

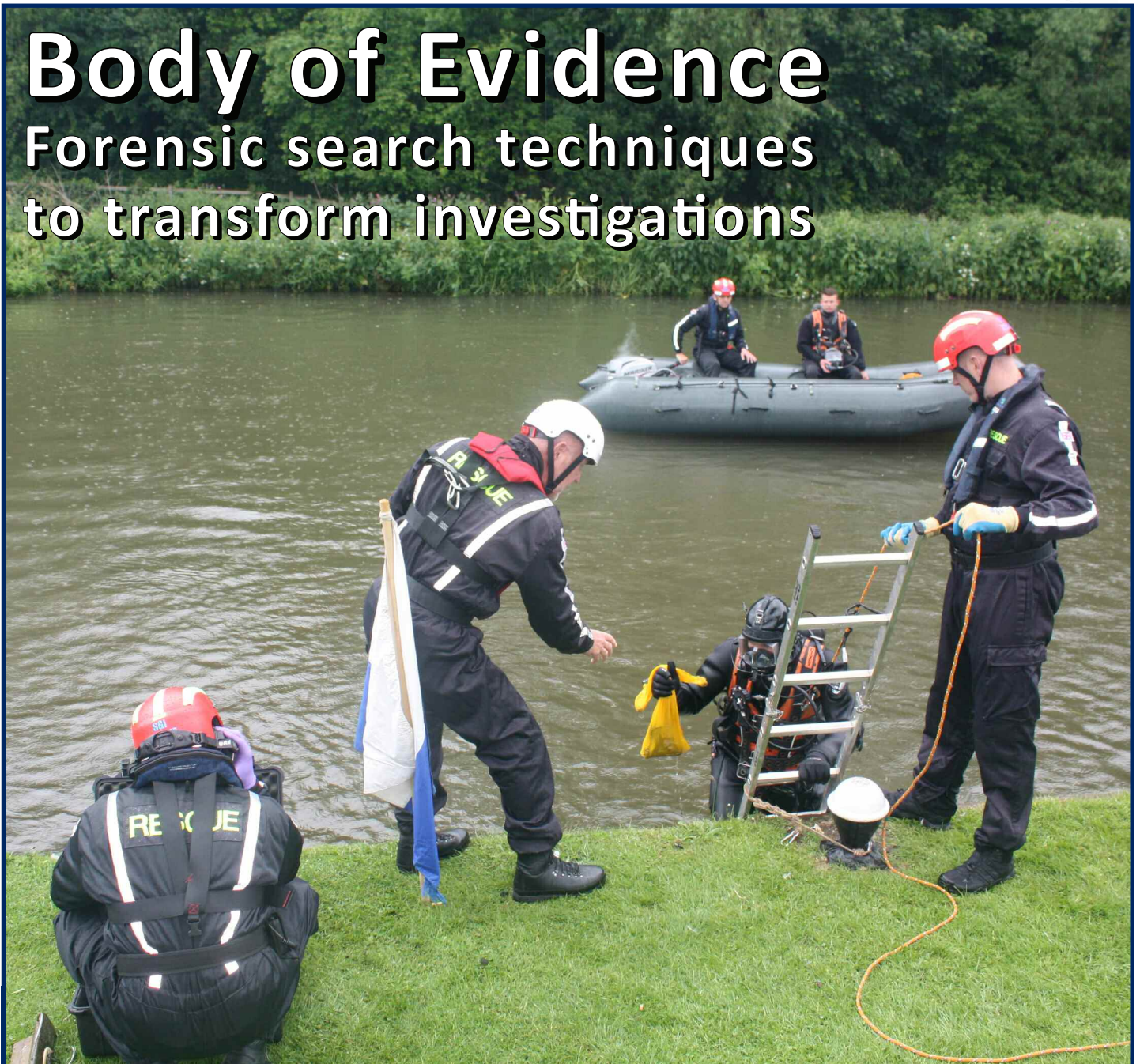
the forensic Investigator

Issue 2 2015
www.the-investigator.co.uk

ESSENTIAL READING FOR TODAY'S INVESTIGATORS

Body of Evidence

Forensic search techniques
to transform investigations



ALSO IN THIS ISSUE

- No Body Murders • Innovative Forensic Partnerships •
- DNA as a Vital Intelligence Tool • Cadaver Dogs •
- Fingerprints on Feathers • Documenting Ancient Footprints •



CONTENTS

COVER STORY

4 Body of Evidence: Forensic search specialist Peter Faulding talks about the technology and techniques he deploys to help investigators solve cases

FEATURES

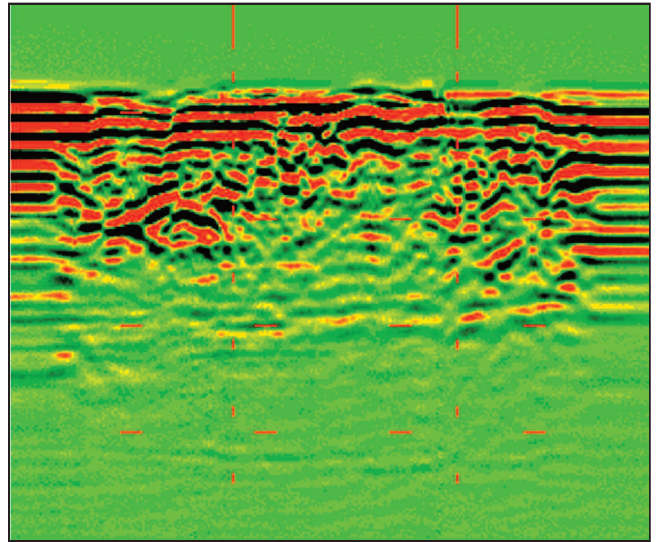
10 'No body' of Proof: Former US prosecutor Tad DiBiase has built up a wealth of expertise in no body murder cases. Carol Jenkins reports

14 DNA Detectives: Chris Holt looks at how to use DNA as a vital intelligence tool in major crime investigations

17 Forensic Future: Is the sourcing of forensic services a path forward or a step in the wrong direction? Professor Robert Green reports

24 Scent of Success: Cadaver dogs have transformed the way investigators search for missing people who are presumed dead, Carol Jenkins reports.





CONTENTS

28 Bird Brains: Scottish scientists have conducted innovative research to help detect fingerprints on feathers

30 Trace Elements: Scientists in the UK are conducting ground breaking research into body decomposition

27 Feet Forward: Bournemouth University is exploring how techniques for documenting ancient footprints can help scientists understand modern-day crime scenes

35 CSI Yorkshire and Humber: An innovative partnership between LCG and four forces is transforming forensic service provision. Carol Jenkins reports.

Workshops

7 Innovation in Forensic Search techniques to locate missing crime victims

27 Investigating Cyber Hacking Workshop

33 Computer Misuse Act Workshop

Cover photograph: www.specialistgroupinternational.com

Editor: Carol Jenkins

E: carol@the-investigator.co.uk

Publication Manager: Dale Hazell

Tel: +44(0)844 660 8707

E: forensics@the-investigator.co.uk

W: www.the-investigator.co.uk

The Forensic Investigator can only be shared within the organisation that has purchased the magazine.

Subscribers are not permitted to share the magazine with other users – legal action will be taken if this is infringed. If you sign up as a subscriber to the Forensic Investigator you are signing up to these terms and conditions



Body of evidence

Forensic search specialist Peter Faulding talks about the technology and techniques he deploys to help investigators solve some of the most challenging cases.

When a body or evidence is concealed in a location on land or in water – forensic search specialists must go to great lengths to piece together as much information as possible to locate the precise deposition site.

While cutting edge technology and rapid advances in science have transformed the way investigators search for evidence, what is vital is an 'investigative mind set' to piece together often random clues that could provide crucial pieces of the jigsaw.

UK-based Peter Faulding is one of the world's leading forensic search specialists and he has worked on vast range of cases where he has used a lifetime of expertise to help locate human remains, drugs and firearms in some of the remotest of places.

He is also no stranger to the headlines after being the expert witness in the MI6 'body in the bag' mystery. However, it is his work as a

forensic search specialist that has gained him the most plaudits and he has worked on many cases including the April Jones murder and the Peter Tobin 'serial killer' murders. "When you bring an external search team into an investigation, it's important that we have the maximum amount of information available," he explained.

"It isn't as simple as calling us in and getting us to conduct a search. We can provide much more than that and I see my role as more than just a forensic search specialist. I am constantly looking for pieces of the jigsaw. It's the minor detail that could prove the difference between a successful case and an unsolved murder."

Technology

Technology plays a major part in helping experts from his company Specialist Group International (SGI) help solve some of the most challenging cases.

In 1998 Mr Faulding was the first search specialist to trial and use the Side Scan Sonar in the UK for forensic search. It is cutting edge technology that is used for detecting objects on the seabed. It works by transmitting sound energy and analyses the return signal (echo) that has bounced off the seafloor or other objects.

"Side Scan Sonar is the best piece of equipment for searching under water," said Mr Faulding. "Typically we can search about ten miles of a normal sized canal or river in eight hours, it requires concentration and experience, without that targets are easily missed."

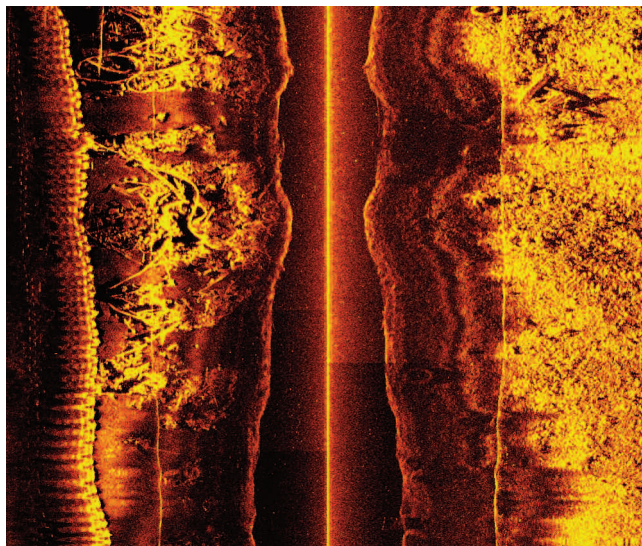
"It covers a wide area and it images the sea bed from above and will reveal anything that is lying on the sea bed. If a body is wrapped in a sheet then it shows up as a large object and then a diver would need to enter the water to confirm the identity of the object." The side scan sonar is particularly useful as searching for bodies or objects in water is fraught with difficulties. One of the most challenging underwater jobs Mr Faulding has undertaken was when his team was asked to search a 220 metre flooded mine shaft in Wales. We were asked to search for a 12 gauge shotgun cartridge with the word 'GAME' written.



SGI's remotely operated vehicle (ROV)

SGI experts lowered their small remote operated vehicle (ROV) down the flooded mineshaft shaft with their remote static camera one metre above it, SGI had two monitors' set up in the control vehicle that enabled them to view the ROV whilst it was

searching. Mr Faulding used the fans of the ROV to move the fine layer of silt that had covered the shotgun cartridge. Mr Faulding told the Investigator "the task was very challenging too much to describe in a few words, but the good news is that we found the shotgun cartridge that was used in a murder fifteen years earlier"



Sonar image on Daniel Entwistle enquiry

Cold case review

Damian Tudge disappeared on November 14th 2008 from his home in Kidderminster Worcestershire in the UK after an argument with his wife. Cell site analysis placed his mobile near to the River Severn. The environment agency advised the police that if a car had driven into the river their sensitive water monitoring equipment would detect oil and petrol residue from the car. A local voluntary organisation also conducted twelve searches of the River Severn using a fish finder and did not find any clues and advised the investigators that there were no signs of a car in the river. Mr Tudge's car was not picked up on any ANPR systems leaving the area. Given all information West Mercia Police were up against a brick wall.

West Mercia Police brought in Mr Faulding after 18 months to carry out a review with the investigation team. After carefully reviewing all of the information available Mr Faulding advised the police that in his opinion Mr Tudge was in the river.

Mr Faulding planned a fresh search using side scan sonar and the SGI dive team. Within fifteen minutes of commencing the search Mr Faulding located two cars, the first being a stolen vehicle and the second belonging to Mr Tudge.

The SGI dive team dived to confirm the targets and remove the number plate from Mr Tudge's car, they then attached chains to the axles underwater as the car was on its side. Mr Tudge's car was carefully recovered from the river using a crane. Damien Tudge's remains were found inside the vehicle finally bringing closure for his family.



Peter Tobin's garden

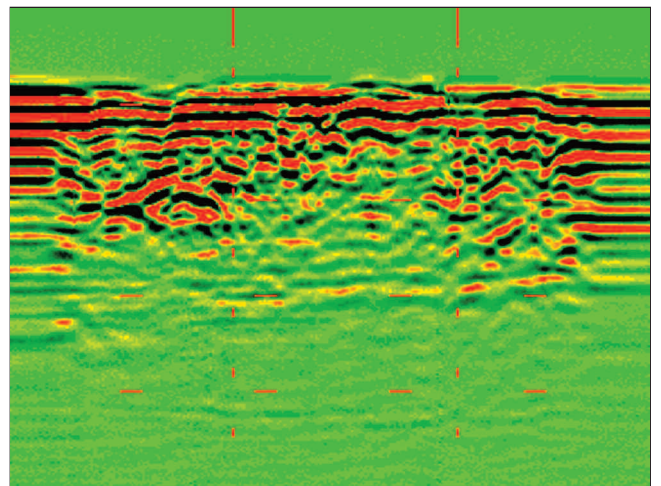
Land searches

Ground penetrating radar (GPR) is one of the most effective pieces of technology for carrying out searches on land. It uses radar pulses to image the subsurface and can help detect unusual activity or signs at ground level. Despite the fact the technology can be effective and powerful in forensic search – it is the search specialist and his or her experience in field craft and in being able to look for ground signs that can provide the added element that could help find a body. Mr Faulding planned and conducted a search of a property in Borehamwood, Hertfordshire for an elderly Polish gentleman who had been missing for five years. Using Ground penetrating radar Mr Faulding located the body buried under the path behind the greenhouse in a grave 0.9 metres deep. On Operation Anagram, Mr Faulding was brought in by Lothian and Borders Police to plan and carry out a forensic search of serial killer Peter Tobin's house in Bathgate,



GPR searches Peter Tobin's kitchen

Scotland. Over a week Mr Faulding and his team searched the whole property using their expertise along with technology. A knife was found secreted in the loft that contained the DNA of Vicky Hamilton, this vital evidence linked Tobin to the abduction and murders of Vicky Hamilton and of Dinah McNicol who both disappeared in 1991.



GPR image shows disturbed ground in Peter Tobin's garden (Scotland)

Profiling suspects

An important element of their work is to establish the background of any suspects or people close to the victim that could lead investigators to the location of a body.

On average "Most bodies are deposited within 50 metres of a track or access point," said Mr Faulding, "But you must be wary of this rule when you are searching for a victim. It depends how athletic or clever the person is. If someone is unfit they could only manage to walk five paces but if someone is powerful and fit they can carry a body a long distance," he said.

Innovation in Forensic Search techniques to locate missing crime victims

Workshop and LIVE demonstrations

8 July 2015, Billingham, West Sussex

- Join us for a day of live demonstrations and workshops to provide you with best practice in search techniques that could transform your investigation and help you find the body of a missing victim
- A one-off opportunity for Investigator subscribers – you won't find this event elsewhere!
- The first event the Investigator has hosted that includes real time LIVE demonstrations and workshops in the countryside conducted by experts who are much sought after across the world.

Sign up now to this exclusive event!

The Investigator is joining forces with Peter Faulding and his World renowned firm Specialist Group International (SGI) who are world leaders in Forensic Search and Rescue techniques to bring you this exclusive workshop. It will be held at a remote rural location in West Sussex and will include a day of LIVE workshops and demonstrations specifically tailored to provide best practice to those working in major crime investigations.

If you have worked on a 'no body murder' case or a similar investigation where a victim's body has proved difficult to find then this workshop will prove invaluable.

Peter Faulding is a world renowned forensic search specialist who has worked with police forces and other organisations across the world to help search for and locate missing victims and help investigators piece together often complex mysteries.

His expertise is much sought after and his experience includes being the expert witness in the MI6 'body in the bag case' he was involved in the April Jones and Peter Tobin murder inquiries to name but a few. SGI have a range of cutting edge equipment and techniques to showcase.

Cost: £95.00 per attendee

How to book and further details

To book your place click [HERE](#) or visit www.the-investigator.co.uk



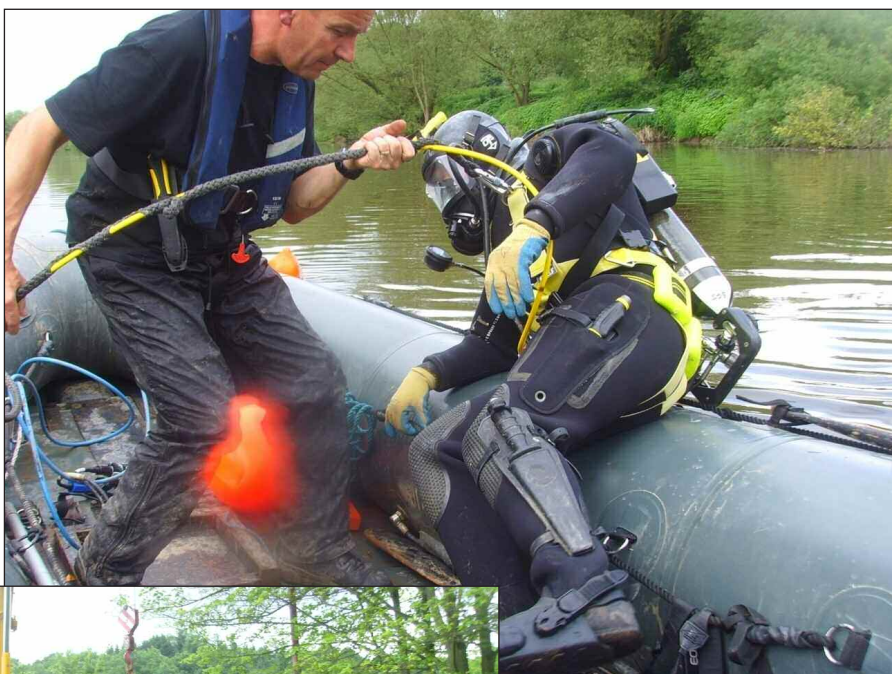
"To bury a body takes an awful lot of digging. Even a very fit man couldn't dig a hole and bury a body within ten minutes. If someone digs a hole to bury a body then they leave a lot of soil and are bound to leave some clues." Some suspects will even put markers near the body so they can return to the scene. It might be a certain number of paces from a tree or a physical marker on a post. In one case involving a prolific case in Wales, a rapist was using the red obstruction lights between two specific oil refinery chimneys to guide him to his target during the night.

In the military this is known as the Winthrop theory and can be particularly useful when trying to get into the head of a killer who has deposited a body or an object in an obscure place.

But in the case of murdered woman Kate Prout, the offender was her husband who was a farmer, he buried her in front of his pheasant pens that acted as reference points for him. He had time to go back daily to redress the grave in order to try and conceal it further. If a suspect has land or access to land or water then they much more time to prepare the deposition site.

Challenges

One of the main challenges of forensic searches is the changing seasons. A body could have been deposited in a wood in the winter that would look dramatically different during the summer months and may put off a search team. If a search is being conducted some years later then the whole landscape could look different and overgrown with young trees and undergrowth, the area must



Damian Tudge search

be carefully cleared for any search to be effective.



Damian Tudge's car being recovered

Future

As forensic search becomes more challenging, the technology and methods

used continues to develop. Mr Faulding is constantly adding to his arsenal of cutting edge technology and he now has a helicopter, to provide vital intelligence from the air. They also have a remote control submarine (ROV) this piece of equipment has proved invaluable for searching deep clear water, it was our ROV that located two missing sport divers who tragically drowned in the National Dive Centre in Chepstow, they were in seventy metres of water, we worked alongside the Avon and Somerset Police dive team to recover them.

"My aim is to try and help investigators leave no stone unturned and to use a combination of technology and expertise to help getting into the mind of a murderer and try and piece together those vital moments when they deposited the body. At the end of the day we are trying to provide justice for the families and victims and make sure that anyone who has committed a murder is brought to justice."