

THE IDENTIFIER



<https://www.deviantart.com/superheropattyfatty/art/The-Murdered-Snowman-Case-155497499>

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LETTER FROM THE **PRESIDENT**

Hello SCIAI Members!

Hope everyone had a wonderful Thanksgiving and are getting ready for the upcoming holidays! We have had a busy fall with two very successful workshops; in the disciplines of Crime Scene (Bloodstain Pattern Analysis) and Latent Prints (Policies and Procedures). Both had high attendance and were very successful! Thanks to all who attended and to our speakers! Both classes provided valuable information for attendees and the experiences were available to all members for an affordable price!



With 2024 quickly approaching, it means May and the Spring Conference is right around the corner! I am very excited to have the conference in Rock Hill. Registration for the conference is **OPEN!** The registration link for the conference and hotel information are already active, find more information in this issue of the Identifier! We are diligently gathering speakers and currently setting up the schedule for the conference to include quality content for the full 3 days! If anyone is interested in speaking this spring, or has any recommendations, please reach out to me for a speaker registration form. We are excited to announce our keynote speakers; Dr. Kenny Kinsey from the Murdaugh Murders and Teresa Bryant from the Jupiter Police Department. Stay tuned for a more detailed schedule!

Stay safe!

Jodi Hunt

MEET THE OFFICERS

- **President—Jodi Hunt**
- **Vice President—Nova Grilli**
- **Treasurer—Tyler Bucholtz**
- **Secretary & State Representative—Chris Gary**
- **Historian & Editor—Brittany Brown**



INTERVIEW WITH AN OFFICER

(Continued on page 5)

Getting To Know Your 2023-2024 Elected Officers

During each issue of *The Identifier*, we will take time to introduce some of the newly elected SCIAI officers so that you can get to know them better. For this issue, we interviewed the SCIAI's State Representative and Secretary, Chris Gary who shared with us his work experience, what he enjoys about his job, his passions, advice learned during his career, and visions for the future.



Tell us about your work experience. How long have you been a practitioner in the field and what is your current position? I started my career as an intern with the Greenville County Department of Public Safety in 2006. After I graduated from the College of Charleston I began working for Greenville County as a Forensic Evidence Technician full-time. I worked crime scene calls, but my primary job was working in the Latent Print Section. Shortly after I was hired full time, I was selected to attend the Latent Print Examiner training program in Florida that was sponsored by the NIJ and the National Forensic Science Technology Center. This training propelled my career in Latent Prints, and cemented my love for the Latent Print community. I am now the Principal Criminalist of the Latent Print Section, and I have been with Greenville County for over seventeen years.

What do you enjoy most about your job? As cliché as it sounds, I honestly enjoy helping others and providing answers through casework. I've worked on some very interesting cases over the years, and creating investigative leads when there were none previously is very rewarding.

What are you passionate about or what hobbies do you enjoy (this does not have to be work-related)? I love being a Dad, and coaching my kids' teams. My five-year-old plays baseball, soccer, and basketball. He loves everything about sports, and I love having a front seat to watch him play. My son tells me that he wants me to be his Head Coach until he "retires", and I hope he always feels that way.

What is your vision (or what goals do you have) for the SCIAI? I want to see the SCIAI continue to grow, and bring much needed training to South Carolina. I want to continue to see our members use the SCIAI as a networking tool, and use that information to create a better product for our stakeholders. We have so many talented and knowledgeable practitioners in South Carolina. I would love to see more people step up into these leadership positions, and be the change that you would like to see.

INTERVIEW WITH AN OFFICER Continued from Page 4

What is something you have learned in your work experience that you can pass along to others? Poor communication amongst different disciplines in a lab can often times hinder the culture. Employees tend to create clicks amongst their own disciplines, and rarely branch out. Try and create an environment that gets all employees talking. We have recently used March Madness brackets, Fantasy Football, Holiday games, and raffles to encourage people to talk to each other - and it's working. Find a random interest, throw a \$25 gift card out as a prize, and now you have a common talking point that will have people chatting in the hallways.



SCIAI ANNOUNCEMENTS

- ALL MEMBERS are encouraged to review the SCIAI constitution and by-laws posted on the website located under the News tab.
- Submissions for case study features and Member Spotlights are open. We want to highlight our members and interesting or unique cases that you have personally been involved with. If you would like to see yourself, a coworker, or one of your cases featured, please contact the Editor at bribrown@greenvillecounty.org
- Have a topic you would like to see covered or have an article you would like to submit for future issues of *The Identifier*? Submit your proposals to the Editor at bribrown@greenvillecounty.org – guest authors are welcome!
- If you've taken a newsletter appropriate forensic related photograph that you would like to see featured in an upcoming issue of *The Identifier* – Please contact the Editor at bribrown@greenvillecounty.org!

2024 SCIAI Spring Conference

Save the Date! Our 2024 Conference will be taking place May 6-9th, 2024 in beautiful Rock Hill, SC. Our first conference in Rock Hill will take place at their Sports and Event Center downtown. It is walking distance to the host hotel and social events. As always we will have a great slate of training classes, vendors on-site to show off the best in forensic supplies and technology, and great networking opportunities with forensic professionals in the state.

Attendee and Exhibitor registration is now live on the website!

**Hotel Information: Cambria Hotel Rock Hill-University Center,
354 Technology Center Way, Rock Hill, SC, 29730**

We have a room block at the Cambria Hotel right next to the Event Center. The room block WILL SELL OUT! There are multiple options of standard and suite style rooms. The block rate matches the government rates for the time of the conference.

Standard rooms are \$98 per night, suites are \$118 per night.

Direct Booking Link: <https://www.choicehotels.com/reservations/groups/ML82P3>

Group Code: BTXCYH



REGISTRATION NOW OPEN

2024

SCIAI CONFERENCE



May 6-9, 2023

Rock Hill,
SC

ROCK HILL SPORTS AND EVENT CENTER
326 TECHNOLOGY CENTER WAY, ROCK HILL, SC

KEYNOTE SPEAKERS



DR. KENNY KINSEY

KENNY KINSEY &
ASSOCIATES, LLC

**THE MURDAUGH
MURDERS**



TERESA BRYANT

JUPITER POLICE
DEPARTMENT

CASE STUDIES:
THE THANKSGIVING DAY MASSACRE
~
SUPER BOWL SUNDAY

Registration

SCIAI Members, \$100

Non-Members \$200

Students: FREE with \$35 member fee

Registration Link (Google Forms): <https://forms.gle/dGb49swYe3XMRTSR7>

Hotel Information

Cambria Hotel Rock Hill - University Center, 354 Technology Center Way,
Rock Hill, SC 29730

Booking Link: <https://www.choicehotels.com/reservations/groups/ML82P3>

Group Rate: \$98/per night plus taxes and fees, \$5 daily parking

www.sciai.org

COMING SOON!

SCIAI Merchandise

Here's a sneak peek of the **NEW SCIAI 2024 Conference Exclusive Challenge Coin**



SCIAI Standard Challenge Coin will also be available for purchase at the 2024 Conference



Training Recap; Crime Scene Training Bloodstain Pattern Recognition & Analysis

On November 9th, 2023, Doug Young, with Veri-Scene Forensics, conducted a Bloodstain Pattern Recognition and Analysis workshop in Columbia at the SLED Forensic Services building. In addition to a lecture, impact spatter examples were given to participants for practice measuring bloodstains, calculating the area of convergence, and calculating the area of origin.

On site demonstration was given by Mr. Young to explain the differences in angle of impact of blood droplets as well as different types of blood letting events.

We want to thank all who participated as well as Mr. Young for putting together such a informative workshop. The SCIAI was able to provide this training free of charge to members due to the generosity of these sponsors!

Lunch was provided by BlueStar Forensics!



Training Recap; Latent Print Training Policy and Procedures

On October 24th, 2023, a latent print workshop on policy and procedures was conducted at SLED Forensic Services in Columbia. Speakers featured SCIAI Vice President Nova Grilli and Trish Odom. The workshop entailed best practices for policy and procedure when it comes to latent prints. OSAC guidelines and how to implement them into SOPs were all explained and discussed. The clerical approaches on how to organize SOPs, training manual layouts, etc. were also discussed. Trish and Nova shared their experiences with the accreditation process through ANAB as well as the studies pertaining to latent print examination to demonstrate their points about best practices.



The SCIAI was able to provide this training free of charge to members due to the generosity of these sponsors!

Lunch was provided by Foray Technologies!



IN THE NEWS

By Devin Kowbuz
• May 13, 2020

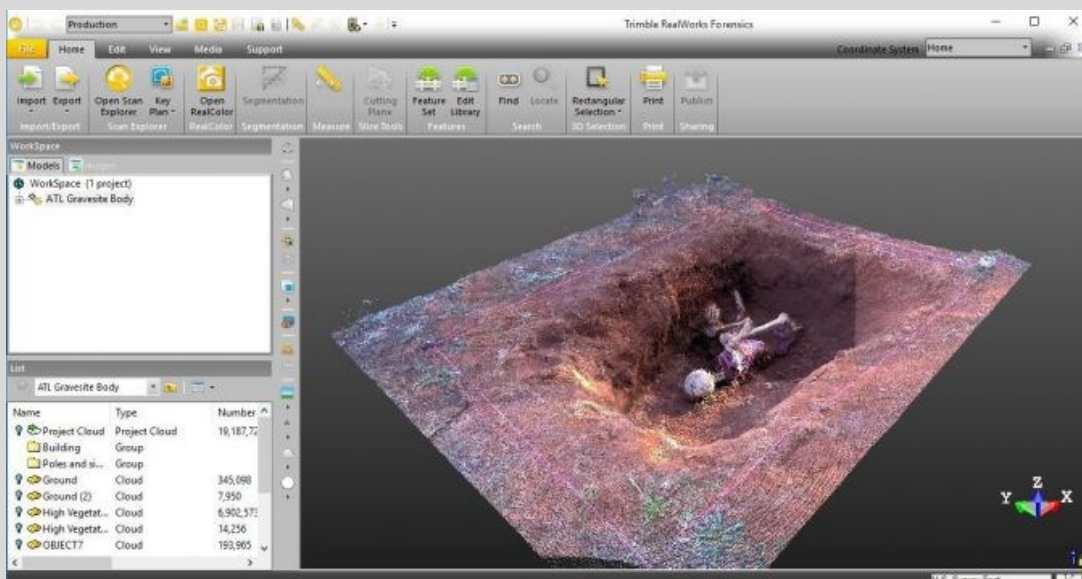
How 3D Scanning Rebuilds Crime Scenes for Courtrooms

The use of 3D laser scanners is expanding the role of geospatial technology in criminal investigations. The technology is being used to produce accurate, feature-rich visualizations of crime scenes that put evidence into context for judges and juries.

Crime scene investigators with larger US metropolitan police departments and state patrols are increasingly deploying 3D laser scanners to tell detailed, data-based stories that will withstand public and legal scrutiny while bringing justice to victims. 3D laser scanning technology is being used to accurately depict the relational aspect of each piece of evidence so investigators can rebuild and reconstruct crime scenes. This is a powerful investigation tool, especially as legal systems grow more comfortable with high-tech evidence in courtrooms.

In this digital age, the use of 3D laser scanners is expanding the role of geospatial technology in crime scene investigations. As a result, rather than having to rely on photographic imagery alone, judges and juries are able to see accurate, feature-rich visualizations that recreate the scene of the crime and put complex evidence into context.

This relational aspect is important to investigators because they can capture accurate locations of evidence, reconstruct the scene in its end state and rebuild the circumstances that led to that end. The result is a more comprehensive investigation that goes beyond the capabilities of the traditional forensic tools or the talents of the humans hired to record a scene. As acceptance grows for high-tech tools in the courtroom, 3D scanning is likely to become a standard forensic practice.



In this mock-up, a point cloud of a clandestine grave site was created using a Trimble Forensics SX10 solution and is displayed in Trimble RealWorks.

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How 3D Scanning Rebuilds Crime Scenes for Courtrooms

Forensics Tools

The documentation of crime scenes is a painstaking process complicated by a short time to collect evidence, logistical challenges of many people working at the scene, and the need to quickly determine what might be relevant in a trial that will not take place until months, or possibly years, later. Traditional forensic tools include cameras (stills and video images), tape measures and measuring wheels. As geospatial technology has advanced into other industries, it has also entered the forensics investigator's toolbox, which has grown to include unmanned aerial vehicles (UAVs or 'drones'), photogrammetric analysis, total stations, GNSS systems and, more recently, 3D laser scanners.

3D Scanning

3D scanning systems in particular have the power to bring a crime scene into the courtroom through photorealistic 3D models using methodical, scientific approaches. They allow analysts to collect precise dimensions, evidence and features to be recorded for later analysis. By capturing large amounts of data quickly, 3D scanners enable investigators to create a complete 360-degree image of a scene in a matter of minutes.

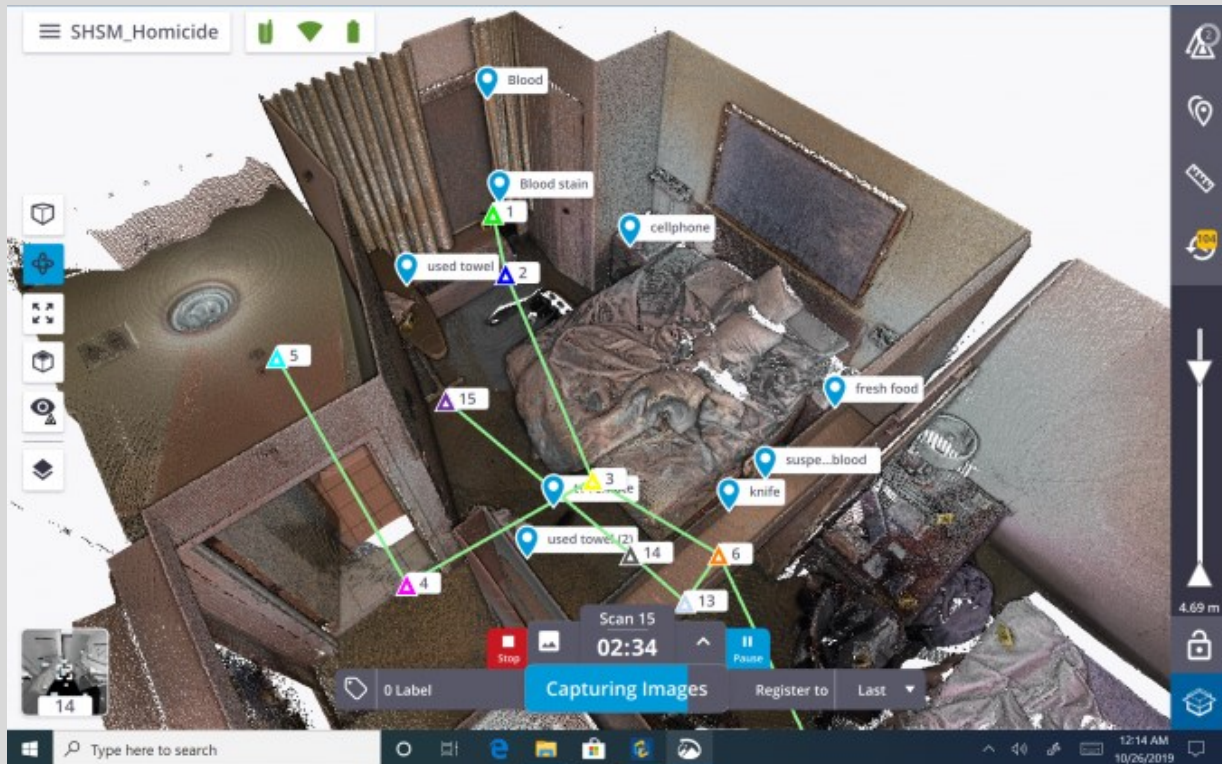
There are two main technologies used within 3D laser scanners to accurately determine the location of an object with respect to the scanner position: time of flight or phase shift-based technology. In the past, there was a distinct difference between systems using the different methods. Time of flight scanners were slow (a 360° scan could take more than 30 minutes) and offered lower resolution (point density) but had a great distance range (100-1,000 metres) to obtain a return from an object. Phase shift-based systems were fast (a 360° scan would take approximately five minutes) with high density but had limited range (>80 metres) and did not perform well in full sunlight. However, with today's advances in technology, this difference between methods is not as pronounced; time of flight systems are now collecting data as fast and as densely as phase shift-based systems, which in turn now have increased range. For example, 3D point accuracy can be in the order of six millimetres at 40 metres on a scan that takes under three minutes to complete (including image capture) and collects approximately 12 million points. Today, some 3D laser scanning systems include automatic levelling and automatic calibration features.

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How 3D Scanning Rebuilds Crime Scenes for Courtrooms



In this mock-up of a crime scene in a hotel room, a variety of objects of evidence are identified in the point cloud relative to each other and the entire room in 3D. It was created using a Trimble X7 3D laser scanning system combined with Trimble Perspective field software.

Gathering Evidence

Until recently, 3D scanners were slower to be adopted by forensics teams, mostly because resources are tight for law enforcement agencies. While violent, heinous crimes are a smaller portion of incidents investigated by law enforcement agencies, crime scene units sometimes have more access to newer technologies due to the seriousness of the offences. By delivering accuracy and precision quickly, scanning solutions help investigators reconstruct crime scenes methodically and build stronger cases. Part of the value of using 3D scanners to investigate crimes is that evidence can be documented, analysed and processed later, as needed. Besides enabling investigators to clear a scene more quickly, this is also useful if new evidence surfaces or if suspects change their stories.

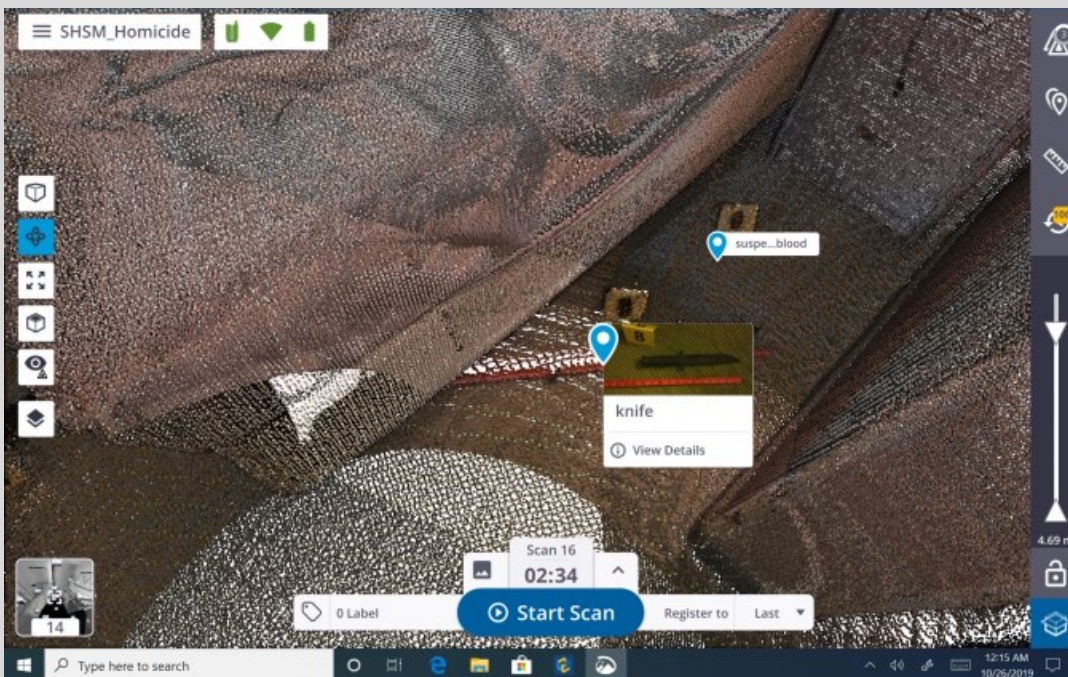
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How 3D Scanning Rebuilds Crime Scenes for Courtrooms

3D scanning allocates a coordinate to almost any object the laser hits – from bodies to blood splatter to bullet holes. In addition, point cloud data can reveal missed evidence or enable collected evidence to be considered in new ways. By changing the intensity values in a point cloud, objects with different reflectivity are revealed, such as footprints in a grassy area that might otherwise go unnoticed in standard black and white imagery. The higher the density settings and the closer to the item, the closer together the points on an object will be. Conversely, objects farther away from the scanner will have lower density settings and some space between points.



A knife is revealed as important potential evidence in this mock-up of a crime scene. Images can be attached directly to the point cloud.

Since a 3D scanner can only collect data it receives from a return signal, for a complete 3D representation more than one scanner set-up location is needed to collect the reverse side of objects or other hidden items. With multiple scan positions around an object or scene, the density of the scan will increase, filling in gaps in the point cloud. Previously, users had to stitch together multiple scans from various set-up locations, utilizing specific office software and powerful computers. Today this ‘stitching’ of the data can be performed at the scene on a tablet as the scans are being taken. The investigator can then review the 3D data as collected prior to leaving the scene.

To truly explore the value of 3D scanning at crime scenes it is necessary to discuss some of the more sensitive areas of evidence: bodies, blood and bullets.

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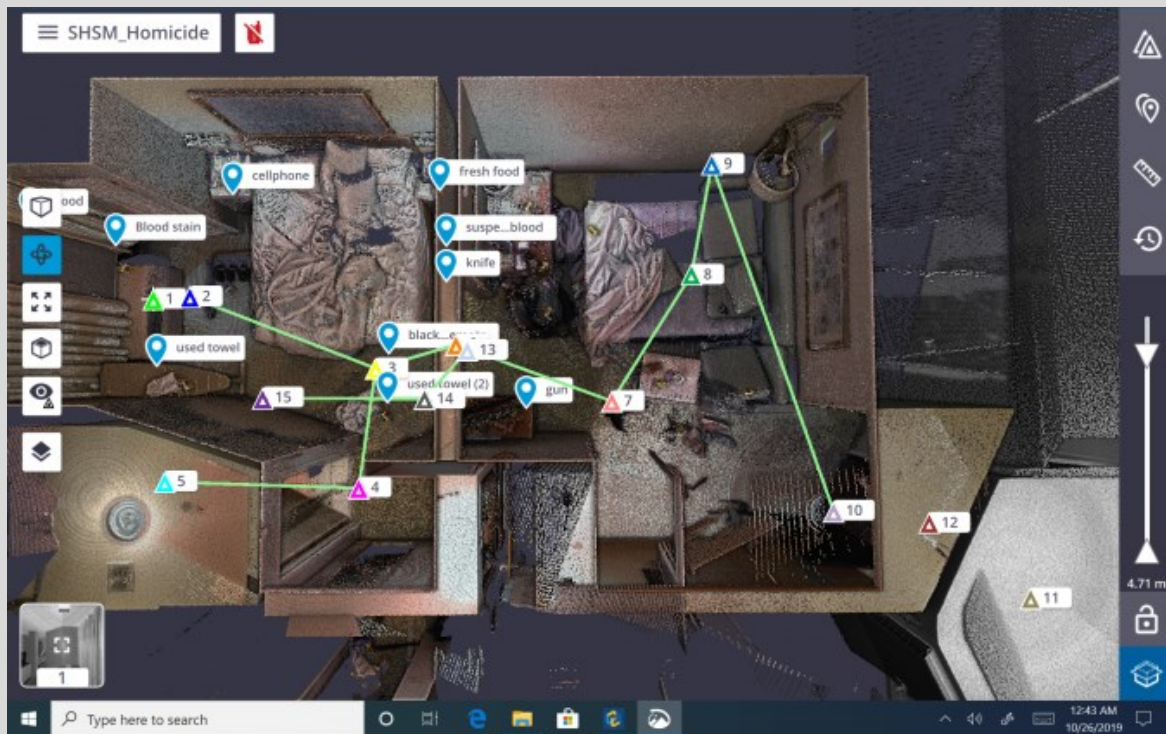
IN THE NEWS

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How 3D Scanning Rebuilds Crime Scenes for Courtrooms

Bodies

In the case of violent crimes, the bodies of perpetrators, victims and witnesses – whether alive, injured or dead – are key evidence. A focus in any violent crime investigation is determining where an individual was located, as well as the points of view of all involved. The point clouds generated by 3D laser scans can serve as walk-through visualizations of a scene, giving jurors various points of view in the crime scene. Because the data collected by 3D scanners generates a very dense collection of points that have a location in space, very accurate measurements can be obtained. Point clouds are often colourized by the images that are taken by the 3D scanner at the time of data collection. This colourization enhances the visualization and can give jurors the sense that they are at the scene with spatial and visual reference.



From this angle, the point cloud reveals the larger apartment space, helping to establish the proximity of evidence and activity. A point cloud can be used for a complete perspective of a crime scene from different viewpoints.

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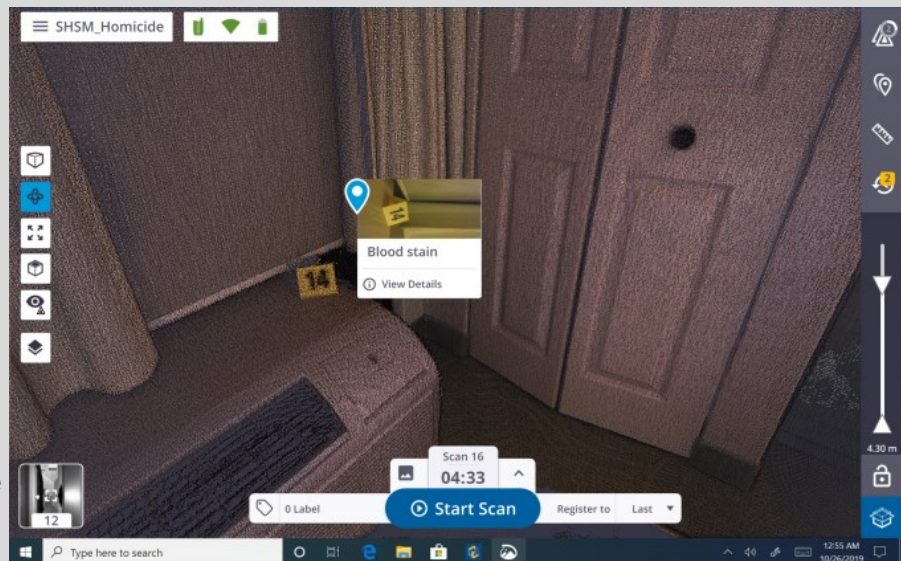
How 3D Scanning Rebuilds Crime Scenes for Courtrooms

Blood

There is a science around blood splatter that analyses the direction and shape of how the blood has landed on walls, floors or other surfaces. Are the drops big or small? Do they form a spray pattern? Questions like this, explained through the 3D reconstruction, reveal the possibilities of what occurred. If blood drops are small, a technician would want to use a high-density setting and scan the area from different positions. Larger pools of blood as well as blood smears from a crawling victim or footprints from a perpetrator can all be captured with a 3D scanning solution. Moreover, light is not required to scan a scene. A grayscale value can be assigned to certain points based on the intensity of the signal received by the instrument, revealing differences between the blood on the floor and the floor itself. This means it is possible to scan a dark scene, view the point clouds and analyse the different intensities to produce a photorealistic model from a completely dark setting.

Bullets

3D laser scanning technology also provides advantages in investigating shootings. Assessing a scene where a gun was fired requires analysis of all aspects including the location of the gun and where the shooter was positioned, as well as the resulting bullet holes ('wall defects'). If the bullet hole is prevalent enough, specially trained investigators will use a trajectory rod to indicate from which direction the bullet entered the wall and where the shooter was standing. By putting a rod into the hole and scanning it, investigators can get an accurate representation of the path taken by the bullet and, likely, a location for the shooter. If there are multiple bullet holes, the intersection of the possible directions will give an investigator a likely position and height of the weapon when fired.



A blood stain is revealed in this scan both by point cloud and the attached image.

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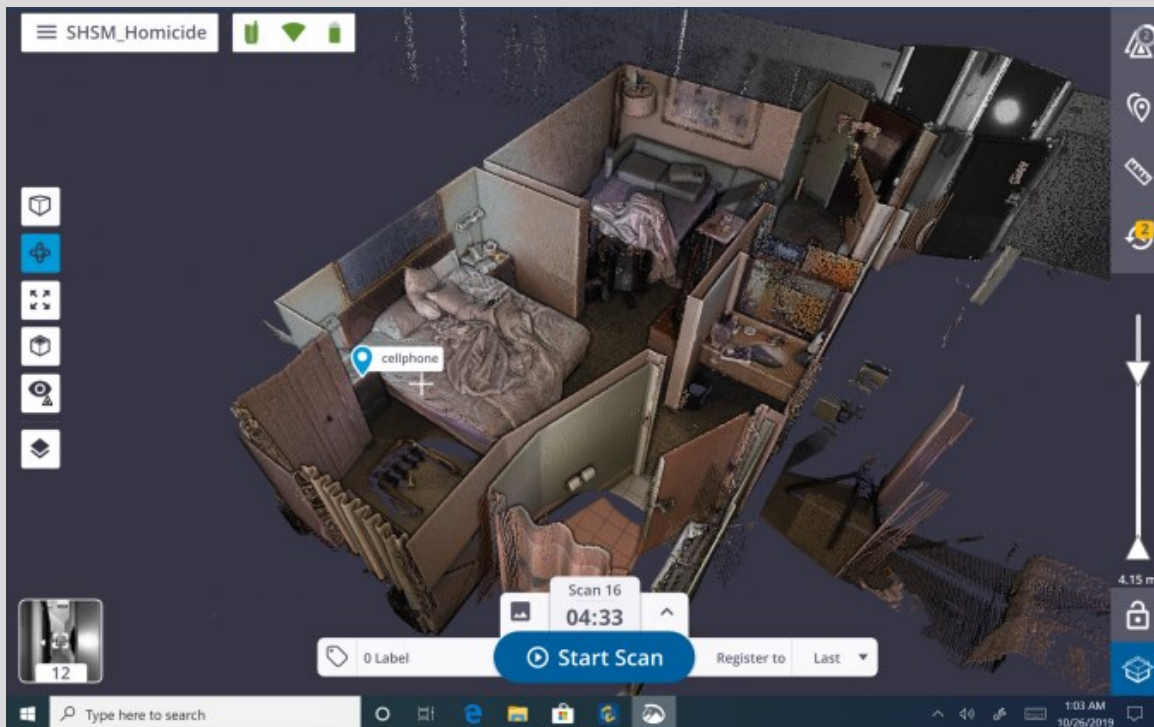
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How 3D Scanning Rebuilds Crime Scenes for Courtrooms

Technology Advancements

Data visualization is a major component of modern forensics work, and 3D laser scanning technologies with better workflows are making it easier and faster to achieve storytelling that holds up in court. Faced with challenging environments, law enforcement agencies need scanning solutions that are fast, easy to operate and complete in their data. Barriers to acquiring the 3D scanning solutions are increasingly coming down, with recent advances decreasing the cost of ownership while also providing new features, such as automatic infield registration, elimination of the need for annual calibration, longer warranties, and data capture capabilities from highly reflective and dark surfaces. Thanks to built-in integrations, varying geospatial forensics technologies can work together, enabling investigators to collect evidence and create diagrams, animations and fly-through models that tell an accurate story of the events. The models bring clarity and build understanding of complex testimonies and exhibits, delivering immense value to the criminal justice system



Viewing the point cloud from this angle clarifies the relative positioning of the evidence to the room entrance.

<https://www.gim-international.com/content/article/how-3d-scanning-rebuilds-crime-scenes-for-courtrooms#:~:text=The%20use%20of%203D%20laser,context%20for%20judges%20and%20juries.>

FUN With FORENSICS

Frequently in the field of Forensics, we, as a whole, deal with a variety of difficult and demanding scenes, tough scenarios, and are often placed in stressful situations. This panel is designed for you to have the opportunity take a quick mental break, refresh your mind, and also to have a little fun. 😊



Two handwriting samples were taken from 10 different individuals. See if you can match the same writer from Column A and Column B



COLUMN A	COLUMN B
A suspect	1 suspect
B suspect	2 suspect
C suspect	3 suspect
D suspect	4 suspect
E suspect	5 suspect
F suspect	6 suspect
G suspect	7 suspect
H suspect	8 suspect
I suspect	9 suspect
J suspect	10 suspect

FUN With FORENSICS

Forensic Science Related Trivia Answers from the Fall Issue of the Identifier

1. What year did National Forensic Science Week become official? **2012**
2. What does the term “Livor Mortis” refer to? **Gravitational pooling of blood**
3. Who was responsible for the creation of the “Body Farm”? **William Bass**
4. What is studied in forensic palynology? **Pollen/spores**
5. When and where was the first recorded application of forensic entomology? **13th century China**
6. The 1911 case of the People vs Jennings was a landmark in forensics as it established the admissibility of which form of evidence uniquely identifying individuals in the United States? **Fingerprints**
7. What is the name of the condition involving the body's temperature decreasing after someone dies? **Algor Mortis**
8. What is the name of the process that can cause a body to produce "grave wax"? **Saponification**
9. What is the name given to the examination of fingerprints? **Dactyloscopy**
10. Who is generally recognized as being the first person to use fingerprints as a means of identification? **Sir William Herschel**
11. After death, the muscles of the body become stiff. What is this referred to? **Rigor Mortis**



UPCOMING TRAINING/EVENTS

May 6th–9th, 2024, [SCIAI Spring Conference](#)

3 day, Sport and Events Center 26 Technology Center Way, Rock Hill, SC
\$100 for members, \$200 for non-members

[Online Training: Latent Print Examiner Training Experience](#)

On Demand, Self Paced Training; Delta Forensics; \$5000

If you have upcoming training that you would like advertised in the newsletter, contact the Editor with course information and details!

If you have upcoming training that you would like advertised in the newsletter, contact the Editor with course information and details!

EMPLOYMENT OPPORTUNITIES

Greenville County: [Forensic Evidence Technician](#)

Greenville County: [Firearms Examiner](#)

Greenville County: [Latent Print Examiner](#)

Anderson County: [Forensic Investigator](#)



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