



DactyloGram



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DACTYLOGRAM is a unique electronic Newsletter designed to provide the reader with current information on Friction Ridge Skin Individualization, while also allowing direct access to additional resources on the WWW.

District of Oregon: U.S. v. Hudson



The following article was provided by its author with publication approval from his represented agency.

Mike Heintzman

On November 20, 2006 members of the Oregon State Police Forensic Services Division (OSP-FSD) participated in a federal court Daubert Hearing in Portland, Oregon. The questioned case originated from a 2005 gang shootout in Portland in which one individual was killed and an OSP-FSD firearms analyst subsequently identified over 50 shots fired from 5 different weapons. Two firearms were eventually recovered by investigators (but not used in the homicide), and Forensic Scientist Melissa Girardelli identified a single latent print on one weapon to a submitted suspect. The case was eventually taken over by the ATF, and the suspect was charged with a federal Felon in Possession charge. The ATF also sent the firearms to a private laboratory for DNA testing. As a result, both weapons were reported to have the DNA from the suspect.

The defense motion included objections to the use of DNA (didn't obtain samples from every person who may have contaminated the weapon), Firearms (no scientific objective testing, no peer review, no error rate, lack of objective standards for identification), and Latents (no objective standards {number of points}, ACE-V does not meet scientific standards, the identification does not exclude the worlds population, there is no peer review of the science, there is no established error rate, and the criteria for standards and controls are not met). The defense also attempted to use a Daubert objection to testimony concerning gang affiliation, but since gang affiliation isn't based on science, Judge Brown threw that one out.

An analyst from the private DNA laboratory testified to the basis of PCR DNA testing. I testified to the scientific basis of Latent Print Examination, and Forensic Scientist Girardelli testified to the application of those methods... [Concluded on page 6](#)



McKie Drops Campaign for Inquiry

This article is reprinted from the December 27, 2006 issue of The Scotsman, UK.

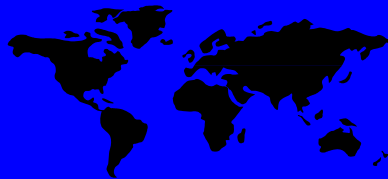
After ten years, four investigations and two trials, Shirley McKie and her family yesterday dropped their campaign for a public inquiry into why the former policewoman was wrongly accused of leaving her fingerprint at a murder scene.

The misidentification of Ms McKie's fingerprint at the Kilmarnock home of murder victim Marion Ross in 1997 prompted one of the biggest scandals in Scottish legal history.

Ms McKie was accused of lying about her presence at the murder scene and tried for perjury. But after years of police investigations, it was... [Concluded on page 5](#)

Direct Links To the WWW

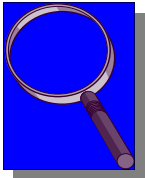
- > [IAI's Job Listings](#)
- > [Herald article McKies 'can't walk away'](#)
- > [Here's a reason to hate CBS' CSI...](#)





Prosecution to Scrap Prints in South African Killing

This article is reprinted from the December 22, 2006 edition of the Citizen, South Africa.



A new twist has emerged in the case of murdered Stellenbosch University student Inge Lotz, beaten to death with an ornamental hammer in March last year.

Fingerprint evidence allegedly linking Lotz's boyfriend Fred van der Vyver to the crime will no longer be used as evidence.

This comes after independent forensic experts reportedly found that Van der Vyver's fingerprints must have been lifted from a different surface to that originally claimed.

According to reports the fingerprints were lifted from a DVD cover in Lotz's apartment, but American forensics expert Pat Wertheim later determined they had come from a smooth, cylindrical surface.

Advocate Thinus van der Vyfer, of the Directorate of Public Prosecutions, reportedly said they had made the decision to scrap the fingerprint evidence.

He denied the prints had been falsified by police, and submitted they had been accidentally swapped.

"If it was a mistake it spells gross incompetence," said forensics expert David Klatzow.

The case continues on February 12 next year.

www.citizen.co.za

Judge Orders New Trial Over Evidence Omission

This article is reprinted from the December 13, 2006 edition of the Contra Costa Times, CA.

A man convicted of possessing a firearm will get a new trial because the prosecutor failed to disclose fingerprint evidence that might have exonerated him, a superior court judge has ruled.

"You wonder if there are other cases where material gets suppressed and we never know about it," said Susan Hatcher, who leads the Contra Costa County Alternate Defender's Office.

The defense should have received the fingerprint evidence, said a top prosecutor who suggested the omission was an oversight.

During the trial, deputy district attorney Aron DeFerrari ordered a fingerprint test of the bag. The only print of usable quality did not match the suspect. However, DeFerrari did not give that information to the defense, as required by law.

The defense learned about the palm print after the conviction and then asked the Judge to dismiss all charges, citing prosecutorial misconduct.

"If someone else's fingerprints were there, it could lead a jury to believe somebody else was the shooter," claimed the defense. "It would at least show that someone else had their hand on the gun."

DeFerrari wrote in court documents that the palm print would not have changed the verdict and that the defendant is also facing murder charges in connection with a killing using the same gun three days after the first shooting.

Diane Karpman, a legal ethics expert who defends attorneys at the state Bar Association, said the association has disciplined attorneys for failing to hand over evidence to defendants.



Police Departments Dusting Dilemma

This article is reprinted from the December 12, 2006 edition of San Francisco Chronicle, CA

Stunning as it may sound, Oakland's Police Department -- which handles some of the toughest crimes in the Bay Area -- doesn't have anyone who can read or match fingerprints.

The fingerprint unit at the department's crime lab used to consist of three technicians. But for the past seven months, it's been shut down for lack of money and staff.

Oakland cops still dust for fingerprints at a rate of about 113 cases a month. However, according to veteran homicide Sgt. Phil Green, cops often don't even bother to submit the prints for analysis because they know it's useless to do so.

"It's a huge deal," said Green, whose unit has been trying to deal with 142 homicides this year alone.

The prints that investigators do submit join a backlog of cases awaiting outside analysis. That backlog now totals 162 cases.

"If the question is whether we will be able to address all these cases in a timely manner, the answer is 'no,' " said crime lab chief Mary Gibbons.

So far, prints from only about 30 Oakland cases given high priority -- homicides, rapes and the like -- have been sent out and analyzed by the Contra Costa County sheriff's crime lab in what Gibbons herself calls a Band-Aid approach.

As for prints collected from burglary scenes and other property crimes, you can pretty much forget about those being analyzed. And even more serious crimes apparently are getting the brush-off.

"This is shocking," said 62-year-old Nina W., who asked that we not use her last name for fear of retaliation. She learned about the fingerprint logjam after she was held up at gunpoint by three young men recently while getting into her car in the Fruitvale district.

The cops collected what evidence they could, including grainy photos from a surveillance camera of the thieves taking \$40 from her account at a bank ATM.

Nina, however, couldn't identify any of the young men brought in for a lineup. When she asked investigators why they hadn't bothered dusting for fingerprints on her car door handles and elsewhere, they told her there wasn't much point because the fingerprint unit was closed. The case remains unsolved.

Gibbons said she was forced to close the unit when the last of her fingerprint experts, hired with grant money and therefore temporary, left for the security of permanent jobs elsewhere. That finally got the attention of Gibbons' bosses.

After years of trying, she got funding for two full-time fingerprint analysts in this year's budget. But filling the slots has been hard because of the city's civil service rules.

Gibbons said she doesn't expect to hire anyone until the summer, "at which point," she noted, "the unit will have been closed for a year."

Deputy Police Chief Howard Jordan, head of the department's investigations bureau, said investigators don't rely just on fingerprints to nail crooks, not with DNA evidence, ballistics and other tests now in use.

But those tests can take time. For instance, the crime lab spends at least three months processing a DNA sample -- a lot longer than the "CSI" television series would lead you to believe, Gibbons points out.

And Jordan acknowledges that the basics, like fingerprint analysis, are important.

"A department this size in a city this size with the volume of work we have ought to have a fully functional latent print examiner unit so we can better investigate cases," Jordan said. "It would make a difference."



X-Ray Fingerprints

This article is reprinted from the December 2006 edition of Ivanhoe Broadcasting News.

BACKGROUND: Scientists at Los Alamos National Laboratory have developed a new fingerprint visualization technique using X-rays that leaves prints intact and reveals chemical markers that could give investigators new clues for tracking criminals and missing persons. Traditional fingerprinting methods involve treating samples with powders, liquids, or vapors to add color to the print, so it can easily be photographed. This process is known as contrast enhancement. However, dusting for fingerprints can sometimes alter the prints, erasing valuable forensic clues. Children's fingerprints are especially difficult to detect.

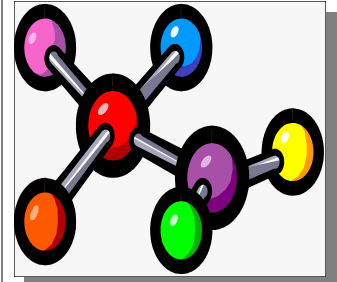
HOW MXRF WORKS: The new technique uses a process called micro-X-ray fluorescence (MXRF), which rapidly reveals the elemental composition of a sample by shining a thin beam of X-rays onto it without disturbing the sample. All chemical elements emit and absorb radiation at a "signature" frequency of light. For instance, sodium emits primarily orange light, while oxygen (used in neon lights) emits green light. Scientists can pass collected light through an instrument called a spectrograph to spread it into a spectrum, much like visible light spreads into a rainbow of colors by a prism. By carefully studying how the spectrum becomes brighter or darker at each wavelength, scientists can tell what chemical elements are present in a given sample.

WHAT THEY FOUND: The researchers used MXRF to detect the sodium, potassium and chlorine from salts excreted in human sweat -- which is sometimes present in detectable quantities in fingerprints. Since those salts are deposited along the ridge patterns in a fingerprint, it is possible to use the elemental analysis to produce a visual image of that fingerprint for analysis. It is especially useful for tracking down lost or missing children -- The new method can detect prints based on chemical markers left behind in the child's fingerprints due to the presence of food, soil or saliva, and this information can be used to track down evidence of the child's movements.

ABOUT X-RAYS: Like visible light, X-rays are wavelike forms of electromagnetic energy (light) carried by tiny particles called photons. The only difference is the higher energy level of the individual photons, and the corresponding shorter wavelength of the rays, which make them undetectable by the human eye. X-ray photons have energies that range from hundreds to thousands of times higher than those of visible photons. X-ray machines image the outline of bones and organs, while a CT scan machine forms a full 3-D computer model of the inside of a patient's body. Doctors can even examine the body one narrow slice at a time. The X-ray beam moves all around the patient, scanning from hundreds of different angles, and the computer takes all that information to compile a 3-D image of the body.

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> [Link here for a related FP Stuff/DactyloGram article.](#)



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'Daubert' Link



"McKie Drops Inquiry" from page 1: ...proved the fingerprint was not hers.

Both the justice minister at the time and the Lord Advocate were forced to apologise and last year Ms McKie was paid £750,000 in compensation. Most recently there has been a parliamentary inquiry into the case.

But Ms McKie and supporters say they have never been given an explanation of why the misidentification happened, nor why it took the establishment so long to admit there was a mistake, and through it all have called for a public inquiry.

However, a decade after the murder of Ms Ross, the family have decided that enough is enough.

"We have given ten years of our lives to this and we are not giving any more. It is the politicians' job now to do something about it," said her father, Ian McKie .

"It is not our role to fight for justice; it is their role." Mr McKie, 67, said that on 9 January, 2007 - exactly ten years after the murder investigation began - he and his family will end their campaign.

He added: "The experience has so put us off that, come the tenth anniversary of the Marion Ross case, we're finished. My daughter is not going back to another inquiry to be vilified. [She] has spoken the truth from the beginning, but she is still being called a liar."

While there has not been a public inquiry into the case, MSPs on parliament's justice 1 committee investigated the Scottish fingerprint service. But when Ms McKie, 44, from Troon, Ayrshire gave evidence to the committee, there were angry clashes with some MSPs as she accused them of putting her on trial again.

However, Mike Russell, the former SNP MSP who has campaigned for Ms McKie, said questions remain over why politicians failed to deal with the case sooner.

"What I would really want to see is, even if there is no public inquiry, that this never happens again and I am not confident that is the case yet, because the political lessons have not been learned. It is still possible for political evasions, lies and deceptions to be repeated," he said.

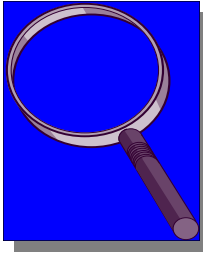
DECADE OF LEGAL WRANGLING

The Shirley McKie case has dragged on for a decade and involved senior legal and political figures:

- **February 1997:** Marion Ross found murdered. Ms McKie accused of leaving a fingerprint at scene. Later goes off work, depressed.
- **July 1997:** Professor Colin Espie, a psychology expert, reports that Ms McKie is "telling the truth".
- **March 1998:** Ms McKie arrested in a dawn raid. Charged with perjury.
- **May 1999:** Ms McKie cleared of perjury.
- **July 1999:** Lord Advocate refuses to order an inquiry into Scottish Criminal Record Office (SCRO).
- **December 1999:** Ms McKie discharged from Strathclyde Police on medical grounds.
- **June 2000:** Then justice minister Jim Wallace, confirms print was not Ms McKie's. Tayside Police boss James Mackay is instructed to investigate SCRO .
- **October 2000:** Mr Mackay reports to the Crown Office.
- **August 2002:** David Asbury's conviction for Ms Ross's murder is quashed.
- **February 2003:** Ms McKie loses her action against Strathclyde Police.
- **December 2003:** Lord Wheatley allows Ms McKie to take her case against the SCRO to Court of Session.
- **February 2006:** Scottish Executive settles Ms McKie's civil case against the SCRO.
- **April 2006:** Scottish Parliament's Justice 1 Committee begin their own inquiry.
- **December 2006:** McKie family drop calls for a public inquiry.
- **February 2007:** The parliamentary inquiry is expected to report.



“District of Oregon: U.S. v Hudson” from



page 1: ...in her casework. The OSP-FSD firearms analyst testified last on the scientific basis of Firearms examination. Three independent forensic experts were involved with the defense, although only one – a firearms expert — was at the hearing, but did not testify.

At the conclusion of the OSP-FSD firearms analyst testimony, Judge Brown ruled immediately from the bench that DNA and Latents met the Daubert criteria for scientific admissibility. Judge Brown issued a written opinion on December 7, 2006, which stated in part: “... testing was performed according to standard operating procedures that are generally accepted in the scientific community as reliable techniques used to evaluate both fingerprint and DNA evidence...”

Forensic Scientist Girardelli and I answered the 5 main Daubert criteria in direct testimony, which included results of studies on both the permanence and identifiability of friction ridge skin, a comparison of ACE-V to the Scientific Method, a description of Analysis and Comparisons as objective functions and Evaluation as subjective (don’t shy away from the term ‘subjective. The courts accept a subjective conclusion as long as it was based on objective data), a description of the multiple peer review processes we go through, and a description of the OSP Quality system, etc. Testimony also included how OSP’s forensic system error rate was calculated, what the individual examiners error rate is (0), and why reliance on CTS tests for discipline wide error determination was a bad idea.

An issue raised by the defense was the lack of a numerical standard used in this country, and the fact that other countries use a numerical standard. This was answered with a combination of the historical perspective of why we at one time had a numerical standard, why that standard was determined to be in error, why we no longer have a numerical standard, what other countries no longer use a numerical standard, and why the countries that still use a numerical standard do so. Part of this testimony, both mine and Forensic Scientist Girardelli’s, dealt with the use of Level II and Level III detail in an individualization, and a description of the process of individualization. Emphasis was made on the process as utilizing the whole friction ridge area, not counting points. Testimony was also

offered that OSP has a written standard for individualization, which is based on the SWGFAST guidelines.

Another issue that was brought up was contextual and configural biases. This included a brief explanation of what happened in the Brandon Mayfield case. There was a discussion of the effects of bias during both the Evaluation and Verification processes. Refer to the studies by Dr.’s Dror and Busey. Testimony included the OSP-FSD’s quality program on handling disagreements between analysts other ways we try to eliminate biases.

One part of the peer review question that was raised was acceptance of ACE-V and acceptance of our evidence processing procedures by the forensic community. We were able to show that that both were accepted practices by referring to the SWGFAST guidelines and our accreditation process, as well as evidence processing using the same procedures done in other labs.

If you find yourself involved in a Daubert hearing, I would strongly suggest that you over-prepare, and fully utilize the available information and resources of other past participants of similar challenges.

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- *Links to the World Wide Web.*