

SCIENTIFIC METHODOLOGY AND THE FRICTION RIDGE IDENTIFICATION PROCESS

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Please note that the following primarily is a compilation of ideas and protocols developed by S/Sgt. David Ashbaugh and Pat Wertheim, CLPE with a few modifications based on the author's personal preferences. Extensive detail, especially with respect to the 'examination of the latent,' has not been provided since the purpose of this document is to provide a friction ridge identification process within a scientific methodology framework. Certain aspects of this proposed scientific methodology may or may not be applicable depending on the level of the examiner expertise and each particular 'latent to print' identification process case.

According to S/Sgt. David Ashbaugh of the RCMP, the complete friction ridge identification process involves both the application of an "identification philosophy and scientific methodology" in order to determine whether or not an 'unknown friction ridge impression' (herein referred to as a latent) originated from the same source as a 'known inked print' (herein referred to as a print) to the exclusion of all others [1]. David Ashbaugh describes the identification philosophy as "a guide or explanation of how friction ridge quantitative-qualitative analysis is transformed into an opinion of individuality." It describes the friction ridge formations used during analysis and establishes parameters as to how much knowledge one must have to perform such a function. The philosophy of friction ridge identification can be paraphrased with the following statement: "Friction ridge identification is established through the agreement of friction ridge formations, in sequence, having sufficient [observed] uniqueness to individualize."

Analysis, Comparison, Evaluation and Verification, more commonly referred to as ACE-V, is described by David Ashbaugh as the scientific methodology portion of the entire friction ridge identification process. It should be noted, however, that some do not consider verification as part of the identification process. "Verification is the identification process repeated in someone else's mind." [2] The actual identification process involves analysis, comparison and evaluation (ACE) of the latent and known prints by the Latent Print Examiner.

Pat A. Wertheim, CLPE proposes a different approach to this three-step identification process. Mr. Wertheim proposes a 'Five-Step' formula that he states, "in essence, is nothing more than an alternative way of explaining the same mental process [as with ACE]. The conclusion reached by the examiner would be the same and verification is still required. But some examiners find that five-step formula easier to understand, easier to apply, and more precise in its explanation to a layperson." [2]

The following discussion will deal primarily with the 'Five-Step' identification approach:

- 1) Examination of the Latent.
- 2) Development of Hypotheses to be addressed.
- 3) Experimentation.
- 4) Formation of a Tentative Conclusion.

5) Testing the Conclusion.

Let's look at each step in detail:

1. Examination of the Latent

This step is comparable to the 'analysis' of the latent as in the ACE method. David Ashbaugh describes the analysis stage as "intelligence gathering."

NB: Quite often certain information, such as types of distortion present, are not always obvious in the latent at this stage and may be revealed later on in the friction ridge identification process.

Why is a thorough "examination of the latent" important?

Don't be fooled by first impressions! (Pun intended.) Even though some latents appear to be of extremely good quality (pores and intrinsic paths being clearly visible), a standard but thorough analysis of the latent may reveal certain not-so-obvious factors. These factors may have a huge impact on the examiner's 'approach' to the comparison of the latent to the print and eventually his/her evaluation and conclusion of ident or non-ident. Latent Print Examiners beware! Everything isn't always as it seems!

When obvious distortion is present throughout the latent, a thorough examination will help the examiner reaffirm in his/her mind what is a friction ridge formation and what is not. If the examiner concludes that certain areas of the latent are affected by or actually caused by distortion, the 'examination of the latent' process will ensure that the expert has the ability to communicate why the latent has a certain appearance. This is especially true for more difficult and complex latents.

David Ashbaugh suggests completing the analysis from the bottom of the latent to the top (in 3D terms):

- Start with the substrate (surface upon which the print is deposited).
- Proceed to look at signs in the latent that may indicate the type of

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President's Message

I hope everyone enjoyed the Athens conference. I would like to thank David Leedahl and Todd Sartain for their hard work. They did a great job getting things ready to make the conference a great success. The BBQ at Sanford Stadium was a real treat.

A big thank you also goes to Shannon Hale for her service as our President for the year 2001-2002. She will be a hard act to follow.

I encourage everyone to utilize our website, www.gaiai.org. Stephen Greene continues to do an excellent job maintaining the site so our members can stay informed as to the activities of our organization. Thank you, Stephen.

I would like to express my thanks to the membership for allowing me to serve as your President for the year 2002-2003. This organization is very important to me as it serves as a source for a wealth of knowledge, contact points for assistance in your investigations, and the opportunity to meet many new and interesting friends. All I ask of the membership is that you get involved and stay involved in the actions of the GAIAI.

Your actions will ensure the growth of this great organization. Again, thank you and I look forward to seeing everyone at the Spring Meeting.

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A reminder to all members to please forward a current e-mail address so that we can forward important information to you.

32nd Annual Training Meeting Minutes

At 0915, 29 October 2002, President Shannon Hale called the 32nd Annual Training Conference to order at the Holiday Inn, 197 Broad Street, Athens, GA. Athens-Clarke County Color Guard posted the Colors for the opening ceremony. Sheriff Ira Edwards, Clarke County Sheriff's Department, offered the invocation. David Leedah, conference host, introduced Chief Chuck Horton, University of Georgia; Mr. Alan Reddish, County Manager; and Chief Joseph Lumpkin, Athens-Clarke County Police Department. Chief Lumpkin was the keynote speaker.

Following the opening ceremonies, Andrew McIntyre introduced the vendors for the conference (Medtech Forensics, Dataworks Plus, Evident Crime Scene Supply, Phoenix Group, and SPEX Forensics).

Following the opening ceremonies, the 32nd Annual Training Conference was under way. Training topics included SWIGIT, presented by Carl Kriigel, U.S. Army Criminal Investigation Laboratory (USACIL), Ft Gillem, GA. Digital Courtroom Presentation was presented by Stephen Greene, USACIL. AFIS Remote Site Issues and Danny Port, Gwinnett County District Attorney, concluded the first day of training with case studies.

On Wednesday morning, Linda Pinholster, RN, started our training session by introducing the Sexual Assault Nurse Examiners Program (SANE). Henry Swafford, a junior at Morrow High School, made an awesome presentation on Fingerprint Pattern Recognition Based on Ethnicity. Henry Swafford has applied for an internship with GBI.

We wish him well in his endeavors.

On Wednesday afternoon at 1:25 PM, President Hale called the Business Meeting to order. The following officers were elected by unanimous vote: Doug Shafer, President; Stephen Greene, 1st Vice President; David Leedah, 2nd Vice President; Denise Williams, Secretary-Treasurer; Earl Osbon, Jr., Sergeant-At-Arms; and Juliet Wood, Editor, Georgia Forensic News.

The following members were elected to the Board of Directors: Marion McDonald, Andrew McIntyre, Brenda Hutson, Terry Cooper, and Robert (Butch) Windham. Mary Ann Kendall was appointed as State Division Representative. Outgoing President Hale was appointed as Chairman of the Board.

The 2002-1 resolution to the Constitution and the 2002-2 amendments to the Bylaws were passed.

On Wednesday evening we were treated to a wonderful Barbeque at the University of Georgia Sanford Stadium Sky Suites hosted by Denise Williams, Coldwell Bankers Bullard Realty and the Georgia IAI.

On Thursday, Jerry Findley, Georgia Public Safety Training Center, Forsyth, Georgia presented an all-day workshop on Blood Pattern Analysis and Crime Scene Reconstruction.

On Thursday night, the Inaugural Banquet was held at the Holiday Inn. Officers for 2003 were installed. There was dancing and lots of door prizes given away. Newly installed President, Doug Shafer, offered his acceptance speech.

Friday morning began with Questioned Document Analysis of Wrist Bands for Identification Purposes presented by Betty Gayton, GBI. Dr. Rick Snow, GBI Medical

Examiners Office, provided a presentation on Mass Graves in Bosnia and Kosovo. Our final session of training was provided by Stephen Greene, USACIL, on Postmortem Record Print Taking Using Powder and Lift Techniques.

Total expenses for the conference were \$6,229.87 for conference site expenses, \$140.00 to Todd Sartain for supplies and \$24.00 to Brenda Hutson for video supplies for a total of \$6,393.87 with a gain of \$1,173.13 from the conference. We sincerely hope you enjoyed this conference and we look forward to seeing you in Kingsland, GA.

Respectfully submitted,

Denise Williams
Secretary-Treasurer
13 November 2002

32nd Annual Training After Action Report David Leedah

On October 28, 2002, the Georgia Division of the International Association for Identification opened our 32nd Annual Training Conference. The event was held at the Holiday Inn in Athens, Georgia.

The Conference consisted of 4 days (32 hours) of instruction on various forensic-related topics. Registration fees for the conference attendees were \$125.00. Included with this fee were three meals (Presidential Reception, BBQ, Installation Banquet). The Division provided a hospitality room for attendees at the expense of the division. This room was opened at the end of each day of instruction to allow a place to relax and socialize with other members. Over 50 members attended the conference.

The division also provides a room for our vendors to attend and to showcase their products. Andy McIntyre completed the task of recruiting the vendors. Our conference vendors' room was open for three days (Tuesday-Thursday). We had a total of 7 vendors (Medtech Forensics, Spex, Dataworks Plus, CSI Supply, Phoenix Group, Evident, and Coherent). Vendors were charged \$125.00 per table, which included admission to all the meals held during the conference.

Due to the increased cost to provide this conference, the registration fee was raised by \$25 from years past. Each person who attended the conference paid a registration fee of \$125.00 for the entire week, and those who attended a single day of instruction paid \$25 per day. During the initial planning of this event, I used an average figure of 50 people attending the event in order to figure the registration fee (estimated cost of all expenses divided by 50 registered guests).

This year we experimented with an additional method of increasing our revenue for the conference so that we may be able to offset the expenses of the conference. Todd Sartain and myself recruited corporate sponsors to donate money in any amount they wished to donate. This resulted in additional revenue in the amount of \$1200.00. The following persons or companies donated money for our conference: Georgia Power, Code 4 Uniforms, Peerless Cleaners, Coldwell Banker Realty (Denise Williams), Walmart, and the Athens-Clarke County Police Department. An anonymous donation was also made to Butch Windham.

There were also in-kind type contributions. The Athens-Clarke County Police Department provided name tags, document fold-

ers, paper and all printing for which I would like to thank Chief Joseph H. Lumpkin. The Phoenix Group provided nametag holders to all members and Classic City Beverage of Athens provided beer for the hospitality room.

There were numerous companies who provided door prizes. Each of the vendors provided gifts as well as several local businesses in the Athens area. Butch Windham was instrumental in providing gifts from the McGregor Golf Company. Door prizes were also provided by several companies (Peevey, Law Crime Scene) who were unable attend. I believe all attendees received a door prize. Todd Sartain provided each attendant with a leather coaster and mouse pad with our conference information printed on it.

The following is breakdown of the conference revenue and expenses:

REVENUE	AMOUNT
Registration	\$ 5,435.00
Vendor	\$ 932.00
Sponsor	\$ 1,200.00
TOTAL REVENUE	\$ 7,567.00
EXPENSES	
Holiday Inn	\$ 5,005.87
Mike and Ed's BBQ	\$ 574.00
UGA Stadium	\$ 100.00
DJ-Barry York	\$ 350.00
Hospitality Room supplies	\$ 200.00
TOTAL EXPENSES	\$ 6,229.87
TOTAL PROFIT	\$ 1,337.13*

*amount updated in Secretary-Treasurer report

As a result of the solicitation of sponsors, attendance of vendors and members, our division was able to show a profit of \$1337*. It is my recommendation that the

conference coordinator aggressively seek corporate sponsorship to help offset our expenses. It is also my suggestion that this be started immediately after each conference. This will allow those sponsors time to budget for the next year. I also believe the vendors need to be contacted at the beginning of the year the conference is held to allow them time to budget monies to attend. Some potential vendors were unable to attend due to limited budgets. Increasing vendor attendance will provide additional revenue and choices for our members.

I would like to thank the following people for their hard work in making this conference possible: Todd Sartain did most of the legwork involved and without his help, I would not have been able to do it; Andrew McIntyre for his recruitment of vendors—he did an exceptional job; Shannon Hale and Stephen Greene for their help in putting together the program of instruction; Eric Dellinger for arranging the use of the Sky Suites at Sanford Stadium. Without the help of Eric and Chief Horton of UGA PD, that would not have been possible. I know that there were others who played a role in this conference and I personally thank them for their help.

I hope that each and every person who attended enjoyed themselves and had a positive experience. Plan to attend next year's conference in Kingsland, GA.

Sincerely,

David T. Leedah
Athens Conference Coordinator
1 November 2002

(Continued from page 1)

matrix (substance that is transferred from the source to the substrate), which resulted in the creation of the actual latent.

- Next, consider the development medium used to enhance the latent.
- Consider noticeable indicators of how the latent was physically transferred onto the substrate (pressure-related distortion, flexibility of skin, handling of substrate).
- Consider any 'red flags' or any other types of distortion that decrease the clarity and reliability of the information provided by the 'apparent' friction ridge formations or features.
- Clarity and tolerance levels are considered before proceeding with major ridge path configuration (2nd level detail), intrinsic ridge formations (3rd level detail) and anatomical aspects.

No matter what order you choose to complete the examination of the latent, it is important to follow the same order each and every time. Overlooking one or more steps could result in an inaccurate assessment and therefore impact the remaining steps in the identification process. Even with apparently uncomplicated latents, the steps should be followed as a matter of routine. The more time spent really analyzing latents, the more adept you will become at recognizing significant factors which will contribute to your final conclusion.

Suggested Protocol for the Examination of the Latent:

Clarity

Without question one of the first things considered when analyzing a latent print is clarity. As Latent Print Examiners we often look at so many low clarity impressions that when a high clarity print comes along it is much appreciated. We must realize through that good clarity, such as well defined ridge path, edges and incipient ridges, comes to us with the knowledge that our tolerance for any discrepancies between the latent and the print should be at its lowest. If the lack of clarity is accompanied by a lack of quantity of 2nd and 3rd level detail, the examiner may have to rely on alternate information in the print such as creases, incipient ridges or scars in order to make a positive identification. In this situation our tolerance for distortion may be higher but 'sufficient detail' must include a greater quantity of information than if the latent print was clear. The quality of information (lack of, or abundance of, clarity in the latent) is an immediate caution indicator as to the 'significance' of the information provided by the latent. The quality and quantity of information in the latent determine whether a positive identification can be effected.

Red Flags

It is important for Latent Print Examiners to look for the presence of 'red flags' contained within the latent or the surrounding area. Red flags are abnormalities in the lift and serve as caution indicators. They include but are not limited to:

- 'Double taps' or 'layered' friction ridge impressions.
- Similar shaped ridge path formations in close proximity.
- Matrix smears.
- Colour (tonal) reversals.
- Inconsistencies in ridge width or general appearance.
- Light and dark areas.
- Sudden directional change in ridge flow.
- Is the appearance of the lift consistent with the surface from which it was lifted?

When taken into consideration, red flags will assist the Latent Print Examiner in his/her determination of how much significance,

if any, certain areas of the latent will have in the identification process.

Development Medium

It is important to know what development process was used to enhance the latent. Each development medium has its own catalyst (substance with which the development medium reacts) and signature (the appearance it takes on after reacting with the catalyst). An awareness of these development medium characteristics will assist the examiner in accurately assessing ridge features contained within the latent.

Substrate Distortion

This is most evident on latents found on surfaces that are uneven or flexible, such as serrated knives or plastic surfaces. Substrate distortion can also be found on colour documents such as letters and cheques.

Matrix Distortion

Matrix is the actual substance deposited by the friction ridges, for example, sweat that may be contaminated with oil and dirt. Are characteristics of a 'wet' fingerprint present? According to David Ashbaugh, "Water, adhering to the friction ridges between the pores at the time of contact with the substrate, tends to be pressed into the sides of the ridge next to the furrows. This often creates thin matrix lines along each side of the ridge next to the furrows. The resulting print structure breaks between the pores giving the ridge a dot-like appearance. In most cases wet print ridges will appear broken and should only be compared as if they were solid ridges or as second level detail."

Physical Transfer Distortion (PTD)

I consider Physical Transfer Distortion (PTD) to be any type of distortion caused from physical motion as the matrix was transferred onto the substrate. This could be evident in 'thick' ridges caused by downward pressure of the finger or palm. Lateral or downward swipes originating from the ridge detail area could be indicative of directional movement of the finger or palm shortly after it makes first contact with the substrate. A common example of this would be vertical or horizontal swipes across a surface such as a window being forced open. Flexibility of skin causes PTD from the normal handling of items such as grasping and holding, or simply anytime the skin comes in contact with an item. In other words, theoretically every latent or print has some form of PTD.

Anatomical Aspects

The location and direction of the latent on the substrate can provide valuable clues as to the correct orientation of the latent—especially if the pattern is not discernable. Correct orientation of the latent will certainly make the experimentation (comparison) process easier. If there is a cluster of prints, it may be possible to determine from which finger the print may have originated.

Choose a Target

Protocol for Selecting a 'Target' in the Latent:

- i) On or near the 'Focal Point.'
- ii) On one of the 'type' lines (diverging ridges of the triradius area).
- iii) On the innermost recurving or recirculating ridge.
- iv) Determine the outer parameters or 'defined area' containing the target.
- v) Use any 'occasional' features (for example: creases and wrinkles, incipient ridges, permanent scars, temporary damage, open fields, warts, circular ridge and dissociated ridges).

- vi) Determine which finger or palm.
- vii) ‘Name’ the target (more ‘creative’ names are easier to remember).
- viii) Draw the target (aids the memory).

Note Taking

Pat Wertheim states that, “A thorough analysis should be accompanied by the taking of detailed notes describing the latent print. Notes should make reference to all observed distortion factors. Notes may also include reference to the level of clarity present in the print. One might actually draw the target, both as an aid in its memorization and as a part of the description of the latent. On occasion, one may even choose to physically follow or trace the ridges completely throughout the print and draw a representation of the entire latent in the notes. This type of demonstrable analysis lends credence to any subsequent identification.”

2. Development of Hypotheses to be addressed

This step is self-explanatory. The purpose of stating a hypothesis is to define your goal. There are only three possible hypotheses a Latent Print Examiner needs to address:

Latent was left by the same ‘person of interest’ who provided the inked prints. Result=Identification	Latent was left by another person other than the ‘person of interest.’ Result=Non-Identification	Insufficient information in the latent or known print (or both) to conclude as to the source of the latent. Result=Inconclusive
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The three possible conclusions that result from testing the above-mentioned hypotheses help the Latent Print Examiner to answer the question, “What is the error rate of fingerprint identification?” Since the question addresses identifications only, the conclusions one may reach are now limited to:

- 1) The friction ridge impressions were left by the same source (Ident), or
- 2) They were not (Non-Ident).

Therefore, unless the examiner has made a mistake, it will be the correct answer. The exact number of Latent Print Examiner or ‘human’ errors is unknown. The error rate for the Science of Fingerprint Identification is ZERO.

3. Experimentation

Experimentation involves going back and forth between the latent and the print, first finding features in the latent (assuming it’s the most unclear print), then examining the known print for the same formations within tolerance.

GENERAL Guidelines for Experimentation (Comparing the Latent with the Inked Print):

- At this point, examination (analysis) of the latent is complete and its “full detail is fixed in the mind of the expert and all [obvious] factors of distortions have been considered.”
- Don’t take any preconceived thoughts or expectations into the comparison. Don’t ever “get married” to a specific digit determination or palm print orientation!
- Most often the latent is compared to the known print—this is assuming that the latent contained less information and detail than the known print. The experimentation process should be carried out such that the poorest quality print is compared to the best quality print.
- Use all known prints available, i.e., rolled, flats and palms.

- Be in an ‘alert’ state of mind.
- Use magnification. The standard fingerprint glass is most common but may be inadequate for a complete examination of third level detail.
- Be alert of ‘unaccountable differences.’
- Exclude any ‘formation’ or ‘feature’ that is not understood but, at the same time, keep an awareness of your tolerance. As these exclusions increase in number your tolerance for them must decrease to the point that too many exclusions must result in a non-ident.
- Consciously use all three levels of detail if possible—NEVER use only one and ignore other features. It is not valid to use some but not all of the obvious information present.

Three Levels of Experimentation

Note: Experimentation could begin at Level 1 or Level 2 or Level 3 depending on the total information available in the latent and print.

Level 1—The ‘overall’ pattern is discernable in the latent. Other “overall type” features such as the presence of incipients, creases, scars may be evident without any magnification.

Is there agreement with the known print within tolerance?

Yes	No
Experimentation continues.	Experimentation ends. Results=Non-Ident

Level 2—Observation of 2nd level detail commonly referred to as “points” or “major ridge path deviations.”

- 1) Locate the target* in known print. (*Refer back to the examination process if necessary for a detailed explanation of choosing a target.)
 - a. In same location?
 - b. Apply outer parameters.
 - c. Search target only once, then shift to a different target.
 - i. As far from first target as possible.
 - ii. 3 targets or 10 minutes
 - iii. Move on to a different latent
- 2) Target must be within tolerance. Clarity of the prints will dictate your level of tolerance. “It is an easy task to understand and to account for the differences in appearance between a print resulting from a light touch and a print resulting from a heavy touch.” If this were the only difference between the latent and the known print, this difference would be explainable and said to be within tolerance. If the clarity of the latent is good, a target of a small enclosure in the latent where a short ridge is located on the known print would be considered out of tolerance at level two.
- 3) Search for additional features, i.e., bifurcations, ridge endings, dots, enclosures, short ridges, ridge widths.
- 4) If possible, count the ridges from the triradius to the centre of core and compare with known print. Ridge count must be within tolerance.
- 5) “Run the Ridges.” Establish the route of each friction ridge. This helps to ‘bring out’ additional friction ridge formations that may have been missed previously. Ashbaugh explains that, “Independent ridge paths should be discernible; their flow should

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be in concert.” Unless 3rd level detail is visible, ridge breaks should be treated as if the ridge is continual. This is invaluable information for any Latent Print Examiner!

6) “Run the Furrows.” Establish the route of the furrows and determine whether or not they are in agreement with the ridges.

Is there agreement with the known print within tolerance?

Yes	No.
Experimentation can continue on to Level 3.	Experimentation stops. Result=Non-Ident

Level 3—Observation of shapes within and along the ridges on close inspection only.

- 1) Look for intrinsic ridge shapes, pore shapes and relative one-to-another pore locations if visible (3rd level detail).
- 2) Poreoscopy
- 3) Edgeoscopy

Is there agreement with the known print within tolerance?

Yes	No
Experimentation is complete.	Experimentation ends. Result=Non-Ident

4. Formation of a Tentative Conclusion

If you have found substantial agreement of friction ridge formation in sequence between the latent and the print, it is now possible to formulate a “tentative conclusion” that the latent came from the same source as the known print. As Pat Wertheim explains, “As most experienced Latent Print Examiners will recognize, the comparison does not cease at the first instant the expert reaches a conclusion. In practice, the comparison always continues past this point. The conclusion at the very first is, indeed, tentative.”

5. Testing the Conclusion

Substantial agreement of friction ridge formations in sequence has been established at this point in the identification process. However, using Pat Wertheim’s words, “The examiner continues to search for additional features until it is reliably proven that each time a new feature is found in the latent print, a corresponding feature will exist in the inked print. The continuing comparison, testing the conclusion, is the final step in the [identification] process. The hypothesis is said to be proven and the identification finalized when the examiner has established “reliable predictability” in the relationship of features as they exist in the unknown and known prints.”

Consider the question, “At what exact point did you know that you had an identification?” Based on the ‘Five-Step’ identification formula, the Latent Print Examiner may choose to answer this question as follows:

“At the moment in time that it was reliably predictable that each isolated feature I selected from the crime scene print could be

readily located and found to be sequentially in agreement with the inked print.”

Verification—Final Step in a Complete Scientific Methodology

Verification occurs when another Latent Print Examiner completes a second independent identification process of the first Latent Print Examiner’s friction ridge identification. A complete scientific methodology framework includes verification of the initial friction ridge identification and, in some cases, non-identification.

“Verification is a form of peer review and is part of most sciences. Many organizations erroneously use verification as a method of protecting against errors in place of adequate training. While verification may prevent the occasional error, its purpose is to verify process and objectivity as opposed to only check results. It is also an excellent vehicle for training.” [1]

This step is not to be treated lightly. It is an integral part in establishing friction ridge identification as a ‘science.’ If the identification process has been adhered to by the initial Latent Print Examiner, a second Latent Print Examiner should be able to independently complete the verification process and arrive at the same conclusion. Independent verification should begin in Step 1—Examination of the Latent.

“Without such verification, identification has not been proven to the level required by science. No report should be made of an identification until a second qualified expert has made that verification independently of influence or pressure from any source.” [2]

Conclusion

The “Five-Step Formula” and “ACE” are two established identification processes that outline a series of steps Latent Print Examiners can follow when making a friction ridge identification. Training, knowledge, experience and personal preference will determine which identification process the individual Latent Print Examiner finds most suitable. In light of recent North American court challenges, it has become increasingly important for Latent Print Examiners to be able to articulate the processes followed for each friction ridge identification.

The author has further attempted to emphasize that verification is also a process, one that is essential to the concept of ‘good science.’ Taken together, identification and verification processes provide a comprehensive scientific methodology that Latent Print Examiners can apply to current practices.

Acknowledgements

The author would like to thank Terry Smith, Niagara Regional Police Service, Ontario and Kasey Wertheim, CLPE of the Mississippi Crime Laboratory, Meridian, MS, USA for their valuable contributions and encouragement.

References

1. Ashbaugh, David, “Quantitative-Qualitative Friction Ridge Analysis, Introduction to Basic Ridgeology,” CRC Press, Boca Raton, 1999.
2. Wertheim, Pat A., “Scientific Comparison and Identification of Fingerprint Evidence,” *The Print*, Volume 16(5), Sept/Oct 2000.

Reprinted from Identification Canada, Vol 25, No. 3, September 2002.

Juvenile Card Submissions Live Scan Transmissions

GBI has been accepting Live Scan Transmissions since May 1, 2002. Live Scan manuals were updated to include juvenile information, how to send, what to send, reject messages and contact number. (Please reference your Live Scan manual.)

- O.C.G.A. 15-11-83 requires law enforcement agencies charging any juvenile with a felony offense to submit criminal fingerprint cards to GCIC in the same manner as adult offenders.

Criminal history records of juvenile offenders, "**JUV**" transaction type, are made accessible to law enforcement for criminal justice purposes **only**. The records **are not** forwarded to the FBI and there are **no** applicant searches against these files.

- **Juvenile Age Limits**
16 years of age (YOA) and under
- 13 to 16 YOA
*Can be treated as adult
- 12 YOA and under
Only "JUV" Transaction

* **For electronic submissions of records on any juvenile who is to be "Treated as an Adult," the transaction type must be either:**

- a) CAR (criminal answer required)
- b) CNA (criminal no answer)

Select and **insert "Y"** in the "treat as adult" field, enter **code #245** in the Arrest Disposition field. These additional fields must be completed in order to have a juvenile transaction handled as an adult (age is proper for "treat as adult" status and correct transaction type is chosen.)

Contact: Leigh Gafford - 404-244-2785

Forensic Ridgeology Course

Instructor: SSgt. David Ashbaugh, RCMP
 16-20 June 2003 (0800-1600 daily)
 GBI Headquarters, Atlanta

Course Description (as described on CLPEX.com):

This course is applicable to both veteran and novice friction ridge identification specialists. The purpose of the course is to develop an understanding and working knowledge of *Evaluative Friction Ridge Identification*, at the basic and advanced levels, and to present an introduction to *Palmar Flexion Crease Identification*.

The premises of identification, scientific basis and identification process are reviewed and presented in a manner that is applicable to both sciences. An evaluative identification process consisting of a philosophy and methodology is presented and demonstrated with class participation. The student will also learn this systematic process not only flattens the learning curve, but empowers the expert to clearly describe how an evaluative identification is carried out using a step-by-step process.

Class participation is designed to develop a candidate's ability and confidence when describing the various specifics involved in evaluative friction ridge identification.

To be held at GBI Headquarters, Atlanta
 3121 Panthersville Road, Decatur, Georgia 30034

Cost: \$400 per person

Class size limited to 25 students (first come, first served basis).

Registration deadline: 1 June 2003

No refunds will be issued after 1 June 2003.

Mail registration and fees to: Georgia State Division IAI
 ATTN: Denise Williams/Secretary-Treasurer
 8316 Winston Way
 Jonesboro, GA 30236

Contact Stephen Greene, 1st Vice President, with all inquiries (404) 469-7039.

NAME _____ GAIAI# _____

ORGANIZATION _____

ADDRESS _____

CITY/STATE/ZIP _____

TELEPHONE _____ FAX _____

E-MAIL _____

SOC SEC # _____

Registration \$400.00 \$ _____

TOTAL \$ _____

Make checks payable to GAIAI.



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GEORGIA STATE DIVISION INTERNATIONAL ASSOCIATION FOR IDENTIFICATION

33rd ANNUAL EDUCATIONAL SEMINAR REGISTRATION
RAMADA INN & SUITES
KINGSLAND, GEORGIA
September 15 through 18, 2003

NAME _____ GAIAI# _____

ORGANIZATION _____

ADDRESS _____

CITY/STATE/ZIP _____

TELEPHONE _____ FAX _____

E-MAIL _____

Members—Full Seminar*	\$100.00	\$ _____
Non-Members—Full Seminar*	\$125.00	\$ _____
Non-Member Spouse*	\$ 50.00	\$ _____
Registration per day	\$ 25.00	\$ _____
Late Fee	\$ 15.00	\$ _____
Presidential Reception	\$ TBA	\$ _____
Poolside Meal	\$ TBA	\$ _____
Installation Banquet	\$ TBA	\$ _____

TOTAL \$ _____

*includes Presidential Reception, Poolside Meal, and Installation Banquet

Entry to social events will be by ticket only. Social events admission is included in payment of full registration and spousal registration. For all others, tickets will be available from the Secretary-Treasurer.

Registration is requested by August 15, 2003. After August 15, late fees will apply.

Hotel reservations must be made separately. The hotel is located at 930 Highway 40 East, Kingsland, Georgia. Rates are \$48.00 + tax. Use Referral Code "GAIAI" when making reservations. Phone: (912) 729-3000.

Mail registration and fees to: Georgia State Division IAI
ATTN: Denise Williams/Secretary-Treasurer
8316 Winston Way
Jonesboro, GA 30236

For further information, contact Teresa Race, Conference Coordinator, at (770) 388-5047 or (770) 787-9450.

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SP415 (11/02)

GEORGIA STATE DIVISION INTERNATIONAL ASSOCIATION FOR IDENTIFICATION

VENDOR APPLICATION/REGISTRATION

33rd ANNUAL EDUCATIONAL SEMINAR

September 15-18, 2003

Ramada Inn & Suites

Kingsland, Georgia

I/We hereby make application to establish a vendor's site at the Georgia State Division Annual Educational Conference.

The individual table fee for this conference is \$100.00, which includes all three social events for one representative. The fee for each additional representative is the cost of whichever social event(s) the representative wishes to attend. The social events and fees are: Presidential Reception--\$TBA, Poolside meal--\$TBA, and Installation Banquet--\$TBA.

The vendors' area will be open the following times:

Tuesday, September 16	9:00 a.m. – 5:00 p.m.
Wednesday, September 17	9:00 a.m. – 5:00 p.m.

Registered vendors will be afforded the opportunity to make a short presentation prior to the opening of the vendors' area on Tuesday.

We are anticipating a registration of approximately 75 to 100 participants.

COMPANY _____

REPRESENTED BY _____

ADDRESS _____

PHONE _____ **FAX** _____

E-MAIL _____

SPECIAL NEEDS/REQUESTS _____

Please indicate your interest in sponsoring/providing one or more of the following:

Presidential Reception/Poolside meal (\$TBA/person)	YES	NO
Inaugural Banquet (\$TBA/person)	YES	NO
Breaks (\$3.00/person)	YES	NO
Door prizes	YES	NO

Mail application together with registration fee to: Andrew McIntyre
Georgia State Division, IAI
1721 Stone Trace Court
Lawrenceville, GA 30043-4340

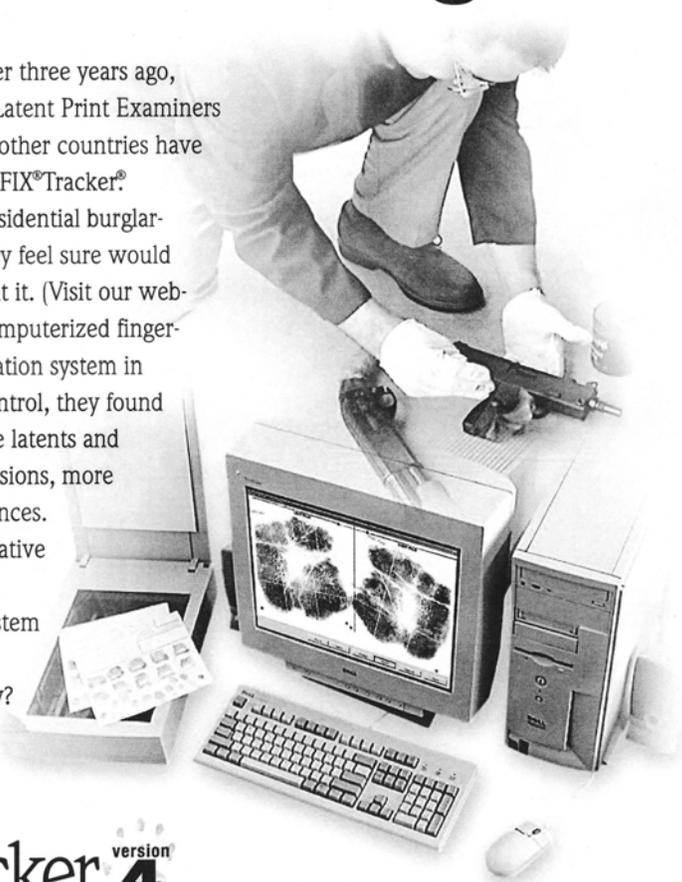
Registration is requested by August 15, 2003. For questions or more information, contact Andrew McIntyre at (404) 417-2705 or vendor@gaiai.org.

Note: If you are planning on shipping equipment in advance, contact the Ramada Inn & Suites to verify shipping at (912) 729-3000. **Mark packages for GAIAI.**

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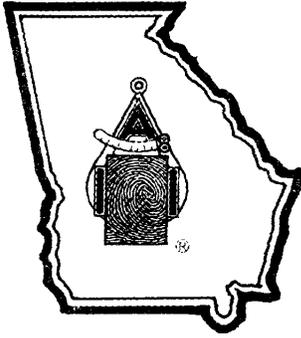
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GEORGIA STATE DIVISION
INTERNATIONAL ASSOCIATION
FOR IDENTIFICATION

APPLICATION FOR MEMBERSHIP

Please complete and return to:
Georgia State Division, I.A.I.
8316 Winston Way, Jonesboro, GA 30236
ANNUAL FEE: \$25

I hereby make application for membership in the Georgia State Division, International Association for Identification in accordance with its Bylaws and Constitution and agree to be bound by them.

I am applying for:
(defined on reverse)

Active Membership

Associate Membership

PLEASE COMPLETE
BOTH ADDRESSES.
Check mailing preference.

Name in Full: _____ Date of Birth: _____

Employed by: _____ How long? _____

In what capacity? _____ How long? _____

Business Address: _____

Home Address: _____

Business Phone #: _____ Ext: _____ Fax #: _____

Home Phone #: _____ E-mail Address: _____

How would you like to receive your newsletter? by mail online at www.gaiai.org

- Have you ever been convicted of a crime?
 NO
 YES (If yes, give full details on other side.)

of fees, which will be refunded if application is rejected. *Incomplete applications will be returned.*

- I understand that application fees paid to the Association by any new applicant between January 1 and August 31 shall be applied to the membership dues for that calendar year only; fees paid by an applicant on or after September 1 shall be applied to the following calendar year.

- Also, I understand that my Membership Certificate is the property of the Division and must be returned to the Secretary upon my *resignation or suspension*.

Because this information will be used for compiling our Membership Directory, PLEASE be precise and complete ALL items.

- All applications MUST be accompanied by payment Lapel Pin is optional for \$5.00.

5. PLEASE NUMBER UP TO THREE AREAS OF YOUR EXPERTISE

Indicate your primary discipline as Number 1, then other areas as 2 and 3.

___ Bloodstain Pattern Analysis

___ Fingerprint Identification

___ Laboratory Analysis

___ Crime Scene Investigation

___ Forensic Art

___ Polygraph

___ Innovative/Gen. Techniques

___ Footwear/Tire Tracks

___ Questioned Documents

___ Firearms & Toolmarks

___ Forensic Photography/
Electronic Imaging

___ Voice Print & Acoustics

6. Recommender: _____
Member's Name Member's #

Member's Address

Recommender's Signature (Required) Date

Approved: _____
Signature of Membership Committee Chairperson and Date

STATE DETAILS OF "YES" Answer to Question 1 below:

PERSONAL HISTORY

Degree and/or Honors and other Qualifications for Membership

MEMBERSHIP QUALIFICATIONS

ACTIVE MEMBERSHIP

Active membership of the Georgia State Division shall consist of heads of Bureaus of Identification or Investigation (including persons under their supervision who are engaged in the science of identification), heads of Police Departments, Chiefs of Detectives and Sheriffs, provided however, that the foregoing persons are bona fide employees of, and who receive salaries from National, State, County, or Municipal Governments, or some subdivision.

ASSOCIATE MEMBERSHIP

All reputable persons wholly or partially engaged in any of the various phases of the science of identification and who are not qualified for Active Membership are eligible to become Associate Members. They shall, in all respects, be subject to the same rights and privileges as Active Members, except that they shall not be entitled to the office of Vice President or President.

I certify that the information herein contained is true and correct to the best of my knowledge. Any omission or falsification of information will be a basis for rejection or denial of continued membership.

Applicant's Signature and Date: _____

International Association for Identification Training Schedule for 2002-2003

For further information on these and other IAI training courses, please contact the training coordinator at 480-860-1002 or visit the IAI web site at www.theiai.org.

November 18-22, 2002

Footwear Impressions Evidence

\$500 IAI Members

\$560 Non IAI Members

Mr. Dwane S. Hilderbrand
Sacramento Police Department
Sacramento, CA
Hotel info: Contact Training Coordinator
Limited to 24 students

December 2-6, 2002

Blood Stain Pattern Interpretation

\$500 IAI members

\$560 Non IAI Members

Sacramento Police Department
Ms. Jan Johnson
Sacramento, CA
Hotel info: Contact Training coordinator
Limited to 24 students

December 3-6, 2002

Adobe Photoshop Workshop

\$500 IAI members

\$560 Non IAI Members

Scottsdale Community College
Mr. Scott Spjut
Scottsdale, Arizona
Hotel info: Contact Training coordinator
Limited to 24 students

April 8-11, 2003

Fingerprint Classification, Interpretation, and Orientation and Identification

\$500 IAI members

\$560 Non IAI Members

Mr. Dwane S. Hilderbrand
International Association for Identification
Old Town Hotel and Conference Center-Scottsdale
Scottsdale, Arizona
Hotel information: Contact Training Coordinator
Limited 24 students

ALL courses are open to college students. Special registration fees must be cleared through the training office.



Next newsletter mailing date:
February 2003

GEORGIA FORENSIC NEWS

**International Association for Identification
Georgia State Division
Juliet H. Wood, Editor
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