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President’s Message

Many years ago (although it seems like yesterday) I attended an advanced bloodstain pattern analysis school with people from several states and countries. One student from the other side of the world brought several bloodstain cases to share with the class. I recognized the cases. These were my cases. The names were different, and the places were different. I couldn’t even pronounce them. But the bloodstains were the same, the mechanisms that produced the stain patterns were the same, and even the stories were the same. People who caused bloodshed on the other side of the world were making the same excuses as people who cause bloodshed on this side of the world. The similarities extended far beyond the bloodstain patterns.

Last year SWGSTAIN released a long-awaited terminology document. This document has been adopted by the International Association of Identification (IAI) and by the IABPA. Discussions similar to those that produced the SWGSTAIN document are on-going in other nations and in other languages, with similar issues. Some of those discussions preceded the SWGSTAIN document, and some are a result of that document. Developing a standardized terminology is important, but what may be more important is the process itself. To develop a terminology, we must look at the basics of bloodstains in a way that we truly understand each other, sharing not only the tangible item but also how we think about and understand what bloodstains are and how they are formed.

Standardizing training for BPA is undergoing a similar process. What makes a BPA course “basic” or “advanced”? Was the school I attended “advanced” because the instructor said so? What are the criteria? The IABPA has long published Basic Bloodstain Pattern Analysis Course Requirements that lists what must be included in training to qualify for membership in the IABPA. It seems to be a simple, straightforward document, and yet this year I have seen some interesting and novel interpretations of this membership requirement. As with terminology, we may agree to disagree in parts, but the discussions to get there is a valuable exercise.

The time for the third IABPA European Conference will soon be here. I would encourage all who can to participate in this conference. Also, it not too early to be making plans to attend the Atlantic City Conference in October. Conferences are excellent opportunities to observe our similarities and to learn from each other. An Irish friend once told me “learn from the mistakes of others because you can’t live long enough to make them all yourself”. We need to share our mistakes, and our successes, with others so that collectively we move forward faster. We can’t live long enough to do it all individually.

Iris Dalley
RESEARCH ARTICLE

Evaluation of Blood Deposition on Fabric: Distinguishing Spatter and Transfer Stains

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Abstract: The careful examination of blood stained clothing can potentially provide information regarding the movements and activities of the wearer during a bloodshed event. The goal of this study is to aid the bloodstain pattern analyst during such examinations. Spatter and transfer stains were created on eleven types of fabric used commonly in the manufacture of clothing. The physical characteristics of the resulting stains including size, shape and penetration of the fabric structure were compared. Results indicate that physical characteristics alone may not be sufficient for distinguishing spatter from transfer stains. Others factors such as the quantity and distribution of stains and case factors should be carefully considered when making this distinction.

Examination of blood stained clothing is a common request of the bloodstain pattern analyst. Given its potential to provide information about the movements and activities of the wearer, bloodstain pattern analysis may confirm or refute explanations for the presence of blood on his or her clothing. Of particular interest are spatter and transfer stains. These two broad categories of stains are commonly present in a bloodshed event, but are created by very different mechanisms. The ability to distinguish and correctly identify these stains is an important skill for any bloodstain pattern analyst who routinely examines clothing. The recent case of the Indiana v. Camm (1) brought this issue to the forefront of the bloodstain pattern community.

Much research has been published in other areas of bloodstain pattern analysis. However, the resources and reference material for examination of clothing are more limited. As with any other bloodstain, the target surface must be considered prior to evaluating the stain. Research has been published indicating that both texture and composition of a fabric will affect the resulting shape of a bloodstain. (2-4) This study will revisit the topic of fabric (5) as a target surface with a focus on spatter and distinguishing spatter from transfer.

Distinguishing Spatter from Transfer Stains on Dry Fabric

Methods:

Spatter was created on eleven different fabrics using one milliliter of human blood and a rat trap device at a distance of 24” perpendicular to a vertical target. Human whole blood was collected in vacuum tubes containing EDTA and warmed to body temperature prior to use. Clothing was purchased at a local second hand store and the manufacturer’s label was used for fabric composition. Each piece of fabric was secured to a separate poster board target with a portion of the smooth surface exposed to serve as a control. Each target was allowed to air dry.
and the resulting spatter was examined microscopically. Approximately fifty individual spatters were chosen and measured on each target.

**Table 1. Size range of spatter observed on fabric samples**

<table>
<thead>
<tr>
<th>FABRIC</th>
<th>min</th>
<th>max</th>
<th>min</th>
<th>max</th>
</tr>
</thead>
<tbody>
<tr>
<td>100% Cotton</td>
<td>0.2</td>
<td>3.2</td>
<td>0.1</td>
<td>3.0</td>
</tr>
<tr>
<td>100% Polyester</td>
<td>1.0</td>
<td>6.0</td>
<td>0.1</td>
<td>3.0</td>
</tr>
<tr>
<td>100% Silk</td>
<td>0.1</td>
<td>3.0</td>
<td>0.1</td>
<td>2.8</td>
</tr>
<tr>
<td>100% Wool</td>
<td>0.3</td>
<td>3.0</td>
<td>0.2</td>
<td>3.0</td>
</tr>
<tr>
<td>100% Rayon</td>
<td>0.1</td>
<td>3.2</td>
<td>0.1</td>
<td>3.0</td>
</tr>
<tr>
<td>100% Nylon</td>
<td>0.1</td>
<td>3.0</td>
<td>0.1</td>
<td>3.3</td>
</tr>
<tr>
<td>100% Acrylic</td>
<td>0.1</td>
<td>3.2</td>
<td>0.1</td>
<td>3.1</td>
</tr>
<tr>
<td>Denim (98% Cotton/2% Spandex)</td>
<td>0.2</td>
<td>3.8</td>
<td>0.1</td>
<td>3.5</td>
</tr>
<tr>
<td>60% Cotton/40% Polyester Blend</td>
<td>0.1</td>
<td>3.4</td>
<td>0.1</td>
<td>3.3</td>
</tr>
<tr>
<td>65% Polyester/35% Cotton Blend</td>
<td>0.3</td>
<td>3.5</td>
<td>0.1</td>
<td>3.0</td>
</tr>
<tr>
<td>55% Ramie/45% Cotton Blend</td>
<td>0.2</td>
<td>3.0</td>
<td>0.1</td>
<td>3.1</td>
</tr>
</tbody>
</table>

*These measurements are for comparison purposes only. They represent the size range of spatter observed in this research and are not intended to establish a size range for this specific spatter producing mechanism.

Small volume transfer stains were created on the same eleven fabrics using various items to produce stains in the size range corresponding to the spatter. Each target was allowed to air dry. The resulting transfer stains were examined microscopically and compared to the spatter.

**Results:**

The size range of the spatter created on most fabric types was consistent with the spatter on the observed controls. Only 100% polyester was significantly different with some individual spatter measuring as large as 6.0 mm. Overall the most affected characteristic was not size, but shape of the stains.

Very little distortion of the round to oval shape was seen on the 100% rayon and 100% nylon. The appearance of the spatter was very similar to the control stains in both size and shape (Figures 1-4).

*Figure 1. Spatter on 100% Rayon. Figure 2. Spatter on 100% Nylon.*
Spatter on absorbent fabrics including cotton, cotton blends, and 100% silk also retained a round to oval shape (Figures 5-11) similar to those on the control poster board target. This was specifically noted on fabrics with a dense weave construction. A concentrated stain with a diffused outer border, typical of passive stains on absorbent fabric, was not observed even with spatter at the larger end of the size range (>3.0 mm).
The appearance of spatter on some fabrics was also dependent upon the portion of the weave/knit on which the stain was deposited. Spatter stains smaller than the width of a single thread can retain a tight round shape. More distortion of shape was observed if the stain involved multiple threads making up the fabric construction. Figures 12 and 13, respectively, demonstrate this difference in a ramie/cotton blend. The 100% wool and 100% acrylic fabrics gave similar results.
The most dramatic distortion of shape was observed on 100% polyester. The stains were elongated and typically larger than the control (Figure 14). The blood appeared to be absorbed along the threads in the lengthwise direction (warp) of the construction. This was the case with almost all spatter stains, regardless of size (Figures 15 and 16).

![Figure 14. Spatter on 100% Polyester (left) and control poster board (right.)](image)

The transfer stains created with lateral movement, as in a swiping motion, were clearly identifiable as transfer. Figures 17 and 18 are photomicrographs of a transfer stain created by lightly swiping a bloody swab over 100% wool. Higher magnification shows the stain limited to the top of the weave/knit. Figures 19 - 24 are further examples of transfer stains created by lightly swiping a bloody swab over each fabric.
The distinction between transfer and spatter became less obvious when the size of the spatter was very small. As shown in Table 1, spatter smaller than 1.0 mm was created on some of the fabrics. Although created in the same dynamic event, this small spatter may not exhibit penetration into the weave/knit that can be seen in larger spatter. Figures 25 and 26 are photomicrographs of spatter on 100% nylon. The stains were created on the same piece of fabric during the same event. Notice that the sub-millimeter spatter in Figure 26 is limited to the top of the weave/knit. This was not a function of the mechanism, but of the volume of the droplet in combination with the location on which it struck the surface texture.

Figures 27 and 28 are photomicrographs of 100% wool. The fabric construction is different than the 100% nylon, but the same issues are present regarding the size of individual spatters. When the stain size was smaller than the width of an individual yarn it appeared to sit on top. The obvious penetration into the weave/knit associated with spatter was not always present when examining individual stains. Compare Figure 27 with the transfer stains in Figures 17 and 18.
Some transfer stains were of sufficient volume to saturate through the thickness of the fabric giving the appearance of spatter. This distinction can be especially difficult when examining fabrics with dense construction. The stains on the silk in Figures 29 and 30 were created by compressing the fabric with the end of a bloody paperclip.

The “spatter-like” stains in Figures 31, 32 and 33 were created by compressing the fabric with the end of a swab stick saturated with blood. Similar results were obtained with the cotton/polyester blends.
Discussion

When examining bloodstains on clothing, penetration into the weave/knit of the fabric is considered characteristic of spatter, while transfer stains created by simple contact with a bloody object or surface are typically limited to the top of the weave/knit. (3) This study demonstrated that the size of the spatter was also a factor in the location of deposition of individual stains. Sub-millimeter spatter can routinely be deposited only on the top of the weave/knit. This is a function of droplet volume, not the mechanism by which the stain was created. Therefore, caution should be used when evaluating very small (small volume) stains. Examination of multiple stains of various sizes should be performed prior to determining the mechanism by which the stains were created.

Consideration must be given to the quantity of stains and their distribution. Spatter and transfer stains mimicking one another were easily created in this study. When individual spatters are examined alone, the chance of misidentification is greater. Again, examination of multiple stains should be performed prior to determining the potential mechanism. As the number of stains (data points) increases the more confidently the analyst can state his or her opinion.
Making the distinction between spatter and transfer stains on items of clothing should be done with caution. The overall appearance of individual stains including size, shape, and penetration of the weave/knit, should be considered together with the characteristics of the fabric on which they are deposited. These physical characteristics along with the overall distribution of the stains should be evaluated in the context of the factors of the specific case. Experimentation with fabric of similar type and condition is certainly encouraged when examining items specific to case work.

This study found that the appearance of blood stains on clothing is influenced in part by the construction of the fabric. Both absorbency and texture appear to be factors. The role that each characteristic plays independently is beyond the scope of this study. Limited to eleven fabrics, this study is a very small representative of surface textures potentially encountered in forensic case work. Examination of upholstery and other common household fabrics, including fabrics with “stain repellent” treatments are areas for further study.

REFERENCES


ACKNOWLEDGEMENTS

Nechelle Burns, Susan Vanlandingham, Jack Reid, and Jennifer Wylie McNay of the Kentucky State Police Forensic Laboratory for their technical and administrative assistance.

Paul Erwin Kish of Forensic Consultant & Assoc. for mentoring and peer review.
An Amazing Microscope
Herbert Leon MacDonell, Director
Laboratory of Forensic Science

I receive many catalogs in the mail. Most of them receive an immediate transfer to a recycling sack. However, the other day one came in that reminded me of the old Edmond Scientific Company catalogs where, as a kid, I ordered as much scientific stuff as my father would allow.

This catalog was definitely not a top-of-the-line publication; nevertheless, one item on the cover attracted me. It was a Celestron Handheld Digital Microscope for under $70.00. What was this? After all, I grew up using the telegraph at the local railroad station and learned the International Morse Code. (I can still transmit and receive the dots and dashes very well but I cannot find anyone with whom to communicate in this manner).

As I read the description of this microscope I knew that I would have to try it to see how good or bad it might be. Their return policy was very reassuring, so I ordered one, and it arrived within five days.

This small instrument is shown in Figure 1 with its built-in, six- LED light source, turned on. The microscope is shown held in its base which provides a steady support. However, it can also be hand held and still produces excellent images. It has a range of magnification from 10x to 150x which is ideally suited for the examination of bloodstains.

The disk that comes with the instrument is easily and quickly installed. Now all that is necessary is to plug its six foot cable into a USB port on your computer. Exposures are made either by using the computer’s mouse or touch pad or by depressing the red button on the top of the microscope itself. This allows complete freedom whether you want to look at your back molars or document bloodstains on a ceiling. The button may be seen in Figure 3. It is only limited in its application by the cubicle of your own imagination.

Figure 1 shows an overall set-up where the object being photographed is the emblem on a 33rd degree Masonic ring. The base of the triangle is 8 mm wide. Note that the 16 oz. red plastic cup on the right was cut to make a cover for the instrument. The resulting photograph is shown in Figure 2.

Figure 3 shows an overview of the Microscope on a Laboratory Jack which allows it to be placed at a much greater distance above the object being photographed. The laboratory jack supporting the microscope can be very helpful as it can be slightly raised or lowered to achieve the most critical focus. Bloodstains on the shirtsleeve that are being photographed may be seen on the computer monitor in Figure 3. Alternatively, the microscope can be held in a clamp on a ring stand and the object being photographed can be raised or lowered while it is on the stage of a laboratory jack.
Figure 1. Hand held digital microscope in its stand.

Figure 2. Masonic 33rd degree ring emblem.
The quality of photographs achievable using this very small, light instrument can best be demonstrated by showing a variety of them. Therefore, the following figures are submitted.
Figure 4. Bloodstain on a knife wiped before completely drying.

Figure 5. A 1999 Lincoln penny.
Figure 6. Alexander Hamilton’s left eye on a $10 bill.

Figure 7. Mustache, by hand holding the microscope.

Figure 8 shows bloodstains transferred to a white sweater, it is obvious that they are on the top of the weave pattern and, therefore, not spattered onto the fabric.
Transferred bloodstains on another white sweater may be seen in Figure 9. This photograph shows that the weave pattern is quite different from that in Figure 8 because it has an alternating diagonal rib orientation rather than parallel. Again, the blood is obviously on the top of the weave of the fabric.
Figure 10. A processed fingerprint on white cardboard.

Figure 11. Bloodstains on a white garment. Under normal visual inspection, these appeared to be air bubbles.

Figure 11 demonstrates that it is the wettability of this garment, not air bubbles, that produced the square voids in the pattern. To the unaided eye these appear round, but clearly they are not.
This garment was a 100% polypropylene protective cover all that became bloodstained during a shooting experiment. It was all backspattered blood.

There is very little to complain about with this interesting little microscope. However, I must point out that there is no apparent way to have grazing illumination. With six light sources above the object being photographed striations do not show up very well. Therefore, striations needed for toolmark and firearm comparisons are just not visible. Figure 12 shows a fired 9 mm bullet. The lack of striation detail in the grooves is apparent. The depth of field is remarkably good, however.

![Figure 12. A fired 9mm bullet.](image)

An extremely nice feature of this microscope is its ability to measure the distance between any two points you select on your monitor screen. You simply go to the measuring mode (one click on a ruler on the display) and then pick the two points. When you place the second point, the distance between it and the first point you selected shows on the monitor.

I wanted to check this feature so I picked two points on a laboratory ruler; the 1.00 and 2.00 cm markings. It immediately displayed the distance as 1.02 cm! I guess I didn’t place the points very accurately.

A more practical usage of the measuring feature of this microscope may be seen in Figure 13 where a small bloodstain was measured to determine its angle of impact to the surface upon which it landed. The red and blue markers were positioned as shown on the top left and the length of the ellipse was immediately shown as 0.87 mm. The markers were then dragged to measure the width of the bloodstain as shown on the bottom left.
The markers are shown slightly offset from vertical so the red line between them is visible but when the red marker is directly above the blue one the width is still 0.25 mm as shown in the screen on the right. Using these measurements the angle of impact is calculated thus:

\[
\frac{0.25}{0.87} = 0.287 \quad \text{arc sin of } 0.287 = 16.7 \text{ degrees}
\]

I have had this new forensic toy for only a week but I could have included many more photographs that show what a versatile instrument this hand held digital microscope is. I call it a toy because when you get one I have no doubt that you will play with it. Forensic science is a very serious discipline. However, from time to time we all have our lighter moments. This Handheld Digital Microscope is a great addition to the forensic scientist’s collection of instruments to fight crime; but it is a fun thing as well.
So, where do you order this amazing tool? Go to: www.sciplus.com. The company’s name is American Science & Surplus, 888-724-7587. I also checked the net and discovered that Edmund Scientific Company is still in business. They have a similar Celestron Handheld Microscope with a magnification range of 40x to 400x but, unfortunately, it is marked, “This item is no longer available”. Their price was $119.95. The one available from American Science & Surplus is a much better deal anyway.

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IABPA CERTIFICATION COMMITTEE ANNOUNCEMENT

At the direction of IABPA President Dailey, I have been asked to chair a committee and review the possibility of creating a certification program in bloodstain pattern analysis.

Questions for the committee:

Should the IABPA develop its own certification program?
Should the IABPA endorse the IAI certification program?
Should the IABPA develop expertise-based membership levels in lieu of certification?

If you are interested in serving on this committee or have comments on this topic please contact me.

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Abstracts of Recent BPA Related Articles Published in the Scientific Literature


*Abstract:*

Analysis on fly artifacts produced by forensically important blowfly, *Chrysomya megacephala* (Fabricus) (Diptera: Calliphoridae), revealed several unique patterns. They can be divided into fecal spots, regurgitation spots and swiping patterns. The characteristics of fecal spots are round with three distinct levels of pigmentation: creamy, brownish and darkly pigmented. Matrix of the spots appears cloudy. The round spots are symmetrical and non-symmetrical, delineated by irregular and darker perimeter which is only visible in fairly colored fecal spots. Diameter of these artifacts ranged from 0.5 mm to 4.0 mm.

Vomit or regurgitation spots are determined by the presence of craters due to the sucking activity of blowflies and are surrounded by thickly raised and dark colored perimeter. The size of these spots ranged from 1.0 mm to 2.0 mm. The matrix of the spots displayed irregular surfaces and was reflective under auxiliary microscope light.

Swiping stains due to defecation by flies consists of two distinguishable segments, the body and tail. They can be seen as teardrop-like, sperm-like, snake-like and irregular tadpole-like stains. The direction of the body and tail is inconsistent and the length ranged between 4.8 mm to 9.2 mm. A finding that should be highlighted in his observation is the presence of craters on tadpole-like swiping stains which is apparent by its raised border characteristic and reflective under auxiliary microscope light. The direction of this dark brown stain is random. This unique mix of regurgitation and swiping stain has never been reported before. Highlighting the features of artifacts produced by flies would hopefully add to our understanding in differentiating them from blood spatters produced from victims at crime scenes.


*Abstract:*

Footwear impressions are regarded as one of the most common forensic evidence types left at crime scenes. A review of research to date describes previous tests on the survival of footwear in a range of contaminants on a myriad of surfaces. None, however, examined the effects of the burial environment on such impressions.
References for Bloodstain Pattern Analysis


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COURT DECISION

IN THE CIRCUIT COURT OF THE TWELFTH JUDICIAL CIRCUIT IN AND FOR SARASOTA COUNTY, FLORIDA

STATE OF FLORIDA
Plaintiff

v.                                          CASE NO: 2007-CF-22337-NC

DAVID MANZINZA CAMPBELL                      2007-CF-23882-NC
Defendant

ORDER ON DEFENDANT’S MOTION IN LIMINE
(Precluding State’s Use of Various Testimony)

This matter came before the court for hearing on defendant’s Motion in Limine. This order will address the issue of whether witnesses may testify as to their opinion on the freshness or age of bloodstains. The court received testimony from various witnesses and is fully advised in the premises. The court makes the following findings. (1) based upon the testimony presented, there is no scientifically accepted method of determining the age of a bloodstain. (2) it would not be appropriate for a witness to testify that based upon his or her experience, a bloodstain is “fresh” or for that witness to estimate the age of a bloodstain and (3) the State did not establish the reliability of the blood experiment (using dog blood), therefore making the results of that test inadmissible. It is therefore

ORDERED AND ADJUDGED that the defendant’s motion relating to testimony concerning the age or “freshness” of blood is granted to the following extent: no witness may testify as to the age of a bloodstain, or testify that in his or her opinion the blood was fresh. Witnesses may, however testify as to the appearance of a bloodstain, i.e. color, description, location and size.

DONE AND ORDERED in chambers, Sarasota, Florida, this 30th day of July, 2008.
AN ACT to renumber 910.01 (1) and 910.01 (4); to renumber and amend 910.01 (2); to amend subchapter III (title) of chapter 946 [precedes 946.31]; and to create 910.01 (1g), 910.025 and 946.33 of the statutes; relating to: admissibility of a digitally produced photograph, film, motion picture, audio, or video and providing a penalty.

Analysis by the Legislative Reference Bureau

Under current law, if properly authenticated as being a true representation of the image in the photograph or motion picture, an original of a photograph or motion picture may be admitted into evidence to prove the content of the photograph or motion picture. This bill allows the introduction, in a criminal prosecution, of a digital representation of a photograph, film, motion picture, audio, or video that was created by a law enforcement agent for purposes of proving the content of that digital representation only if that content has not been altered and is in a format that includes bits representing a watermark scattered within the file in such a way that they cannot be identified or manipulated and that shows that the digital representation has not been altered from its original representation. Digital representation, as defined in the bill, means any recording or image of a person, place, document, sound, or event that is created or stored by data in the form of numerical digits.

The bill creates a Class A misdemeanor for altering a digital representation with the intent to falsify its contents or for requesting the admission into evidence.
of a digital representation to prove the contents of that representation if the person knew those contents had been altered.

Because this bill creates a new crime or revises a penalty for an existing crime, the Joint Review Committee on Criminal Penalties may be requested to prepare a report concerning the proposed penalty and the costs or savings that are likely to result if the bill is enacted.

For further information see the *state and local* fiscal estimate, which will be printed as an appendix to this bill.

---

*The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:*

1. **SECTION 1.** 910.01 (1) of the statutes is renumbered 910.01 (5m).
2. **SECTION 2.** 910.01 (1g) of the statutes is created to read:

   910.01 (1g) **Digital representation.** "Digital representation" means any recording or image of a person, place, document, sound, or event that is created or stored by data in the form of numerical digits.

3. **SECTION 3.** 910.01 (2) of the statutes is renumbered 910.01 (4m) and amended to read:

   910.01 (4m) **Photographs.** "Photographs" include still photographs, X-ray films, and motion pictures, and digital representations.

4. **SECTION 4.** 910.01 (4) of the statutes is renumbered 910.01 (2m).

5. **SECTION 5.** 910.025 of the statutes is created to read:

   **910.025 Admissibility of a digital representation.** (1) In any criminal prosecution, a digital representation in the form of a photograph, film, motion picture, audio, or video that was produced or created by, or on behalf of, a law enforcement officer or agency is admissible for purposes of proving the content of that digital representation only if all of the following are true:

   a. The content of the digital representation has not been altered.
(b) The digital representation is in a format that includes bits representing a
watermark that are scattered throughout the file in such a way that they cannot be
identified or manipulated.

(c) The watermark described in par. (b) shows that the digital representation
has not been altered from its original representation.

(2) This section does not apply if the alteration of the digital representation is
an element of the crime that is being prosecuted.

SECTION 6. Subchapter III (title) of chapter 946 [precedes 946.31] of the
statutes is amended to read:

CHAPTER 946
SUBCHAPTER III
PERJURY, DIGITAL ALTERATION,
AND FALSE SWEARING

SECTION 7. 946.33 of the statutes is created to read:

946.33 Alteration of a digital representation. (1) In this section, "digital
representation" means any recording or image of a person, place, document, sound,
or event that is created or stored by data in the form of numerical digits.

(2) Whoever offers into evidence a digital representation for the purpose of
proving the content of that digital representation knowing that the digital
representation has been altered from its original representation is guilty of a Class
A misdemeanor.

(3) Whoever alters a digital representation with the intent to falsify the content
of the digital representation for its use in a criminal prosecution is guilty of a Class
A misdemeanor.
(4) Subsection (2) does not apply if the alteration of the digital representation is an element of a crime that is being prosecuted and the digital representation is offered into evidence to prove the element.

SECTION 8. Initial applicability.

(1) This act first applies to actions commenced on the effective date of this subsection.

(END)
TO: Members, Assembly Committee on Criminal Justice

FR: Attorney General J.B. Van Hollen

DT: February 4, 2010

RE: 2009 Assembly Bill 627

I write to you today to express my opposition to 2009 Assembly Bill 627, relating to admissibility of digitally produced photograph, film, motion picture, audio, or video and creating a penalty. This legislation would make inadmissible in criminal trials all digital representations captured by or at the direction of law enforcement, unless the digital representation has a watermark. It would make it a misdemeanor to offer into evidence any digital representation that is known to have been altered.

I believe this bill is unnecessary, jeopardizes the admissibility of legitimate evidence, may require the manipulation of original digital recordings or images, and could result in significant costs to the Department of Justice and other law enforcement agencies.

This legislation is unnecessary. The only possible rationale behind this bill is to protect against the state's alteration of evidence in a criminal trial. Not only is there no evidence to suggest the state is materially altering evidence to secure convictions, but there are already mechanisms in place to ensure the evidentiary reliability of photographs before they are put into evidence. Before a photograph (for example) can be admitted into evidence in a criminal trial, there must be a witness that testifies, under oath, that the image is a “fair and accurate” depiction or reproduction of what the witness purports it to be. So, for example, an officer might testify that a photograph accurately depicts how an offender’s living room looked on the date a search warrant was executed and that the bag pictured on the coffee table containing a white powder is what he sent to the crime lab for analysis. A defendant might testify, again under oath, that a picture taken by a police officer of a vehicle is the car the defendant owns.

The bottom line is that for any media to be introduced into evidence in a criminal prosecution under current law, the state and the defendant would have to agree to its admission into evidence or there will be a witness, testifying under penalty of perjury, that the media fairly represents what it purports to represent and defense counsel would have an opportunity to raise
any recognized evidentiary objection. A witness is already committing a crime—potentially a felony—if he or she falsely testifies.

This legislation might prevent the introduction of digital media that are legitimately "altered." Prosecutors and digital evidence practitioners routinely have to edit or otherwise enhance images. This has been done with film images for years. For example, a photograph's brightness might be changed to better illuminate the scene. A photograph might be cropped to isolate a person in the crowd. Photos might be enlarged to show weapons, blood patterns, or a crime victim's bruises that resulted from domestic violence. Recordings, too, need to be edited to delete irrelevant, immaterial, or prejudicial information. All of these standard practices could be prohibited if this bill were enacted.

This problem pertains not only to digital representations created by law enforcement, but Section 7 of the bill subjects any person to criminal liability for offering into evidence digital representations that are known to have been altered in the completely immaterial manner described above. Countless photos, videos, and recordings that are admissible today in civil cases could not be used because a party would fear criminal prosecution.

This legislation may ultimately require the manipulation of originals. Original digital representations do not have watermarks. Thus, the bill either is a wholesale prohibition on the admissibility of any digital representations (which is unlikely to be the intent of the authors) or is a command to require a watermark be added to digital representations. But by adding a watermark to the representation, the representation no longer exists in its original state. The very act of adding a watermark to an original digital representation appears to be the very manipulation of evidence the bill intends to prevent. By requiring alteration, this legislation invites a dispute over admissibility.

It is expensive to add watermarks. Law enforcement agencies across the state regularly use digital recording equipment for events such as criminal suspect interviews and crime scene photos. However, very few, if any, of the digital devices currently used by law enforcement agencies apply watermarks to the digital representations they are producing. To do so, the Department of Justice and local law enforcement agencies would have to purchase new equipment and/or watermark software and be trained on its proper use. It could cost each agency thousands of dollars—or more—to acquire watermark equipment and software for each type of media used. Additional maintenance and software subscription fees would occur annually.

The collateral consequences of inadmissibility may be severe. Photographs, digital recordings, and digital videos are often critical pieces of evidence in a prosecution. Where these materials do not have the watermarks contemplated by this bill—imagine statements caught on a cell phone, recorded before this bill would be enacted, or recorded before a law enforcement agency has the ability to expend the many thousands of dollars required by this mandate—prosecutions of guilty offenders will be jeopardized.
Assembly Bill 627 appears based on a false assumption that law enforcement are likely to manipulate images to deceive a court to obtain convictions. There is no evidence for this. Moreover, existing evidentiary rules that safeguard trials and criminal laws preventing perjury are sufficient to guard against activity that amounts to fraud on the court.

The sweep of this bill, however, goes well beyond creating an additional mechanism to protect against a hypothetical malfeasance and prevents – and criminalizes – the introduction of evidence that is fully reliable. The result is increased costs to all law enforcement agencies and putting in jeopardy the successful prosecutions of numerous offenders, to say nothing of its impact on civil litigation.

I strongly urge you to reject this bill.
Update on State of Wisconsin Assembly Bill 627
Todd A. Thorne
Vice-President, Region III

Greetings to you all!

As you have read, there has been a 2009 Assembly Bill, 627, introduced to The State of Wisconsin 2009-2010 Legislature, specifically the Assembly Committee on Criminal Justice. This bill is targeted, in my opinion; at destroying digital forensics as we all know it. As you read the bill it reeks of allegations of less than honest police, crime lab & civilian personnel, AS A WHOLE, that handle these types of evidence. Should a bill such as this pass it would cripple digital forensics in Wisconsin. It is my fear that it would travel across our country and possibly beyond.

This same bill was proposed in 2001 as AB 407. We were able to defeat it at that time. Also included in the intelligence of this issue is a response by our Attorney General J. B. Van Hollen. He strongly opposes any alteration to the digital evidence laws as they are now. I applaud his aggressive address to the committee.

I have alerted all of the VP’s of the IABPA as well as many of the executive board members of other forensic organizations here in Wisconsin. I am proud to say the responses were outstanding. My goal was to make aware anyone and everyone possible about this pending bill. I have received comments from all over the world; one area of the world has addressed this issue in the past as well.

The most surprising part of this whole issue is just how many people that work in forensics and how many of those people digital forensics would be affected had NO IDEA this issue was even being raised.

With all of this said, the follow up with the Attorney General’s Office has been positive. Just recently I was advised that they felt the bill would once again die where it was, thanks in part to the response received by the forensic community as well as hard work by the politicians that oppose senseless bills such as this. I was assured that if that were not the case, myself and others would be contacted for correspondence as well as testimony on the issue. Should anyone have any questions, please feel free to contact me directly.

Todd A. Thorne
Vice President Region III
tat323@kenoshapolice.com
May, 19-21th, 2010
Lisbon, Portugal

The 3rd European Conference
Third European IABPA Training Conference
Lisbon, Portugal
May 19-21, 2010

Lisboa is the capital of Portugal and lies on the north bank of the Tagus Estuary, on the European Atlantic coast. It is the westernmost city in continental Europe. The city lies more or less in the centre of the country, approximately 300 km from the Algarve in the south and 400 km from the northern border with Spain. Lisboa offers a wide variety of options to the visitor, including beaches, countryside, mountains and areas of historical interest only a few km away from the city centre. The heart of the city of Lisbon is just 15 minutes away from Lisbon International Airport. The Sana Lisboa Hotel welcomes you with a professional and attentive team that is available to welcome and take care of you, in the good Portuguese tradition. With a location in the city centre and excellent transportation accesses, Sana Lisboa Hotel is the ideal departure point to explore the best Lisbon has to offer. Near Marquês de Pombal and facing Eduardo VII Park, the hotel within walking distance of Estufa Fria (a large indoors garden, built as a greenhouse) are the elegant stores of Avenida da Liberdade and the areas of Chiado and Rossio. The old city quarters of Alfama, Mouraria and the São Jorge Castle are just a short stroll away, as well as several restaurants, cafés and shops.

Information about the 2010 European IABPA Training Conference, to be held at Sana Lisboa hotel will be provided as it becomes available at the official site: https://secure.topatlantico.pt/ta/cong/iabpa-2010/

Hosted by Polícia Judiciária – Laboratório de Polícia Científica. For information regarding registration and general information contact:
Lino Henriques
Polícia Judiciária - Laboratório de Polícia Científica
Rua Gomes Freire, n.º 174 1174-007 Lisboa
E-mail: lino.henriques@pj.pt; local.crime@pj.pt (Please include IABPA on the subject line)
Phone: +351 21 864 17 31; +351 21 864 11 28
Fax: +351 21 357 01 61
For presentations, workshops and posters contact:
Philippe Esperança
IABPA member #1352
E-mail: pesperanca@igna.fr
Phone: +33 (0)6 6414 6363
Fax: +33 (0)2 4099 3905
SAVE THE DATE!!

OCTOBER 4-8, 2010

MAFS IS GOIN’ TO KANSAS CITY!

Marriott Kansas City Downtown
200 W 12th St
Kansas City, Missouri 64105
(Located in the heart of the newly revitalized downtown Power & Light Entertainment District)

Watch www.mafs.net for more information!
Crime Scene Investigation Symposium

The Midwestern Association of Forensic Scientists and the Midwest Forensics Resource Center announce the upcoming Crime Scene Investigation symposium. This symposium offers a unique training opportunity for crime scene investigators, detectives, and forensic scientists to discuss current trends and techniques on a variety of topics. The three-day symposium will address issues such as bloodstain pattern analysis, advanced fingerprinting techniques, legal issues with search and seizure, advanced photographic techniques, full-body processing, proficiency testing, and many more.

This symposium will bring in some of the most respected and knowledgeable instructors in crime scene investigation. The list includes Brian Dalrymple, Mike VanStratton, Richard Berry, Mike Brooks, Michael Haag, and Tom Bevel.

When: October 4-6, 2010  
Where: Kansas City, Missouri  
Hotel: Kansas City Downtown Marriott  
200 West 12th Street  
Kansas City, Missouri 64105  
(816) 421-6800

Rate is $129.00/night plus taxes  
For more information on registration or updates about the symposium, visit mafs.net or contact:

Jeremy Morris  
Johnson County (Kansas) Sheriff’s Office  
6000 Lamar  
Mission, Kansas 66202  
jeremiah.morris@jocogov.org

Space is limited so early registration is encouraged.
INTERNATIONAL ASSOCIATION OF BLOODSTAIN PATTERN ANALYSTS

2010 TRAINING CONFERENCE

Atlantic City, NJ
October 5-8, 2010

CONFERENCE INFORMATION WILL BE ADDED AS IT BECOMES AVAILABLE

2010 Conference Registration Form
2010 Conference Presenter's Application
Complete form, save to your desktop and email as an attachment.

The Conference will be held at the
Tropicana Hotel - Atlantic City

IAPBA Conference Rate Hotel Reservations Link
Hotel FAQs

Contact:
Det. Jeff Scozzafava
Somerset County Prosecutor's Office
CONFERENCE REGISTRATION FORM

The conference will be a blend of workshops and general sessions with case and research presentations. The conference schedule and information on workshops will be published and posted when available. At that time pre-registration for workshops will be accepted.

Please complete and e-mail this form to Jeff Scozzafava at: jsozz@hotmail.com (Please type “IABPA” in the subject line.)
Or submit by Fax to: 908.704.0959
Or submit by mail with payment (Check or Purchase Order):
SCPO Forensic Unit • Attn: Det. J. Scozzafava – IABPA
40 N. Bridge Street, Somerville, NJ 08876 USA
Make checks and purchase orders payable to IABPA. Federal ID# IABPA 52-1597063.

Last Name: ____________________________
First Name: ____________________________
IABPA Member Yes ☑ No ☐
Member #: ____________________________
Name as you would like it to appear on the attendance certificate: ____________________________________________
Agency: ____________________________
Address: ____________________________
Will guest(s) be attending the Thursday Conference dinner?

Yes ☐ No ☐

Names of guest(s) attending dinner:

*Dinner cost is $55 USD per guest

REGISTRATION

☐ $280

☐ $290 (Payment received in August 2010)

☐ $300 (Payment received in September 2010)

☐ $350 (Payment received in October 2010 or on site)

☐ Credit Card Payment

Contact the IABPA Treasurer, Norman Reeves:

norman@bloody1.com or Fax # 520.760.5590

On site Registration begins at 6:00 PM Monday, October 4, 2010.

Refund requests must be made before September 1, 2010.

For questions regarding Conference Registration contact:

Detective Jeff Scozzafava, Somerset County Prosecutor’s Office

jscozz@hotmail.com or Telephone 908.575.3384
PRESENTER REGISTRATION FORM

If you are interested in Presenting at the October 2010 annual training conference, we would like to hear from you. Presenters include anyone conducting a workshop, sharing a case and/or sharing your research.

Please complete and e-mail this form to Jeff Scozzafava at: jscozz@hotmail.com (Please type “IABPA” in the subject line.)

Or submit by mail:
SCPO Forensic Unit • Attn: Det. J. Scozzafava – IABPA
40 N. Bridge Street, Somerville, NJ 08876

Last Name: 
First Name: 
Agency: 
Street Address: 
City: 
State/Province: 
Postal Code: 
Country: 
Telephone: 
E-mail: 

2010 TRAINING CONFERENCE
October 5 – 8, 2010
Atlantic City, New Jersey
Title of Presentation: 

☐ Workshop: *Abstract Attached*

☐ Lecture to General Session: *Abstract Attached*

☐ *Brief Biography Attached*

Amount of Time Requested: 

Equipment Needed:

☐ Laptop: Provided by IABPA
  Apple MacBook, 8 GB Ram, Microsoft Office PowerPoint

☐ PowerPoint Projector: Provided by IABPA

☐ Wireless Microphone: Provided by IABPA

☐ Overhead Projector

☐ Other: 

IF CONDUCTING A WORKSHOP:

Maximum number of workshop attendees:

Number of times presenting workshop during the conference:

What supplies and space do you require?

Comments:
New IABPA Flag

Herbert Leon MacDonell displays the new IABPA Flag
Organizational Notices

Moving Soon?

All changes of mailing address need to be supplied to our Secretary Norman Reeves. Each quarter Norman forwards completed address labels for those who are members. Do not send change of address information to the NEWS Editor. E-mail your new address to Norman Reeves at:

norman@bloody1.com
Norman Reeves
I.A.B.P.A.
12139 E. Makohoh Trail
Tucson, Arizona 85749-8179
Fax: 520-760-5590

Membership Applications / Request for Promotion

Applications for membership as well as for promotion are available on the IABPA website:
IABPA Website: http://www.iabpa.org

The fees for application of membership and yearly dues are $40.00 US each. If you have not received a dues invoice for 2009 please contact Norman Reeves. Apparently, non US credit cards are charging a fee above and beyond the $ 40.00 membership/application fee. Your credit card is charged only $40.00 US by the IABPA. Any additional fees are imposed by the credit card companies.

IABPA now accepts the following credit cards:

Discover  Mastercard
American Express  Visa
Training Opportunities

March 8-12, 2010
Basic Bloodstain Pattern Analysis Workshop
Miami, Florida
Presented by the Specialized Training Unit at the Metropolitan Police Institute of the Miami-Dade Police Department, Doral, Florida
Contact: Toby L. Wolson, M.S., F-ABC
Miami-Dade Police Department
Crime Laboratory Bureau
9105 NW 25th Street
Doral, Florida 33172
Voice: 305-471-3041
Fax: 305-471-2052
E-mail: Twolson@mdpd.com

April 19-23, 2010
Basic Bloodstain Pattern Analysis Course
Usingen, Germany
Instructors: Dr. Silke Brodbeck and Martin Eversdijk
Language - German
Contact: Blutspureninstitut
Obergasse 20
61250 Usingen, Germany
Tel: +49-170-84 84 248
Fax: +49-6081-14879
www.blutspureninstitut.com

May 3-7, 2010
Basic Bloodstain Pattern Analysis Course
Usingen, Germany
Instructors: Dr. Silke Brodbeck and Martin Eversdijk
Language - English
Contact: Blutspureninstitut
Obergasse 20
61250 Usingen, Germany
Tel: +49-170-84 84 248
Fax: +49-6081-14879
www.blutspureninstitut.com
May 17-21, 2010
Advanced Bloodstain Pattern Analysis and Expert Witness Workshop
Miami, Florida

Presented by the Specialized Training Unit at the Metropolitan Police Institute of the Miami-Dade Police
Department, Doral, Florida
Contact: Toby L. Wolson, M.S., F-ABC
Miami-Dade Police Department
Crime Laboratory Bureau
9105 NW 25th Street
Doral, Florida 33172
Voice: 305-471-3041
Fax: 305-471-2052
E-mail: Twolson@mdpd.com

June 7-11, 2010
Bloodstain Evidence Institute
Corning, New York

For further information contact:
Herbert Leon MacDonell, Director
Bloodstain Evidence Institute
P.O. Box 1111
Corning, New York
14830
Tel: 607-962-6581
E-mail: forensiclab@stny.rr.com

June 14-18, 2010
Chemical Searching and Enhancement Techniques for Latent Bloodstains
Elmira College, Elmira, New York

Instructors: Paul E. Kish and Martin Eversdijk
Contact: Paul E. Kish
Forensic Consultants and Associates
P.O. Box 814
Corning, New York 14830
Tel: 607-962-8092
Fax: 607-962-2093
E-mail: paul@paulkish.com
June 21-25, 2010
Math and Physics for Bloodstain Pattern Analysis
Aylmar, Ontario, Canada

Instructors: Dr. Brian Yamashita
Fons Chafe
Course Coordinator: Brian Allen
Forensic Identification training
Ontario Police College
10716 Hacienda Rd. Box 1190
Aylmar, Ontario Canada
N5H 2T2
Tel: 519-773-4258
Fax: 519-773-5762
E-mail: Brian.Allen@ontario.ca
Further Information: www.opconline.ca

August 30-September 4, 2010
Advanced Bloodstain Pattern Analysis Course
Aylmar, Ontario, Canada

Instructor: Brian Allen
Forensic Identification training
Ontario Police College
10716 Hacienda Rd. Box 1190
Aylmar, Ontario Canada
N5H 2T2
Tel: 519-773-4258
Fax: 519-773-5762
E-mail: Brian.Allen@ontario.ca
Further Information: www.opconline.ca

September 6-10, 2010
Advanced Bloodstain Pattern Analysis Course
Usingen, Germany

Instructors: Dr. Silke Brodbeck and Martin Eversdijk
Language - English
Contact: Blutspureninstitut
Obergasse 20
61250 Usingen, Germany
Tel: +49-170-84 84 248
Fax: +49-6081-14879
www.blutspureninstitut.com
December 6-10, 2010
Basic Bloodstain Pattern Recognition Course
Aylmar, Ontario, Canada

Instructor: Brian Allen
Forensic Identification training
Ontario Police College
10716 Hacienda Rd. Box 1190
Aylmar, Ontario Canada
N5H 2T2
Tel: 519-773-4258
Fax: 519-773-5762
E-mail: Brian.Allen@ontario.ca
Further Information: www.opconline.ca

December 6-10, 2010
Basic Bloodstain Pattern Analysis Workshop
Miami, Florida

Presented by the Specialized Training Unit at the Metropolitan Police Institute of the Miami-Dade Police
Department, Doral, Florida
Contact: Toby L. Wolson, M.S., F-ABC
Miami-Dade Police Department
Crime Laboratory Bureau
9105 NW 25th Street
Doral, Florida 33172
Voice: 305-471-3041
Fax: 305-471-2052
E-mail: Twolson@mdpd.com

Training Announcements for the issue of the June 2010 IABPA News must be received before May 15th, 2010
Editor’s Corner

This is the third issue of the IABPA NEWS that has been published exclusively on line at our website, www.iabpa.org rather than in a printed version. The change has saved the organization a considerable amount of money with the rising printing and mailing costs.

This issue features a comprehensive research article written by Misty Holbrook of the Kentucky State Police Forensic Laboratories with excellent stereomicroscopic photographs on the subject of distinguishing spatter and transfer stains on fabric. This is a timely topic as the issue has been raised in several cases in the recent past.

There are also some legal issues that have been included for the benefit of the membership. One is a court decision involving the estimation of the age of blood based upon visual observation and the use of canine (dog) blood for comparative purposes. The other issue brought to my attention by our Region III Vice-President, Todd A. Thorne involves a proposed Assembly Bill by the State of Wisconsin Legislature relating to the admissibility of digital images. There is a response by the Attorney General of the State of Wisconsin Department of Justice. This issue may arise in other jurisdictions in the future.

A comprehensive bibliography of bloodstain pattern analysis reference articles has been published in this issue. I have updated the list of books and journal articles through January 2010.

I have completed a project with the assistance of my daughter, Abby and now have most if not all the IABPA NEWS (1985-2009) in PDF format. If anyone needs copies of specific issues I will be happy to e-mail them per request.

The upcoming June issue will have the abstracts of the Third European IABPA Training Conference Lisbon, Portugal May 19-21, 2010. The conference speaker’s schedule is posted on the IABPA website. I also would encourage members to submit research articles and interesting cases for publication.

Stuart H. James
Editor – IABPA NEWS
jamesforen@aol.com
# Past Presidents of the IABPA

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<th>President</th>
<th>Years</th>
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<td>1983-1984</td>
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<td>Charles Edel</td>
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<td>Warren R. Darby</td>
<td>1988</td>
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<td>Rod D. Englert</td>
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<td>Edward Podworny</td>
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<td>Tom J. Griffin</td>
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<td>Toby L. Wilson, M.S.</td>
<td>1995-1996</td>
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<td>Daniel V. Christman</td>
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<td>Phyllis T. Rollan</td>
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<td>Daniel Rahn</td>
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<td>Bill Basso</td>
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<td>LeeAnn Singley</td>
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## Associate Editors of the IABPA NEWS

- Barton P. Epstein
- Carolyn Gannett
- Paul E. Kish
- Daniel Mabel
- Jon J. Nordby
- Alexei Pace
- Joseph Slemko
- Robert P. Spalding
- T. Paulette Sutton
- Todd A. Thorne