

# Iowa Division of the IAI 4N6

Volume 1, Issue 1

July 2019

The Iowa I.A.I. was formed in 1963 as the 6th state chapter of the parent body – International Association for Identification. We have over 200 Active, Life, and Associate members and are proud to present this resource for the study of law enforcement forensics.

The Iowa I.A.I. has always strived to become more diverse, with members from a broad range of experience in forensic science. If you're interested in becoming a member, please apply through our site. It's a great place to continue your education, ask questions with your peers and meet others in your field of work.

Are you a student? Student memberships and discounted conference rates are offered and a great way to network and get hands-on experience!

<http://www.iowaiai.org/about/membership/membership-form/>

**ARE YOU READY?!!!!!!!**



## 2019 Iowa IAI Educational Conference and Business Meeting

November 6<sup>th</sup>-8<sup>th</sup>, 2019

Urbandale, Iowa

This is a great way for your agency to get some quality training at a low cost.

More information to coming soon:

<http://www.iowaiai.org/iowa-iai-conference/>

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### 2018-2019 Retirements

Carl Bessman – DCI Laboratory

Denny Kern – DCI Laboratory

Steve O'Brian – DCI Laboratory

### Moving On!

Brian Staszewski – Scott County Sheriff's Office

Thank you for being valued members of the Iowa IAI! We wish you luck in all your future endeavors!

# **The Iowa Division of the International Association for Identification**

## **2019 Business Meeting & Educational Conference**

**November 6th-8th, 2019**

### **Conference Facility & Lodging:**

#### **Stoney Creek Des Moines**

5291 Stoney Creek Court

Johnston, IA 50131

515-334-9000

**Special Rate: \$79+tax/night Code: Iowa IAI**

**Registration is now open!** <http://www.iowaiai.org/iowa-iai-conference/>

Conference is only \$75 per person and includes complimentary 2020 membership to the Iowa IAI.

### **Conference Schedule:**

#### **Wednesday, November 6<sup>th</sup>**

8:30-9:30	<b>Registration</b>
9:30-10:45	<b>Opening/ Keynote: Unarmed and Dangerous Officer Involved Shooting case</b> Chris Gergen/Greg Erie
11:00-12:00	<b>Forensic Anthropology:</b> Heather Gavin
12:00-1:00	<b>Lunch</b>
1:00-2:30	<b>Bridge Collapse in Hennepin County:</b> Dr. Thompson
2:30-3:00	<b>Vendor Intro</b>
3:00-5:00	<b>Sexual Deviant Killers:</b> Dr. Lawrence Simon

#### **Thursday, November 7<sup>th</sup>**

8:00-9:30	Option 1: <b>Courtroom Testimony</b>	Option 2: <b>Back to Basics w/ Photography</b>
9:45-11:45	Option 1: <b>Tire Impressions</b>	Option 2: <b>Narcotics Update</b>
11:45-1:00	<b>Lunch</b>	
1:00-2:00	<b>Fire Investigation</b>	
1:00-4:30	<b>Entomology</b>	
2:15-4:30	Option 1: <b>FBI Bank Robbery</b>	Option 2: <b>Carrie Olson Case Study</b>
<b>Thursday Night Social: Time to be announced!</b>		

#### **Friday, November 8<sup>th</sup>**

8:00-11:30	<b>Sandy Hook Elementary School Shooting:</b> Lt. David Delvecchai
11:30-12:00	<b>Certificates and Closing remarks</b>

\*Schedule subject to change\*

## 2018 Educational Conference Highlights:



We would like to thank the following **Vendors** for their support of the Iowa IAI. They have played an integral part of making our 2018 Mid-States Conference a huge success!







## ALS TRADE IN PROGRAM

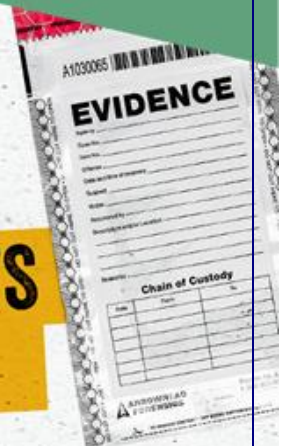
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## Forensic Science Word Search

D	E	F	M	O	I	C	S	O	E	C	A	R	T	F
Q	V	I	S	M	C	R	H	S	C	A	L	E	E	I
Z	I	R	L	G	R	I	O	C	K	E	X	R	M	Y
Q	D	E	A	L	I	M	E	I	R	T	Y	I	I	G
Y	E	D	Z	S	M	E	I	T	T	K	R	G	C	O
H	N	E	B	D	I	S	M	S	O	B	O	O	R	L
P	C	B	Z	N	N	C	P	I	X	S	T	R	O	O
A	E	R	S	U	A	E	R	L	I	U	C	M	S	M
R	B	I	U	O	L	N	E	L	C	S	E	O	C	O
G	U	S	O	W	I	E	S	A	O	P	J	R	O	T
O	C	E	R	K	S	X	S	B	L	E	A	T	P	N
T	C	P	O	H	T	Z	I	G	O	C	R	I	E	E
O	A	W	P	K	I	R	O	A	G	T	T	S	A	W
H	L	R	G	R	C	H	N	V	Y	E	K	J	G	Z
P	B	T	V	I	S	D	S	Q	F	N	P	Y	A	H

### Word List:

BALLISTICS	CRIMINALISTICS	CRIME SCENE	DNA	ENTOMOLOGY
RIGOR MORTIS	TRACE	MICROSCOPE	ALS	TOXICOLOGY
PHOTOGRAPHY	SHOE IMPRESSIONS	SUSPECT	BUCCAL	EVIDENCE
TRAJECTORY	WOUNDS	SCALE	POROUS	FIRE DEBRIS

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**\*US Patent Pending**

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## **Making Your Case Using Digital Evidence**

**By Deputy Jason Rokke, CCPA  
Audubon Sheriff's Office**

Mobile device information continues to play a large role in many cases, from the basic to the most complex. The amount of data obtained from just one device can now be a terabyte or more and sorting through that information can be a massive undertaking. Some departments have trained mobile data examiners, often through Cellebrite, to help deal with this form of evidence. But, without being trained in this area, what can you do to ensure that the evidence obtained from these devices stands up in court?

The ways of collecting data from computers is NOT the same as collecting data from mobile devices. Simple things such as unlocking a phone, moving a phone to an area with a different WiFi or opening a text message or picture can change the data available when you later access the mobile device. It has been recommended to place the mobile device in airplane mode and get it to an examiner to avoid all these changes and so the device owner cannot remotely alter, delete, or add digital evidence to the device.

The information on one's mobile device is also being held to a higher standards of search and seizure rules as the information it contains is considered private and it has been ruled in some cases that one should not even set the mobile device to airplane mode without a proper warrant. Likewise, advancements in technology and companies touting what they can do for their user's security, has made it harder for us by implementing programs where it now requires a passcode to even access the airplane mode on the mobile device.

Apple and their popular iPhone have been a thorn in the side of law enforcement in the pursuit of justice when it comes to digital evidence. Quite notably was the FBI gaining access to the San Bernardino terrorist's locked iPhone which then resulted in Apple trying to force analysts to tell them how they achieved this feat. This is only one case of many that happened to make the headlines but getting around the issue has now become a lot simpler for law enforcement. While iPhones and now some Android's have start up protection on them, Grayshift has introduced Graykey which, with time, can bypass almost all locked mobile devices. Access can be made to almost any device with time and of course money; as these tools and programs aren't cheap. The main question now is how to get the mobile device data you accessed to be submitted and hold up under court scrutiny.

With proper training, a mobile digital examiner can explain the data and clearly document how the data was obtained from that particular mobile device during examination and provide a digital log that shows any alterations that have been made. This brings us to the first responders and those responsible to collecting the evidence. To avoid these issues a good standard practice is to use faraday bags. Faraday bags block signals and allow the device to get to an examiner without altering any available information or allowing for remote access, are relatively cheap and easy to obtain. Other available options are wrapping the mobile device in several layers of aluminum foil or sealing it in a metal can. Be aware though that any of these options will drain battery life quickly as the device will continuously search for a signal. Once the mobile device is appropriately packaged, it should be sealed and documented through a chain of custody and transferred to a digital examiner as soon as possible.

The next step is to obtain a search warrant before any information is downloaded (at times this can be done before the mobile device is collected) with the only exception being a signed Consent to Search by the mobile device owner. There are many templates of these types of warrants available on-line or you can make your own. Some sample wording has been provided at the end of this article but I would also recommend contacting your local county attorney to see what verbiage they prefer to have you include. Whatever option you decide to use, make sure that the warrant specifically mentions it is for the mobile device AND the data it contains and not just for the mobile



device itself. A search warrant for a mobile device gives you authority to collect the device but DOES NOT give you authority to examine the data contained in the phone. The warrant you use should specify you will be accessing the data on the device and any specifics about the data if needed such as locations, pictures, text messages, calls, etc. Even without a trained examiner being readily available, a well-documented chain of custody, proper packaging, and the correct wording in your search warrant enhances the chances for successful use of the obtained data in court.

Mobile device information can be an amazing tool to help investigators and prosecutors solve cases but the days of taking someone's device and scrolling through it for information is long gone. The information and data contained in a mobile device is considered private and arguments abound along with 4<sup>th</sup> Amendment issues. By following the above process to seize a mobile device and access the contained information, the data you obtain from the mobile device will allow you to not only find and pursue additional leads but will hold up in court every time.

### **Sample Wording for a Mobile Device Search Warrant**

#### **General:**

"...any or all files contained on said cell phone and its SIM Card or SD Card to include but not limited to the calendar, phonebook, contacts, SMS messages, MMS messages, emails, pictures, videos, images, ringtones, audio files, all call logs, installed application data, GPS information, WIFI information, internet history and usage, any system files on phone, SIM Card, or SD Card, or any data contained in the cell phone, SIM Card or SD Card to include deleted space."

#### **Specific:**

[Insert, make, model and serial number of the cellular communication device(s) to be searched]

For the following property and evidence located within the above described device(s):

1. The following items that may be located on and in the above-described cellular communication device(s):
  - A. Data that may identify the owner or user of the above-described cellular communication device(s);
  - B. Address books and calendars;
  - C. Audio and video clips related to the above-described criminal activity and further described in the affidavit in support of this search warrant, which is attached hereto and entirely incorporated herein by reference;
  - D. Call histories and call logs related to the above-described criminal activity and further described in the affidavit in support of this search warrant, which is attached hereto and entirely incorporated herein by reference;
  - E. Photographs and associated metadata related to the above-described criminal activity and further described in the affidavit in support of this search warrant, which is attached hereto and entirely incorporated herein by reference;
  - F. Text messages (SMS ), multimedia messages (MMS ), recorded messages and subscriber information modules [SIM cards ] between and co-conspirators involved in the above described criminal activity and further described in the affidavit in support of this search warrant, which is attached hereto and entirely incorporated herein by reference;
  - G. E-mail messages and attachments, whether read or unread and related to the above-described criminal activity and further described in the affidavit in support of this search warrant, which is attached hereto and entirely incorporated herein by reference.
  - H. Internet World Wide Web (WWW) browser files including, but not limited to, browser history, browser cache, stored cookies; browser favorites, auto-complete form history and stored passwords;
  - I. Global position system (GPS<sup>1</sup>) data including, but not limited to coordinates, way points and tracks;
  - J. Documents and other text based files related to the above described criminal activity and further described in the affidavit in support of this search warrant, which is attached hereto and entirely incorporated herein by reference;
2. With respect to the above items listed in #1 and its subsections above, the executing law enforcement officer(s) is/are authorized to view, photograph, record, copy, forensic image and conduct forensic analysis of any and all data, programs and applications on the above-described cellular communication device(s), as well as on any data storage devices and or mediums attached to those cellular communication device(s);
3. The executing law enforcement officer may enlist the aid of a law enforcement computer forensic laboratory in the searching, viewing, photographing, recording, copying, forensic imaging and analysis of any and all of the information described in item list #1 and its subsections above.

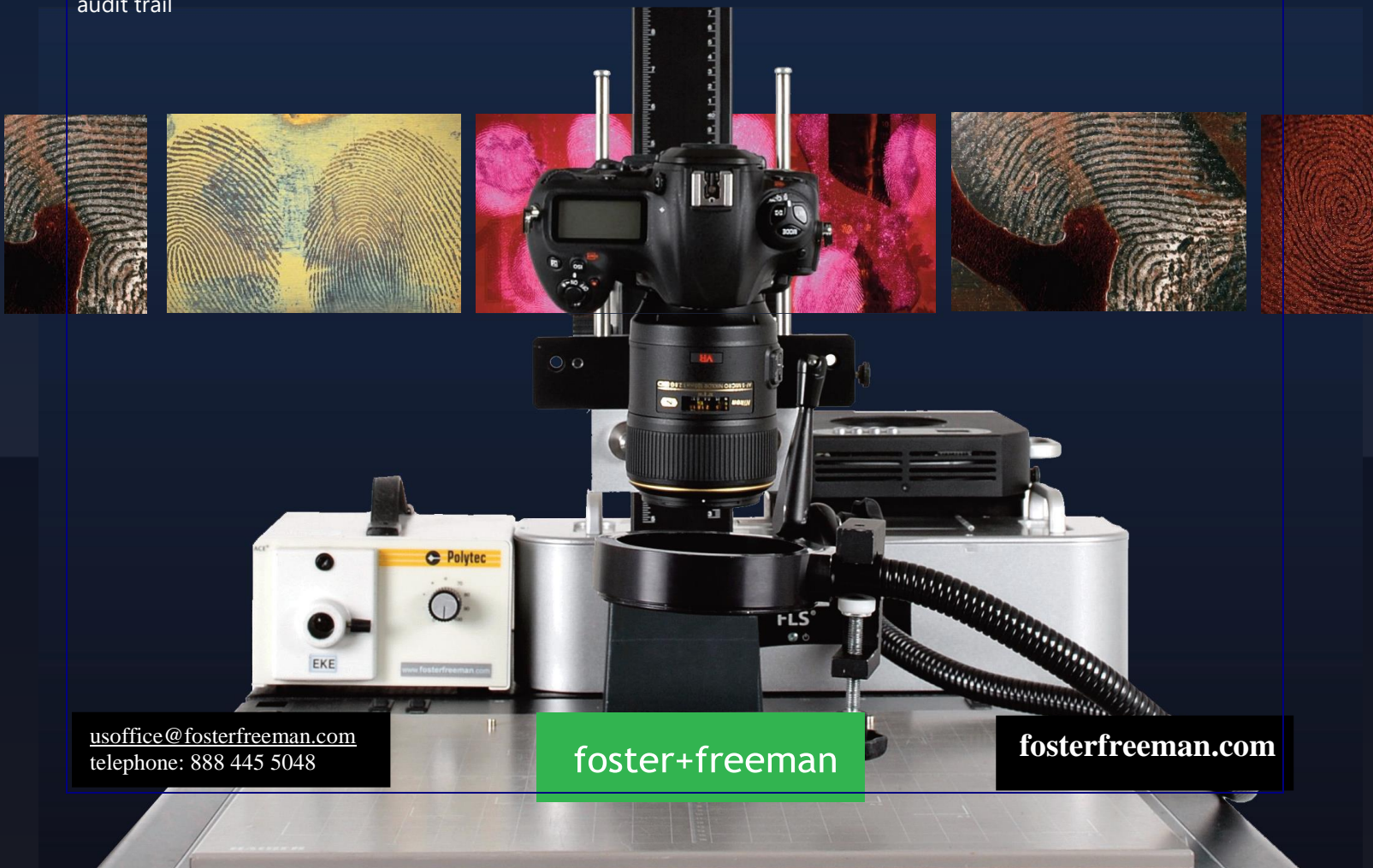




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# Consider being a part of the Iowa IAI:

**Articles:** Have you written an article or is there a particular article that you have found extremely helpful? We would love to include it in our website as a resource for other members. We are also looking for feature articles to include in our bi-annual newsletter.

**Websites/Resources:** Are there any particular websites or online training resources that you utilize and find helpful? Send us a link and we will share them with our members.

**Job Listings:** Is your agency hiring? We offer free job listings to our member's agencies. Just send a brief description and link and we will include it on our page.

**Training:** Quality training is hard to find in the Midwest at times. If your agency is hosting a training or class and there are seats available we would appreciate the opportunity to share it with our members.

**If you would like to participate in any of the above topics or have suggestions for any additional topics or items you would like to have added to our website, please contact the editor at: [Editor@iowaiai.org](mailto:Editor@iowaiai.org)**

# More Blood Loss, Less Corpse Decomposition

by Seth Augenstein



More blood loss means less decomposition, according to a new study of hundreds of deaths in Canada.

The paper in the journal *Science and Justice* finds that [death investigators may benefit from knowing the correlation of slowed-down decay—especially in extreme cases of exsanguination](#).

By correcting for variables including the indoor or outdoor location, age, weather and other factors, their statistical analysis found that the more blood that is lost, the slower and less completely a body rotted.

“The results suggest that increased blood loss may retard the progression of decomposition,” write Diane Cockle and Lynne Bell, the two authors from Simon Fraser University in British Columbia.

The two researchers looked at remains catalogued in the county’s Violent Crime Linkage Analysis System, or ViCLAS, the up-north counterpart to the FBI’s ViCAP. Cockle, the first author, is also a longtime bloodstain pattern analyst for the Royal Canadian Mounted Police.

The original dataset was more than 7,300 cases of discovered corpses. From that trove Cockle and Bell narrowed down to 341 cases, mostly from British Columbia and Ontario, because of the thorough collection of data and photographs collected from the scene.

The decomposition was scored for each body on a scale from 0 (no visible signs of decay), up to 8 (total skeletonization).

About half the cases (47.5 percent) showed notable degrees of blood loss: 17.9 percent with minimal loss, 20.5 percent with moderate, 5.9 percent extreme and 3.2 percent total exsanguination.

The causes of death were also cataloged: 21.4 percent featuring blunt force injuries, 15.4 percent with ballistic wounds and 14.3 percent with sharp traumas.

Almost all of the most extreme blood loss cases were the result of sharp-weapon traumas.

The 46 variables including height and weight, age, environment, debris on body, coverings, insect activity and even ante-mortem drug and alcohol ingestion were factored in—and the outliers were identified and eliminated using multivariate step-wise regression analysis.

More blood loss was linked to decreased decomposition, across the board, they report.

Possible explanations include the bounty of blood's content—humidity, proteins, amino acids, waste and a huge variety of other materials—that may accelerate breakdown.

But in blood's absence, mummification may be promoted, and with a delay in breakdown processes.

“From a taphonomic standpoint, significant blood loss represents a clear inhibitor of bacterial transmigration from the gut into the post mortem blood supply and may help explain the confusing variance reported for intra-environmental contexts for terrestrial exposure, and usefully for indoor decomposition too,” write the investigators.

The other three major factors in decomposition rates were: post-mortem interval in days, alcohol use and insect activity.

However, one other theory did not bear out in the data. Previous studies of death processes surmised that the openings of wounds may present better access for insects, and thereby boost decomposition rates. The authors could not find proof of that in their findings, they report.

However, the presence of blood—or lack thereof—was a consistent factor in the decay of death.

“The results from this study underscore the importance of considering the impact of blood loss on human decomposition,” the pair conclude. “This information may assist death investigators with the knowledge that extreme blood loss may contribute to the deceleration of decomposition and possibly an increased period of tissue preservation.”

Cockle told *Forensic Magazine* that her years of death investigations had posed questions about decomposition rates. For instance, a multiple murder in the same house at the same time involving two different causes of death could show significantly different trajectories of decay. Cockle, who is an RCMP staff sergeant, said she wasn't solely looking at blood loss, but at all the factors she could find that may cause different decomposition rates.

"I was looking at all the variables," she said. "Because of my experience as a crime-scene investigator, I thought (these) could be variables - so let's check them out."

One potential upside is that crime-scene personnel could realize that bodies with exsanguination could potentially remain at the scene longer, with less of a risk of advancing decomposition prior to autopsy, Cockle said.

Originally Published 12/05/18 Forensic Magazine

Original Research Article: <https://www.sciencedirect.com/science/article/abs/pii/S1355030618301953>



# Council Bluffs Police Department



## SHOOTING RECONSTRUCTION TRAINING

**October 7-11, 2019 / 0800-1700 hours**

**Instructor:** Carl Bessman (Firearms Examiner/Iowa Department of Criminal Investigations Retired)

**Tuition:** \$350

**Class Size:** 12 student maximum

**Location:** Council Bluffs Police Southwest Iowa Law Enforcement Training Center  
10073 192nd Street Council Bluffs, Iowa 51503

**Equipment Needed:** DSLR Camera, External Flash, TTL cord, SD card, Tripod, (can be shared by two people from the same agency)

The first portion of the class will address how to recognize, document, collect, and preserve evidence from fire- arms, ammunition, fired ammunition components, gunshot residues, and wounds/impact sites at the scene of a shooting incident. In addition to the presentation and discussion, the participants will be handling and examining items of evidence to observe and document information that can provide investigative leads to detectives and confirm or refute witness/victim/suspect statements regarding a shooting incident.

The second portion of the class will address how to preform and document a shooting reconstruction under a variety of conditions and in regard to a number of substrates, such as walls, flooring, carpeted floors, clothing and vehicles. Following the presentations and discussion the participants will be using rods, strings and lasers to determine angles of impact, approximate distances and possibly the order of the shots fired during the shooting incident. The information gathered from the shooting reconstruction can be used to: 1) establish the who, what, where, when, and how of the shooting, 2) to verify or refute witness/victim/suspect statements, and 3) to establish limitations on what is probable versus what is physically impossible.

\*Participants are encouraged to bring the crime scene equipment and cameras they work with at their departments. \*Dress will be casual. This is a practical course and participants will be expected to get their hands and clothes dirty. \*\*\*Lunch will be on your own\*\*Lodging information available upon request

To register contact Crime Lab Manager Katie Pattee at: (712) 890-5236 [kmpattee@councilbluffs-ia.gov](mailto:kmpattee@councilbluffs-ia.gov)



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