

# THE IDENTIFIER

[HTTP://WWW.SCIAI.ORG/](http://www.sciai.org/) | WINTER ISSUE | VOLUME 3 ISSUE 1



## SCIAI Winter Issue

I hope everyone had a wonderful holiday season! We have been working diligently on the 2020 Annual Training Conference and registration is now open!! The Spring Conference is April 15-16th at the Columbia Metropolitan Convention Center in Columbia, SC. If any members are interested in speaking at the upcoming training conference, please go to the [SCIAI.org](http://SCIAI.org) website to register.

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## LETTER FROM OUR PRESIDENT



### **2020 Annual Training Conference**

**April 15 - 16, 2020** Columbia, Columbia Metropolitan Convention Center

We finally decided on a spot for the 2020 training conference and we couldn't be more excited. For many of us, this is the first year for us in our officer roles; so bear with us while we navigate bumps along the way. Current member price for the conference is ONLY \$35.00!! Student price is \$25.00 and \$100.00 for non-members. You will be able to join lectures on the latest technology, techniques, and research, sign up for limited space hands on workshops to practice basic to advanced skills, and attend meetings and panels that provide an opportunity to discuss the latest professional topics and developments. We are currently working on the exact schedule so keep an eye on the website! Many classes are currently posted.

## OSAC 2.0 Standards <https://www.nist.gov/topics/organization-scientific-area-committees-forensic->



The OSAC standards as the OSAC Forensic Science Standards Board met this fall to finalize the progress made in the realignment of the subcommittees. The updates will be as follows:

**The number of subcommittees will decrease from 25 to 17.** Subcommittees with similar content and that can benefit from working together will be combined, according to the website. The size of the subcommittees may change over time to better suit the specific disciplines.

**All subcommittee members will remain in their assignments. Most SAC members will transition to subcommittees.** SAC, the Scientific Area Committees will be smaller and coordinate for their subcommittees, with the Chair representing that subcommittee's interest on the Forensic Science Standards Board (FSSB).

**Resource committee members will transition to become voting members of subcommittees.** NIST stated that one negative aspect of OSAC 1.0 was the difficulty in adding anything to documents once completed. "Therefore, in OSAC 2.0, opinions will be incorporated earlier in drafting stage of each document rather than after the document is completed. To accomplish this, current members of the resource committee will be embedded in task groups and become voting members. In addition, virtual task groups will be established to allow all OSAC legal, statistical, human factors and quality assurance experts to collaborate on topics of common interest."

And lastly, the **Interdisciplinary Task Groups will be established** in order to create more consistency across disciplines. These members will be appointment to the Interdisciplinary Task Group.

<https://www.nist.gov/news-events/news/2019/09/osac-20-updating-structure-and-streamlining-processes>



## SCIAI Officers

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## SOCIAL MEDIA

Check us out!



@theSCIAI



SC Division of the  
International Association  
for Identification

## IN THE NEWS

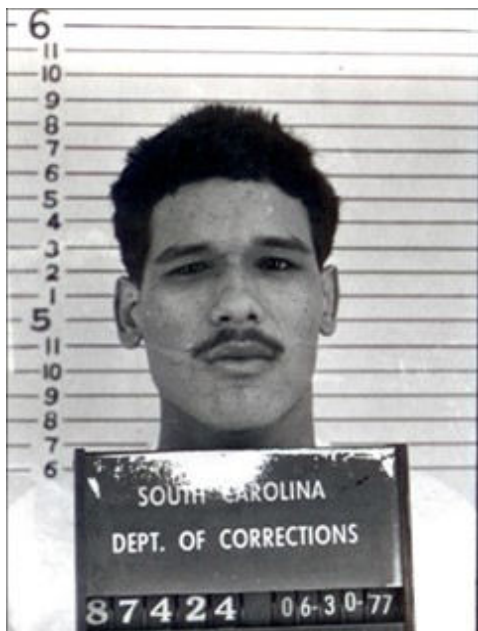
### 'the Gold Standard for identification' catches 40 year fugitive,

After a routine police call for an intoxicated person, a 40 year fugitive is now behind bars. On December 28, 2019, Dover Police responded to a convenience store in reference to a intoxicated man. The man handed police a state ID card for a 61 year old Arnaldo Figueroa. After routine booking, fingerprinting and paperwork, the man is booked and then given a bond. Later the arrestee was released on his own recognizance. Once his fingerprints were entered into AFIS, it is discovered the man is actually 64 year old Jose Romero, a fugitive from the South Carolina Department of Corrections. SC Corrections stated, Jose Romero had escaped from a prison work detail on December 13, 1979 while serving an 18 year sentence for armed robbery in Aiken County.

Spokesperson Master Cpl. Melissa Jaffe, with the Delaware State Police stated fingerprints are "the Gold Standard for identification. (They) are the best form of reliability and accuracy." South Carolina Department of Corrections said Romero has about seven years left on his armed robbery sentence, along with whatever time will be added on from the escape.

<https://delawarestatenews.net/police/fingerprint-id-analysis-yielded-40-year-fugitive-arrest/>

Jose Romero is shown in booking photos in 1977 while in South Carolina



January 1, 2020 arrest in Dover. Submitted photos/ Dover PD, South Carolina DOC



# IN THE NEWS

## Generate Investigative Leads on Fired Cartridge Cases in Less than 24 Hours? Yes, It's Possible.

By Tom Joyce

When the forensics team arrives on site at a crime scene, it has a mission: to find and collect any and all evidence left behind by the crime's perpetrators. In the case of a crime involving gun fire, one piece of evidence jumps to the top of the list: Fired Cartridge Cases (FCCs).

If the agency is part of the National Integrated Ballistic Information Network (NIBIN) through the U.S. Justice Department's Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF), then the forensic team will likely send some of the FCCs found at the crime scene to a NIBIN site for examination via the Integrated Ballistics Identification System (IBIS). IBIS uses 3-D imaging 1) to analyze FCCs and store them in their national database and 2) to determine whether an FCC was fired from a gun either known to law enforcement or fired at another crime scene. *(continued on page 7)*



## IN THE NEWS

### **Generate Investigative Leads on Fired Cartridge Cases in Less than 24 Hours? Yes, It's Possible.** *(continued from page 6)*

#### **Key Barriers to Quick FCC Analysis**

In a perfect world, the FCCs would be sent off to a NIBIN site for analysis and the agency would receive the results back quickly, enabling investigators to use the results of the analysis to further their investigation. Unfortunately, we do not live in a perfect world. Far from it...

Several states don't even have a NIBIN facility. NIBIN equipment is expensive to purchase and maintain. It is often cost-prohibitive for agencies to have one. They must work with NIBIN facilities in other jurisdictions to process and analyze FCCs.

South Carolina is fortunate. It has two NIBIN facilities - one in Columbia and the other in North Charleston. But, many agencies aren't located near one of the facilities. Members of their forensics team may have to drive hours to deliver the evidence to a NIBIN facility. This often results in forensic analysts waiting until they have a number of FCCs from multiple crime gun incidents before delivering the FCCs to NIBIN. In South Carolina, like most other locations, this means that there is a tremendous backlog of ballistic evidence waiting to be processed through NIBIN. Even if you are located in Columbia or North Charleston, there is no guarantee that your FCCs go to the top of the list. Reports indicate that investigators can wait days, weeks or even months to receive the results from a ballistic analysis. And, when crime gun investigators don't have quick access to ballistic evidence, they may lose the opportunity to generate leads and cases can grow cold. It doesn't have to be that way.

#### **Vigilant BallisticSearch™ - Quick Results & A Complement to NIBIN**

New technology exists from Motorola Solutions - [Vigilant BallisticSearch](#) - which allows agencies to examine FCCs with 2D imaging on-site at a crime gun scene. And, if your forensic investigations team doesn't have a certified firearms examiner on staff, the BallisticSearch team will provide one to you through its Virtual Correlation Center and conduct the analysis of the FCC, delivering you a report within 24 hours, and often within only a few.

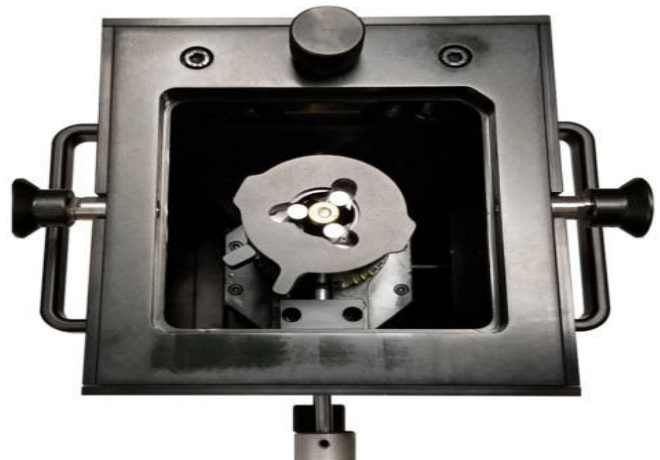
BallisticSearch is a portable hardware and software solution that allows users to capture images of fired cartridge cases at shooting scenes, creating real-time investigative leads. The BallisticSearch Image Capture Station consists of a fixed portable microscope a lighting element and a single mounting stage with an adjustable collar to fit a large variety of FCC calibers. The FCC is then placed into the microscope and locked into position. The station is connected to a portable laptop via a USB type cord. BallisticSearch scans an image of the FCC in less than two minutes. The FCCs are uploaded into a nationwide database of FCCs. Searches of the database for potential matches generally take approximately 30 seconds. *(continued on page 8)*

## IN THE NEWS

### Generate Investigative Leads on Fired Cartridge Cases in Less than 24 Hours? Yes, It's Possible. *(continued from page 7)*

When the Motorola Solutions team created BallisticSearch they asked a question: what would it take to create a solution that nearly every agency could afford that would allow law enforcement to reliably analyze FCCs in a timeframe so quickly that it created a near/real-time lead? The team figured out what they wanted and a small group of very smart and dedicated engineers set about designing it.

BallisticSearch is not intended to compete with NIBIN. Here's the thing: if NIBIN were a car, it would be an exotic, luxury vehicle. Who doesn't want to get behind the wheel and drive a sleek and powerful vehicle? But, exotic, luxury vehicles are expensive to buy - and possibly even more expensive to maintain in the long run. And, while it might be fun to drive the luxury vehicle, most people really just need a car that gets them from point A to point B and gets the job done. That's what BallisticSearch does for investigators: it gets the job done. It quickly examines FCCs, using cost-effective 2D imaging technology - as opposed to the more costly 3D imagery - and provides investigators with a report of how many guns were fired at the scene and which cartridge cases are the best quality for evidence, as well as for submitting to the BallisticSearch and NIBIN databases. As a result, this significantly cuts down on the backlog of FCCs submitted to NIBIN, making BallisticSearch a complement to NIBIN for agencies who have it. And, a ballistics lead-generator for agencies without immediate access to NIBIN. *(continued on page 9)*





## IN THE NEWS

### Generate Investigative Leads on Fired Cartridge Cases in Less than 24 Hours? Yes, It's Possible. *(continued from page 8)*

#### Conclusion

The world would be a safer place if every agency had the ability to turn around ballistics evidence in less than 24 hours, so investigators could have nearly immediate access to leads.

Just imagine the possibilities: law enforcement receives a call of shots fired at a crime scene. Multiple people have been sent to the hospital with critical or life-threatening injuries. Witnesses are in disarray. Numerous FCCs are found at the scene. While investigators have recovered a crime gun and a suspect is in custody, they don't even know how many shooters there were. The suspect says he was the only one. The good news is that the forensic analyst entered all the recovered FCCs into the BallisticSearch Image Capture Station and asked the Virtual Correlation Center - comprised of certified forensic firearms examiners - to create a report examining the FCCs. The report comes back while investigators have the suspect in custody. It turns out there were two guns used at the scene. Now, investigators can confront the suspect with presumptive evidence, and the interview takes a sharp pivot and the suspect identifies the other shooter. And, instead of sending 20 FCCs on to a NIBIN site, the agency only needs to send the best two FCCs recommended by the report, cutting down on the NIBIN backlog.

Scenarios like this are playing out across the country - and in South Carolina - using BallisticSearch every day. They can play out like this for your agency too.

*Tom "a crime gun guy" Joyce retired from the New York Police Department as Lieutenant Detective Commander & Commanding Officer of the Cold Case Squad and the 79th Precinct Detective Squad. He currently leads Motorola Solutions crime gun intelligence sales activities. Tom may be reached at [tom.joyce@motorolasolutions.com](mailto:tom.joyce@motorolasolutions.com).*



## IN THE NEWS

### *The importance of continual education and training...*

I came across this article from November of last year and I have to admit, I have assumed (I know, my first mistake) that this type of thinking was on it's way out. Clearly, this is not the case and I feel this is an important read to help protect our field. I have taken portions of the article but please take the time to read it in it's entirety to help safeguard yourselves from defense attorneys like this.

### **FINGERPRINT ANALYSIS IS HIGH-STAKES WORK — BUT IT DOESN'T TAKE MUCH TO QUALIFY AS AN EXPERT** by Jordan Smith

Brendan Max and two of his colleagues in the Cook County, Illinois, public defender's office took a proficiency test designed for fingerprint examiners and aced it.

None of them had any training or real expertise in latent fingerprint analysis — the practice of trying to match a fingerprint collected from a crime scene to the known print of a suspect — aside from what they'd learned during their years working criminal defense.

So, nominally, it was good news: Each of them had correctly identified all but one of the fingerprints contained in the test. But they were certain this was not a good thing. If they could so easily pass the test with zero training to guide their analysis, what did that say about the test's ability to accurately assess the competency of any fingerprint examiner, including the six employed by the Chicago Police Department, whose work they regularly had to vet when defending clients?

Acing the tests, which the CPD examiners regularly did, allowed them to bolster their credibility in court regarding their conclusions about matches between a crime scene print and a criminal defendant. But the lawyers also knew from cross-examinations that these same analysts appeared to know frighteningly little about their discipline, and they worked in a lab setting that had none of the written policies or quality assurance practices designed to keep forensic work well-documented and reliable.

As proficiency testing has become ubiquitous in the forensic sciences — according to federal data, 98 percent of practitioners working in accredited public crime labs are proficiency tested — the disconnect Max and his colleagues face in Chicago raises a series of sobering questions. Not least among them: What, if anything, do proficiency tests say about the abilities of the forensic examiners taking them?

The release of a groundbreaking report from the National Academy of Sciences in 2009 threw a harsh light on the state of forensic science. Aside from DNA analysis, the majority of the forensic disciplines lacked meaningful scientific underpinning, the report concluded. This was true for all of the so-called pattern-matching disciplines, where a practitioner takes a piece of crime scene evidence and attempts to match it to a pattern known to be associated with a suspect, a process that is highly subjective. This includes fingerprint, or friction ridge, analysis, along with things like handwriting analysis and bite-mark matching.

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## IN THE NEWS

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Friction ridge analysis rests on a deceptively simple foundation: that human fingerprints are unique — an individuality that persists — and that this uniqueness can be transferred with fidelity to a substrate, like glass or paper. While experts have long said that no two prints are the same, there's no proof that is the case. Moreover, crime scene prints are often distorted — or, “noisy” — partial prints that may be smudged or otherwise degraded, which is where errors occur, as in the infamous case of Brandon Mayfield, the Oregon lawyer who was wrongly suspected of being involved in the 2004 Madrid train bombing based on the FBI's faulty fingerprint analysis.

The National Academy of Sciences report made a host of recommendations for shoring up the validity and reliability of forensic practices. While some practitioners have effectively stuck their heads in the sand, a number in the fingerprint community have heeded the calls for reform by investigating what leads to errors, trying to devise error rates for the discipline, and conducting research into objective techniques for doing their work. Meanwhile, the academy also made a series of broader recommendations, including that crime labs be accredited and practitioners certified and regularly tested for proficiency.

But as they continued probing the analysts during cross-examination, they realized that the analysts still believed this kind of categorical testimony was legitimate. In one case, in October 2017, Max questioned a CPD examiner named Thurston Daniels about whether the common method for analyzing prints, known as the ACE-V process, had been scientifically vetted for reliability. “It's the methodology used by all latent print examiners, so I guess they would assess it as pretty reliable if everybody uses it,” Daniels replied.

But where the examiners seemed to know so little about the scientific underpinning of their discipline and the myriad advances in practice, they had at least one accomplishment with which to tout their expertise: They annually aced their proficiency exams.

They went to the website for Collaborative Testing Systems, a Virginia-based company that is the nation's leader in providing testing materials for forensic practitioners. CTS publicly posts the results of its proficiency exams, including for latent print examiners. Looking through years of results, the lawyers discovered that it wasn't just the CPD examiners who were acing the tests, it was nearly everyone who took them. We looked at the passage rates year in and year out, and they're all in the mid to high 90s.”

At issue, it seemed, was the type of sample prints contained in the test. They were fairly pristine with lots of details making them suitable for analysis, not the noisy or bloody partial prints one might expect to find at a crime scene. And there were no close non-matches, the kind that confused the experienced FBI examiners in the Mayfield case.

There isn't a nationwide standard for how these operations should be organized, so various cop-shops like CPD may have a latent print unit, or a unit of crime scene investigators who are also doing latent print work, for example. Put simply, the scope of the problem of examiners operating with little oversight is unclear. Although the feds haven't traditionally collected this information, Stout says a pending survey administered by the Bureau of Justice Statistics includes a question to try to better capture that additional information.

In the meantime, Max and his team say that their efforts to try to keep the CPD fingerprint evidence *(continued on page 12)*

## IN THE NEWS

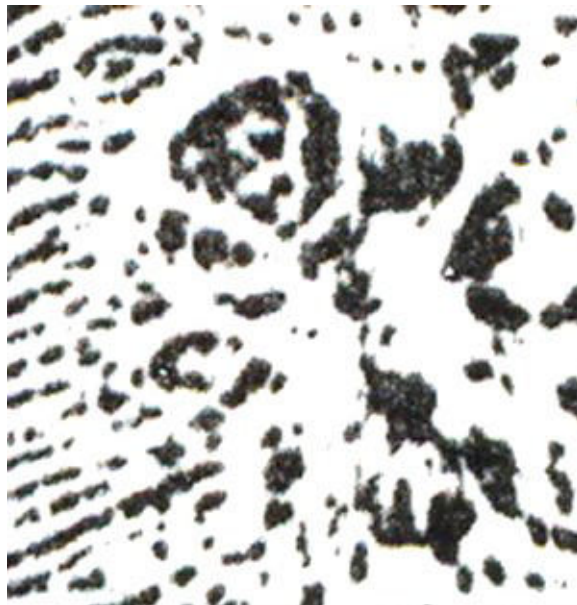
*(continued from page 11)*

out of cases altogether have been stymied by judges who have failed to exclude it even after being briefed on the department's failings. Despite the fact that judges are supposed to act as "gatekeepers," tasked with rejecting inherently unreliable forensic evidence, to date they've chosen to allow it to go forward. Nonetheless, the public defenders' consistent challenges to the evidence at trial have been successful. They've won acquittals in four cases where fingerprints were the primary evidence of guilt. In one case, the jury convicted but said they did not believe the fingerprint evidence. In about a dozen cases, Max wrote in an email, charges "were reduced or dismissed once we started challenging the fingerprint evidence in pretrial motions."

<https://theintercept.com/2019/11/29/fingerprint-examination-proficiency-test-forensic-science/>

Examples of notable symbols within fingerprints submitted to clplex by latent print examiners.

[www.clpex.com/smileys/](http://www.clpex.com/smileys/)



**Howard McCollin  
Lynn P.D.**

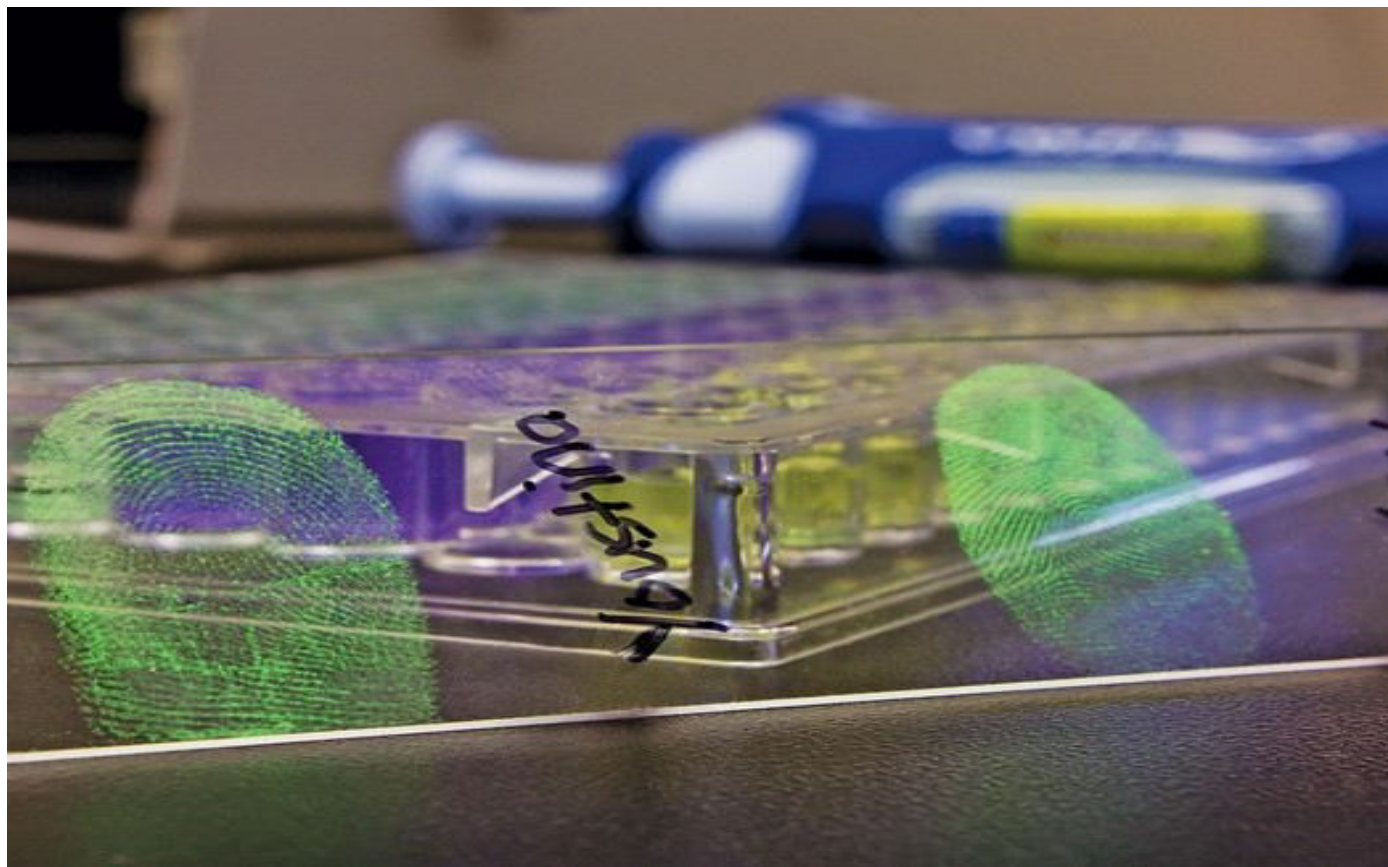
[www.clpex.com/smileys/](http://www.clpex.com/smileys/)

## Crime News

Fingerprints are more than just patterns; they're chemical identities.

When people think about fingerprints, most think about latent fingerprints and whether or not they are suitable for a one on one comparison. If a print is not of AFIS quality, they are stored away as evidence, and usually not given another thought. However, scientists are developing ways to analyze the molecules in fingerprints, such as DNA and amino acids. With these methods, scientists can now work with samples containing as little as 500 nL of material, making the chemical analysis of fingerprints more feasible. So, while these smudges or low-quality prints can't make a visual hit, the very tape used to seal the ridge patterns, is at the same time, preserving genetic material.

Tracey Dawson Cruz, a forensic molecular biologist at Virginia Commonwealth University, stated that the black powder used to dust for prints does not significantly interfere with the ability to extract DNA; neither does cyanoacrylate fuming. Dawson Cruz has examined fingerprint samples from 0 to 28 years old. Her VCU team found they could extract the most skin cells by pulling apart the fingerprint tape from the paper, cutting strips and placing it in solution to break open cell membranes, releasing the DNA. While this is a breakthrough for the forensic field, it is still a very young area of research and scientists are still working out the flaws.



<https://cen.acs.org/analytical-chemistry/forensic-science/Fingerprints-just-patterns-re-chemical/97/i10>

# UPCOMING TRAINING/EVENTS

**February 24-28, 2020:** Mastering the IAI Latent Print Exam, Youngsville, NC  
Sirchie Headquarters

**April 15-17, 2020:** Latent Analysis Without Paralysis, Coral Springs, FL

<https://www.tritechtraining.com/041520-LAWP.html>

**April 27– May 1, 2020:** Basic Latent Print Comparison Course, North Carolina  
Justice Academy, Edneyville, North Carolina. With Johnny Leonard!

Please contact Coordinate Casson Reynolds with any questions about this course: [creynolds@ncdoj.gov](mailto:creynolds@ncdoj.gov)

North Carolina Justice Academy [www.ncdoj.gov/ncja](http://www.ncdoj.gov/ncja)

Register through the NCJA Portal at: <https://ncja-portal.acadisonline.com/acadisviewer/login.aspx>



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