

The Official Publication of the Chesapeake Bay Division of the
International Association for Identification

Chesapeake Examiner

Spring 2017 / Volume 55 / Issue 1



Leica ScanStation C10
Scanner with the use of
Alternative Light Sources

GLS^{can}® FP

High quality imaging of fingerprints on Gellifters made easy

After the successful introduction of the GLS^{can} Imaging System BVDA now introduces the GLS^{can} FP. The GLS^{can} FP scans Gellifters of up to a size of 5 x 7 inch and is therefore the perfect choice for experts looking for a high-end imaging system to scan Gellifters containing finger marks and palm prints.

New features:

- Auto Exposure
- On screen comparison of images
- Image enhancement and annotation
- New light source and camera shorten scan times
- Instant re-scanning of images increases efficiency
- Real time adjustment of exposure and illumination settings
- Settings Wizard and Assistant to provide the right image the first scan



NEW CAMERA

The system is fitted with a new highly sensitive CMOS camera which scans the Gellifters at a resolution of over 1300 ppi and makes 3rd level detail examination of finger marks possible.

Images obtained with the GLS^{can} FP can be loaded into most automated fingerprint and palm print identification systems (AFIS and APIS).

NEW LIGHT SOURCE

For the GLS^{can} FP a new light source is developed to illuminate the Gellifter during scanning. This LED light source provides for an even illumination of the entire surface of the Gellifter. The intensity of the light is adjustable and a single lamp is now sufficient for scanning barely visible marks at a high level of intensity as well as for scanning marks on white Gellifters using a low level of intensity.

The high intensity light enables the camera to work with shorter exposure times while delivering an excellent image within less than half a minute.

The variable exposure time and adjustable light intensity allows for imaging of nearly invisible to highly contrasting prints on the black Gellifters: from direct lifts of latent marks, to those developed with cyanoacrylate, to prints developed with silver coloured fingerprint powders.

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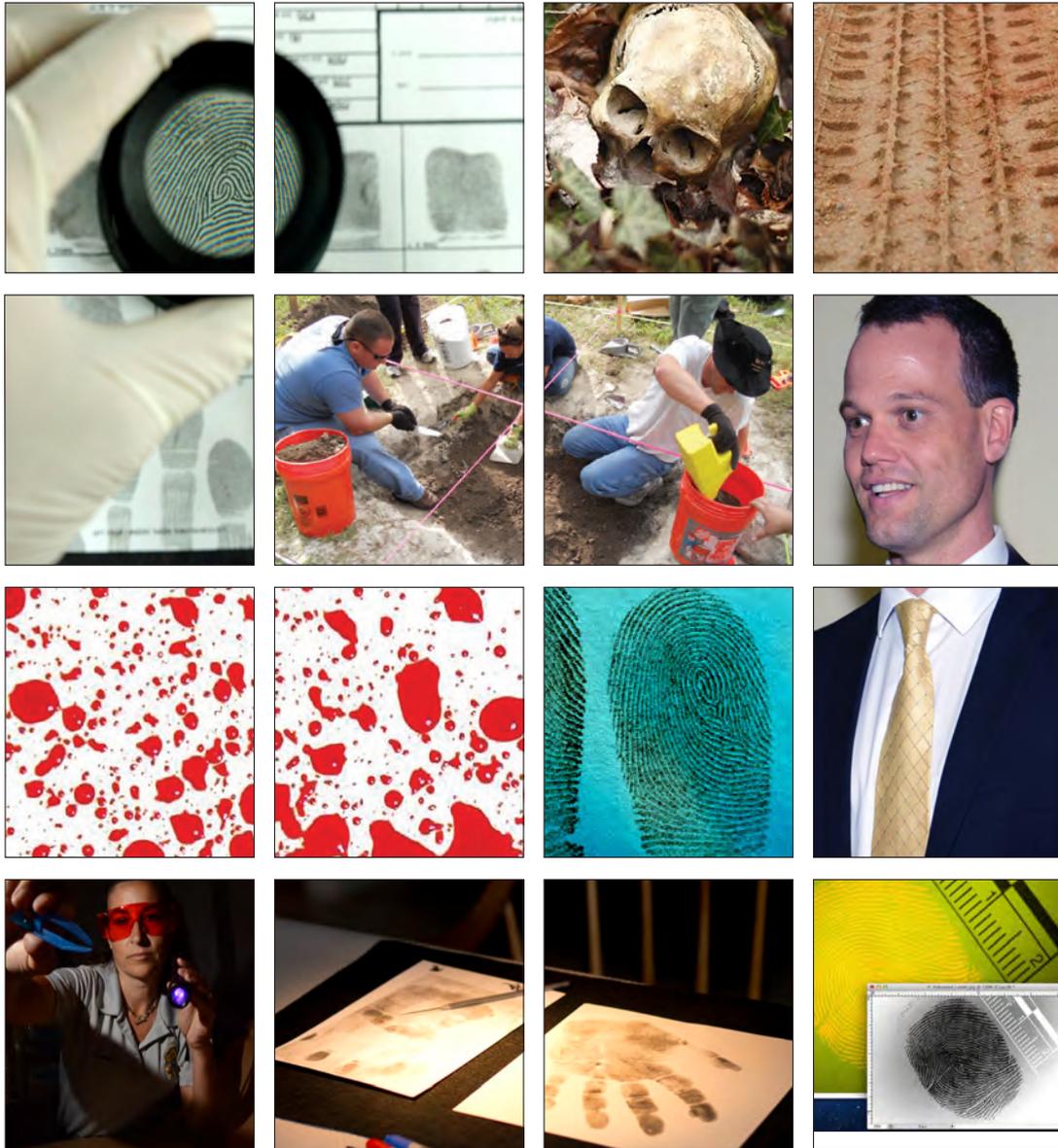
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A Message from the Editor

Fellow CBD Members,

My name is Kelly Peak and I am so thrilled to be the newest Editor for the Chesapeake Bay Division of the International Association for Identification's publication, Chesapeake Examiner. I earned a Bachelor's of Science in Forensic Science with a concentration in Forensic Chemistry, a Bachelor's of Science in Chemistry from Virginia Commonwealth University and am currently working on a Master's of Science in Death Investigation from the University of Florida. Over the last year and a half I have worked in the crime scene unit at the Fayetteville Police Department in North Carolina. Prior to that I worked as a Latent Print Technician in Virginia.

Thank you for allowing me this opportunity to be your new Editor, I am so grateful. A special thank you to the former editor, Brittany Simmons, for all her amazing work over the last few years. The CBD-IAI's goal with the Examiner is to promote further education and training, encourage research, share recent advancements and developments within the field, and foster growth in the forensic science community. As the newest Editor, I will do my best to uphold these goals.

If you are interested in submitting content and/or an advertisement in future editions, please feel free to contact me with any questions you may have. I am happy to help!

Kelly Peak, Editor



DISCLAIMER: The Chesapeake Examiner is the official publication of the Chesapeake Bay Division of the International Association for Identification. The views and opinions expressed in the articles which are published in the Chesapeake Examiner are exclusively those of the writers and/or publications from which the information was taken and do not necessarily reflect an endorsement or position of the CBD-IAI or its membership. Permission to reprint original material published in this journal may be obtained by contacting the current Editor. An electronic copy of the material will be provided with the understanding that the appropriate authorship, article title, publication, volume, and issue information be included in the reprint. Submitted articles may contain the use of equipment or processes utilizing chemicals or combinations of chemicals which may be hazardous or potentially hazardous to the user's health. It is strongly recommended that all directions for equipment be read and followed and that appropriate precautions be exercised when using hazardous or potentially hazardous chemicals or combinations of chemicals wherein the hazards may not be fully known. The CBD assumes no responsibility for use of equipment, chemicals, or combinations of chemicals as set forth in any article.

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A message from the President

Greetings All,

Serving as President of the Chesapeake Bay Division of the International Association for Identification for the last year has truly been an honor and a privilege. I was fortunate enough to attend the International Association for Identification conference in the summer of 2016 and met many wonderful members from other divisions, as well as had intellectually stimulating conversations with the current IAI board of directors regarding how the Chesapeake Bay Division can continue to grow and develop.

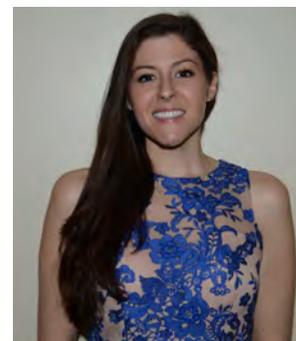
On behalf of our division I'd like to thank all the members, vendors and those who have diligently attended our Educational Conferences as well as Fall Seminars. The Spring 2016 Educational Conference in Williamsburg, VA and the Fall 2016 Seminar at West Virginia University were extremely successful events with presentations from practitioners in the field as well as students.

Lastly, I want to thank the forensic community for embracing our division and recognizing our role in assisting with the transference of knowledge and skills. I've been fortunate enough to watch the CBD evolve over the past few years and I look forward to its continued evolution.

The Spring 2017 Educational Conference is quickly approaching and will take place April 21-22, 2017 in Frederick, MD. After a year of planning it's amazing to see a vision turn into a reality. I'd like to thank all the officers, planning committees and board of directors for all their input and helpful advice along the way.

I look forward to seeing and speaking with all of you at the upcoming Spring Conference.

Kindest Regards!
Rebecca Wood, President



Rebecca Wood
55th CBD IAI President

A Message from the Secretary/Treasurer

Dear Chesapeake Bay Division Members,

It has been a pleasure serving the CBD-IAI as your Secretary/Treasurer for the last two years. There have been an incredible amount of advancements as an organization within the time I have served. The online payment of dues and conference registrations have been a wonderful implementation for myself as well as the membership. I am looking forward to being a part of the continued growth of the CBD-IAI.

Both the 2016 Spring Educational Conference in Williamsburg, VA and the 2016 Fall Seminar at West Virginia University were resounding successes. I would like to thank the officers and board members for all their hard work in planning the two events. If your university or agency is interested in hosting our one-day seminar in October of 2017, please contact the 2nd Vice President, Christopher Claytor.

Our 2017 Spring Educational Conference is approaching quickly and I know there will be a great deal of membership support attending. The conference will be held on April 21st & 22nd in Frederick, MD. Our President, Rebecca Wood, in conjunction with the other officers have put together an exciting two-day program. You can view the conference agenda and register online at <http://cbdiai.org/conferences>.

If any members have suggestions in regards to the CBD-IAI's conferences, seminars, student involvement or ways to attract new members, please forward recommendations to cbdiaisec@gmail.com. Thank you all again for choosing to support the CBD-IAI!

-Jessica Landi, Secretary/Treasurer

Profit and Loss Statement

Spring 2016 Conference Williamsburg, Virginia
April 22-23, 2016

INCOME:

Conference Registration.....	\$16,715.00
Vendor Registration.....	\$3,510.00
Vendor Sponsorship of Social Events.....	\$800.00
50/50 April 23, 2016	\$123.00
Total Income.....	\$21,148.00

EXPENSES:

Hotel Fees (food, meeting rooms, AV fees, etc. on master bill).....	\$15,015.43
Speaker's Gifts	\$0.00
(Sponsored by Arrowhead Forensics)	
Hospitality and Miscellaneous.....	\$913.64
(President's Plaque, Secretary/Treasurer's Plaque, Vendor Gifts, Banquet Decor, etc.)	
Poster Presentation Winners.....	\$225.00
Program Guide Printing	\$219.55
Total Expenses.....	\$ 16,373.62
INCOME.....	\$21,148.00
EXPENSES.....	\$16,373.62
PROFIT.....	\$4,774.38

Respectfully Submitted,
Jessica Landi-Secretary/Treasurer



Profit and Loss Statement

Fall 2016 Seminar Morgantown, West Virginia
October 15, 2016

INCOME:

Seminar Registration.....	\$1,530.00
Vendor Sponsorship of Social Events.....	\$550.00
Total Income.....	\$2,080.00

EXPENSES:

Coffee and Pastries.....	\$420.70
Miscellaneous (candy for speaker gifts and office supplies).....	\$25.19
* Speaker's Gifts	\$0.00
* Program Guide.	\$0.00
Total Expenses.....	\$445.89
* Speaker's Gifts donated by Arrowhead Forensics	
* Programs printed in house with existing supplies	

INCOME.....	\$2,080.00
EXPENSES.....	\$445.89
PROFIT.....	\$1,634.11

Respectfully Submitted,
Jessica Landi-Secretary/Treasurer

From the Office of the Secretary/Treasurer April 1, 2015 through March 31, 2016

Operating Account

Total balance in Operating Account as of April 1, 2015	\$40,522.18
Deposits from income	\$38,561.00
Interest Received on Operating Savings Account	\$13.92
Transfer to Scholarship Savings (contributions received for Scholarship Fund)	\$220.00
Total Amount Received 04/01/15 through 03/31/16	\$38,354.92
Total Disbursements	\$25,325.29
Net Balance in Operating Accounts	\$53,551.81
Balance in Checking Account	\$24,773.46
Balance in Operating Savings	\$28,528.80
Balance in Petty Cash	\$249.55
Total Received from Latent Print Certification	\$300.00
Total Received from Crime Scene Certification	\$450.00
Total Received from Ten Print Certification	\$0.00
Total Received from Forensic Photography Certification	\$0.00
Scholarship Account	
Balance in the Scholarship Savings as of April 1, 2015	\$35,605.99
Direct Contributions to Scholarship Fund	\$336.00
Interest Received on Scholarship Savings Account	\$17.99
Transfer to Checking Account for Scholarship Recipient	\$500.00
Net Balance in Scholarship Account	\$35,459.98
Total Balance All CBD Accounts	\$89,011.79

Respectfully Submitted,
Jessica Landi-Secretary/Treasurer

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Thank you for your continued support.

Fall 2016 Seminar

West Virginia University

National Research Center for Coal and Energy 101
385 Evansdale Drive Morgantown, WV 26506
October 15, 2016



This year, the Chesapeake Bay Division of the International Association for Identification partnered with the Pennsylvania State Division for the Fall 2016 Seminar. The Seminar was held at West Virginia University on October 15, 2016 and was an amazing success! The CBD-IAI hopes that everyone enjoyed the WVU Seminar and would like to give a special thank you to all the members and sponsors that participated. We greatly appreciate your continued support.



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Kelly Funk
Steven Johnson

Jessica Landi
Mallory McCormick
Robert Otero
Brittany Swisher
Clytrice Watson
Rebecca Wood

2016 George H. Robinson Memorial Scholarship Winner

Masha Signaevsky from Arcadia University

2017 Twenty-five Year Life Member

Richard Ingram
Karen Baxter-Benns
Lorraine Lansey



Business Meeting Minutes

Great Wolf Lodge, Williamsburg, VA

April 23, 2016

The meeting was called to order by Chairperson Jeffery Barnes at 5:15 pm.

Motion made by Michael Gorden to waive Robert's Rules of Order, seconded by Sylvia Buffington-Lester, motion passed unanimously.

Chairperson Jeffery Barnes asked the Secretary/Treasurer, Jessica Landi, to read the minutes of the last business and board meetings. Ken Smith made a motion to waive the reading of the board minutes as posted, seconded by Michael Gorden, motion passed unanimously.

Reports from Officers

Secretary/Treasurer

Jessica Landi stated that the Treasurer's Report was posted on the board for everyone to review. Ken Smith made a motion to accept the Treasurer's Report as posted, seconded by Sylvia Buffington-Lester, motion passed unanimously.

President

Linda McCall not present at Business Meeting.

First Vice President

Rebecca Wood has conducted multiple site visits for the 2017 Spring Educational Conference. Contracts at both Solomon's Island and a hotel in Frederick, MD will hopefully be received soon. The goal is to have a contract approved within 30 days and provide it to our legal counsel and the Board of Director's for a vote. Update will be pushed out to membership shortly.

Second Vice President

Kelly Ayers thanked everyone for coming to the conference and the 2018 Spring Educational Conference is looking to be held at The Waterfront hotel in Morgantown, WV. The 2016 Fall Seminar will be held at West Virginia University in Morgantown, WV.

Third Vice President/Vendor Coordinator

Chris Claytor stated that a total of ~ \$2800.00 was generated from vendor support for the 2015 Spring Educational Conference and the amount for the 2016 Spring Educational Conference was ~\$4600.00. Vendor support is looking great and a number of vendors have already expressed interest in returning for the 2017 Spring Educational Conference in Maryland.

Historian

Sarah Dwyer informed the membership in attendance that she received a pallet of archived records that were being stored at a secure location graciously by Evident. Sarah asked if anyone would like to assist in the scanning of these documents to please let her know. The goal is to have this accomplished by the 2017 Spring Educational Conference.

Committees Reports

Crime Scene Certification Committee

Kelly Ayers does not believe any members took the crime scene certification test this past year, however, she did reach out to the IAI and is awaiting a response.

Audit/Finance Committee

Ken Smith noted that the financial records are in good order. Jessica will provide guidance on one unusual charge that was found on the PNC bank records. *UPDATED April 28, 2016 – Update provided to Board of Director's that the unusual charge found in the PNC bank records is a yearly merchant fee charged by PNC Merchant.

Scholarship Committee

Sylvia Buffington-Lester reported that the CBD-IAI has named the winner of the George H. Robinson Scholarship to Masha Signaevsky from Arcadia University. Two additional applications were received, however, the applications were incomplete.

Membership Committee

Gabbe Toy reported the membership is currently at 661 members and that we have 39 new members since the previous conference.

Stephen Meagher asked to ensure that the membership was being tracked by discipline in order to assist with conference planning in the future. Secretary/Treasurer, Jessica Landi, has this information and will provide to the Board of Director's at the 2017 Spring Educational Conference.

Latent Print Certification Committee

Secretary/Treasurer, Jessica Landi, spoke on behalf on Chairperson Mack Brazelle. The CBD-IAI had twelve members sit for the latent print certification.

CBD-IAI Legal Counsel

Les Michel provided an update to the membership in regards to the previous year's taxes. All forms and information are current and in good order.

Motion made by Michael Gorden to accept committee reports as stated, Les Michel seconded, motion passed unanimously.

Unfinished business

None

New Business

Les Michel began discussion in regards to raising additional funds. The CBD-IAI needs to look toward the future and Les asked individuals who are familiar with grants, sponsorships, etc. to please get in touch with the officers to share ideas. Topic will be readdressed at a future date.

Election of Officers

Nominating Committee Recommendations

President – Rebecca Wood

Hearing no nominations from the floor, Stephen Meagher made a vote of acclimation to accept the nomination, Les Michel seconded, motion passed unanimously.

1st Vice President – Kelly Ayers

Hearing no nominations from the floor, Stephen Meagher made a vote by acclimation to accept the nomination, Michael Gorden seconded, motion passed unanimously.

2nd Vice President – Christopher Claytor

Hearing no nominations from the floor, Stephen Meagher made a vote of acclimation to accept the nomination, Jeffery Barnes seconded, motion passed unanimously.

3rd Vice President – Shelly Brazelle

Hearing no nominations from the floor, Stephen Meagher made a vote of acclimation to accept the nomination, Sylvia Buffington-Lester seconded, motion passed unanimously.

Secretary/Treasurer – Jessica Landi

Hearing no nominations from the floor, Stephen Meagher made a vote of acclimation to accept the nomination, Les Michel seconded, motion passed unanimously.

Editor – No nomination

Kelly Ayers nominated Kelly Peak from the floor, no other floor nominations, Kelly Peak accepted, position closed.

Sargent in arms – Lanette Turner

Hearing no nominations from the floor, Stephen Meagher made a vote of acclimation to accept the nomination, Les Michel seconded, motion passed unanimously.

Historian – Sarah Dwyer

Hearing no nomination from the floor, Stephen Meagher made a vote of acclimation to accept the nomination, Ken Smith seconded, motion passed unanimously.

Election to the Board of Directors

Nomination Committee Recommendations

Frank Curran, III

Jessica Shaffer

Gabrielle Toy

Sharon Bouchard

Mallory McCormick

Lori Britton (Not Present) – Nominated from the floor by Kelly Ayers

Nominations were formally closed by an announcement by Chairperson Jeffery Barnes.

Each nominee was given 3 minutes to present why they deserve a vote to serve on the Board of Directors for the CBD-IAI. Kelly Ayers spoke on behalf of Lori Britton who could not be in attendance due to medical issues. Vote ensued and tallied to determine a total of five board positions. All ballots were in at 5:50 pm.

Frank Curran, III, Jessica Shaffer, Gabrielle Toy, Sharon Bouchard and Mallory McCormick were voted in as members of the Board of Director's for the CBD-IAI.

Meeting adjourned at 6:00 pm.





Board of Directors Meeting

Great Wolf Lodge Williamsburg, VA

April 21, 2016

Attendees:

Jeff Barnes, Frank Curran, III, Jess Shaffer, Shelly Brazelle, Linda McCall, Rebecca Wood, Kelly Ayers, Jessica Landi, Chris Claytor, Lanette Turner

1. Call to Order – Board Chairperson Jeff Barnes

Jeff Barnes called the meeting to order at 10:22 am at Great Wolf Lodge in Williamsburg, VA.

2. Roberts Rules of Order

Motion by Linda McCall, seconded by Shelly Brazelle, to waive Roberts Rules of Order, no discussion, motion carries.

3. Board Meeting Minutes from Previous Year

Board unanimously accepts.

4. Old Business

Shutter fly (for storage of historical documents/photos) was readdressed. Determined that all documents and photos need to be stored in at least 2 physical locations. Discussion took place and it was determined that the acceptable locations were an external hard drive, burned onto a non-writable CD, and stored in the cloud.

Coin discussion took place and the topic of an online merchant be contacted and we place the merchandise on the CBD-IAI website. There was interest expressed by the members at the 2015 Fall Seminar for the Arrowhead Tervis Mugs and we would need to contact Arrowhead to see if they approve them being posted on the website. It was determined that this topic will be included in the end of conference surveys to gauge membership interest.

5. Secretary/Treasurer Report

Secretary/Treasurer Jessica Landi provided account balance totals (as of March 31, 2016) and certification funds received from the IAI for passed exams. All information was reviewed; no additional discussion took place. Accepted by the board.

6. Officer Reports / Committee Reports

President Linda McCall

Discussion took place in reference to the GWL venue and 203 nights were booked. This quadrupled our projected room reservation amounts; over 100 will be in attendance at Great Wolf Lodge. The late fee was honored by multiple members and we will keep implementing in the future. The site brought some of challenges because of the family atmosphere and it was a great learning experience for future conferences.

Prices were kept consistent with previous conferences and we believe we found a nice harmony with the prices. This will give us a common baseline for future conference questions when they come up. It may fluctuate in the future dependent on food costs but the \$175 will be a nice baseline.

Need to make it a standard for continuing education credits for both law enforcement and universities attending the conferences and seminars. State of Virginia is easy but we need to reach out to the other states in the division. Do we need to start a committee only for this topic? Incoming President Rebecca Wood intends to address and appoint at a future date.

1st Vice President – Rebecca Wood

Proposed venue – Reviewed RFP's from five sites in Maryland and Virginia. Two site visits were completed (Turf Valley and Solomon's Island). Turf Valley did not feel right, Solomon's Island (~1.5 hours outside D.C.) contract was provided and reviewed. Keynote speaker has committed and will not charge if Solomon's Island venue is chosen. Overall venue / conference center will fit all of our needs. The layout of the conference center was provided and addressed each aspect of the conference (general session, breakout rooms, vendor area, workshop rooms, etc.). Proposed dates are for the end of April. The government per diem rate is \$91/night but could increase by 10% (\$101) if conference coordinator participates. We need a room pick-up of 30 or more per night for a waived fee of the workshop room space; general session conference space is waived. Additional questions need to be asked in regards to which days count toward having fee waived and this will be provided at a future date. Meeting space prices to come in the future.

Feedback given by Board Member, Frank Curran, III, that the CBD-IAI has held conferences at Solomon's Island on numerous occasions and the key is going to be the program/events at the venue to attract the membership.

To ensure the attendance is up, Rebecca Wood stated that the agenda and events would have to be good to attract the membership to this location. The Solomon's Island attraction may bring a few more members but the program needs to be great. With the keynote already in place for free the agenda needs to be pushed out ASAP.

BOD member, Shelly Brazelle, proposed that the CBD-IAI could possible start having a parent/child workshop to attract the families of members that attend the conference.

The Board believes the venue has promise and Rebecca will proceed with a detailed contract. Rebecca has thirty days to get the contract in order or move on.

2nd Vice President – Kelly Ayers

Student boxed lunch session and retirement lunch session were sponsored (16 in Student and 4 in Retirement). Vendor reception/poster presentation will be taking place at the conference, 4 poster presentation participants will be presenting.

Potential 2018 Conference venue is the Waterfront Marriott in Morgantown, West Virginia. The contract will be forthcoming.

3rd Vice President – Chris Claytor

Provided the amount made from vendors during the 2015 Spring Conference (\$2,845.00) and the amount from the 2016 Spring Conference (\$4,485.00).

Chris Claytor reached out to VCU in regards to hosting a Fall Seminar. Still waiting to hear back on the actual costs. Original proposal was ~\$80 / hour for classroom space. Discussion took place and it was determined that the 2016 Fall Seminar will be hosted by West Virginia University, with a proposed date of October 2016.

7. Constitution and Bylaws

Proposed changes:

Page 13 Section 7.11 (a) – The Editor shall cause to be published and distributed to all members in good standing **at a minimum one copy** of the division’s publication “*The Chesapeake Examiner*,” which is designated official publication of this division.

Page 14 Section 7.11 (2) – “*The Chesapeake Examiner*” shall be published **at least once a year** on dates that proceed the annual educational conference by a minimum of 30 days.

These proposed changes were documented and will be submitted to the parent body IAI for approval. The parent body will respond at a future date to inform the CBD-IAI of their final decision.

BOD member, Shelly Brazelle, stated that we need to reach out to the students for both poster presentations and research articles. The articles could potentially be submitted for use in *The Examiner*. This will give the students more options to get involved.

Discussion took place in regards to what level of publication we want for *The Examiner*. We can add a student research section to *The Examiner* but the main article needs to be higher level research conducted. Will contact Editor, Brittany Simmons, to inform of this decision.

8. CBD-IAI 2017 Spring Conference

Discussed above (1st Vice President – Rebecca Wood)

9. New Business

Motion made for the secretary/treasurer to ensure that non-rewritable media will be created and distributed to the secretary/treasurer, historian, and editor, that the same material will be placed on the cloud and maintained by the webmaster, and that the same material will be placed on an external hard drive, in perpetuity, which will be maintained by the secretary/treasurer, prior to any destruction of any CBD material. This will begin with 2016 material, not applicable to anything prior to 2016 and will be completed once per year after each business meeting prior the end of the calendar year.

Motion made by Jeff Barnes, seconded by Jessica Shaffer, no discussion and motion carries.

Discussion took place in regards to the scholarship fund and reinstating the \$1.00 per membership renewal. Secretary/Jessica Landi will be back date the \$1.00 per membership renewal from the date of 10-11-2015 to the present. This will take place for all future membership renewals, as well.

Discussion took place on whether the CBD should contribute a portion of the Fall Seminar proceeds to the scholarship fund? If so, what percentage?

Board Member, Frank Curran, III, proposed he would vote in approval for the above discussion and that another idea would be have the vendors provide to the scholarship fund and the CBD would provide recognition on the website. Jessica Shaffer motions to accept, Shelly Brazelle seconded to approve that 100% of the proceeds made from the 2016 Fall Seminar be added to the scholarship fund. No discussion, motion passed unanimously.

The President asked if there was any further new business to be brought before the membership. There was no further new business.

10. Adjournment

Meeting adjourned at 1:15 pm.





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Minutes from the

2016 Board of Directors Email Correspondence

1. Contract for the 2017 Spring Educational Conference

The proposed contract for the 2017 Spring Educational Conference was provided to the Board of Directors on May 23, 2016. There was a slight change in contract distributed on May 24, 2016 in reference to a deposit being due at the time the contract is signed. Clarification was provided by President Rebecca Wood that the venue would accept a check at the end of the conference. Board Member Gabrielle Toy made a motion to accept the contract with the change of providing a check at the end of the event for payment on May 24, 2016. Board Member Mallory McCormick seconded the motion on May 24, 2016 and discussion took place. After no additional discussion on May 31, 2016, Chairperson Jeffery Barnes called for a vote, passed unanimously. Contract was signed and forwarded to venue on June 1, 2016.

2. CBD-IAI Bank Accounts

Motion made on June 16, 2016 to remove Jeffery Barnes, current Chairperson of the Board of Directors for the Chesapeake Bay Division of the International Association for Identification (CBD-IAI), from all CBD-IAI bank accounts. Rebecca Wood, current President of the CBD-IAI, would then be added to all CBD-IAI bank accounts. Board Member Gabrielle Toy seconded motion on June 16, 2016 and discussion took place. After no additional discussion on June 16, 2016, Chairperson Jeffery Barnes called for a vote, passed unanimously on June 17, 2016. All CBD-IAI bank accounts were updated on June 18, 2016.

3. Venue and Registration Costs for the 2016 Fall One-Day Seminar

Motion made by Kelly Ayers, 1st Vice President CBD-IAI, on June 23, 2016 to make the 2016 Fall One-Day Seminar a joint effort with the Pennsylvania Division of the IAI and for it to be held on the campus of West Virginia University in Morgantown, West Virginia. The seminar will take place on October 15, 2016 from 8:00 am to 5:00 pm at the cost of \$75.00 for non-members and \$50.00 for members. 20 West Virginia University students will be granted free admission and the Pennsylvania Division of the IAI members will have to provide proof of membership upon registration and will receive the member price of \$50.00. CBD-IAI President, Rebecca Wood, seconded the motion on June 23,

2016 and discussion took place. After no additional discussion on June 28, 2016, Chairperson Jeffery Barnes called for a vote, passed unanimously.

4. Registration Fees for the 2017 Spring Educational Conference

Motion made by Rebecca Wood, President of the CBD-IAI, on October 26, 2016 to accept the proposed registration fees for the 2017 Spring Educational Conference. Please see proposed figures below:

Members - \$175.00, Non-Members - \$200.00, Daily (Adults) - \$90.00, Guests - \$160.00, Students - \$155.00, Late Registration - \$225.00, Daily (Child) - \$40.00 and Children - \$80.00

Board Member Jessica Shaffer seconded motion on October 27, 2016 and discussion took place. After discussion took place an amendment was made to lower the student registration fee to \$125.00 and Chairperson Jeffery Barnes called for a vote, passed unanimously.

Motion made by Rebecca Wood, President of the CBD-IAI, on November 21, 2016 to accept a registration cost that was previously overlooked. Please see proposed figure below:

Daily (Adult) without meals - \$60.00

The previous Daily (Adults) - \$90.00 includes meals for that day.

Board Member Gabrielle Toy seconded motion on November 21, 2016 and discussion took place. After discussion took place, Chairperson Jeffery Barnes called for a vote, passed unanimously on November 23, 2016.

5. Retention of CBD-IAI Historical Documents

Motion made by Jeffery Barnes, Chairperson, on June 16, 2016 that stated, "To scan and retain past CBD-IAI applications including fingerprint cards digitally, while returning any applications that have been requested and properly disposing (shredding) of all other applications. If any personally identifiable information (PII) is present on any digital records they will only be maintained on non-rewritable digital media (CD or DVD) in order to prevent any PII from being susceptible to hacking." Board Member Sharon

Bouchard seconded the motion on June 16, 2016 and discussion took place. After no further discussion Chairperson Jeffery Barnes called for a vote on June 22, 2016, motion fails by majority vote June 23, 2016.

Motion made by Chairperson Jeffery Barnes on June 28, 2016 that the CBD-IAI return any and all fingerprint and application information to a specific CBD-IAI member as soon as practicable and that there will be no copies of any kind made by the CBD-IAI. Board Member Gabrielle Toy seconded the motion and discussion took place. After no additional discussion, Chairperson Jeffery Barnes called for a vote on July 8, 2016, passed unanimously.

After further discussion took place a motion was made by Chairperson Jeffery Barnes on July 11, 2016, which stated, "The CBD-IAI Secretary will review all the records (fingerprint cards, applications and dues forms) and ensure the current CBD-IAI database is up to date with only the information currently required on new member applications. All records able to be returned to their originator will be returned at the earliest convenience not to exceed one year from the date the records have been ensured to be in the database. All records not able to be returned will be destroyed. An exception will be if the originator or a surviving family member gives written permission to the CBD-IAI allowing the organization to retain any of the records." Board Member Mallory McCormick seconded the motion and discussion took place. After no further discussion, Chairperson Jeffery Barnes called for a vote on July 14, 2016, passed unanimously.

Updates/Changes to the Bylaws

CBD-IAI Constitution and Bylaws Changes for 2016

These proposed changes were documented by the Board of Directors and were submitted to the parent body IAI for approval. The parent body responded and approved the changes on 05/24/2016.

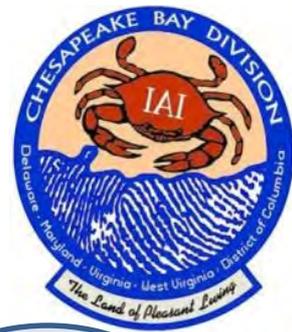
Section 7.11 Editor

- (a.) Official Publication The Editor shall cause to be published and distributed to all Members in good standing ~~one (1) copy of each of the two (2) semi-annual issues at a minimum one copy~~ of the Division's publication, the "*Chesapeake Examiner*," which is the designated Official Publication of this Division.
- (2.) The "*Chesapeake Examiner*" shall be published at least ~~twice~~ **once** per year on dates that precede the annual educational conference by a minimum of thirty (30) days.



To view CBD Bylaws in full go to <http://cbdiai.org/about-cbdiai>

Chesapeake Bay Division: International Association for Identification



SPRING 2017 EDUCATIONAL CONFERENCE

Education is one of the CBD-IAI's primary missions. The CBD-IAI strives to be the main professional association for those engaged in forensic identification, investigation, and scientific examination of physical evidence.



KEYNOTE

Mr. Robert G. Lowery Jr.

Vice President, Missing Children Division,
National Center for Missing and Exploited
Children (NCMEC)

<http://www.missingkids.com/ExecutiveTeam/RobertLowery>

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Jessica Landi
cbdiasec@gmail.com

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2017 Conference Information

THURSDAY, APRIL 20, 2016

6:00 PM to 8:00 PM President's Welcome Reception with hors d'oeuvres and open bar sponsored by



FRIDAY, APRIL 21, 2016

7:00 AM Registration opens

7:30 AM to 8:30 AM Continental breakfast

Opening Ceremonies

8:30 AM to 9:00 AM

Presentation of Colors—Lt. Dennis Dudley and the Frederick Police Department
Invocation—Sylvia Buffington-Lester, Virginia Department of Forensic Science
President's Welcome—Rebecca Wood, DC OCME

9:00 AM to 10:00 AM

Keynote: Bob Lowery, Vice President, National Center for Missing and Exploited Children (NCMEC)

WORKSHOPS

10:00 AM - 12:00 PM

Crime Scene Mapping: Using TruPoint 300 Laser and QuickMap 3D, **Mike Phippen & Brian Ferry**, Laser Technology, Inc.

1:00 PM – 5:00 PM

TBD

LECTURES

10:00 AM to 11:00 AM

Quantitative Research on the Individuality of Fingerprints, **Stephen S. Wood**, NIST

11:00 AM to 11:15 AM

Break

11:15 AM to 12:00 PM

The Consequences of Error, **Stephen Meagher**, FBI (Retired)

12:00 PM to 1:00 PM

LUNCH ON YOUR OWN

*12:00 PM to 1:00 PM

Student Lunch Session – Please ensure you sign up on your registration.

*12:00 PM to 1:00 PM

Retirement Lunch Session – Please ensure you sign up on your registration.

FRIDAY, APRIL 21, 2016 (continued)

1:00 PM to 2:00 PM

The Importance of Validation in a Forensic Laboratory, **Danielle O'Neill**, Fingerprint Specialist, TIGTA

2:00 PM to 2:45 PM

Error Management in Forensic Digital Imaging, **David "Ski" Witzke**, Foray Technologies

2:45 PM to 3:15 PM

Vendor Break

Sponsored By: West Technology Forensics



3:15 PM to 4:00 PM

Error Management in Forensic Digital Imaging, **David "Ski" Witzke**, Foray Technologies (Continued)

3:15 PM to 5:00 PM

Breakout Session: *How to Start a Business*, **Kenneth Prager**, CBD-IAI CPA

4:00 PM to 5:00 PM

You Don't Have to Have a Mustache (or a Large Budget Either) to Be a Good "PI": Free Resources for Background Information on People, Property and Companies, **Lori Corso**, Legal Research Instructor & Electronic Services Librarian, Villanova University Charles Widger School of Law School

6:00 PM to 7:00 PM

Vendor Meet and Greet Reception

7:00 PM to 9:00 PM

Buffet Dinner

9:00 PM to

Night Cap Social in Hospitality Suite

Sponsored By: SPEX Forensics



PLEASE SEE WEBSITE FOR PRESENTATION ABSTRACTS AND PRESENTER BIOS

SATURDAY, APRIL 22, 2016

7:00 AM Registration opens
7:00 AM to 8:00 AM Continental Breakfast

WORKSHOP

10:45 AM to 12:00 PM *Advanced Digital Processing of Evidentiary Photography, David "Ski" Witzke, Foray Technologies*
** Please see attendee requirements on workshop bios and abstracts document
First hour will be utilized for attendee preparation and set-up. Workshop will break for lunch and resume at 1:00 PM.
1:00 PM to 5:00 PM *Advanced Digital Processing of Evidentiary Photography, David "Ski" Witzke, Foray Technologies*
** Please see attendee requirements on workshop bios and abstracts document

LECTURES

8:00 AM to 9:30 AM *Inside a Serial Kidnapper's House - Ariel Castro, Michael A. Wisniewski, FBI*
Christopher Garnett, FBI

Sponsored by: Foray Technologies



9:30 AM to 10:30 AM *ABC, CBS, NBC, Oh My!: High Profile Deaths and the Media, Dr. Jan Gorniak, DO, Fulton County Chief Medical Examiner (Georgia)*

SATURDAY, APRIL 22, 2016 (continued)

10:30 AM to 10:45 AM Break
10:45 AM to 12:00 PM *Accreditation of Forensic Organizations to ISO/IEC Accreditation Standards, Karin Athanas, A2LA*
12:00 PM to 1:00 PM LUNCH ON YOUR OWN
1:00 PM to 3:00 PM *Bridging the Gap between Generations, Martina Bison-Huckaby, West Virginia University*
3:00 PM to 3:40 PM Vendor Break and Poster Contest
Sponsored By: Attestor
The logo for Attestor features the word "attestor" in a yellow, lowercase, sans-serif font. The letters are set against a blue rectangular background with a gradient. Two orange diagonal lines cross the background behind the text.
3:40 PM to 4:00 PM *The Merger of ASCLD/LAB and ANAB: How This Will Affect Forensic Labs, Anja Einseln, Training Manager, ASCLD-LAB/ANSI-ASQ National Accreditation Board (ANAB)*
4:00 PM to 5:00 PM *Processing with Indanedione: A Practical Guide, Erin Armstrong, TIGTA*

Business Meeting will be held at the conclusion of the last speaker.

7:00 PM to 9:00 PM Installation Banquet Dinner

PLEASE SEE WEBSITE FOR PRESENTATION ABSTRACTS AND PRESENTER BIOS

Publication Information

Article Requirements:

Article submission is open to students and practitioners that are interested in getting their work published. The most important requirement is that the topic of the research article, quick study, text review, etc. should be relevant to the forensic community and that there should be sufficient literature references and factual data supporting all claims.

There are no strict formatting requirements, but all submissions must contain the essential elements needed to convey the article. Divide the article into clearly defined, logically organized sections. For research articles: abstract/introduction, materials, methods, results, conclusions, artwork and tables with captions, etc. For general papers: statement of purpose, analysis of procedures or evidence, conclusions and implications. Please ensure that any figures/tables included are placed next to the relevant text rather than at the bottom or top of the file. Footnotes should be used sparingly as the program I use to publish does not support this. All submissions should be typed and double spaced. Please review and edit your article thoroughly before submission.

Vendor Requirements

Due to our continued effort to print all advertisements in a quality format, the following requirements for advertising should be followed: - Digital submissions should be sized correctly to the specifications of the ad space reservation. - Highresolution PDF files are preferred. (Please do NOT send low-resolution PDF files) What to send: - The high resolution PDF (preferred) or - The native file (e.g., .JPG, .PNG, .GIF, Word, PowerPoint, etc.) with any supporting files that are incorporated into the ad (e.g., logo scans and images). Most layout programs have a "package" or "collect" function that will gather these elements for you. Please embed or outline fonts or include the screen and printer fonts used in your ad.

Fonts need to be included. Costs: - Inside front or back cover (accepted in order of money received) \$200 - Full page \$150 - Quarter page \$75 - Half page \$125 - Business card size \$50

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Leica ScanStation C10 Scanner with the use of Alternative Light Sources (ALS)

Chris Holsinger and Dr. Marilyn T. Miller
Virginia Commonwealth University

Introduction

When investigators arrive at crime scene, the clock starts as they only have a very limited time to completely document the untouched site.¹ This only gives investigators two options for documentation of the untouched site; photography and videography. However, in the past few years a new style of documentation has risen through the use of 3D laser scanners. 3D scanners allow the user to create a virtual world of the area they scanned and with the combination of photographs from the instrument it allows for an accurate and life-like scenario. This is can be particularly advantageous for investigators at a crime scene where the site remains in its untouched state for a short amount of time. This virtual world can allow investigators to go back and look at evidence at the scene, essentially at the same time as it was untouched. With this ability, it also allows the creation and presentation of reconstructions whether it be for a jury in a court case or just for general reconstruction in order to help understand the crime. Before the use of this 3D laser scanner can be put to the test, how the scanner works must be explained.

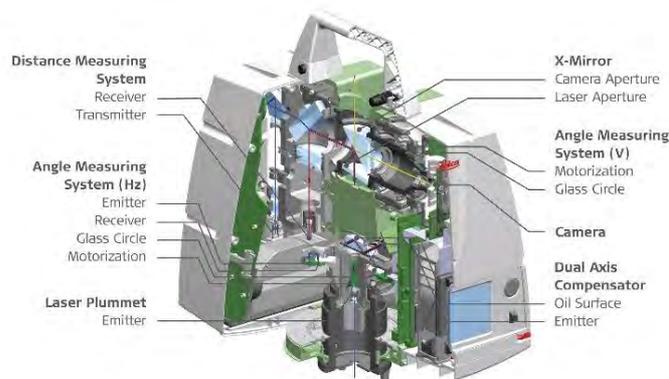


Figure 1. Leica ScanStation C10 components and instrument ⁴

A 3D scanner works on the basis of a known fixed wavelength and how fast that light travels through a common medium such as air. If the scanner was used in another medium such as water or if the laser were to pass through glass, the light's speed would be unknown and the accuracy of the measurements would no longer be capable. When the laser exits the scanner, the timers starts and when the light reaches a surface, such as a wall or a piece of furniture, the timer ends; with the software onboard the instrument, it calculates how long the light took to travel from start to finish and from there the distance can be found. With the scanner in this experiment, the Leica ScanStation C10 measures down to the thousandth foot. During the scan, thousands of points are taken every second, each point being a place in the world, and from the millions of points the world starts to become whole and there a point cloud is created.

Typically, after a scanworld, or the world created from the points, the scanner will then take pictures in a 360° view. With the software used with the scanner, these photos are then placed on top of the point cloud, giving off a life-like 3D world attached with actual pictures. Some Research has been done with scanners previously with the analysis of blood spatter stain origin and the documentation of bloodstains.^{2,3} The goal for this experiment was to see if the scanner could be used to document samples that fluoresce under ALS conditions, ultra-violet light and the UltraLite BMTconditions, and accurately represent them in the scanworld.

Experimental Methods

There were two alternative light sources (ALS) used in this experiment for the testing of the instrument. A fixed wavelength ultra-violet lamp using 365nm long wave radiation and an UltraLite ALS which using a high intensity blue wavelength LED light which requires a barrier filter in order to observe the light reaction from the UltraLite. The dried physiological stain samples used for documentation were known to fluoresce. The 3D scanner used in this experiment was the Leica ScanStation C10, the scanner uses a green, 532 nm type 3R pulsed laser.⁴ It can generate up to 50,000 points per second and has a 360° horizontal and 270°



vertical view.



Figure 2. Images of the Leica ScanStation C10 Camera used (A) without the filter needed for the UltraLite ALS and (B) with the filter created specifically for the scanner.

Before a scan was done, the samples were photographed using a digital SLR Nikon D200 first without each ALS and then with the ALS. For the UV lamp, a barrier filter was not needed, however for the UltraLite, an orange filter was needed in order to observe the fluorescence from the samples. Therefore, this procedure was followed when photographing with the scanner. For the UV lamp scan, two lamps were placed right below the sample fabric with light shining onto the sample. The scan was then performed on just the immediate area of the sample. Because the presence of a UV filter was not needed, the photography portion of the scan was allowed to resume as normal. For the scan involving the UltraLite, the ALS was positioned at an angle and height to where the light produced from the ALS was shining directly onto the sample. The scan was then run as normal, only focusing on the “target” area where the sample is present, in order to generate the dimension of the point cloud and scanworld. However, before the photography portion of the scan was allowed to run, the scan was paused and a filter, which was experimentally modified to simply sit on top of the lens of camera, was placed onto the lens of the camera portion of the scanner and the scanner was then allowed to finish the photography. This was done because without the use of the orange filter in tandem with the UltraLite, it would be impossible to observe the fluorescence because of the mixture of light given off by the UltraLite. If no barrier filter were used the reaction would appear simply as a bright blue light instead of just the fluorescing sample.

Results and Discussion

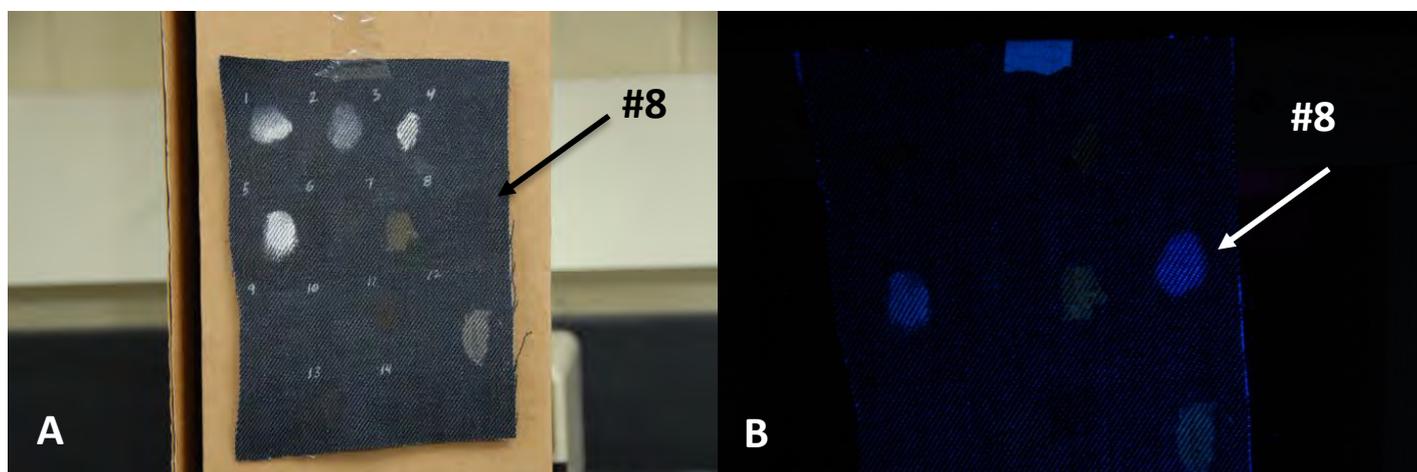


Figure 3. Images of the fluorescent samples with (A) Normal lighting photography and (B) Ultra-Violet Lamp Lightning.

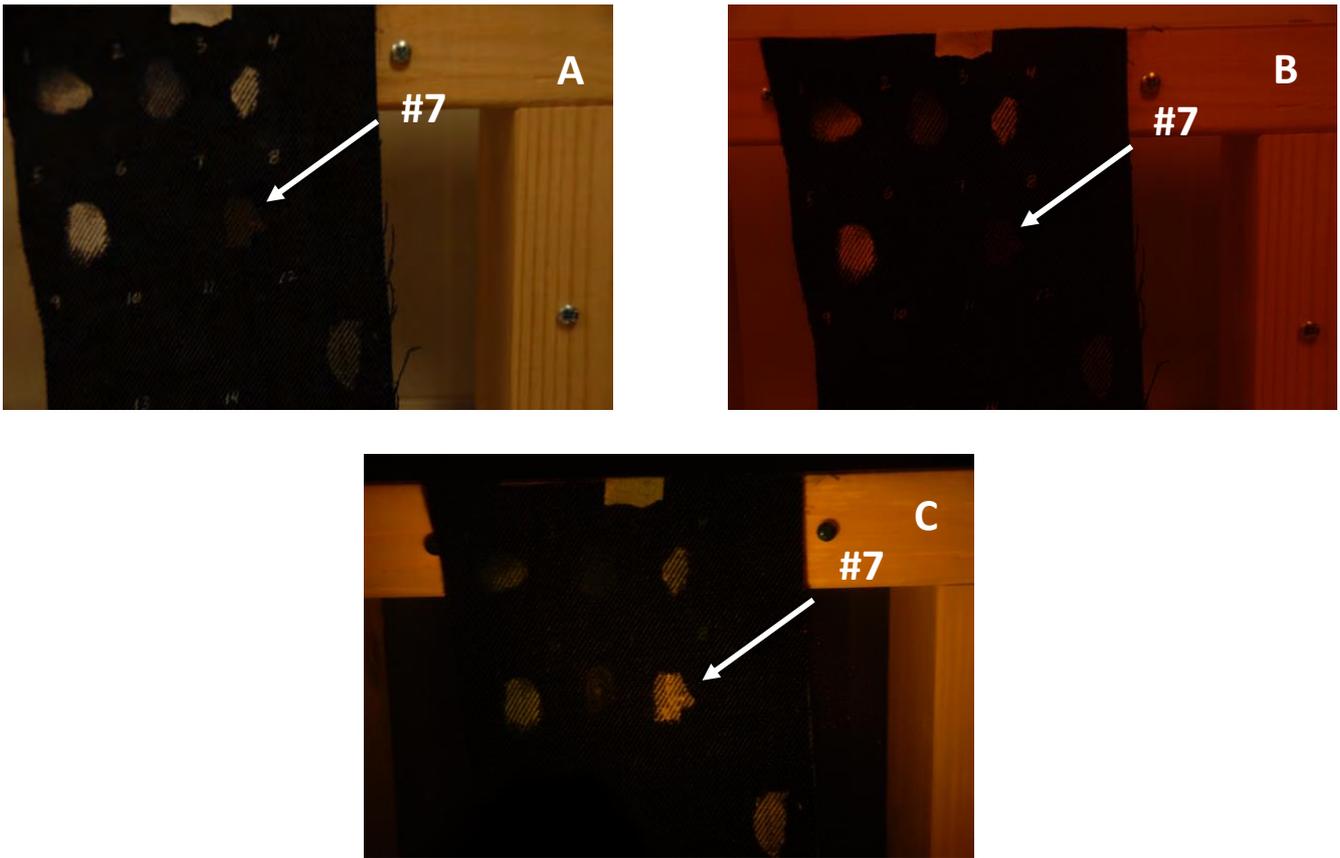


Figure 4. Images of the fluorescent samples with (A) Normal light photography, (B) Normal light photography with the UV orange light filter, and (C) UltraLite ALS photography with the UV orange filter.

Figures 3 and 4 both show the normal photography and the photography with the presence of the ALS sources. When taking photos of the samples with the ALS, all other lights were turned off in order to see the samples fluoresce. In Figure 3, number 8 on the sample can barely be seen when seen under normal white light, but when exposed to UV lamp light, we can see that there is something there that fluoresces at the wavelength of the lamp. The same occurrence can be seen in Figure 4 but instead it is seen in the number 7 sample. It can be also noticed that because number 8 in figure 3 fluoresces but not in Figure 4 and retrospect for number 7 in Figure 4, it can be assumed that those two samples, 7 and 8, are not the same sample because they don't fluoresce in the same way.

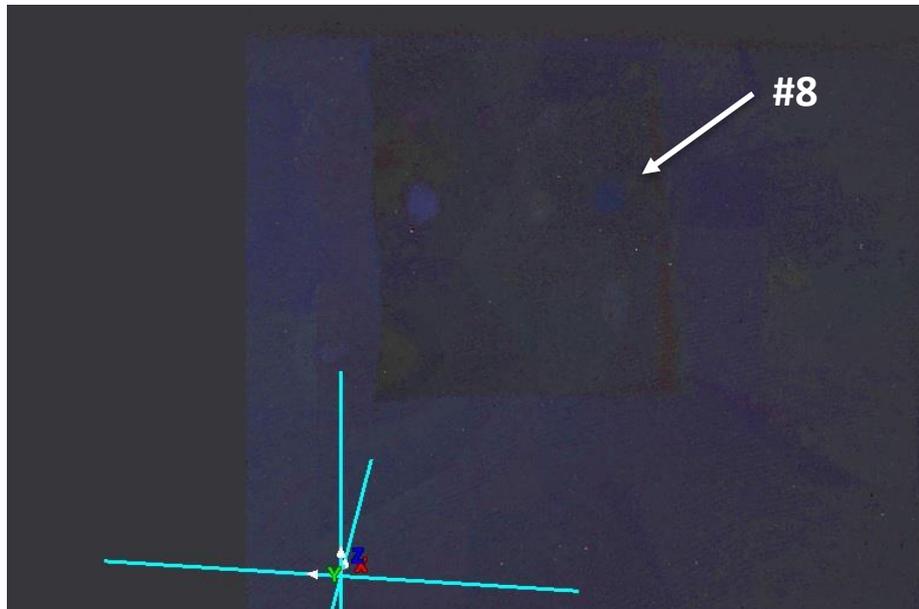


Figure 5. Image of the sample in the scanworld in the presence of the UV lamp light.

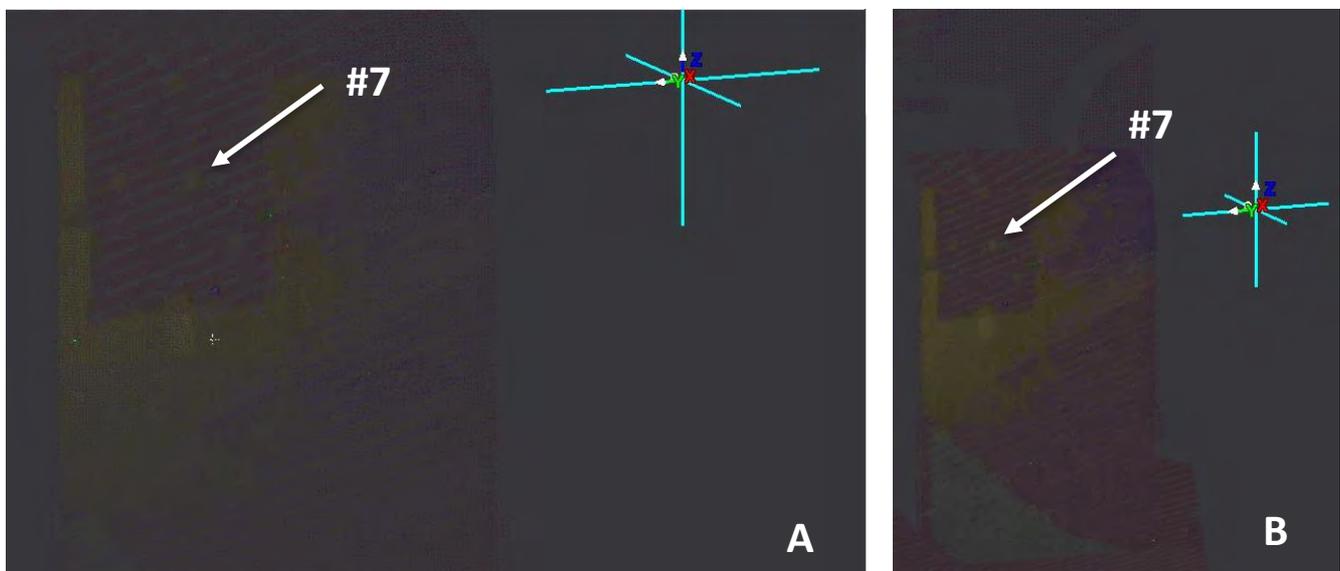


Figure 6. Image of the sample in the scanworld in the presence of the UltraLite ALS. (A) A closer up image of the sample. (B) A further back image of the sample.

In Figure 5, shown in the laser scanner's scanworld, the samples can be seen rather clearly and sample number 8 from Figure 3 can be seen very dimly. A hypothesis for this is that because of the lack of light besides the small UV lamp light, the camera from the scanner has trouble picking up the sample fluorescence from the surface. The diminished becomes a disadvantage because the settings of the camera of the scanner can't be changed in terms of the shutter speed and the aperture. However, the fluorescence may be improved with the presence of more UV light; these scans were done using only two lamps. More work could be done to see if more lamps would help the scanner's camera pick up the fluorescence better. The same issue also arises in Figure 6 with the UltraLite ALS. One disadvantage of the ALS is the

size of the light given off by the ALS itself. Because of this small amount of light from a single ALS, the scanner's camera had a hard time picking up the fluorescence very well. From Figure 6, number 7 can be seen dimly, but its presence is shown. This is respectable because it shows that with the presence of the ALS and fluorescing material, the scanner can document the sample, but is dependent on the amount of light, the fluorescence, being introduced to the camera lens. In respect to future work with the work of more light, the same can be done with Figure 6 in terms of adding more UltraLite's to produce more light in order to help the camera capture the fluorescence better. Another successful aspect of this experiment would be that the creation of the UV filter for the scanner's camera worked well because as seen in Figure 6, the UV light can be seen in the background behind the sample indicating that the filter is working as intended by allowing just UV light into the camera. More work could be done as well in respect to the filter used for scanner. This could be done in tandem with the manufacturer of the scanner in order to create a unique and more reproducible filter that could be used for all other scanners of that model, or all the scanners made by that manufacturer, if it was found that the filter was successful and potentially useful for future work in crime scenes or other areas.

Conclusion

From the work done in this research it can be seen that the Leica C10 Laser Scanner has very high potential to be used for crime scene documentation in respect to ALS and fluorescing samples. There are challenges that come with using the scanner as a form of documentation but those would be improved by future updates to the instrument or just general future work to improve the quality of documentation. However, basic documentation such as photography and videography should also be used, but possibly in tandem with the C10 laser scanner in order to create a virtual world to help investigators at the crime scene. Crime scene photographs can sometimes not give a complete visualization of the entire crime scene, but when mixed with an ALS enhanced virtual world it can give the investigator a more complete view or even offer future investigators the feeling that they are back at the crime scene in its untouched version.

References

1. Saferstein R. *Criminalistics an Introduction to Forensic Science*. **2009**(10):29-33.
2. Hakim N.; Liscio E. Calculating Point of Origin of Blood Spatter Using Laser Scanning Technology. *J Forensic Sci* 2015;**60**(2): 409-417.
3. Lee. W. C.; Khoo B. E.; Abdullah A.; Aziz. Z. Statistical Evaluation of Alternative Light Sources for Bloodstain Photography. *J Forensic Sci* 2013;**58**(3): 658-663.
4. Leica Geosystems Leica ScanStation C10 product Information.
<http://www.leicaestonia.ee/leica-scanstation-c10> (Accessed 12/5/2016).

Viable Fingerprint Recovery from Rocks

Lurena A. C. Huffman

Suffolk Police Department

Suffolk, Virginia

Abstract

Often, forensic investigators respond to crime scenes involving rocks. Whether the rocks are used as a weapon in an assault or as a tool for gaining entry to a vehicle or building, rocks are a common item found at crime scenes. Frequently, forensic investigators dismiss this evidence as something they cannot work with.

Here, a methodology is created to determine the best possible processing guide to recover fingerprints off the elusive rock. Guidelines were loosely followed using the Federal Bureau of Investigation's (FBI's) *Processing Guide for Developing Latent Prints*. Two methods, with and without cyanoacrylate fuming, were utilized and then followed by three separate chemical processes in different locations on the rocks to determine the best possible results. Each latent print was deposited in a known location by the same individual, within the same timeframe. Following general guidelines, ruthenium tetroxide (RTX), ninhydrin, and black magnetic powder were used on the cyanoacrylate treated, and non-cyanoacrylate treated, rocks.

Introduction

Rocks are nearly everywhere. Often found on driveways, walkways, as part of a building's exterior, or even interior, rocks are one of the easiest and oldest pieces of weaponry in existence. Victims approach forensic investigators constantly with some rock used to break into a building, or used as a tool, and expect the miracle of evidence recovery every time. Looking at the sequence processing charts for porous items, the most reliable way to recover latent fingerprints from these often overlooked items of evidence was tested.

Materials and Methods

For this experiment, two light gray porous rocks were used. The only two criteria were that the rocks were large enough to mark three sections for the three different processes and light enough to be able to view the results. The chemicals chosen to develop the latent fingerprints were cyanoacrylate, ninhydrin-K with glacial acetic acid, ruthenium tetroxide (RTX), and black magnetic fingerprint powder. For development with cyanoacrylate fuming, a cyanoacrylate chamber was utilized. For development with the black magnetic fingerprint powder, a magnetic fingerprint brush and a feather fingerprint brush were utilized. For development with ninhydrin-K with glacial acetic acid, a tray was used for soaking. For development with RTX, an eye dropper was utilized.

Latent fingerprint development on rocks was attempted by following the general sequencing process for porous items per the Federal Bureau of Investigation's (FBI) *Processing Guide for Developing Latent Prints* (Trozzi and Schwartz, 2000). To begin, the rocks were handled by removing them from outside to inside the laboratory. No other attempts were made to purposefully deposit fingerprints onto the rocks. Initial attempts with a visual examination and fluorescence or alternate light source (ALS) examination yielded no visible fingerprints. After the visual examinations, the rocks were separated in their treatment. One rock was fumed in a cyanoacrylate chamber with 80% humidity for 10 minutes with premixed cyanoacrylate. The other was not treated during this step.

Next, a series of processes that are often used in field forensic laboratories to determine the best method, or methods, for latent fingerprint recovery was implemented. RTX was chosen over iodine, due to its ability to leave a permanent stain as opposed to iodine's temporary coloring. Between 1,8-diazafluoren-9-one (DFO), ninhydrin, and indanedione, ninhydrin was

chosen as it is currently used in field forensic laboratories more often. Black magnetic powder was chosen over physical developer, silver nitrate, or standard black powder because it is what most field forensic laboratories have available. Both rocks were then divided into three sections: 1. black magnetic powder, 2. ninhydrin-K with glacial acetic acid, 3. RTX.



Figure 1. Untreated rock divided into three sections for processing.

The three processes listed above were completed in separate locations on the untreated rock. In one section, black magnetic powder was applied with a magnetic wand and cleaned up with a feather brush. In a second section, RTX was applied by vaporizing 1 mL of RTX in an eye dropper by body heat. In a third section, ninhydrin-K with glacial acetic acid was applied first with a spray, and then a second attempt was conducted by placing the rock in a ninhydrin bath overnight for 16 hours.

On the cyanoacrylate treated rock, the three processes listed above were, again, completed in separate locations on the rock. In one section, black magnetic powder was applied with a magnetic wand and cleaned up with a feather brush. In a second section, RTX was applied by vaporizing 1 mL of RTX in an eye dropper by body heat. In a third section,

ninhydrin-K with glacial acetic acid was applied first with a spray, and then a second attempt was conducted by placing the rock in a ninhydrin bath overnight, for 16 hours.

Results

The results of both the untreated and cyanoacrylate treated rocks were documented with photography and examined. On the untreated rock after processing with black magnetic powder, level one and level two details were visible.



Figure 2. Untreated rock with black magnetic powder.



Figure 3. Untreated rock with black magnetic powder.

After RTX processing, no apparent pattern was present, however, some level two details were visible.

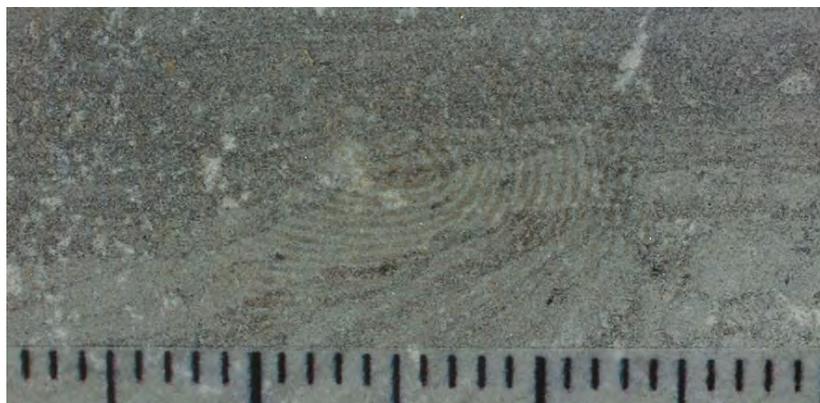


Figure 4. Untreated rock with RTX.

After ninhydrin-K with glacial acetic acid processing, no visible results were present.

On the cyanoacrylate treated rock after processing with black magnetic powder, no visible results were present. After RTX processing, no apparent pattern was present, however, some level two details were visible. After ninhydrin-K with glacial acetic acid processing, no visible results were present.



Figure 5. Cyanoacrylate treated rock with RTX.

Discussion

As of this experiment, applying black magnetic powder is the fastest and most reliable way to develop fingerprints on porous rocks. Comparing the results of the two rocks, cyanoacrylate fuming appears to hinder the fingerprint development processes on porous rock material. Black magnetic powder and RTX worked better on the untreated rock. While RTX provided results on both the untreated and treated rock, the details developed were limited to produce useable fingerprints for examination and identification purposes.

Ninhydrin-K with glacial acetic acid took a significant amount of time to process with negative results on each rock. The porous rock appeared to absorb the ninhydrin-K with glacial acetic acid at a greater rate than most materials, creating a need for long exposure to the chemical. Also, heat was unable to be applied after ninhydrin processing due to the rocks ability to hold heat after application.

Conclusion

More experiments are necessary to determine the most reliable and accurate ways to develop fingerprints off rocks found at crime scenes. Different chemicals in the processing sequence can be utilized to observe their ability to develop fingerprints. Several other variables should also be examined, such as: different porosities, different mineral counts, and different textures of rocks. Looking at typical cinder blocks and bricks found at scenes would also be a useful addition to this study.

References

1. Trozzi, T.; Schwartz, R.; Hollars, M. *Processing Guide for Developing Latent Print*; Federal Bureau of Investigation, Laboratory Division, U.S. Department of Justice, U.S. Government Printing Office: Washington, DC, 2000.

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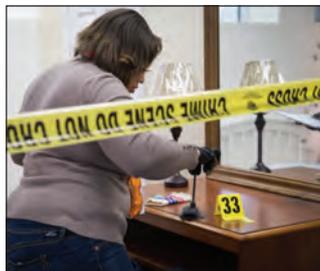
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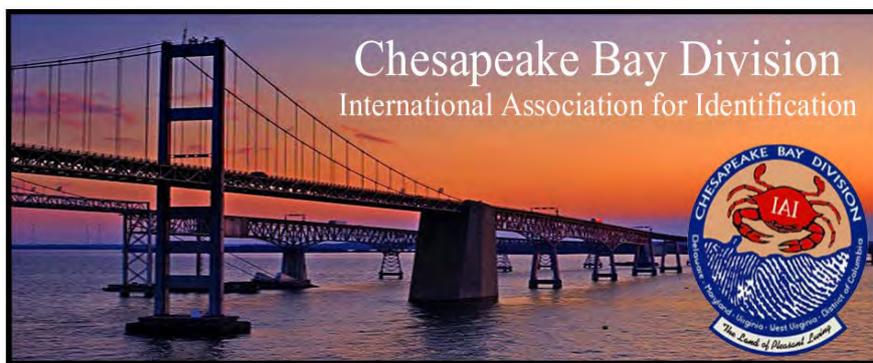
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