process.

Each pack is sealed in clean room conditions and then sterilised, so the end user can be absolutely sure that no cross-contamination has occurred.

CSI Ltd are able to offer this service affordably and efficiently as it now has both a Class 7 clean room and an Ethylene Oxide sterilisation chamber at its UK facility, from where it can also handle global distribution.

WHAT MAKES THESE KITS & CONSUMABLES STAND OUT IS THAT THEY ARE 'CERTIFIED DNA FREE'.

Customers will receive a certificate from a leading European laboratory confirming that they are in fact 'DNA Free' *NOT* 'DNA Denatured or DNA Clean' as often currently supplied.

A typical certificate is shown overleaf.



DNA Certificate

Suitability for trace detection of the swab material

We herewith confirm that the supplied swabs with the Article No. 1020055, Batch 3I20 on October 12, 2011 of Heinz Herenz Medizinalbedarf GmbH were examined by the Institute Dr. Lauk & Dr. Breitling (Expert Institute Dr. Lauk & Dr. Breitling) in accordance with the contractual arrangement for human DNA contamination. The tested swabs show no DNA contamination which is documentable by means of PCR analysis.

Please check whether the packaging was damaged during shipment. If the packaging is damaged, no guarantee can be made for the suitability of the swabs for trace detection. The process of the trace analysis method used has been validated and is monitored continuously.

METHOD

From the swabs sterilized with ethylene oxide, the DNA is extracted from 0.02% to 0.1% of a batch using a silica-gel-based process. At the same time, samples with defined DNA (human DNA with a known DNA profile) are added to the sterilization process and examined as well. The SE33, D21S11, VWA, TH01, FGA, D3S1358, D8S1179 and D18S51 systems are analyzed using PCR.

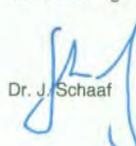
A negative control (a DNA-free tested swab), and a positive control (human DNA with a known DNA profile) are used as PCR controls. The analysis kit SEfiler® plus (Applied Biosystems) or Nonaplex® QS (Biotype) is used for the typing.

ANALYSIS:

The swabs examined show no human DNA contamination detectable by the aforementioned analysis kits. No DNA profile could be determined on the samples with the human control DNA added to the sterilization process; this confirms a successful ethylene oxide treatment.

The results of this trace analysis will be stored for 10 years and can be viewed at any time. We confirm that the required quality control measures were carried out during the examinations.


Dr. C. Lauk



Dr. J. Schaaf


Experts for parentage analysis, DNA profiling of comparison samples and crime scene traces
Publicly appointed and sworn by the Chamber of Industry and Commerce of the Northern Black Forest

M -VAC Forensic DNA Collection System



The M-Vac:

What is it?

The M-Vac is a wet vacuum system originally developed for use in the food industry to sample food for possible pathogens. However, the developers of the system realized that with some minor tweaking this system could also be a huge benefit in the collection of forensic DNA evidence.

The M-Vac can be thought of as a miniature hand-held carpet cleaner. However, instead of spraying a cleaning solution, the sampling head sprays nuclease-free, DNA free, sterile buffer onto the item of interest. As the buffer is sprayed, DNA present on the surface of the item is released from the substrate and is vacuumed up by the constant vacuum that is simultaneously applied by the sterile, single-use sampling head.

Once the item is sampled, the liquid, which will contain DNA from the substrate and is captured in a collection bottle, is transferred to a sterile Nalgene 0.45micron filter and allowed to filter through under vacuum pressure. The 0.45micron filter allows the water to filter through while capturing the DNA on surface of the filter.

Once dried, the filter can easily be removed from the Nalgene filter apparatus and can be further processed for DNA using the same techniques as cuttings or swab samples.

Who is using it?

This method is gaining momentum and public forensic laboratories, police agencies, as well as a handful of private labs in the US and other countries are currently utilizing the M-Vac system on some of their most difficult cases containing extremely low amounts of DNA.

Why use it?

You may be asking yourself, why should you consider using this admittedly more expensive collection method over traditional swabbing, taping, or cutting techniques?



M-VAC Forensic DNA Collection System



Ryan Forensic's Advanced Serology Lab is one of the private laboratories which have the capability to collect DNA using the M-Vac system.

Why use it?

You may be asking yourself, why should you consider using this admittedly more expensive collection method over traditional swabbing, taping, or cutting techniques? Some of the reasons for using the M-Vac are:

Studies have shown that the M-Vac is better at collecting DNA than swabbing, cutting, or taping.

Some of the reasons for using the M-Vac are:

- Studies have shown that the M-Vac is better at collecting DNA than swabbing, cutting, or taping. Internal validation studies by the Washington State Patrol, for example, showed that in comparison to swabbing, the M-Vac was able to collect anywhere from 36% to 189% more DNA from experimental evidence items such as extremely dilute blood (1:5000 - 1:25,000) on shirts, rocks, and wood and from touch DNA on knit caps and duct tape.
- With the M-Vac, one can process larger areas as a single sample as compared to cutting or even swabbing. For example, large areas of clothing items can be

processed in an attempt to find any "touch" DNA from an assault victim. Or, entire lengths of rope, rocks, or bricks can be sampled and processed as a single sample. This would simply not be possible with cutting, taping, or swabbing methods.

- Superior DNA collection abilities may result in a usable and probative DNA profile. This can be especially useful for cold cases where evidence that was previously tested can now be re-examined using the M-Vac system for collection in conjunction with the extremely sensitive DNA testing techniques in use in today's forensic biology laboratories.



M -VAC Forensic DNA Collection System



- The M-Vac has been shown to be successful in collecting trace amounts of male DNA on items owned or worn by females. Used in combination with Y-STR testing, large areas of female's clothing can be sampled into a single filter and anywhere that the male suspect came into contact with the clothing could potentially yield male DNA. A forthcoming study from UC Davis is expected to illustrate the ability of the M-Vac to collect male touch DNA from clothing items worn by victims of simulated assaults. In actual casework, the M-Vac has already been successfully used to collect trace "touch" DNA from the underwear of a female child homicide victim who had been partially submerged in water for up to 10 hours.
- The M-Vac can even be used on human skin when a specialized, vented, sampling head is utilized. One study, by UC Davis researchers, found that after saliva was applied to skin and dried, male DNA could be located on female DNA skin even after showering. This finding opens up a whole new avenue of DNA collection possibilities in sexual assault cases. This would be especially true in cases where the alleged victim may have been incapacitated at the time and does not have a clear recollection of where the perpetrator may have touched, licked, or kissed them and swabbing large areas is unrealistic. The M-Vac can be used to collect from the alleged victim's entire arm, leg, torso, or other area in an effort to collect foreign DNA.

- The M-Vac system is mobile and can be taken directly to crime scenes in cases where collection of the item of evidence itself is simply impossible or impractical. The mobility of the M-Vac means that it can be taken to crime scenes, police stations, hospitals or rape crisis centres, among others, to collect evidence directly from items of evidence or from individual's bodies.

Has it been used on actual casework evidence?

The discussion above may lead some to wonder if the M-Vac has been successfully used on actual casework samples, and if so, have any of these cases been through the court system? The answer to both questions is a resounding, "yes!"



M-VAC Forensic DNA Collection System



What about validation? Should I be worried about contamination?

As the owner of a private laboratory that utilizes the M-Vac system, some police agencies have expressed concern to me that their laboratory may not accept the M-Vac collected sample since the system has not been validated by their state or county laboratory. However, as a former FBI-trained DNA laboratory auditor, it is my opinion that this should not be an issue for the lab as the M-Vac has undergone developmental validations to confirm that the reagents and consumables used are completely sterile and free of any nucleases or DNA. Beyond that, the M-Vac system is simply a DNA collection method. The samples produced are no different, in terms of extraction methodology, than any other collection method.

Instead of a swab or swabs, the lab would simply be presented with a piece of polyethersulfone (PES) filter paper about the size of a half dollar. The filter can easily be cut into smaller pieces and placed in a standard 1.5ml tube for extraction purposes. The filter paper is amenable to nearly all types of standard manual or robotic extraction methods, with the sole exception of the organic extraction method which does not work well with the PES filter.

The point is, however, that the lab does not have to do anything different when processing an M-Vac filter than when processing a cutting or a swabbing.

If the lab is concerned about this type of sample, they could also refer to various other forensic laboratories who are using the M-Vac in their lab and have performed internal validations illustrating great success with the M-Vac. Those validations are available online and may at some point be published in a peer-reviewed journal.

Laboratories do not validate each type of new or different swab (of which there are many brands and types of swabs in use today) used by the many different agencies that submit DNA evidence to them, so there should be no expectation that a filter received by the lab for processing must first undergo a validation procedure prior to commencing with extraction of the sample.



M-VAC Forensic DNA Collection System



Further, assuming proper operator precautions are taken, contamination is not an issue with the use of the M-Vac since the buffer, tubing, sampling head, and filter apparatus are completely sterile.

What kind of results will I get?

A concern that has been expressed in the past is that the M-Vac might collect “too much” DNA. Although I must admit I am not completely sure what “too much” DNA might be, I can understand a fear that the M-Vac might pick up extra DNA to the point that an uninterpretable mixture might be obtained. While that is certainly a possibility, just as it is with the swabbing technique, it is also now possible to interpret complex mixtures with the aid of probabilistic genotyping software. In addition, internal validations from various agencies have actually shown that in some instances the M-Vac can lead to higher-level mixtures that are interpretable versus low-level, uninterpretable, mixtures obtained with traditional methods.

The M-Vac is a fantastic new tool in the forensic arsenal and the more laboratories, police departments, and crime scene investigators that make use of this tool, the more the most challenging cases will be solved. The M-Vac is not right for every case, but it might just be the answer you are looking for with cases involving rough and porous items, items that are too large for swabbing, or items that have previously been tested.



Our thanks to Ryan Forensics USA & M-Vac Systems

<http://ryanforensicdna.com/>



NEW FINGERPRINT KITS FOR SCHOOLS & COLLEGES

Grahame Sandling re-views the CSI Educational Fingerprint Kit



The CSI Educational Fingerprint Kit was originally designed for young persons who wished to practice their CSI™ skills at home, but more recently acquired by schools and colleges who wish to train their students in powdering and lifting techniques.

Through consultation with schools the kit was developed into its current form, which has a useful publication included covering the structure of friction ridge skin, with information about fingerprint patterns and instructions about the techniques of developing latent prints with powders.

The kit has adhesive lifters as used by CSIs' in the field.

Users can purchase individual replacement items to keep the kit topped up and in addition can obtain extra types of powders and gelatin lifters if required.

This kit contains:-

- # 86806 - CSI Carrying Case with foam insert
- # 86807 - User Manual
- # 86808 - Magnetic Wand
- # 86809 - Fingerprint Brush x 2
- # 86810 - White Fingerprint Powder
- # 86814 - Fluorescent Red Fingerprint Powder
- # 86815 - Fluorescent Green Fingerprint Powder
- # 86816 - Fluorescent Yellow Fingerprint Powder
- # 86820 - Red Magnetic Fluorescent Powder
- # 86821 - Green Magnetic Fluorescent Powder
- # 86825 - Black Magnetic Fingerprint Powder
- # 86826 - Silver Magnetic Fingerprint Powder
- # 86830 - Hinge Lifters Black x 4
- # 86831 - Hinge Lifters White x 4
- # 86832 - Hinge Lifters Clear x 4
- # 86835 - Protective Gloves (1 pair)
- # 86836 - Protective Disposable Apron
- # 86837 - Protective Face Mask

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Qualifications, CPD & CPC

The Society offers opportunities for experienced forensic practitioners in specialised fields to study for a Certificate of Professional Competence and to expand their continual professional development with CPD training and events.

<http://www.csofs.org/Training>

Events & Networking

The Society provides several dedicated events which discuss the most pressing, and the most exciting, matters within the forensic science arena.

Record your activity in our Continued Professional Development (CPD) area to demonstrate to employers your commitment to a future career in Forensic Science. Members have access to the Society library, including web streamed media.

<http://www.csofs.org/Events>

Publications

Members can access the latest research papers published in our Science & Justice journal online. "Science and Justice" is a peer reviewed journal now in its 50th year of publication and is one of the oldest and most widely respected journals, devoted to forensic science in the world.

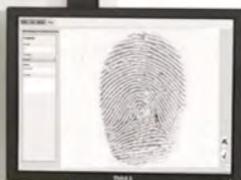
"Interfaces" is the Forensic Science Society's quarterly newsletter. "CSEye" is our online specialist Crime Science Investigator publication.

<http://www.csofs.org/Publications>





CONTACTLESS
EVIDENCE DETECTION



NON-INVASIVE
NON-CONTAMINATIVE
IMMEDIATE RESULTS

A BRILLIANT NEW APPROACH TO LATENT PRINT DETECTION AND IMAGING

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EVIDENCE DETECTION

Fingerprints have long been the most important means of identifying individuals, and they can be expected to retain their key role in criminal investigation regardless of how

widespread and sophisticated DNA analysis becomes. Fingerprints still provide the strongest way of connecting specific persons with specific scenes.

Forensic investigators typically use a range of different techniques – including techniques relying on adhesives, chemicals and UV excitation – to detect, visualize and preserve latent fingerprints on surfaces. While such techniques can be highly effective, they require surfaces to be physically contacted in ways that ultimately can alter them. Altering of surfaces or prints, in turn, can hinder the use of new forensic technologies such as touch DNA and of evolving methods for determining the age and composition of fingerprints. Today's crime scene experts thus seek to analyse exhibits with no physical contact whatsoever, in order to preserve both exhibits and any latent prints in their original, unaltered condition, and to safeguard them for subsequent analysis.

THE OLD WAY

THE CHALLENGE

The application of adhesive powders, chemicals or even UV light to an exhibit will alter the evidence. Furthermore, the lifting of a fingerprint from a surface is an irreversible, unrepeatable procedure that separates the fingerprint from its associated exhibit.

In addition, the conventional techniques for preparing fingerprints for automated identification systems (AFIS) are time-consuming. And due to the great variety of materials and surfaces crime investigators encounter, such techniques employ many different chemical agents, including several that are hazardous to health. Finally, such techniques must include painstaking preparation of documentation that will hold up against defence attorneys' challenges.

Now EVISCAN is supporting forensic professionals with a new approach to contactless acquisition of latent print evidence.



CONTACTLESS HIGH-TECH FOR FORENSICS

CONTACTLESS
EVIDENCE DETECTION

EVISCAN enables forensics experts around the world to acquire latent evidence without physical contact. It eliminates the need to process exhibits with adhesives, chemicals or harmful UV lights.

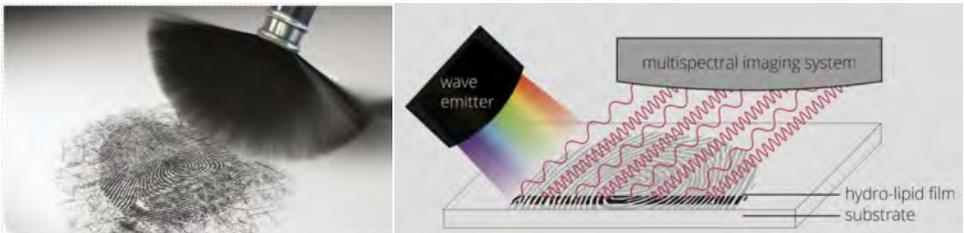
The EVISCAN system is a unique lab workstation that combines the latest detector technology with cutting-edge software for processing digital images. Now, forensics can detect, enhance and digitally preserve latent prints from most non-porous surfaces, including metals, plastics, glass, pottery and many more. Excellent results, ready for examination or AFIS-upload can now be achieved within minutes.

THE EVISCAN WAY

NON-INVASIVE AND NON-CONTAMINATIVE

EVISCAN processes exhibits and prints without any physical contact whatsoever. It does not affect, or cross-contaminate, exhibits and prints in any way. Evidence that is processed by EVISCAN remains available for all subsequent analyses, in its original condition and with its DNA material fully intact. With EVISCAN, therefore, forensic investigators can examine objects thoroughly and still retain all other analysis options, thereby improving their chances to achieve an identification.

EVISCAN provides integrated detection, enhancement and preservation functionality within a powerful, cleanly designed and user-friendly workstation. In each case, it reduces total processing time from hours – or even days – to just minutes. And because its processes are fully optical, they do not endanger the health of persons who process exhibits or are subsequently involved with them.





DETECT With EVISCAN, non-porous and semi-porous items can be examined without any prior treatment. Simply place them on the height-adjustable working table, which is made of easy-to-clean, toughened glass, and take control of the scan head via mouse or keyboard. Some plane surfaces can even be inspected automatically, with EVISCAN auto-detecting fingerprint patterns and suggesting areas of interest to the operator. For very complex objects, xyz-positioning, excitation intensity and

detector settings can be controlled manually, to optimise results. Even large and heavy objects such as fire extinguishers can easily be processed within minutes.

ENHANCE Enhance detected prints on the spot, with cutting-edge image processing software, and with full control over parameters such as brightness, contrast and inversion. EVISCAN enhances prints with fingerprint-specific, state-of-the-art enhancement algorithms that boost ridge detail and suppress background interference. Other tools support digital-print isolation and preparation for later expert examination or for AFIS upload. And EVISCAN facilitates airtight documentation: every single operation to an original image is automatically saved to an encrypted log and can be reversed, even years later.



PRESERVE Add a scale to a fingerprint automatically. Capture overview photos showing the position and orientation of traces. Save all traces as high-quality digital images with resolutions of up to 1,000 ppi, in a variety of different formats (TIFF, BMP, and others). Save reports, with case information, overview and output images, logs and even raw data, in secure project files. Forward results to examiners and AFIS workstations via networks, USB media or CDs – and complete identifications in record time. Remember: all steps preserve both exhibits and traces in their original condition, leaving them available for any further analysis. DNA material, and any other important evidence, remains entirely unaffected.

EVISCAN acquires high-quality digital images of prints from a broad variety of relevant non-porous and semi-porous surfaces. Metals, pottery, glass or plastics can be processed even when they are wet, sticky or dirty.



SPECIAL CASE: ARSON

CONTACTLESS
EVIDENCE DETECTION

EVISCAN truly helps investigators see the world through different eyes. In arson cases, EVISCAN can even reveal latent's invisible to the human eye and acquire them through un-removed layers of soot.



SOOTED GLASS

Glass, heavily covered with soot



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CSI Pathfinder ESL

Mike Sandling CSI Ltd



The technique of Electro Static Dust Print Lifting (ESL) at crime scenes dates back to the early 1970's. It is the ability to retrieve dust shoe marks from floors, carpets, upholstery where photography and conventional adhesive lifting film would be ineffective.

The benefits of footwear lifting at crime scenes is fast becoming identified as the way forward especially as many criminals today are forensically aware' and take precautions not to leave finger- prints or DNA at the scene. However they must leave footprints which is where the CSI Pathfinder has proved most invaluable.

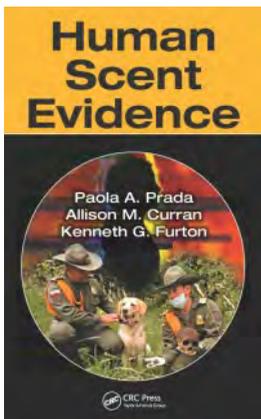
The problem with ESL machines currently on the market is that they are bulky, costly, lack power when needed and often do not work because the connecting probes or leads have been damaged by the previous user. They can also be very dangerous to the operator because of the high voltage that is put out.

The Pathfinder eliminates all these problems as it is small, light- weight, runs from a single PP3 battery available anywhere and does not use probes or leads. It also has built in safety features inasmuch that should the operator accidentally receive a shock it will not do any damage to him/her even if they have a heart pace maker.

This makes this unit the safest ESL machine on the market today. Evaluated and now widely used by Police departments throughout the world, this small device is the best that money can buy.

BOOK REVIEW Human Scent Evidence CRC Press

By Mike Sandling CSI Ltd



**'Human scent evidence' CRC Press.
Paola A. Prada, Allison M Curran &
Kenneth G Furton**

Almost 30 years ago, a little boy aged two, was abducted and subsequently beaten to death by two youths. The period of time between abduction and death was about five hours.

It was this case more than anything else which concentrated my mind on the question. Could the police have found him in time? Was there something to be done which could prevent this sort of crime being committed again?

You often hear of persons who go missing for various reasons. The police may well respond with a concentrated search of the area in question often using large numbers of officers and other helpers at some expense.

Can the same result be obtained using our four legged friends, the scenting canine? My primary objective over the years has been in tracking or trailing the quarry (suspect) in various situations. This has not only been done for real but also as part of bloodhound training and in competitions.

I have used my canines to scent persons after and from fires with success. The ability of these animals is amazing.

So it was with pleasure that I was given the opportunity to review this publication, 'Human scent evidence'

All in all I have been impressed, the authors have shown the high degree of scientific research that has been undertaken not only in the laboratory but also in the field.

Whereas I have been mainly concerned with tracking and trailing (there is a difference) there are a number of other disciplines such as article, avalanche, search and rescue and human remains.

It highlights the difficulties encountered by investigators, sometimes the lack of direction too from the legalistic/forensic side and the various ways law enforcement in various parts of the world have developed a system which for their particular Country, works.

Some myths with which I was encumbered so many years ago have been erased. The book details different methods of scenting in order to determine whether the canine is able at that time to perform the job. (We all have off days and canines apparently do as well)

For those involved in scenting competitions (hunting the clean boot) there are ideas which could well assist those asked to be judges to make better decisions. Some of the training ideas are not over miles of countryside but relatively short distances designed to test the animals' ability. These could well encourage others to take part and thereby promote scenting canines as a real forensic tool and a sporting activity.

Recommended reading.

October 14, 2014 by CRC Press

Reference - 228 Pages - 20 Colour & 55 B/W Illustrations

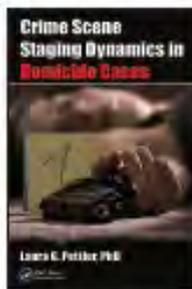
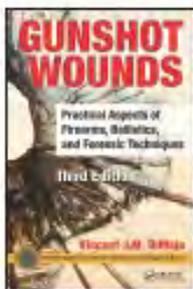
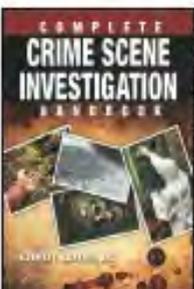
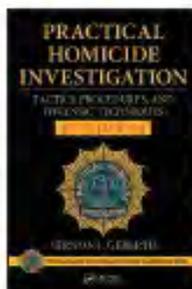
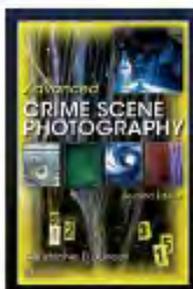
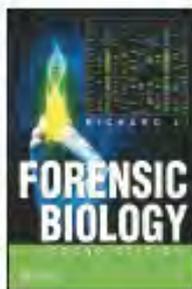
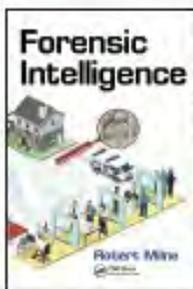
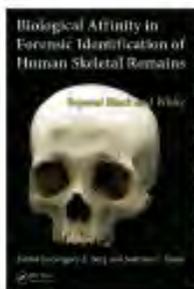
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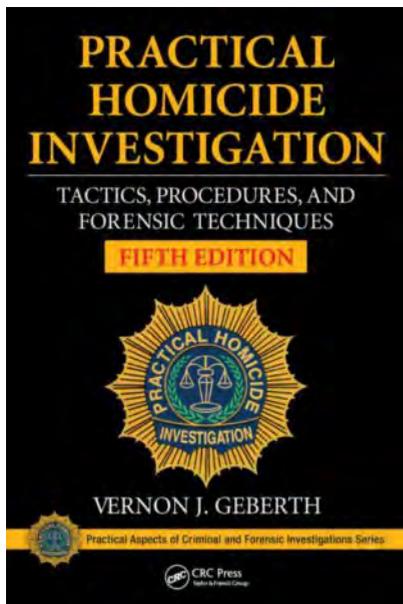


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AUTHOR INTERVIEW

Mark Listenwnik Senior Editor of Forensic Science books at CRC Press interviews **Vernon J Gebert** author of **Practical Homicide Investigation: Tactics, Procedures, and Forensic Techniques, Fifth Edition.**



Features

Presents essential procedures, combines detailed techniques with instructive case studies, and outlines the foundation on which to build a solid case

Contains updated checklists to reflect changes in the new edition of Practical Homicide Investigation Checklists and Field Guide

Supplies new information on DNA, staged crime scenes, death notifications, suicide, and sex- and narcotics-related homicides

Discusses management for police administrators

Includes more than 250 new photographs, as well as depictions of wound structures and new medical legal art drawings

INTERVIEW

ML: Hi, Vernon, thanks for taking the time to talk with us about the Fifth Edition of 'Practical Homicide Investigation'.

Well, Thank you Mark for allowing me this opportunity to discuss the New 5th Edition of Practical Homicide Investigation: Tactics, Procedures and Forensic Techniques.

The First Edition of this textbook was first published in 1983. It has advanced over the years beyond my greatest expectations. We have gone through four editions over the last 32 years and each edition continues its reputation as THE definitive source for homicide investigation.

Practical Homicide Investigation is the benchmark and “best practice” model and therefore continues to be the “Bible” of homicide investigation and the recognized protocol for professional death investigation.

ML: Now ‘Practical Homicide Investigation’ has been colloquially referred to as the “Bible” for homicide detectives for years now. Quite high praise from the many police, investigators, and detectives who have used the book over the many editions! How have you been able to maintain the “freshness” and relevance—and importance—of the book over the years for readers?

When the First edition of Practical Homicide Investigation was published and made its debut in the law enforcement community, I was thrilled to hear that my book was being referred to as “The Bible of Homicide Investigation.” And, it is still recognized as “The Bible of Homicide Investigation.”

The Protocol that I had designed was based upon the “Real World” of homicide investigation and had been field tested for years before I codified the procedures in my textbook. Many of the books that had been written on the subject of death investigation were based on theoretical perspectives authored by academics who had never “worked” an actual homicide case. Practical Homicide Investigation became a breath fresh air for those charged with the responsibility to conduct a common sense investigation of a complex nature.

Today, Practical Homicide investigation is the recognized protocol used by investigative divisions of major police departments throughout the world. It is also the text used in most police academies, including the prestigious FBI Academy in Quantico, Virginia. It emphasizes essential procedures, combines detailed techniques with instructive case studies, and outlines the foundation on which to build a solid, prosecutable case.

How I have been able to maintain this level of freshness and relevance is to constantly strive to learn new forensic techniques and incorporate the many cases that I consult on a daily basis.

This includes my on-going research into specific areas, subjects, dynamics and issues that affect death investigations as well as my affiliations with other professionals who have made major contributions to this textbook. That is why there are some fifteen pages of acknowledgements in this new 5th Edition textbook.

Just like you couldn’t possibly conduct the entire range of investigative, medical and forensic considerations in a death investigation all by yourself, you couldn’t possible write it a 1200 page textbook on the subject of homicide without the professional contributions and assistance of others. That’s what makes Practical Homicide Investigation successful and unique.

ML: What are some of the highlights of new content or cases that you’ve included in the new edition?

This new 5th Edition of Practical Homicide Investigation features 16 of 24 chapters, which have been completely re-written with new cases and forensic techniques

The other 8 chapters have been revised and updated with additional information. There are almost 150 new figures and illustration dispersed throughout the 24 chapters and there are new Medical Legal Art drawings incorporated throughout the text. There are approximately 15 new Case Histories included in the textbook. The Sex-Related Chapter will be updated to be in synch with my new 2nd Edition Sex-Related Homicide Text and the Chapter which deals with modes of death will be updated to coincide with the Sauvageau & Geberth Textbook Autoerotic Death Investigation.

The Profiling chapter will be enhanced with new research on Black Serial Killers as well as the author's published research on Frequency of Posed Bodies in crime scenes.

As you know Mark, I have recently revised my Practical Homicide Investigation CHECKLIST and FIELD GUIDE, which is a companion to my textbook. All of the Checklists have been updated to coincide with the new PHI Checklist & Field Guide. A section on "Bloodstain for Dummies" has been added with the instruction that the reader avail him or herself of the Bevel book within my series. Also reference to other books in my series will be dispersed within the textbook.

I have revised and expanded the Glossary of Terms, which refers to terms specific to the discipline of homicide investigation. The glossary is an additional resource that can be utilized when writing the reports to ensure that you are communicating properly with your intended audience.

Practical Homicide Investigation emphasizes essential procedures, combines detailed techniques with instructive case studies, and outlines the foundation on which to build a solid, prosecutable case. The photos and illustrations incorporate depictions of wound structures and procedures that portray exactly what to do and how to do it. All illustrations are presented in full colour, including new medical-legal drawings for instruction and courtroom testimony.

ML: You were in the NYPD for several decades and retired as Lieutenant-Commander of the New York City Police Department. In all your time in law enforcement, what is one of your best, and one of your worst, memories? It could be a case ... or even administrative challenges you faced on an investigation.

I was proud to have served with the New York City Police Department, which is the greatest police department in the world. We're not called New York's Finest without a reason.

I was very fortunate to have been selected for the Elite Tactical Patrol Force (The Green Berets of the NYPD) straight out of the police academy. This was indeed an honour and privilege and served as a direct pathway for my future successes.

I was promoted to Detective after only three years based on my performance as a TPF officer. I served as a detective until my promotion to sergeant and eventually detective sergeant in homicide. Eventually I was promoted to Lieutenant and then went on to become a Lieutenant Commander in charge of the Bronx Homicide.

There are many memories over the years some good some bad. My worst memories were those involving police assassinations by members of the Black Liberation Army, an offshoot of the Black Panther Party. Those bad memories include the funerals of good men and women who made the ultimate sacrifice in their service to protect and serve. My fondest memories are the camaraderie I enjoyed as a member of the NYPD family and how we prevailed throughout those years. These fond memories extended throughout my service and follow me today.

ML: Now, I think many people would be interested in this ... what have you found to be the hardest thing for detectives and investigators working day-to-day in the trenches on some really gruesome cases? Obviously, the cases themselves present some real investigative challenges. And then there is the personal, emotional side of having to work in the wake of some truly violent, unspeakable cases. Is one harder than the other to deal with? And, as a detective or investigator, how does one reconcile these things?

I have personally investigated, supervised, consulted and researched on over 8000 homicide cases in my 46 year career.

Homicide investigation is a profound duty with awesome responsibilities. It requires the professional homicide detective to develop an understanding of the dynamics of human behavior as well as the essential details of professional investigation.

The professional homicide investigator must learn to deal with death in a clinical manner. Detectives should develop an emotional insulation and not project a personality into the body. *Personally speaking, if you begin to look upon that body as your wife or husband, daughter, son, mother, or father, you are going to lose that professional objectivity that is so necessary in the murder inquiry.*

My way of dealing with the reality of sudden and violent death is a strong belief in God and a belief in a higher order of things in our existence. My theology informs me that there is an afterlife and I believe that the soul of the murder victim has left the body.

The emotional side can be overwhelming. In order to function effectively, it is imperative that detectives have strong ego defence mechanisms, allowing them to engage in isolation of affect through intellectualisation. This is not meant to suggest that homicide practitioners can avoid personal feelings about the tragedy.

Rather, it allows a professional investigator to focus and concentrate on the dynamics of the event and not become emotionally involved in the crime.

My weakness was and continues to be cases involving the murder of children. I don't think is any one answer to how one deals with this outrage except prayer. It is no coincidence that I have incorporated within this textbook the motto, "Remember, we work for God."

ML: If there was one thing that you want people to take away from the book, what would it be?

Our mission is to bring justice to the deceased and their surviving families. We do this by conducting a professional and intelligent investigation resulting in the identification and apprehension of the killer and the successful prosecution of the case.

This book and its companion Checklist & Filed Guide were designed to assist investigators in fulfilling that mission. If you follow the procedures outlined in the 4th Edition of Practical Homicide Investigation you can be assured that you covered all the bases.

ML: Thanks, Vernon. We really appreciate you taking the time to talk with us today.

Thank you. In closing I would like to point out that this new edition is not just a re-print or repackaging of outdated material. It contains new and accurately researched material essential to the resolution of a homicidal or death related investigation.

I am most proud of the fact that I have been able to include information on the forensic and investigative subjects contained in the other books in my series. Just like when I was a Homicide Commander in the New York City Police Department, where I handpicked the best investigators to work with me in my unit, I have surrounded myself with the best of the best between the two covers of this book.

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