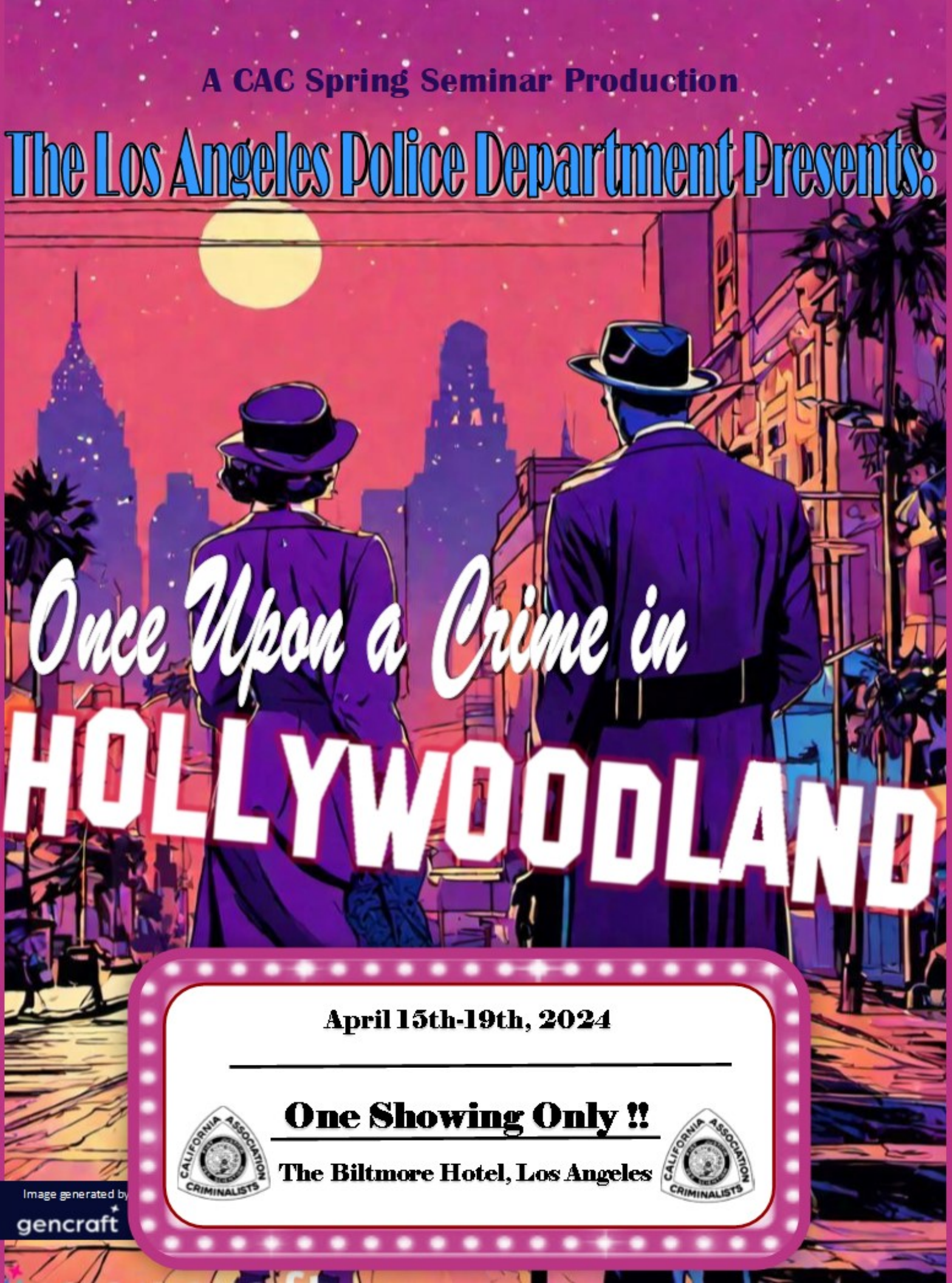
A CAC Spring Seminar Production
The Los Angeles Police Department Presents:
Once Upon a Crime in
HOLLYWOODLAND
April 15th-19th, 2024
One Showing Only !!
The Biltmore Hotel, Los Angeles
CALIFORNIA ASSOCIATION CRIMINALISTS
CALIFORNIA ASSOCIATION CRIMINALISTS
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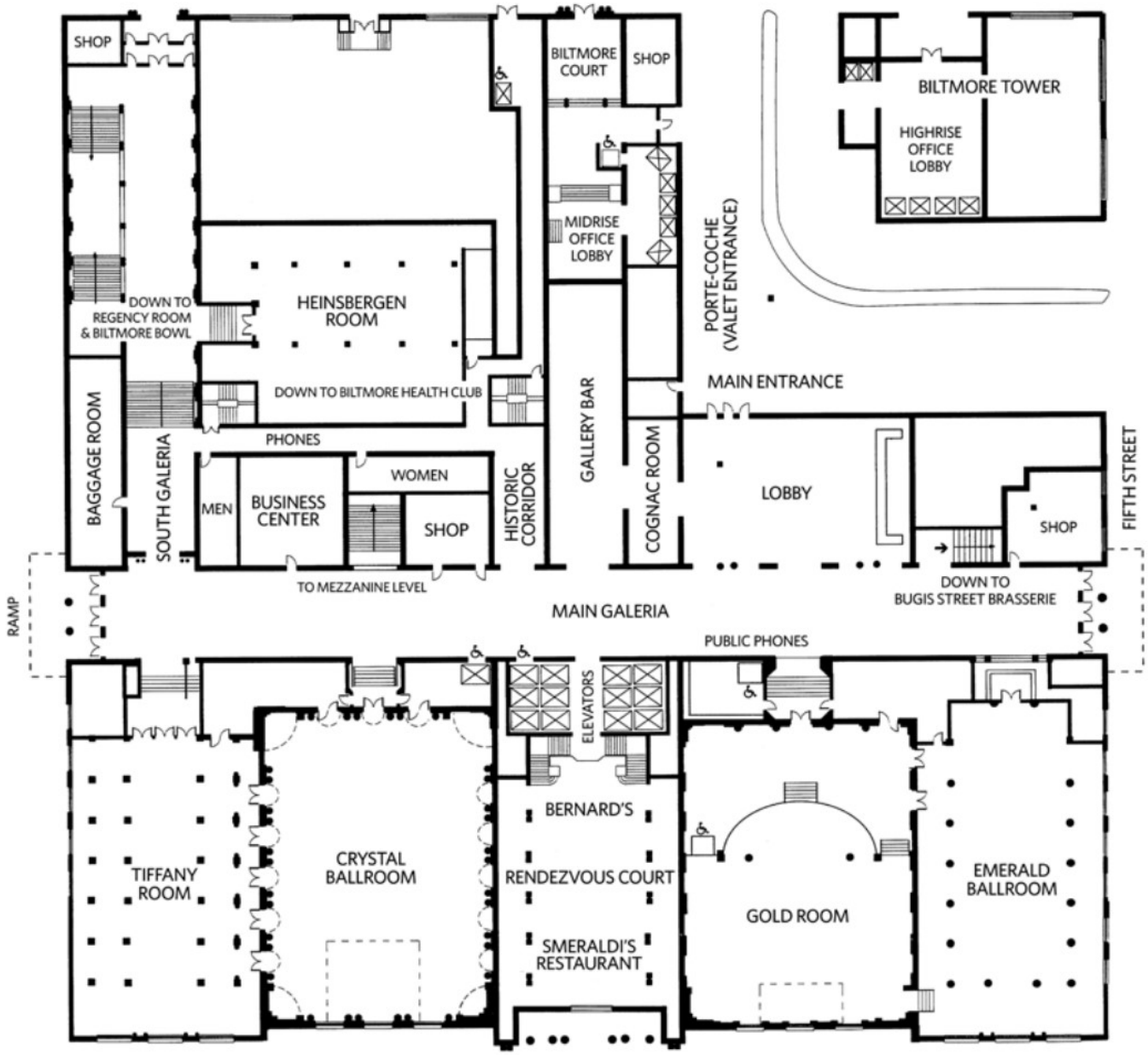
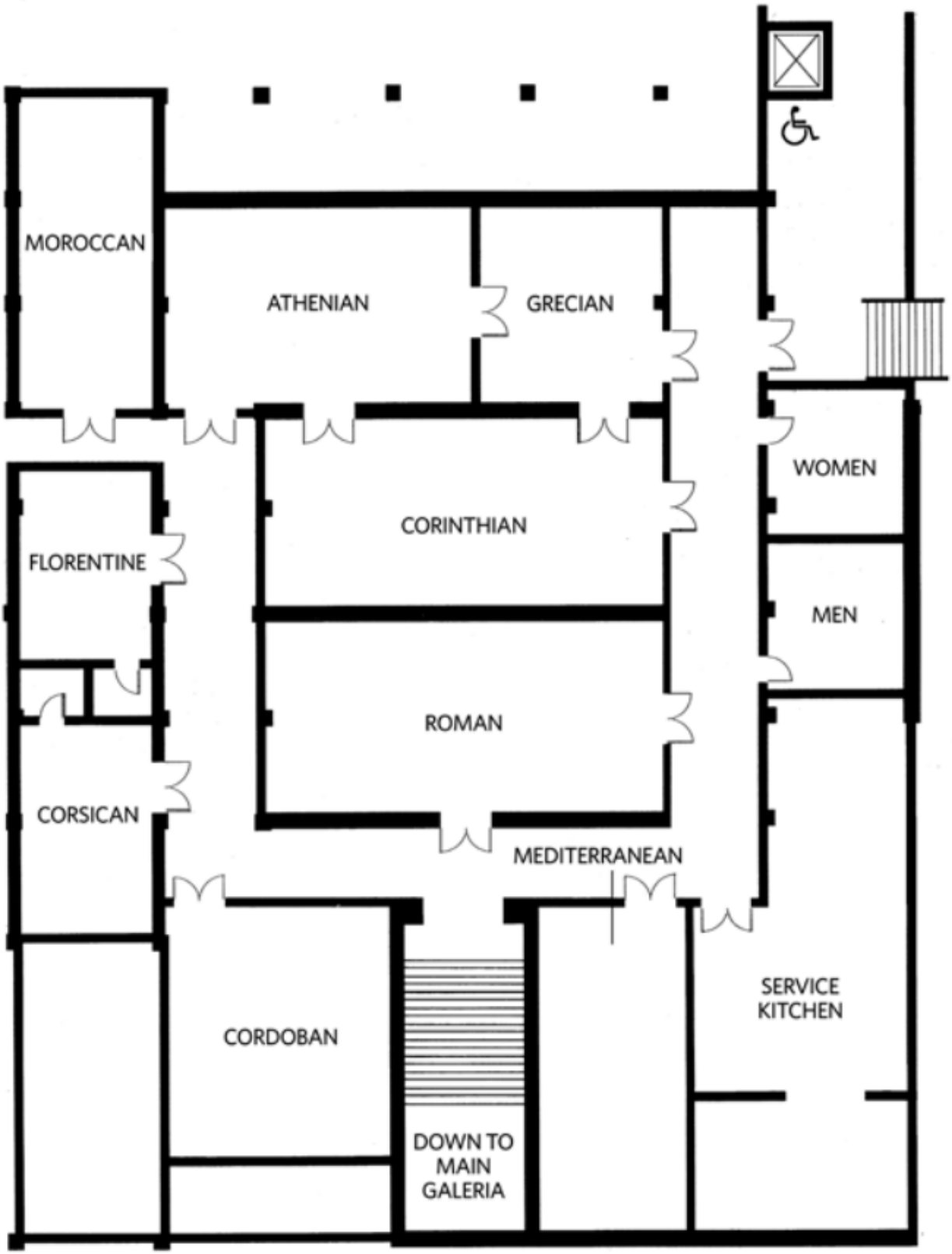


BILTMORE
LOS ANGELES

CONFERENCE ROOM AND MEZZANINE



BILTMORE
LOS ANGELES

MILLENNIUM BILTMORE PROPERTY MAPS

HISTORY OF THE BILTMORE

The illustrious Biltmore Los Angeles, gracing the cityscape since its grand opening on October 1, 1923, shares a memorable milestone with the inception of America's First Crime Lab: The Los Angeles Police Department. This serendipitous alignment makes it an ideal venue for hosting this year's Seminar.

Renowned for its historic significance and timeless charm, The Biltmore has played host to an array of iconic gatherings, captivating the imagination of vintage Hollywood's studios and starlets. Notably, it stands as an early bastion of the Academy Awards, having witnessed the glitz and glamour of eight Oscar ceremonies within its opulent Crystal Ballroom, where our conference attendees are poised to revel in the CAC Banquet's Charleston-themed soirée.

Beyond its association with the Oscars, The Biltmore holds a storied past intertwined with political intrigue, notably serving as the campaign nerve center for John F. Kennedy during the pivotal 1960 Democratic National Convention. The Music Room, now our Lobby, hummed with the energy of political discourse, while the Emerald Room housed Kennedy's running mate, Lyndon B. Johnson.

Embarking on a journey through the hotel's corridors unveils a tapestry of cultural references, with nods to cinematic classics like "Pretty in Pink" and "Ghostbusters," alongside contemporary icons such as Taylor Swift's ethereal "Delicate" music video, and recent award winner "Oppenheimer".

The Gold Room, once a clandestine speakeasy during the Prohibition era, whispers tales of covert revelry and a bygone era of clandestine indulgence.

Yet, amidst its rich tapestry of history and Hollywood glamour, The Biltmore holds a more enigmatic allure—the whispers of its spectral inhabitants. The ghostly presence of Elizabeth Short, immortalized as the Black Dahlia, is said to linger on the 10th and 11th floors, and even within the lobby, forever entwined with the hotel's legacy. As we pay homage to Short's memory with black dahlia flower pins, we acknowledge the spectral companions said to roam its halls—a boy on the 10th floor, a phantom nurse on the second, and a spectral girl on the ninth.

We invite you to immerse yourself in the timeless splendor of The Biltmore, where history and mystery converge, and where every corner holds a story waiting to be discovered.

Thank you for joining us on this journey through time.

--CAC Planning Committee

THE BILTMORE LOS ANGELES

506 South Grand Avenue

Los Angeles, CA 90071

(213) 624-1011

Check-in: **3:00 PM**

Check-out: **11:00 AM**

Parking

Daily Self Parking: **$25 per car**

Overnight Self Parking: **$45 per car per night**

Note: Valet parking is **NOT** available for this event

Wi-Fi Information

Username: Millennium_Special_Event

Password: welcometola20

Amenities

Fitness / Gym: 24 Hours with key access

Indoor Pool: 6:00 AM - 10:00 PM

Luggage Storage: Complimentary for hotel guests

Rollaway Bed Fee: $40 per day plus taxes, subject to availability

HOTEL GUEST INFORMATION

LOCAL PLACES TO EAT

DINING IN THE BILTMORE

Rendezvous Court Café

Open 6:30AM - 1:30PM

Indulge in a dining experience surrounded by Moorish-carved wood ceilings, gilded accents, a cascading rose marble fountain, and a magnificent Baroque Stairwell, transporting guests to a bygone era of splendor and sophistication.

The ideal spot for grab-and-go sandwiches, salads, fruit, snacks, specialty coffees and teas.

Smeraldi's Restaurant

Open 6:30AM - 10:30AM

Smeraldi's, aptly named after the illustrious Italian artist Giovanni Smeraldi, whose masterful touch adorned the opulent hotel with Spanish and Italian Renaissance frescoes, stands as a premier breakfast destination in Los Angeles.

Guests will enjoy smoothies and fresh juices, smoked salmon benedict, steak and eggs, French toast, pancakes, and more.

Gallery Bar and Cognac Room

Open Daily for Food 4:30PM - 10:15PM

Open for Drinks Daily 4:00PM - 12:00AM

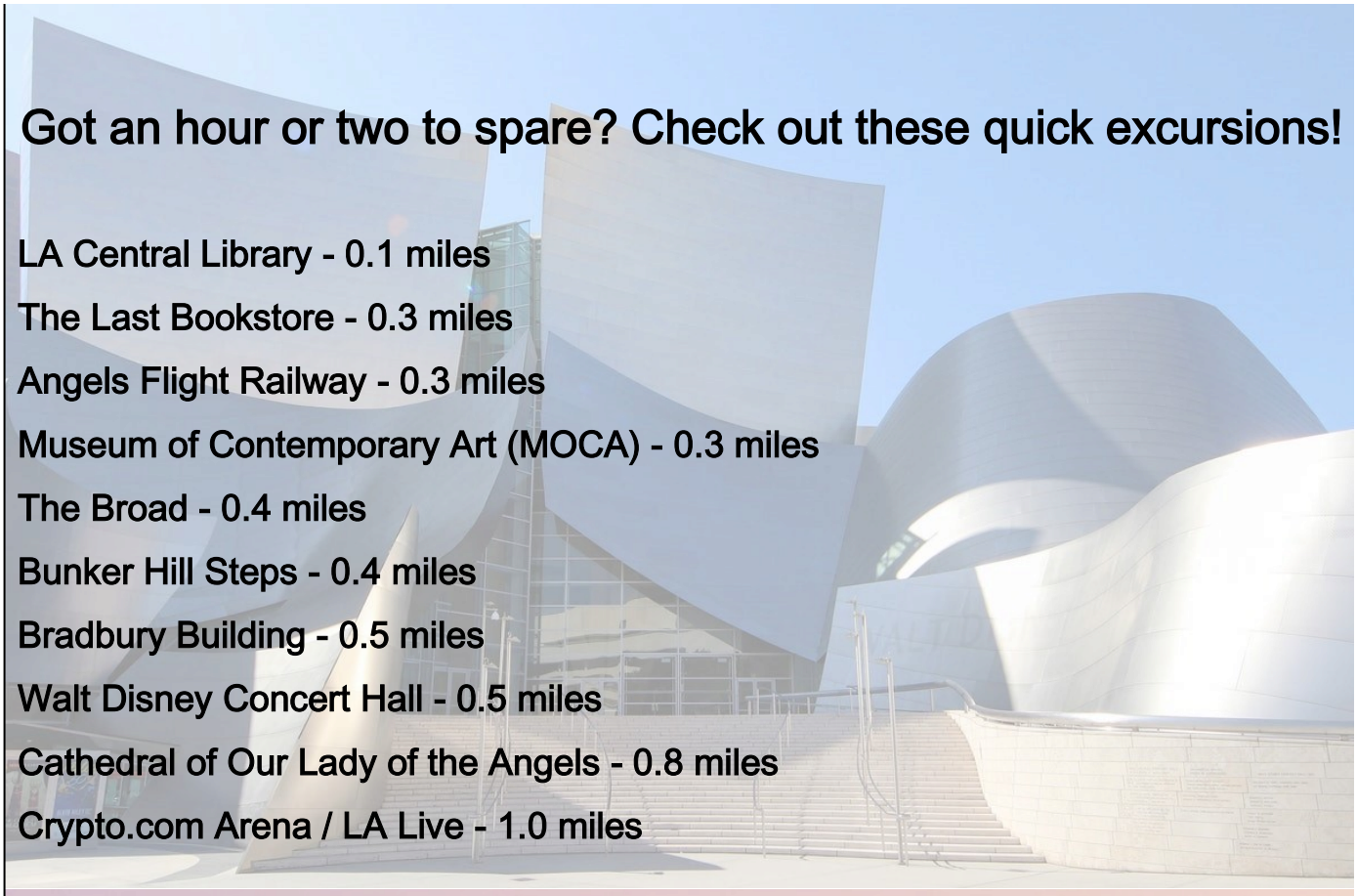
Nestled among the cherished landmarks of Los Angeles, the Gallery Bar and Cognac Room stands as a beloved haven steeped in history and charm. Here, carved angels lend an air of elegance to the polished granite bar, inviting guests to indulge in an array of libations and unforgettable specialty mixes. Join us at the Gallery Bar and Cognac Room, where history meets hospitality, and every visit promises to be a memorable journey through time.

DINING OUT

A variety of food options are available just a short walk or drive away

Starbucks - Two locations, both <0.1 miles
Pez Cantina - 0.1 miles
Perch / Mrs. Fish - 0.2 miles
Loose Leaf Boba Company - 0.2 miles
Blu Jam Café - 0.4 miles
Donut Friend - 0.4 miles
Grand Central Market - 0.4 miles
Pinches Tacos - 0.4 miles
Little Tokyo - 1.2 miles
Chinatown - 1.5 miles
Arts District - 2.0 miles
Koreatown - 3 miles

LOCAL SIGHTS TO SEE



Got an hour or two to spare? Check out these quick excursions!

LA Central Library - 0.1 miles

The Last Bookstore - 0.3 miles

Angels Flight Railway - 0.3 miles

Museum of Contemporary Art (MOCA) - 0.3 miles

The Broad - 0.4 miles

Bunker Hill Steps - 0.4 miles

Bradbury Building - 0.5 miles

Walt Disney Concert Hall - 0.5 miles

Cathedral of Our Lady of the Angels - 0.8 miles

Crypto.com Arena / LA Live - 1.0 miles

Have more time to spare? Venture out a little farther!

Exposition Park - 3 miles

Crimes of Passion Interactive / Museum of Love - 5 miles

Los Angeles County Museum of Art (LACMA) - 7 miles

Los Angeles Zoo - 10 miles

Griffith Observatory - 10 miles

Lake Hollywood Park (Hollywood Sign) - 10 miles

Universal Studios Hollywood - 11 miles

Warner Bros. Studio Tour - 13 miles

The Huntington Library, Art Museum, and Botanical Gardens- 13 miles

The Getty Museum - 16 miles

On behalf of the Los Angeles Police Department Forensic Science Division, it is my distinct pleasure to extend a warm and heartfelt welcome to all our esteemed attendees to the 138th California Association of Criminalists Seminar. Your presence here today is a testament to your commitment to excellence and your passion for continuous learning. This year's conference, themed "Once Upon a Crime in Hollywoodland," promises to be a transformative and unforgettable experience.

The theme "Once Upon a Crime in Hollywoodland" evokes the contradictory intrigue of Los Angeles, a city deeply intertwined with the glitz and glamour of Hollywood yet harboring its own tales of crime and mystery. Hollywoodland, the original name of the iconic Hollywood sign, symbolizes the allure of fame and fortune, but it also serves as a backdrop to stories of despair and deception.

The Biltmore Hotel, with its rich history and grandeur, stands as a testament to the glamour of old Hollywood. And, like the city itself, it holds secrets and narratives of its own. From legendary Hollywood scandals to infamous crimes that have captivated the public's imagination, the Biltmore Hotel stands as a silent witness to the darker side of Los Angeles history.

We have meticulously curated a lineup of notable speakers, stimulating workshops, and exceptional networking opportunities designed to inspire, engage, and empower you. We deeply appreciate the significant investment you have made in attending this conference, and we are committed to delivering an unrivaled experience that exceeds your expectations. Our team has worked tirelessly to create a program that seamlessly blends technical knowledge and new technology and grounds it with practical insights and new perspectives, ensuring that you leave feeling equipped and motivated to make a positive impact in your respective laboratories and communities.

Beyond the walls of this conference, we encourage you to explore the vibrant city of Los Angeles. Renowned for its rich cultural heritage, diverse neighborhoods, and bustling entertainment industry, Los Angeles provides an array of attractions to suit various interests. From world-renowned museums and art galleries to diverse culinary experiences and picturesque beaches, there is something for everyone.

We are confident that this CAC seminar will serve as a catalyst for personal and professional growth. We look forward to engaging in insightful discussions, forging meaningful connections, and creating lasting memories.

Thank you once again for attending. We are honored to have you as part of this remarkable gathering of minds.

Mei Ling C. Robinson
Seminar Co-Chair
CAC Immediate Past President

ACKNOWLEDGEMENTS

LAPD Forensic Science Division Command Staff

Commanding Officer

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Laboratory Director

Kristina Takeshita

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Student Volunteers

Ariel Mui
Ariana Carrillo-Cortez
Sarah Guidinger
Paloma Padilla

Event Photographers

Jason Holmes
Michael Fratantoro

Hair & Makeup Artist

Ana Vergara

Banquet Entertainment

Los Angeles Sheriff's Department Swing Band

Roy Avila - Saxophone
David Fisher - Saxophone
Jose Gabriel - Trombone
Dan Glass - Director / Trombone
Julie Levine - Trumpet
Robert Lobato - Percussion
Bill Loose - Guitar
Dan Martell - Trumpet
Bruce Martineau - Trumpet
Gary Mellor - Saxophone
Cynthia Neal - Keyboard
Bob Perino - Trumpet
Dennis Robertson - Saxophone
Tom Rocha - Trombone
Max Rodriguez - Trombone
John Salazar - Saxophone
Budi Winarto - Bass

Guy Boles - Vocalist
Sylvia Boyd - Vocalist

The Mellownotes

Owen Wahoske - Saxophone
Noka Treuer - Drums
Everett Lethem - Guitar
Nigel Kabiro - Bass

DJ

Zach Rowe

ACKNOWLEDGEMENTS

GENERAL SESSION RAFFLE INFORMATION

Raffle Prizes All Week Long !!

DON'T MISS OUR RAFFLE DRAWINGS at the end of every break, lunch and the end of the day!

Every general session attendee is entered into a general raffle!

Two tickets have also been given to every attendee to be dropped into raffle prizes of your choice!

Please separate and drop one ticket into the container of your choice and keep its corresponding half.

MUST BE PRESENT TO WIN and must show correct winning raffle number to redeem raffle prize.

Additional raffle tickets are available for purchase! Stop by the CAC Merch Table in the Gold Room and talk to:

Jamie Baxter **[Card only]**

Kathe Canlas (KC) and Allison Fernandez **[Cash / Venmo / Zelle]**

Raffle tickets are $1 each or 25 for $20 !

GOOD LUCK!

SEMINAR WEEK OVERVIEW

MONDAY APRIL 15	0800 - 1700	Breath Alcohol Wet Lab	*HDFSC 4th Floor Conference Rooms
	0800 - 1700	DNA Workshop	*HDFSC 2nd Floor Conference Rooms
	0800 - 1700	Arson Workshop	*Frank Hotchkin Memorial Training Center
	0800 - 1700	ABC Exam	*HDFSC Room 304
TUESDAY APRIL 16	0800 - 1700	SIG SAUER P320 Armorer's Certification	*HDFSC Rooms 225, 227
	0800 - 1700	Vehicle-Hidden Compartment Workshop	*HDFSC Room 202
	0800 - 1700	Courtroom Communication : Can Improv Help Scientists to Talk About Forensics?	Cordoban Room
	0800 - 1200	Thermo Fisher - Powering Productivity: Utilizing Advanced Technologies and Workflows to Benefit Your Lab	Corinthian Room
	1300 - 1700	CRAIC Microphotospectrometer For Trace Analysis and Data Interpretation	Roman Room
	1300 - 1700	Agilent He to H_2 Conversion / Hydro Inert Source Workshop	Corinthian Room
	1800 - 2100	QIAGEN 4th Annual Customer Appreciation Event	*Library Bar
WEDNESDAY APRIL 17	0800 - 0915	Welcome and Opening Remarks	Emerald Room
	0930 - 1550	General Session	Emerald Room
	1550 - 1700	CAC Business Meeting	Emerald Room
	1700 - 2000	Poster Session	Gold Room
	1700 - 2000	Welcome Reception *(Sponsored by Hamilton)*	Gold Room
	1800 - 1900	New Member Reception *(Sponsored by Raymond Davis)*	Gold Room
	2000 - 2200	Hospitality Suite	TO BE ANNOUNCED
THURSDAY APRIL 18	0800 - 1630	General Session	Emerald Room
	1700 - 1800	Hospitality Suite	TO BE ANNOUNCED
	1800 - 1900	Cocktail Hour	Tiffany Ballroom / Patio
	1900 - 2300	Banquet & Awards Ceremony *(Sponsored by Thermo Fisher Scientific)*	Crystal Ballroom
FRIDAY APRIL 19	0800 - 1200	General Session	Emerald Room

*** Denotes off-site location**

Arson Crime Scene Investigation Techniques and Evidence Processing

Presented by: Gus Gaeta, Joshua Gilbert, Rodger Polk, Kyle Brown, and Timothy Saldana, LAFD Arson

SUMMARY (Full Day)

The Los Angeles City Fire Department Arson Counter-Terrorism Section (LAFD ACTS) will be hosting an eight-hour workshop on arson crime scene investigation and processing. The workshop will begin with a classroom-style lecture on fire behavior, ignitable liquids, arson techniques (e.g., Molotov cocktail, delayed ignition), points of origin, investigation techniques, sample collection, booking, and processing. After the lecture, the participants will take part in several simulated arson crimes scenes involving the burning of two vehicles and a makeshift structure, the deploying of Molotov cocktails, investigation techniques, and the collection of evidence for DNA, latent prints, and ignitable liquids. During the simulated crime scene processing, arson investigators will also demonstrate the use of accelerant detection K-9's in helping search for ignitable liquids. By participating in this workshop, participants will learn valuable techniques and strategies for investigating and processing evidence from an arson crime scene.

Breath Alcohol Wet Lab

Presented by: Denise King and Shannon Bourne, LAPD Toxicology / Blood Alcohol

SUMMARY (Full Day)

Participants will be observing and collecting data on drinkers in a social drinking situation for the purpose of determining the time it takes to reach linear elimination. Drinkers will self-assess intoxication on a survey worksheet to be collected by the participants. Alcohol levels will be determined with periodic breath testing and participants will be responsible for collecting data and tracking alcohol consumed.

DNA Workshop: High Throughput Automation

Presented by: Joe Pasternak, Promega; Josh Abernathy, QIAGEN; Pamela Rowell, Bode Technology; Danielle Jardel, Thermo Fisher; Craig Nolde, Junior Gomez, and Nora Matossian, Hamilton; Cynthia Hall and Daniel Aguilar, DNA Labs International; Brian Kim and Clare Greenfield, LAPD

SUMMARY (Full Day)

This 8- hour workshop explores the application of the latest technologies to enable high-throughput automation within a DNA lab. The workshop will cover a range of robotic solutions that help increase efficiency and productivity while still maintaining the flexibility to adapt a variety of methods that forensic DNA labs require. Presentations include talks from Promega, Qiagen, Bode Technology, Thermo Fisher, Hamilton, Verdugo Regional Crime Lab, DNA Labs International, and the Serology/ DNA Unit at LAPD.

Genetic Identity Automation Workflow

Presented by: Sara Laber, Promega

Discover automation that works with you to integrate Promega chemistries for DNA isolation, quantification, normalization and STR analysis. Our combined chemistry expertise and automation experience ensures that your automated process performs to the same standards as your manual process. The result is a flexible automated process optimized for human identification by those who know the chemistry best. Identity Automation solutions consist of complete packages for each step in your DNA-typing workflow. Each package includes expert-tested robotic methods, professional installation, staff training and post-installation technical support.

Evaluation of Interesting Samples Analyzed with STRmix™

Presented by: Daniel Aguilar, DNA Labs International

This presentation will tackle the good, the bad, and the ugly of samples encountered throughout the last 9 years at DNA Labs International that were analyzed with STRmix™. It is all fun and games until your Gelman Rubin returns a 2.5 or one of your variances looks like a mortgage payment. This discussion will present interesting samples that were confronted, the mystery behind the diagnostic or the result, case background, and ultimately the resolution. With any new technology we can learn and grow through the years by experience. Understanding the challenges we have faced along the way can help prepare us for future challenges and provide us a better understanding with the path forward for difficult samples.

DNA Workshop: High Throughput Automation

Determining Kinship in Missing Persons and Disaster Victim Identification Cases with an End-to-End Workflow

Presented by: Josh Abernathy, QIAGEN

The International Criminal Police Organization (INTERPOL) has developed specific guidelines and protocols for disaster victim identification (DVI) which refers to identification of victims after a mass casualty disaster, armed conflict, or human rights violation. Typically, dental records, fingerprints or DNA based methods such as mitochondrial DNA analysis or STR profiling are used for comparison of antemortem (AM) and postmortem (PM) samples for conclusive identification. While these DNA based methods have been successful in DVI, they present several limitations. STRs cannot identify relatives further out than second degree. In addition, these PM samples are likely to be degraded and subjected to environmental insults and do not always provide a full STR profile. Mitochondrial DNA requires a matrilineal relative. To address these limitations, QIAGEN developed ForenSeq® Kintelligence HT Library Prep Kit and Universal Analysis Software (UAS) including a local database containing AM and PM samples for the MiSeq FGxTM sequencing system.

The ForenSeq® Kintelligence HT system together with NGS (also known as MPS), is based on the ForenSeq Kintelligence kit. We present the ability to sequence libraries generated with this kit with either 12 PM samples or 36 AM samples per sequencing run to determine relationships out to the 3rd order. The expected relationships were confirmed for samples with known pedigrees. DNA extracted from bones subjected to different insults and dental remains, as well as artificially degraded and low input DNA were utilized to simulate PM samples. DNA from diverse populations were typed to simulate AM samples. To address the forensic community's concerns on privacy, the server supporting the Universal Analysis Software also hosted a local database of these samples. Database management and pedigree tools were developed and integrated into UAS to assist with management of sample data and to calculate likelihood ratios. Overall, we demonstrate that by utilizing a high throughput NGS library preparation kit, combined with a local database and kinship analysis with likelihood ratios in the UAS, will facilitate DNA analysis of missing persons cases.

DNA Workshop: High Throughput Automation

Development and Validation of a New Investigator Quantiplex Pro Variant for High Sensitivity Forensic Workflow Applications

Presented by: Josh Abernathy, QIAGEN

Purified human DNA from various trace types must be assessed for quantity, quality and integrity before STR analysis using CE or NGS, because STR assays are complex systems that require a narrowly defined range of input DNA and template quality to perform precisely and accurately. Since DNA quantification is the only step preceding STR-PCR, it is essential to extract as much information as possible from this reaction to aid correct setup of STR reactions. Ideally, quantification decides whether the sample is suitable for further processing, which leads to sample triage and can therefore save significant costs.

The new Investigator Quantiplex Pro FLX quantification kit enables the use of a flexible sample template volume of 1-18 µL per reaction and thus achieves up to ~10 times higher sensitivity compared to standard assays. The PCR chemistry is available as a lyophilized master mix in optical 96-well plates, the handling of which has been optimized for the corresponding throughput in the laboratory. Also, it frees up freezer capacities since it can be stored sustainably at room temperature. Screening of sexual assault samples, where maximum sensitivity of male DNA is crucial even in the presence of high amounts of female DNA, or high-throughput applications in routine workflows are just two possible applications where the new Investigator Quantiplex Pro FLX has advantages over traditional quantification assays with liquid chemistry and a fixed input volume of 2 µL. We will present data from the development and validation.

Modified DNA Extraction Procedure from Fired Cartridge Cases

Presented by: Nora Matossian, Verdugo Regional Crime Lab

For 9 years, the Verdugo Regional Crime Lab has performed DNA testing on over 900 cartridge cases, live rounds, and projectiles from casework. We implemented the “soak” method (similar to the method developed by San Diego Police Department) in December 2014 and the BTmix (developed by the Alcohol, Tobacco, Firearms and Explosives Lab) + FLOQSwab method in October 2022. This presentation will cover the validations, workflows, casework statistics, challenges for both methods, and why we made the decision to modify our extraction procedure.

DNA Workshop: High Throughput Automation

How to Increase Throughput of Forensic Laboratory Processes Using Automated Solutions

Presented by: Junior Gomez, Craig Nolde, and Lisa Simmons

Forensic laboratories are constantly asked to produce more with less. Casework submissions, agency backlogs, and/or media coverage continues to place pressure on lab staff to process greater numbers of samples. Often the lab's workflow creates a larger bottleneck at analysis where staff can be impacted by subpoenas and testimony that require single case focus, while lab processing expectations do not change. Automating the lab steps with liquid handlers can reduce the labor burden on staff and still maintain the utmost confidence in sample processing and chain of custody.

Hamilton Robotics has several robotic standard or custom instruments and methods that can help reduce these challenges in the lab and better utilize scientists' time. Hamilton is the gold standard in forensic lab solutions and continues to work with the chemistry companies to offer hands-free solutions for steps such as extraction, PCR setup, post-amp CE setup, or even help with bringing on new NGS workflows that are now being validated.

In addition to the liquid handler instruments, Hamilton also provides automated sample storage solutions which can assist forensic labs with sample management of extracted and post-amp samples. Automated fridge and freezer systems help labs keep track of samples that can often be tough to manage outside the original evidence submissions as they require key temperatures and small tube labels. Compact storage design, combined with robotics allows staff to setup individual tube storage in a reasonable space and allows sample storage and retrieval to be easy and confident for lab staff. Automated storage systems ease the labor burden for everyday tasks such as retesting, defragmentation of freezer space, reporting, auditing, sample tube picking, and removing expired samples.

DNA Workshop: High Throughput Automation

Internal Validation and Implementation of DBLR™ v1.2 for Casework

Presented by: Cynthia Hall, DNA Labs International

This presentation will provide an overview of the internal validation of DBLR™ (Database Likelihood Ratios) for casework at DNA Labs International. Selection of a technology is the first piece of the puzzle, the choice to move forward with DBLR™ will be discussed followed by an overview of the internal validation studies conducted. Probabilistic genotyping has had a significant impact on forensic DNA analysis and the interpretation of mixtures by employing a system of biological modelling for the deconvolution of the mixture into separate components. A likelihood ratio can then be calculated for a potential contributor with results varying in their power of discrimination depending on the complexity of the mixture and its level of resolution. DBLR™ is a standalone software that allows the user to further investigate these STRmix™ deconvolutions in absence of a known profile for comparison, as well as analyses of single source profiles. DBLR™ technology offers a variety of tools including visualization of the probative value of a DNA mixture, likelihood ratio-based searching, mixture to mixture comparisons, development of common donors, and kinship modelling.

The implementation of DBLR™ from SOPs to training will also be examined. Finally, a sneak peek at how DBLR™ can be utilized in examining potential relationships in forensic investigative genetic genealogy (FIGG) research will be demonstrated.

DNA Workshop: High Throughput Automation

Making a Ripple into a Wave - Advancing Success with Challenging DNA Samples

Presented by: Pamela Rowell, Bode Technology

Bode Technology has implemented a new advanced DNA extraction method for spent shell casings and rootless hairs which are two of the most challenging sample types encountered in forensic casework. This presentation will focus on the development of Bode X-traction and the success that it has demonstrated in yielding CODIS eligible profiles.

Bode has supported the forensic DNA community for over 25 years by providing forensic DNA services to law enforcement, crime laboratories, and criminal justice systems around the world. Bode offers solutions to reduce backlogs and advanced DNA technologies to obtain results from the most challenging samples by allowing flexibility from high-throughput to customized casework, including a wide variety of forensic services (e.g. auto-STR analysis, Y-STR analysis, biological screening, mtDNA testing, STRmix Interpretation, and FGS). Bode has implemented a new proprietary, advanced DNA extraction process that can be applied to spent shell casings and rootless hair shafts to develop nuclear DNA profiles from samples that previously returned little to no results. This process can be used to obtain CODIS eligible profiles from nuclear DNA recovered from shell casings and rootless hairs. Developmental validation showed results with 10x more DNA than the standard wet/dry swab method when testing spent shell casings for DNA. Since launching the service, Bode has seen the overall average success rate range between 53-70% success measured at the case level. When 5 or more are submitted, the success rate has averaged >85%.

DNA Workshop: High Throughput Automation

Thermo Fisher Presentation

Presented by: Danielle Jardel, Thermo Fisher Scientific

Part 1 of our workshop will catch you up on the latest innovations for the DNA lab.

The Applied Biosystems™ SeqStudio Flex Series Genetic Analyzer for human identification is based on the gold standard CE technology you've come to expect from ABI. We focused on improving 4 different areas – usability, flexibility, serviceability, and connectivity so you can do your job faster and with the freedom to work how you want.

GeneMapper ID-X Software is an automated genotyping solution for forensic casework, databasing and paternity data analysis. Newly released software, GeneMapper ID-X v1.7 supports analysis of data from the new SeqStudio Flex instrument as well as RapidHIT ID data. The software is backwards compatible with previous versions of GeneMapper ID-X and Applied Biosystems CE instruments, so that all of a laboratory's data, past and present, can continue to be analyzed in the new version.

Finally, you've come to know our Applied Biosystems RapidHIT ID System as a fast and simple-to-use instrument that produces trusted lab-quality forensic DNA profiles in 90 minutes. The RapidHIT ID integrates sample preparation and capillary electrophoresis to generate DNA profiles that are aggregated within Applied Biosystems RapidLINK Software for direct upload to the database of choice, or for further review and analysis. We will discuss instrument and software updates, and the new RapidINTEL Plus Cartridge that will maximize your workflow capabilities.

The Journey to Automation in a Forensic Laboratory - What We Learned Along the Way

Presented by: Brian Kim and Clare Greenfield, Los Angeles Police Department

Historically, the Serology/DNA Unit of the Los Angeles Police Department Forensic Science Division performed nearly all laboratory processes manually. However, over the last 15 years the laboratory has increasingly adopted more instrumentation in a shift towards a more automated process. Our journey towards automation has involved many trials and tribulations. Here, we will discuss the hard-learned lessons we accumulated along the way from the perspectives of both a bench analyst and managing supervisor.

Courtroom Communication: Can Improv Help Scientists to Talk About Forensics?

Presented by: Julie Burrill, Ph.D. & Josh Rice, MFA, Alan Alda Center for Communicating Science, Stony Brook University

SUMMARY (Full Day)

Communicating forensic science is an essential aspect of the criminal justice process. Challenges in the courtroom include the interrogative structure, varied audiences, specialized language and adversarial narratives. This workshop addresses those challenges using research-driven communication principles to help forensic scientists convey complexity while preserving accuracy. The Alda Method is a unique communication training technique blending improvisational theater with audience-focused design strategies. Driven by the adaptability and active listening central to improvisation and the empathy and connection prescribed by social science research, the Alda Method helps scientists effectively engage with non-expert audiences. Participants should expect active involvement and iterative moot testimony practice.

Learning outcomes include: learning to recognize structural challenges to clear and vivid communication and develop strategies to address them; using specific skills like analogy building, active listening, language adjustment, and engaging with challenging questions; practicing reframing scientific conversations and communication goals around the audience (jury) experience.

No required prerequisite knowledge. Intended audience is testifying forensic scientists. However, communication principles are also helpful for those scientists involved in investigations and teaching.

SIG SAUER P320 Armorer's Certification

Presented by: Larry McVay, SIG SAUER Academy

SUMMARY (Full Day)

This workshop focuses on the mechanical functioning, disassembly/reassembly, maintenance, troubleshooting, and field repair of the SIG SAUER P320 pistol. Firearms will be provided by the instructor for this workshop. Registration for law enforcement/crime lab personnel only. Please bring valid ID. Contact workshop coordinator for questions about eligibility. A three (3) year factory certification is issued upon successful course completion.

Vehicle-Hidden Compartment Workshop

Presented by: Nick Ramos and Randy Royal, Public Safety Alliance

SUMMARY (Full Day)

This workshop will focus on a multitude of concealment methods of drugs, guns, currency, and other paraphernalia. Instruction will be provided on the recovery of these and other items which hold evidentiary value. The workshop will have lecture followed by hands-on vehicle searches and evidence processing.

Thermo Fisher - Powering Productivity: Utilizing Advanced Technologies and Workflows to Benefit Your Lab

Presented by: Danielle Jardel, Geno Ferrera, and Courtney Patterson, Thermo Fisher

SUMMARY (Half Day)

In this 3-Part workshop, you will learn about powerful solutions to match the changing forensic landscape from three Thermo Fisher experts in the field of forensics. We invite you to attend our workshop where you will learn about innovations to our forensic portfolio – from updates to our class-leading genetic analyzers and related software, to safety advancements that enable quick identification of narcotics in the field, to routine analysis of urine and blood for DUID and crime cases using LC-MS analytical instrumentation.

Part 1 of our workshop will catch you up on the latest innovations for the DNA lab. Focus will include The Applied Biosystems™ SeqStudio Flex Series Genetic Analyzer, the newly released software, GeneMapper ID-X v1.7 (which supports analysis of data from the new SeqStudio Flex instrument as well as RapidHIT ID data), and finally the Applied Biosystems RapidLINK Software and the new RapidINTEL Plus Cartridge that will maximize your workflow capabilities.

Part 2 of the workshop will cover portable analytical instrumentation for quick decision making in critical situations. Thermo Fisher Scientific offers a wide range of instruments to identify the components of seized drugs from our handheld TruNarc™ Raman Spectroscopy analyzers to our Gemini™ analyzer, combining FTIR and Raman technologies in one. We'll share how our handheld analyzers work to identify the seized drugs found at a crime scene. Through a live demo, attendees will be able to understand how this powerful technology works and the ease incorporating it into your criminal justice departments and labs.

Part 3 of our workshop will explore LC-MS technologies for forensic analysis. An important aspect of forensic science is the ability to test biological samples for drugs of abuse as it relates to DUID or criminal cases. Whether you are interested in routine testing of urine or blood on our triple quadrupole mass spectrometers, looking for unknown drugs in a biological sample using our high-resolution accurate mass Orbitrap™ mass spectrometers, or eliminating the need for sample prep and chromatography all together to quickly test matrix spots and seized drugs on our VeriSpray™ PaperSpray Ion Source, we have you covered. Thermo Fisher Scientific's wide range of analytical instruments allows us the ability to find the right instrument to best fit your needs.

Microspectrophotometers for Trace Evidence and Interpretation of Spectra

Presented by: Jon Burdett, Ph.D., CRAIC Technologies

SUMMARY (Half Day)

This workshop will introduce participants to the core working principles of microspectrophotometers, including spectroscopic techniques and microspectrophotometer design, in order to provide a strong foundation for the critical analysis of obtained spectra. Basic analysis and accepted workflows for standard trace evidence samples will be presented, including standard analytical practices for using microspectrophotometers on fibers, paints, documents, and glass. Guidelines for spectral interpretation will also be presented with example spectra used for application of these guidelines and to facilitate discussion among participants.

After this workshop, attendees will have learned the operating principles of microspectrophotometers, standard applications for microspectrophotometers in trace evidence, key characteristics of unique situations where microspectrophotometers can be applied, and how to analyze and compare the measured spectra.

Agilent He to H_2 Conversion / Hydro Inert Source Workshop

Presented by: Kirk Lokits, Ph.D., GCMS Applications Scientist, Agilent Technologies, Inc.

SUMMARY (Half Day)

This workshop will be comprised of 3 presentations. The first presentation will focus on the fundamental GC aspects of column selection, inlet, flow path troubleshooting, and maintenance. The MS portion will cover the fundamental aspects of MS operational theory, tuning, optimizing acquisition parameters for spectral fidelity, and method stability. Attendees will have the opportunity to perform hands-on disassembly and reassembly of an EI source, discuss best practices for cleaning the source, and logical troubleshooting and maintenance of the MS and vacuum system.

The second presentation will discuss how analysts can determine if hydrogen can be used as a carrier gas for their specific analyses. The illustration of best practices for the column configuration, method parameters, and specific MS source configurations will be discussed. Attendees will also learn overall acquisition parameters to determine if the transition of a specific application is compatible for hydrogen carrier gas under their laboratory's current GCMS methods.

The third presentation is a research study that demonstrates several recent advances in inert coatings on the mass spec source assembly, found in the Agilent Technologies Hydroinert™ Source, can be successfully incorporated into utilizing hydrogen as an alternative carrier gas in the current screening methods involving street drug samples. This work seeks to demonstrate the reduced reactivity of hydrogen on the source surface, resulting in an increase in some analyte responses and increased spectral fidelity in conjunction with the Hydroinert™ source. There is also an increase in the speed of analysis due to the use of hydrogen as the carrier gas and a 20m x 180 µm x 0.18 µm column. The advancement of the Hydroinert™ source helps to mitigate many of the issues encountered in GCMS analysis when utilizing hydrogen as the carrier gas. Incorporating nitrogen as a GCMS carrier gas will also be discussed using an inert extractor source along with acquisition parameters and comparative results from forensic street drug samples under helium, hydrogen, and nitrogen carrier gases.

WEDNESDAY APRIL 17, 2024

GENERAL SESSION

0800 - 0815	Honor Guard / Presentation of Colors / National Anthem / Pledge of Allegiance
0815 - 0845	Welcome Address
0845 - 0915	Opening Remarks
0915 - 0935	Break & Raffle *(sponsored by Promega)*
0935 - 1135	The Alexander Hernandez Case: An Investigative, Forensic, and Legal Analysis of a Serial Murderer in Los Angeles
1135 - 1205	Acknowledgments / Housekeeping
1205 - 1310	Lunch & Raffle
1310 - 1340	How to Talk About Science in a Courtroom: Improv-ing Testimony with Communication Best Practices
1340 - 1425	Evidence: Through the Lens of Convicted Felons
1425 - 1445	Break & Raffle
1445 - 1505	STK Sperm Tracker, A Total Rape Case Screening
1505 - 1550	Tubes & Lubes: How DNA and Trace Work Together to Investigate Sexual Assaults
1550 - 1700	CAC Business Meeting

AM Session Moderators - Allison Manfreda and Lauren Wallace

PM Session Moderators - Julie Wilkinson and Chelsea Murillo

The Alexander Hernandez Case: An Investigative, Forensic, and Legal Analysis of a Serial Murderer in Los Angeles

Presented by: DDA Michele Hanisee, Chuck Knolls, and LAPD Criminalists Amanda Harbison, Lisa Lahendro, Allison Manfreda, Alan Perez, and Mei Ling Robinson

Abstract: The case of Alexander Hernandez, a serial murderer who terrorized Los Angeles for six months with random victims, presented a compelling investigative challenge that required comprehensive investigative efforts, astute lawyering, and a range of forensic analyses. This talk delves into the forensic methodologies utilized in linking Hernandez's crimes, including firearms comparison techniques to link weapons to specific crimes, trace analysis and fracture matching to establish connections between physical evidence and crime scenes, bullet path analysis to reconstruct shooting incidents, detailed crime scene investigations to gather crucial evidence, and DNA analysis to identify and link the victims to Hernandez's vehicle. LAPD's elite Robbery-Homicide detectives were instrumental in the relentless pursuit to identify Hernandez's various crimes and victims throughout the area. The talk will also highlight the role of the district attorney in navigating the legal complexities of the case, showcasing how legal expertise and forensic science collaborated to ensure a thorough pursuit of justice. Through an in-depth analysis of these legal, investigative and forensic techniques, this presentation highlights the intricate processes involved in solving complex criminal cases and emphasizes the critical role of forensic science in ensuring justice and public safety.

For more information, this case is featured on the following streaming services:

Apple TV / Discovery+ / Max

Evil Lives Here: Shadows of Death (Season 5, Episode 5 - "City of Angels")

How to Talk About Science in a Courtroom: Improv-ing with Communication Best Practices

Presented by: Julie Burrill

Abstract: Communication of forensic science to non-experts such as investigators, attorneys, judges, juries and witnesses is a difficult challenge with critical consequences in the fair administration of justice. Despite this, forensic scientists often receive very limited training in communication, typically taking only the form of occasional moot court testimony. Effective science communication as a discipline has been broadly investigated and described by numerous models; successful science communication typically involves an ability to create connections between speaker and receiver, to obtain interaction or feedback including verbal and non-verbal clues on comprehension, and to embed scientific data in a single, clear narrative. The structure and formality of testimonial evidence given under adversarial direct- and cross-examination questioning can prevent all of these. Research on communication has rarely been translated into the realm of forensic science despite the obvious need. This presentation will discuss the specific content and structural challenges to good science communication faced by forensic experts in courtrooms in the US. Research-driven communication training developed for a broad range of scientists relying on improvisational theater methods is proposed and discussed. These methods have been developed by the Alda Center in an international collaboration with the LRCFS in Dundee, Scotland to overcome the courtroom-specific obstacles and have been piloted with both US and UK forensic scientists.

Reflections will be offered on the early success and ongoing improvements of this method in developing forensic scientists' ability to:
1) engage emphatically with attorneys, judges and juries;
2) adapt flexibly to questioning; and
3) focus their open presentation of scientific evidence on the needs of courtroom audiences.

Forensics is an incredibly interdisciplinary field, and yet adoption of established science communication research into its practice and training is fairly limited. This work seeks to bridge that knowledge gap and move the delivery of forensic science evidence onto a solid communication framework.

Evidence: Through the Lens of Convicted Felons

Presented by: Michelle Rippy

Abstract: Motive is the primary focus of murders and serial killers regularly spotlighted in prime-time television and streaming services. Academic research reflects motive-centric studies, with no known research specifically focusing on offender knowledge and recognition of evidence left in their crimes or their level of consciousness surrounding the evidence left. Some confessed and convicted felons took great measures to conceal evidence, while others did not recognize the importance of evidence left at the scene to their capture and conviction.

This presentation will focus on interviews with convicted and confessed felons exclusively regarding the evidence in their individual cases. Direct interviews with felons about their knowledge of evidence, recognition of evidence created and left at the scene, and any clean-up or other actions to distract investigators can improve the recognition and collection of forensic evidence. A comparison will also be made for crimes committed before forensic television shows were mainstream to see if basic forensic science knowledge affected their crime(s).

Participants will learn about the considerations convicted and confessed felons had about forensic evidence before, during, and after their crimes. Using a case study approach, participants will gain insight into how felons view forensic evidence and its manipulation during crimes, gaining valuable knowledge about how crimes are viewed by suspects and how investigations can be improved.

Evidence: STK Sperm Tracker, A Total Rape Case Screening

Presented by: Samuel Serraz and Florian Tharin

Abstract: Following a rape, Crime Scene and Crime Laboratory Technicians often face the difficult task of locating trace semen evidence at the scene within a short period of time. Alternate light sources are widely used, but scientific literature shows that ALS has its disadvantages. The main weakness being lots of false positive traces that are then time and money consuming to exclude from the analysis. Even more concerning, according to fabric and color, it is sometimes estimated that 30% of semen stains are missed by alternate light sources available on the market. Acid Phosphatase tests, if more sensitive and specific, show some disadvantages as well. AP tests use toxic (carcinogen) “lab-prepared” reagents which are thus long and dangerous to use. Moreover, as reagents damage DNA, it requires the test to be done indirectly, which may then lead to mis-repositioning on evidence and for obvious reasons cannot be sprayed on the scene. After years of research in collaboration with the French Scientific Police, AXO Science is now bringing to forensic experts the Sperm Tracker cutting technology that improves both sensitivity and specificity of semen detection. This presentation will show how this cutting-edge technology allows a comprehensive sexual assault analysis.

Tubes & Lubes: How DNA and Trace Work Together to Investigate Sexual Assaults

Presented by: Melissa Dupée and Tahnee Mehmet

Abstract: Sexual assault cases are particularly difficult to prosecute, and physical evidence offers an objective voice to the circumstances surrounding these crimes. The Forensic Biology/DNA Unit uses new strategies in their SAFE kit workflow to overcome the increasing legislative demands. A multi-analyst process utilizes a teamwork approach to DNA testing and a streamlined straight-to-DNA selection method to maximize efficiency in the laboratory. Personal lubricant and condom residue analyses are able to corroborate patient statements and offer explanations to the absence of DNA evidence. This presentation highlights the collaboration between the DNA and Trace Evidence Units to offer comprehensive examinations of SAFE kits. When DNA and trace evidence work together, more physical evidence is revealed and more of the story is told in this objective voice.

GENERAL SESSION

0800 - 0815	The New Founder's Lecture Series
0815 - 0915	Founder's Lecture - Thirty Years of the CACNews: A Visual Feast
0915 - 0945	Creating, Supporting and Maintaining an Ethical Culture in Your Laboratory
0945 - 1005	Break & Raffle
1005 - 1020	An Accidental Shooting Case or Is It?
1020 - 1105	Forensic Genetic Genealogy - A Game Changer for Cold Case Work
1105 - 1120	2025 CAC Seminar Presentation
1120 - 1135	Replacing Luminol with Bluestar: The Process and Where We Are Now
1135 - 1155	Forensic Entomology: Unusual Cases
1155 - 1300	Lunch & Raffle
1300 - 1430	Postconviction DNA Testing: A Case Study of the Wrongful Conviction of Maurice Hastings
1430 - 1450	Development of a Domesticated Hand for Quantitative Analysis of DNA Transfer Pathways
1450 - 1510	Break & Raffle
1510 - 1530	Unlocking the Potential of Touch DNA on Firearms: Overcoming Challenges for Forensic Investigations
1530 - 1630	Unmasking Deception: Exploring Falsification of Victimization and Crimes

AM Session Moderators - Amanda Harbison and Chelsea Murillo

PM Session Moderators - Mei Ling Robinson and Pia Rosner

The New Founder's Lecture Series

Presented by: Raymond J. Davis

Abstract: I am proposing a fundamental change in the presentation of the Founder's Lecture. In the past, we have called upon very senior members of our association to speak on topics from their past which has not always been well received by our younger members. Also, since we only now conduct one seminar per year, I am proposing that we plan a Founder's Lecture at each seminar. There is too much experience, knowledge and wisdom that goes unnoticed and unappreciated by not having regular presentations from our members and/or guest lecturers.

In order for this vital aspect of our associations annual seminar to be more relevant, we need to shift our focus to topics that resonate with the entire membership; old and young alike.

I have benefited from listening to 'our old timers' about their experiences from the 1940's–1960's. Back in the day, there was precious little information available to assist them in their case work and realized that they needed to rely upon one another through correspondence and eventually, annual meetings. In fact, the CAC was founded for this very purpose. Those early practitioners began to see the value of sharing their knowledge and experience with one another.

As the new committee chair, I will be calling on certain members who began their careers around the year 2000. I chose this date because these members would have worked with and had taken instruction from members from my era, the late '60' and early '70's. Simultaneously, they would also have worked with and/or given instruction to people from the current era - the 2020's.

This special group will act as a bridge between our senior members and our most recent members of our association. I'm looking forward to meeting those who are interested in joining me to improve the Founder's Lecture. Please introduce yourselves during the seminar and together we can chart a new direction for this vital part of our annual seminar.

Thirty Years of the CACNews: A Visual Feast

Presented by: John Houde

Abstract: For the 2024 CAC Founders lecture retired CACNews art director John Houde will take a look back at how the CACNews went from a plain-text newsletter to a full-featured magazine. What's his personal connection to the original founders of the CAC? Join us and find out!

Creating, Supporting and Maintaining an Ethical Culture in Your Laboratory

Presented by: Greg Matheson

Abstract: It is my fervent belief that Forensic science and Forensic Scientists are the gatekeepers of truth in the Criminal Justice System. We are the only ones in the process with absolutely no agenda other than to provide accurate unbiased information regarding an event to the criminal justice system using the most up to date procedures possible. To do this properly and consistently, requires our laboratories to nurture an ethical culture and for its practitioners to operate in an ethical manner. The focus of this presentation will be on how criminalists, criminalist supervisors and managers can create, support, and maintain a laboratory atmosphere of ethical practice. A culture where ethical practices are not only following the requirements of a code but living the concept of an ethical life both professionally and personally. Included will be information on potential ethical lapses and how to help yourself find off ramps in the early stages of slipping to the wrong end of the ethical continuum. In addition, there will be information on the impact of ethical and unethically behavior for yourself, your agency and the profession.

An Accidental Shooting Case or Is It?

Presented by: Gregory Laskowski

Abstract: In 2021, a young man attending an evening concert in the newly opened Allegiant Stadium in Las Vegas was observed exhibiting bizarre behavior by fellow fans and police. Police arrested him and while transporting him to the security office inside the stadium, the young man became combative inside the service elevator. Multiple officers attempted to both restrain and calm the agitated individual who was both delusional and uncooperative with the officers. It should be noted that the initial arresting officers placed two sets of handcuffs on the suspect but only one cuff from the second pair was attached to the wrist. One of the officers was attempting to release that cuff from the suspect's wrist when a shot rang out and that officer discovered that he had be shot in the leg. The wounded officer with assistance from other officers was removed from the elevator for medical attention. Fortunately, the bullet wound to his leg was not life threatening and he fully recovered. The suspect continued to resist officers and did not seem to be aware that a shot was fired and the officer wounded. This examiner was asked to review the camera footage in the elevator, to examine the wounded officers clothing particularly his uniform pants, examine the firearm that fired suspect round in addition to the holster and belt that had contained the suspect firearm to determine what had occurred in the elevator at the time of the shooting event.
This presentation will discuss the examination process and the results of that analysis.

Forensic Genetic Genealogy - A Game Changer for Cold Case Work

Presented by: Colleen Fitzpatrick

Abstract: Forensic Genetic Genealogy (FGG) has been used in the last few years to solve nearly 2000 cold cases, many dating back decades. Each day the media reports still another violent crime being solved or a set of unidentified remains being identified through FGG. As more cases move forward to successful resolution, the capabilities of FGG are becoming more well characterized, tempering expectations and allowing an understanding of which cases can benefit the most. The first agencies to follow up on the initial success of FGG were those who were willing to risk time and money on a brand-new investigative technique that was obviously a game-changer, but where the probability of success had not yet been established. However, as the catalog of FGG cases is expanding into the thousands, a great deal more has been learned about why certain cases succeed, how long they take to solve, and the reasons why many cases are proving intractable.

This talk discusses the effectiveness of FGG and presents case studies that illustrate ways that DNA can be used that were not possible through CODIS. It will provide insight into why and how cases have or have not been solved using FGG. The talk will end with suggestions of how information revealed on even the most challenging FGG cases can provide investigative leads valuable to conventional investigations.

Replacing Luminol with Bluestar: The Process and Where We Are Now

Presented by: Allison Fernandez and Chelsea Murillo

Abstract: In this presentation we will discover how the internal study of Bluestar, as an alternative to luminol in crime scene investigation. We will present the uses of Bluestar and luminol throughout the years along with prior studies. Through the study Bluestar and luminol was compared in terms of sensitivity, effect on DNA recovery chemiluminescence duration and brightness, light exposure effects, effects of different substrates commonly encountered throughout crime scenes, and specificity. We demonstrated Bluestar to have performed optimally or comparable to luminol as a chemiluminescent reagent to enhance latent blood. To this day we have responded to over a number of cases since validation in 2021 that required the use of Bluestar. In addition, since integrating it in our crime scene tool kit, we have seen rare discrepancies with phenolphthalein and responder recovery variation. 24 cleaning products were tested to see which, if any, produced false negatives and how the phenolphthalein test was affected. We are continuing our research on this important issue but Bluestar continues to be an integral method of crime scene investigation.

Forensic Entomology: Unusual Cases *(pre-recorded)*

Presented by: Dr. Adrienne Brundage

Abstract: Forensic entomology is the use of insects to help solve crimes. Most investigators use entomology to determine time of colonization and therefore time of death only, yet there are many other things insects can tell us. This presentation will go over one traditional and three unique case studies to showcase examples of forensic entomology.

Postconviction DNA Testing: A Case Study of the Wrongful Conviction of Maurice Hastings

Presented by: Mehul B. Anjaria, Maurice Hastings, Paula Mitchell, JD., and Katherine A. Roberts

Abstract: The California Forensic Science Institute (CFSI) within the School of Criminal Justice and Criminalistics at California State University, Los Angeles, established a novel partnership with the Los Angeles Innocence Project (LAIP) in 2022 to review cases and locate and test evidence related to violent felony offenses where actual innocence might be demonstrated. The CFSI-LAIP team was awarded Department of Justice (Bureau of Justice Assistance award 2022-15PBJA-22-GG-01413-POST) funding under the FY 2022 Postconviction Testing of DNA Evidence solicitation to provide critical assistance to individuals convicted of a serious felony that meets specific criteria. Collectively, the CFSI-LAIP team reviews violent felony cases to locate biological evidence for submission to an accredited private forensic laboratory for DNA testing to demonstrate their innocence or assist in their exoneration. We will present the case of Maurice Hastings to demonstrate our case review model in tackling the logistical challenges of postconviction DNA testing. Emphasis will be on case prioritization, filing and arguing motions requesting DNA testing, strategic approaches to case resolution, and obstacles to our project's objectives.

Mr. Hastings, at 69 years old, was released from prison in 2022 after 38 years wrongfully incarcerated. His release came after DNA test results eliminated him and produced a new DNA profile that resulted in a CODIS hit to the actual perpetrator. The actual perpetrator was a known sex offender whose modus operandi was similar to the crimes for which Mr. Hastings was wrongfully accused and convicted. Mr. Hastings had repeatedly requested DNA testing and was told the evidence no longer existed almost two decades before LAIP successfully argued for the DNA testing that ultimately exonerated him.

Mr. Hastings will address the implications of a wrongful conviction from the perspective of an exoneree. Our presentation will conclude with a Q & A panel.

Development of a Domesticated Hand for Quantitative Analysis of DNA Transfer Pathways

Presented by: Aldrin Alviar

Abstract: Touch DNA can be deposited or transferred easily through handshakes or touching different surfaces making this a relatively common type of evidence. As such, analysis of DNA transfer from surface to surface can provide investigative leads and may offer insights to validate competing hypotheses in legal cases. In this study, we collected quantitative data from different surfaces commonly encountered in crime scenes and incorporated it into a database – a “bullpen” with known DNA recovery percentages and methods for analysis.
A domesticated hand was prepared using three surrogate skins i.e., lorica leather, PVA-PDMS, and gelatin-based polymer, with similar physiological characteristics as human skin to mimic human components of transfer. These domesticated hands were used to simulate transfer pathways by touching one surface and then to another. DNA was collected from each component of the pathway and then quantified the recovery from each surface and was adjusted based on the retention values incorporated in the bullpen. Results showed that the three mock skins showed comparable value of DNA transferred between surfaces and DNA retention ranging from 15-20%. Furthermore, DNA retention of surfaces i.e., subway pole, knife handle, drug baggie, were affected by their porosity level. The adjusted values of recovered DNA using the values in the bullpen suggested we can account for the movement of DNA in a pathway. These values can be used to validate which hypothesis is more plausible in legal cases.

Unlocking the Potential of Touch DNA on Firearms: Overcoming Challenges for Forensic Investigations

Presented by: Anutham Raghav Ashok

Abstract: This project examines the challenges and limitations associated with touch DNA analysis on firearms, which can be a critical source of evidence in forensic investigations. Touch DNA refers to DNA left behind on surfaces or objects by an individual through skin cells or bodily fluids. Although touch DNA collection is non-invasive, the low amount of DNA present requires high sensitivity and specificity in the collection, extraction, and quantification methods. The recovery of touch DNA from firearms is particularly challenging due to the presence of inhibitors and degradation caused by environmental factors. The study involves sample preparation, collection, extraction, quantification, and efficient sample batching to ensure reliable results. We introduced a domesticated fingerprint (DFP) technique to eliminate DNA content variability in human fingerprints. The DFP contained a known quantity of DNA in a background of fingerprint chemistry. This approach allowed us to quantify DNA recovery from different parts of a firearm. We compared swabbing techniques, the impact of transition metals like copper, and surfaces. DNA loss/recovery at key fail points was quantified by qPCR.
A subset of samples was amplified using a STR multiplex to support downstream DNA profiling. The results were analyzed using statistical measures, including mean, standard deviation, and analysis of variance (ANOVA), validating the findings. This research fills a critical gap in the scientific community by establishing a standardized protocol for trace DNA collection from firearms, which has significant implications in solving and preventing crimes related to gun violence. Firearms, being directly handled by individuals involved in criminal activities, provide a direct link between suspects and crime scenes. As such, this research serves as a pioneering effort that can contribute to addressing a wide range of challenges associated with gun violence in the future.

Unmasking Deception: Exploring Falsification of Victimization and Crimes

Presented by: Dr. Shiloh Catanese and Dr. Scott Musgrove

Abstract: Forensic psychologists, Dr. Shiloh and Dr. Scott, bring the audience an immersive exploration into the psychological phenomenon of false victimization. The presentation will provide in-depth analysis of the motivations that drive individuals to fake their own victimization and will examine the personality traits and characteristics observed in perpetrators of such acts. The psychologists will explore pivotal case studies from the birth of Los Angeles to modern-day, high-profile instances, before finally examining how this impacts law enforcement resources. This presentation will include live polling technology to engage the audience in assessing their own experiences and perceptions. Audience benefits include a deepened understanding of the intricate interplay between psychology and criminal behavior, as well as exposure to diverse historical and contemporary case studies that illuminate the multifaceted nature of false victimization.

GENERAL SESSION

0800 - 0830	A Rapid, In-Field, and In Situ Method of Detecting Fentanyl Analogues: A Portable Ion Mobility Spectrometer Approach
0830 - 0850	Looking Closer at Youth Gangs from a Trauma Exposure Perspective
0850 - 0910	How Far Can You Go Without a Bullet Hole? A Case Study Involving Cylinder Gap Distance Determination
0910 - 0935	Break & Raffle
0935 - 1005	A Novel Software for Partial to Partial Fingerprint Comparison in the Field and the Lab: A Pre-IAFIS Comparison via a Laptop
1005 - 1035	OSAC is 10 Years Old - What Will the Next Decade Bring?
1035 - 1105	Determining Kinship in Missing Persons and Disaster Victim Identification Cases with an End-to-End Workflow
1105 - 1150	Fake Pills Containing Fentanyl - How DEA Chemists Analyze Fake Pills and Their Geographical Spread Within the United States
1150 - 1200	Closing Remarks

Moderators - Lauren Wallace and Chelsea Murillo

A Rapid, In-Field, and In Situ Method of Detecting Fentanyl Analogues: A Portable Ion Mobility Spectrometer Approach

Presented by: Dr. John Z. Wang

Abstract: Although fentanyl is a prescribed drug in many countries, its analogues are not legally available by prescription. These potent synthetic opioids have posted a new threat to law enforcement and public health with their growing epidemic abuse and addiction in the greater Los Angeles Area as well as in the Unites States. Therefore, a device for rapid, in-field, and in situ detection and identification is much needed for patrol officers, crime scene technicians, medical examiners, lab examiners and public-health workers, at least for their personal safety. The attendees of this presentation will learn the following key information: 1) the principle of the Ion Mobility Spectrometer (IMS); 2) the operational steps of the device; and 3) a live illustration of the device. The device has been employed to assess the detection of seven fentanyl analogues in a national forensic laboratory in North America. Under a quasi-experimental study, the IMS device was able to successfully detect six out of the seven fentanyl analogues by a simple wipe (10~50 nano-grams). Among its ten advantages, in less than 10 seconds the LED screen of the IMS accurately displays the name, concentration, and strength of each targeted analogue. The results of these tests suggest that this novel portable IMS is a valuable tool to detect and identify illicit fentanyl analogues in the project and thus is the safest method for rapid, in-field, and in situ detection and identification of fentanyl analogues for patrol officers, crime scene technicians, medical examiners, lab examiners and public-health workers.

Looking Closer at Youth Gangs from a Trauma Exposure Perspective

Presented by: Cliff Akiyama

Abstract: Exposure to traumatic events among youth is relatively common, more than one-third of US children report being victims of emotional and physical violence, while many more experience natural disasters, witness violence, have a severe accident or injury, or experience a sudden traumatic loss. Almost all youth experience initial distress as a reaction to such events, but for most, their natural resilience causes the distress to gradually subside. However, for some, they continue to experience distress for months and often years after the trauma exposure, making the already challenging transition from adolescence to adulthood. Trauma exposure can lead to a variety of problems, including alterations in mood and behavior and loss of social and academic functioning. Youth gangs are the most vulnerable population as they experience repeated traumatic exposures, often daily while being exposed to the youth gang itself. There are over 28,500 gangs in the United States with a total gang membership of 850,000 according to the Office of Juvenile Justice and Delinquency Prevention of the United States Department of Justice. Often overlooked in youth gangs is the pervasive and repeated trauma exposure of sexual violence among female and male gang members before the age of 16 years old. In Los Angeles County California alone, there are currently 1,351 documented gangs with gang membership of over 40,000, while in Philadelphia County Pennsylvania there are 340 documented gangs with a gang membership over 5,000. Demographics show across both counties, male/female gang member average age of 15 with a range of 8-22 years. The author interviewed over 200 gang members out in the streets, jails, and juvenile halls, using a target trauma exposure questionnaire in Philadelphia and surrounding counties. This author is a licensed pediatric behavioral therapist (LBS) and Fellow of the American Academy of Forensic Sciences (AAFS). The author found that over 95% of all female gangs have experienced sexual violence at least once before they turned 16 years old, while 40% of male gang members have experienced sexual violence before 16 years old. Having this disclosure within the youth gang population is rare. What is unique to the youth gang population is the repeated traumatic exposure, often on a daily continuous basis. Consequently, these youth gang members are in constant state of “survival mode” or “chronic stress,” which pose a threat to those that respond to them, therefore making this an “officer safety” issue. When one is in “survival mode,” these youth gang members will respond by either “flight” “fight” “freeze” or “fawn.”

Furthermore, with the technical assistance of the Anti-Violence Partnership of Philadelphia (AVP), an anti-violence and trauma therapy non-profit organization, this study identified 12 distinct barriers to treatment and service utilization by youth gang members who experience multiple trauma exposures across the lifespan (i.e. immigration issues, racism, depression, anxiety, generational trauma, fear of death, shame, isolation, age, lack of health insurance, lack of child care, lack of affordable housing, lack of independent income, lack of support from the family/community, cultural fluency, and just not knowing the available resources surrounding trauma therapy).

How Far Can You Go Without a Bullet Hole? A Case Study Involving Cylinder Gap Distance Determination

Presented by: Jonathan Charron

Abstract: A traditional distance determination examination is conducted by analyzing the ejecta from the muzzle of a firearm that has deposited in and around a bullet hole. Little research has been conducted on the ability of an examiner to estimate the distance of patterns produced by a different portion of revolver known as the cylinder gap. In this paper, research was conducted on patterns produced by the cylinder gap of a revolver using different design and caliber revolvers, as well as different types of gunpowder morphologies. This paper is also a presentation of the case that inspired this research. This homicide case involved a set of 3 articles of clothing from a victim which did not have any visible defects consistent with a bullet hole. The case study explores how these articles were analyzed and why the accompanying research was necessary to form any opinions.

A Novel Software for Partial to Partial Fingerprint Comparison in the Field and in the Lab: A Pre- or After- IAFIS Comparison via a Laptop

Presented by: Dr. John Z. Wang

Abstract: Although a fingerprint comparison in a full to full friction ridge format can be performed via IAFIS at present, a partial to full or a partial to a partial comparison still remains a challenge due to the threshold standard required by the IAFIS, which cannot be used by a laptop device. Further, if one of the friction ridge samples is a smuggled, the challenge becomes even greater. The attendees to the presentation will learn three pieces of information: a) the basic principle of a novel software for the comparison (IAFIS vs AFIS); b) the four levels of minutiae comparison available; and c) a live demonstration of the four levels of comparison situations of “Partial to Full”, “Partial to Partial”, “Partial to Smudged” and “Partial to Inked Print.” Several advantages can be observed. First, the novel software can be installed in a laptop for the field and/or the lab contexts for its practical applications. Second, the software is able to compare “One to One” or “One to N” in four levels of comparison, depending on the software level needed. Next, the comparison is able to produce two visual matrix frames, thus making a quantifiable comparison by ridge ending and bifurcation possible. Finally, the software can be used as a supplementary comparison method before or after an IAFIS comparison because the image of a partial fingerprint can be input via a regular HD digital camera, making the device and the software an easy to use tool for crime technicians and also lab examiners.

OSAC is 10 Years Old - What Will the Next Decade Bring?

Presented by: Mark Stolorow

Abstract: The Organization of Scientific Area Committees (OSAC) for Forensic Science is celebrating its 10th anniversary in February 2024. OSAC was first introduced to the American Academy of Forensic Sciences (AAFS) at the 2014 annual meeting in Atlanta, Georgia that featured a special session with the OSAC developing committee from the National Institute of Standards and Technology (NIST). OSAC has achieved significant milestones in its 10-year life. We would like to share some of the salient history of OSAC and explore what the next 10 years might bring.

Published in 2009, the National Research Council (NRC) Report "Strengthening Forensic Science in the United States - A Path Forward" criticized the practice of forensic science in America for (among other things) its failure to have in place a network of nationally recognized, consensus-based standards with scientific merit. In 2014, NIST and the U.S. Department of Justice (DOJ) responded by creating OSAC to facilitate the development and implementation of high-quality standards for the forensic science community.

OSAC is an organization consisting of more than two dozen forensic science disciplines. There are more than 400 members and 300 affiliates in OSAC. As of August 2023, more than 150 standards have been posted on the OSAC Registry, and more than 140 forensic science service providers (FSSPs) have been recognized as implementers of these standards.

OSAC continues to evolve in its organizational structure, expanding from five Scientific Area Committees (SACs) to seven and consolidating its subcommittees from 25 to 22. Over that time, OSAC recognized additional forensic science disciplines, including digital evidence and forensic nursing.

OSAC introduced the Scientific and Technical Review (STR) process in 2020 to provide an independent subject matter expert and peer review to all relevant drafted standards. OSAC has entered into a cooperative agreement with the AAFS to develop an array of tools to help FSSPs learn about and implement standards on the OSAC Registry. These tools include fact sheets, checklists, and training modules to guide practitioners in the process of standards implementation.

What will the next ten years bring to the world of forensic science standards development and implementation? OSAC has established a cohort of FSSPs who have successfully implemented standards on the OSAC Registry. Their mission will be to help other FSSPs initiate standards implementation and address current and future implementation needs.

OSAC's efforts to improve the practice of forensic science through standards depends on the collaboration and dedication of more than 800 volunteers from all 50 states. It is a testament to the success of all our stakeholders that OSAC has achieved so many valuable milestones, and we look forward to many more in the next ten years.

Determining Kinship in Missing Persons and Disaster Victim Identification Cases with an End-to-End Workflow

Presented by: Josh Abernathy

Abstract: The International Criminal Police Organization (INTERPOL) has developed specific guidelines and protocols for disaster victim identification (DVI) which refers to identification of victims after a mass casualty disaster, armed conflict, or human rights violation. Typically, dental records, fingerprints or DNA based methods such as mitochondrial DNA analysis or STR profiling are used for comparison of antemortem (AM) and postmortem (PM) samples for conclusive identification. While these DNA based methods have been successful in DVI, they present several limitations. STRs cannot identify relatives further out than second degree. In addition, these PM samples are likely to be degraded and subjected to environmental insults and do not always provide a full STR profile. Mitochondrial DNA requires a matrilineal relative. To address these limitations, QIAGEN developed ForenSeq® Kintelligence HT Library Prep Kit and Universal Analysis Software (UAS) including a local database containing AM and PM samples for the MiSeq FGxTM sequencing system.

The ForenSeq® Kintelligence HT system together with NGS (also known as MPS), is based on the ForenSeq Kintelligence kit. We present the ability to sequence libraries generated with this kit with either 12 PM samples or 36 AM samples per sequencing run to determine relationships out to the 3rd order. The expected relationships were confirmed for samples with known pedigrees. DNA extracted from bones subjected to different insults and dental remains, as well as artificially degraded and low input DNA were utilized to simulate PM samples. DNA from diverse populations were typed to simulate AM samples. To address the forensic community's concerns on privacy, the server supporting the Universal Analysis Software also hosted a local database of these samples. Database management and pedigree tools were developed and integrated into UAS to assist with management of sample data and to calculate likelihood ratios. Overall, we demonstrate that by utilizing a high throughput NGS library preparation kit, combined with a local database and kinship analysis with likelihood ratios in the UAS, will facilitate DNA analysis of missing persons cases.

Fake Pills Containing Fentanyl - How DEA Chemists Analyze Fake Pills and Their Geographical Spread Within the United States

Presented by: Trina Do

Abstract: In the last two years, DEA has analyzed over 100 million pills, of which 97 million were “fake.” Fake pills are made to look like commercial pharmaceutical preparations but contain different or additional ingredients than expected. This presentation focuses on fake pills that look like the Oxycodone “M 30” tablets but contain fentanyl. DEA has seen many forms of these fake pills, ranging from rainbow-colored to blue, most commonly containing roughly 2% fentanyl, but occasionally containing as much as 9% fentanyl. Four methods (Marquis color test, fentanyl immunoassay, GC-MS, GC-FID) will be discussed in detail as to how DEA forensic chemists determine the presence of fentanyl. In addition, discussion of fake pill composition and distribution across the United States will be covered, with a small focus on California and Florida based on accumulated 2021-2023 data.

POSTER #	POSTER TITLE
1	**Development of a Domesticated Hand for Quantitative Analysis of DNA Transfer Pathways** Author: Aldrin Alviar Organization: University of California Davis
2	**Using Dental Proteomics to Provide Biological Context to Skeletal Pathology Phenotypes Consistent with Biological Stress in Central Californian Late Period Ohlone** Authors: Jacqueline Ann Abad Santos, Glendon J. Parker, Jelmer W. Eerkens, Christyann M. Darwent Organization: University of California Davis
3	**Internal Validation of the Kintelligence Assay for Forensic Genetic Genealogy for Identifying Human Remains** Authors: Winters Reef Hardy, Ashleigh Scott, Katherine A. Roberts Organization: The Los Angeles County Department of Medical Examiner / School of Criminal Justice and Criminalistics, Cal State LA
4	**Discrimination of Black Electrical Tapes by FTIR Spectrophotometry** Authors: Katie Fong, Katherine A. Roberts Organization: School of Criminal Justice and Criminalistics, California State University, Los Angeles
5	**Advancing Fingerprint Deposition Modeling through the Integration of Comprehensive Two-Dimensional Gas Chromatography and Time-of-Flight Mass Spectrometry for Age Estimation** Authors: Elena Mosham, Rayana Ramirez, Katherine A. Roberts, Petr Vozka Organization: School of Criminal Justice and Criminalistics, California State University, Los Angeles

POSTER #	POSTER TITLE
6	**Discrimination of Duct Tapes by FTIR Using Attenuated Total Reflectance Fourier Transform Infrared Spectroscopy** Authors: Richard Ha, Katherine A. Roberts Organization: School of Criminal Justice and Criminalistics, California State University, Los Angeles
7	**Effects of Laundry Detergent on Fibers using Fluorescence Microspectrophotometry and Fluorescence Microscopy** Authors: Naomi Holmes and Katherine A. Roberts Organization: School of Criminal Justice and Criminalistics, California State University, Los Angeles
8	**Effects of Laundry Detergent on the Comparison of Textile Fibers Utilizing FTIR Microspectrophotometry** Authors: Rhylon Hatier, Katherine A. Roberts Organization: School of Criminal Justice and Criminalistics, California State University, Los Angeles
9	**Discriminative Potential of FTIR-ATR Microscopy for Black Pen Inks** Authors: Shiqi Rong, Katherine A. Roberts Organization: School of Criminal Justice and Criminalistics, California State University, Los Angeles
10	**Portable Raman Analysis of Psychoactive Substances** Authors: Ariana Carrillo-Cortez, Paloma Padilla, Deepak Mehrotra, Dr. Jay Vargas Organization: California State University Los Angeles
11	**Isomeric Analysis of Methamphetamine Using Copper (I) Iodide Clusters** Authors: Sarah E. Guidinger, David J. Nash, Jay Vargas Organization: California State University Los Angeles

POSTER #	POSTER TITLE
12	**Surface Enhanced Raman Spectroscopy (SERS) and Traditional Raman Spectroscopy Comparison Study using Fentanyl and Fentanyl Analogues** Authors: Noah Gallegos, Deepak Mehrotra, Jay Vargas Organization: California State University Los Angeles
13	**The Effects of Cleaning Products on the Chemiluminescence of Bluestar Reagent and Subsequent Testing** Authors: Angelina Crittenden, Chelsea Murillo, Kathe Canlas, Katherine A. Roberts Organization: Los Angeles Police Department, Forensic Science Division, Field Investigation Unit / School of Criminal Justice and Criminalistics, California State University, Los Angeles
14	**Gunshot Residue Distance Determination Using Traditional and Crime-lite ML PRO Methods** Authors: Jessica Lung, Travis To, Katherine A. Roberts, Amanda Davis, Adrian Rendon Organization: School of Criminal Justice and Criminalistics, California State University, Los Angeles
15	**Forensic Applications of Fluorescence-Activated Cell Sorting Using Namocell Pala Microfluidic Cell Sorter Instrumentation** Authors: Luz Elizarraraz, Ariel Mui, Karina Recio Rivera, Brenda Romero, Katherine A. Roberts, W. Reef Hardy Organization: School of Criminal Justice and Criminalistics, California State University, Los Angeles / LA County Dept. of Medical Examiner

POSTER #	POSTER TITLE
16	**Presumptive Identification of Heterocyclic Amines in Mixtures Using Photoluminescent Copper(I) Iodide** Authors: Natalie Antunez, David J. Nash, Jay Vargas Organization: California State University Los Angeles
17	**Machine Learning-Raman Spectroscopy Approach for Drug Mixtures** Authors: Pawel Gertych, Jay Vargas, Deepak Mehrotra Organization: California State University Los Angeles
18	**Development of a Method to Detect Nitazenes in Seized Drug Samples** Authors: Emily Bergman, Danielle Gray Organization: UC Davis, Sacramento County District Attorney's Laboratory of Forensic Services
19	**Verification Study of STK® Sperm Tracker Spray** Author: Jillian Sonderegger *Note: Poster located at AXO Science Booth #103*
20	**Rapid, Chromatography-Free Quantitative Workflow of the Potent Sedative Xylazine by DART-MS Analysis** Author: Gregory F. Nieckarz *Note: Poster located at Bruker Daltonics Booth #118*

Josh Abernathy

Josh joined QIAGEN almost 5 years ago supporting forensic laboratories as a HID Field Applications Specialist and has been the Account Manager for the Northwest Region since 2021. Before joining QIAGEN, Josh was a Field Applications Scientist on Thermo Fisher Scientific's HID team, supporting both CE and NGS products. Overall, Josh has over 15 years of forensic DNA experience in both the government and commercial sectors. Josh currently lives in the Houston, TX area with his wife, twins, and scruffy dog. His hobbies include cooking anything he can on his smoker and trying to keep up with his now almost 7-year-old twins.

Daniel I. Aguilar, MSc

Daniel began his work in DNA at Cal State L.A., where he got his BS in Biochemistry, and continued with his MSc in Forensic Biology from the University of Strathclyde in Scotland. He's been a forensic DNA analyst since 2013, when he joined the Defense Forensic Science Center (DFSC) in Atlanta and took his expertise to Afghanistan and Kuwait to help identify the makers of IEDs. He was with DFSC when it became the first lab in the United States to bring STRmix online and has since brought that knowledge to DNA Labs International (DLI), where he applied his expertise to DLI's numerous internal validations of the software. Casework as a Senior Analyst at DLI has given him experience in a wide variety of case types across the country and overseas.

PRESENTER BIOGRAPHIES

Cliff Akiyama, MA, MPH, LBS, FAAFS

Cliff Akiyama is a licensed Pediatric Behavioral Specialist (LBS) in Philadelphia, Pennsylvania working with youth in the cross-sections of the juvenile justice and behavioral health systems. Cliff is also a Commissioner on the Mayor's Commission on Asian Pacific American Affairs (MCAPAA), Secretary of the Board of Directors of the Anti-Violence Partnership of Philadelphia (AVP) and Board Member of the Philadelphia Chapter of the Japanese American Citizens League (JACL) where he previously served as the president of the chapter. The JACL is the oldest and largest Asian American Civil Rights Organization. Cliff previously had a career in law enforcement as a Los Angeles County Deputy Sheriff, and also holds certifications from the Virginia Gang Investigators Association and the East Coast Gang Investigators Association. Cliff is a Fellow of the American Academy of Forensic Sciences (AAFS) where he regularly engages with their national and international membership base on the topics of youth gang violence, hate crimes, trauma, and mental health. AAFS awarded Cliff with one of their highest honors, the inaugural Past Presidents Council Award for Outstanding Early Career Achievement in Forensic Science for his outstanding leadership and contributions to the field of forensic science. Cliff also serves on the Editorial Board of the Critical Care Nursing Quarterly (CCNQ) journal, a leading international journal on critical care and trauma. Cliff received his BA in Philosophy from the University of Virginia, his MA in Criminology and his MPH from the University of Pennsylvania.

Aldrin Alviar

Aldrin Alviar is a 2nd year graduate student in the MS Forensic Science DNA Track at UC Davis. Currently, he is researching touch DNA analysis under Dr. Ashley Hall's guidance. With a bachelor's in Biotechnology from the University of the Philippines, he has honed molecular techniques relevant for forensic DNA analysis. His passion for forensic science dates back to childhood, driving his goal to work in a crime lab while continuing research in the field. He is committed to growth through learning, collaboration, and ethical integrity, aiming to make meaningful contributions to forensic science.

PRESENTER BIOGRAPHIES

Mehul B. Anjaria

In his 28-year forensic science career, Mehul B. Anjaria has seen the front lines of all sides of the criminal justice system and now enjoys the challenge of bridging science and law. He is a member of the Panel of Expert Witnesses of the County of Los Angeles Superior Court. In 2009, he founded MBA DNA Consulting, LLC, to assist criminal defense/civil attorneys and Pro Per inmates struggling with complicated forensic DNA issues in their cases. His previous experience includes serving as a DNA Technical Leader in a law enforcement crime laboratory and co-founding and directing the first DNA laboratory in California accredited under ISO/IEC standards. In 2017, he began working as a consultant on post-conviction cases.

Anutham Raghav Ashok

Anutham Raghav Ashok is a second-year master's student at the esteemed University of California, Davis. His journey into the realm of crime-solving has been nothing short of exhilarating. From the very start, he has been driven by a relentless curiosity to explore innovative methods of accessing DNA evidence to aid in solving complex criminal cases. He sees every day as an opportunity for me to immerse myself in the latest advancements of our field. He is eager to absorb knowledge and apply it to real-world scenarios. He is excited to be granted the chance to present at this esteemed conference and sees this not just as a privilege, but as a significant leap forward in his journey toward making a tangible impact in the world of criminalistics. He thanks everyone for welcoming him into this community and looks forward to being a part of it in the near future.

Kyle Brown

I am an Arson Investigator for the Los Angeles City Fire Department, Arson/Counter-Terrorism Section. I am a Peace Officer under 830.37 of the penal code. I am currently assigned to Special Investigations.

My duties as an Arson Investigator involve investigating fires to determine the origin and cause by use of scientific analysis and cutting-edge technology. Once a determination is made, suspects are identified and located. Once located, the suspects are arrested and charges are presented to the District Attorney's Office. All details of the investigation are documented, analyzed, and scrutinized to aid in the prosecution of criminal offenders and to protect the innocent. The goal of the Los Angeles City Fire Department Arson/Counter-Terrorism Section is to defend the citizens of Los Angeles from the devastating effects of intentionally set fires.

I developed my skillset by serving 6 years as a Police Officer and 7 years as a Firefighter at some of the nation's busiest assignments. I have held multiple positions within my law enforcement career such as: Armorer, Range Safety Officer, and Use of Force Instructor. As a Firefighter, I have responded to thousands of incidents ranging from structure fires to mass casualty incidents. I am well-versed in firefighting and rescue operations including: structure firefighting, emergency medicine, and operating firefighting apparatuses. I have attended 2 police academies, 1 fire academy, and hundreds of additional training courses to enhance my professional growth. I have been honored with numerous awards and accolades throughout my career for my dedication to my profession.

Dr. Adrienne Brundage

Dr. Adrienne Brundage, D-ABFE, is a board-certified forensic entomologist, the assistant director and instructional associate professor of the Forensic Investigative Sciences program at Texas A&M University, and an adjunct professor of forensic entomology at both University of Florida and Florida State University. She has been working as a forensic entomologist since 1999 and served as the president of the North American Forensic Entomological Association (NAFEA). She is also the founder and editor-in-chief of the Journal of Forensic Entomology (JFE); the Journal of Forensic Science of Education (JFSE); and Instars: A Journal of Student Research. She works with students and professionals alike in research of all times, has written a digital forensic science textbook and a digital veterinary entomology textbook, and currently serves on numerous committees dedicated to science and policy in forensics.

Information on her work can be found at www.forensicentomologist.com, or by email at brundage@forensicentomologist.com.

Julie Burrill, PhD

Julie Burrill is currently a postdoctoral researcher and Alda-certified facilitator jointly appointed at the Alan Alda Center for Communicating Science at Stony Brook University and the Leverhulme Research Centre for Forensic Science at the University of Dundee. She holds a BS in Biology and a MFS in Forensic Molecular Biology, and has previously worked in research and casework laboratories and for Medical Examiner offices. Dr. Burrill served as the staff scientist at the Public Defender Service for the District of Columbia, where she trained attorneys on a wide range of forensic science issues, prepared scientific expert witnesses for trial testimony, and lectured nationally on the litigation of complex scientific topics in court. She conducted her PhD research into forensic DNA on a Fulbright Scholarship, and has taught at the undergraduate and graduate levels. She investigates the challenges and applications of communication theory and research to forensic science contexts. She has co-developed training to integrate the Alda Method and related improvisation theater techniques into workshop curricula tailored to testifying forensic scientists.

PRESENTER BIOGRAPHIES

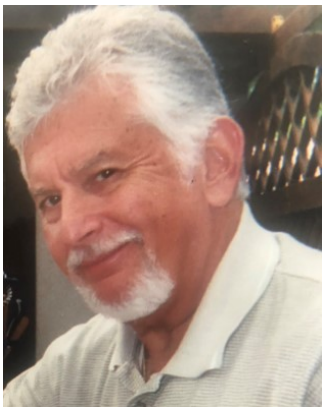
Jonathan Charron

Jonathan Charron started his career in forensics in the Drug Chemistry Unit at the Sacramento District Attorney's Laboratory after earning his degree in Forensic Biology from CSUS and interning with the DOJ's Toxicology laboratory for two years. After a year in Chemistry, he transferred to the Criminalistics section of the laboratory and began his work in the firearms unit along with joining the crime scene response team. His training background includes graduating from the ATF's National Firearms Examiner Academy where he is now also an instructor, becoming a POST certified instructor, and has co-created a Distance Determination course for the California Criminalistics Institute.
In addition to his teaching experience, he has also served as the CAC Editorial Secretary for the past six years and is a member of the Association of Firearm and Toolmark Examiners.

Catherine Currier

Catherine Currier is a Criminalist with the Sacramento District Attorney's Office, Laboratory of Forensic Services for the last 7 years where she is assigned to the Comparative Evidence Section. She received her bachelor's degree in Biological Sciences and her graduate degree in Forensic Science from the University of California, Davis. She has almost 17 ½ years of experience working in the Forensics field, both in Sacramento and at the Contra Costa Sheriff's Office Crime Laboratory. She served as President-Elect, President, and Past President of the CAC and is currently the co-chair for the upcoming CAC seminar to be held in the Sacramento area in 2025.

PRESENTER BIOGRAPHIES



Raymond J. Davis

Raymond joined the California Association of Criminalists in 1979. He has held several official posts: Past president of the CAC (2002-2004) and former Editorial Secretary of the CACNEWS (1994-1998), served on the seminar planning committee (1995-1998), past seminar chair for the Santa Clara County Crime Lab (1996) as well as serving on the Financial Review committee. He is currently serving as the chair for the Founder's Lecture Committee recently appointed by the CAC Board of Directors. He is also a Life Member of the CAC. Raymond is the author and presenter of the Courtroom Presentation of Evidence course that was offered at the California Criminalistics Institute (1991-2012). He has presented his course to over 7500 law enforcement personnel, Criminalists, SART nurses and Latent Print Examiners in twenty states across the country, including the FBI, BATF, Customs and Border Protection Labs and several regional forensic science societies, (NWAFS, CAC, SWAFS, NEAFS, SAFS and AAFS). Raymond has also lectured extensively on the subject of Ethics in Criminalistics and Interviewing Skills Training at various scientific symposia. He has published three novels based on his professional experience: Dark Side of Justice, Parabellum and Dilemma. Raymond currently lives in Idaho.

Trina Do

Trina Do is a Forensic Chemist and has been with the DEA since 2020. She graduated with a Bachelor's in chemistry with a concentration in forensic science from George Washington University and a minor in criminal justice. Originally from Boston, she has lived in DC, Maryland, and now resides in Miami. Previous agencies she has been with include ATF, US Postal Inspection Service, and pharmaceutical company AstraZeneca. This will be her first professional scientific conference and first time presenting! Two fun facts she shares is that she used to work for a Michelin star restaurant and loved it, and she has never seen CSI or NCIS.

PRESENTER BIOGRAPHIES

Melissa Dupée

Melissa Dupée has a Bachelor of Science in Microbiology and a Masters of Science in Forensic Science with 15 years experience in forensic science. Melissa started her forensic career in Cleveland, Ohio at the Cuyahoga County Coroner's Office working in the Trace Evidence and Toxicology Units as well as the Investigations Unit as a medicolegal death investigator. She is currently working at the Santa Clara County District Attorney Crime Laboratory as a Criminalist in the Trace Evidence Unit performing analysis in hairs, fibers, paint, glass, gunshot residue and miscellaneous materials. Melissa is a member of the American Academy of Forensic Science, California Association of Criminalists and American Society of Trace Evidence Examiners. She is certified in Foundational Knowledge by the American Board of Criminalistics. In addition to her forensic casework, Melissa also provides trace evidence training to law enforcement agencies in Santa Clara County and throughout the bay area.

Allison Fernandez

Allison Fernandez is a Criminalist in the Serology/DNA Unit with the Los Angeles Police Department. Born and raised in the Bay Area, she received her B.S. Degree in Forensic Science at San Jose State University and then moved to LA to pursue higher education. She received her M.S. Degree in Criminalistics at CAL State LA, where she contributed to the research of Bluestar Forensic as an alternative to luminol at crime scenes as an intern for the LAPD Field Investigation Unit.

Geno Ferrera

Geno Ferrera is a Sales Development Representative at Thermo Fisher Scientific and an expert with TruNarc™ Raman Spectroscopy. Before joining Thermo Fisher Scientific, Geno was a Senior Chief Petty Officer in the US Navy followed by working for ADS Tactical.

Colleen Fitzpatrick

Colleen Fitzpatrick, PhD is widely recognized as the founder of modern Forensic Genetic Genealogy. She has pioneered the use of genetic genealogy Y-STR and autosomal SNP analysis for generating forensic intelligence on cold cases sometimes decades old. Dr. Fitzpatrick's expertise with compromised DNA has led to identifications that otherwise were believed to have gone beyond the reach of modern technology. Dr. Fitzpatrick has twice been awarded fifth place in the prestigious international Gordon Honeywell Thomas Cold Case Hit of the Year competition – in 2018 for solving the 1992-1993 Phoenix Canal Murders, the first case solved using genetic genealogy (2015), and in 2020 for her work on the 1991 Sarah Yarborough Homicide, the first case where genetic genealogy was used to generate investigative leads (2011).

Dr. Fitzpatrick collaborates with both domestic and international law enforcement agencies. She is a Member of the Vidocq Society, the Australia New Zealand Forensic Science Society (ANZFSS), the American Academy of Forensic Science (AAFS) and an Affiliate of the Victoria Australia Institute of Forensic Medicine. Dr. Fitzpatrick is the founder of Identifinders International. She lectures widely in the US, Canada, Europe, Australia, and New Zealand. She has appeared in hundreds of domestic and international newspapers and magazines, and on international radio and television programs. She is the author of three books: Forensic Genealogy, DNA & Genealogy, and The Dead Horse Investigation: Forensic Photo Analysis for Everyone.

Joshua Gilbert

As an Arson Investigator for the Los Angeles City Fire Department (LAFD), I have conducted and assisted in the investigation of fire origin and case determination of different types of fires. In my nearly eight-year career with the Fire Department, I have had extensive training and experience fighting fires and observing fire behavior. I have 4+ years of experience as a firefighter/paramedic at one of the busiest fire stations in the nation.

I have completed extensive Fire and Forensic Arson Investigation and State Fire Investigator training hours. I have been trained in evidence collection, photography, fire origin cause and determination, techniques of fire investigation, and fire behavior. I am a Threat Liaison Officer. The Joint Regional Intelligence Center has given me multiple classes in threat assessments, and I have completed the National Wildfire

Junior Gomez

Junior Gomez was born and raised in southern California and graduated from UC Riverside with a BS in bioengineering in 2013. He started off his career in cancer diagnostics before joining Hamilton Robotics in 2016. While in field applications he was trained at the Richmond CalDOJ site on the methods developed by their lab. He helped setup the Riverside county and San Bernardino county Sheriff's AutoLys systems. He is now the regional sales manager for the Los Angeles territory. In the forensics space, Hamilton has helped multiple labs throughout California to rollout AutoLys and PCR systems for multiple Cal DOJ labs.

Clare Greenfield

Clare is a forensic scientist in the Serology/DNA unit of the Los Angeles Police Department crime lab. She got her PhD in Ecology and Evolutionary Biology from the University of Glasgow in 2010 and then moved to the United States to work as post doctoral researcher at UC Davis and UCLA. Over the years, Clare's DNA research has taken her all over the world and allowed her to study everything from malarial mosquitos to African wild dogs to forensics. Clare joined the LAPD crime lab 5 years ago, where in addition to DNA casework, she has been closely involved with selecting and validating new automation instruments, as well as planning for potential future automation opportunities.

Cynthia (Cyndi) Hall

Cyndi has a M.S. Degree in Biological Sciences from San Jose State University and a B.S. Degree in Chemistry/Biochemistry from the University of California, San Diego. She is currently employed as a Senior DNA Analyst with DNA Labs International (DLI) where she also serves as a Team Leader. She has over 20 years of experience working in forensic DNA analysis. Prior to joining DLI at the end of 2020, Cyndi worked at the Idaho State Police Forensic Services in a variety of roles including DNA Analyst, Supervisor, DNA Technical Lead, and CODIS State Administrator before moving into her final role with the laboratory as Quality Manager. She previously worked as a DNA Database Analyst at the California Department of Justice DNA Laboratory and as a Criminalist and Criminalist Supervisor at the Santa Clara County District Attorney's Crime Laboratory before moving to Idaho.

Michelle Hanisee

Michele Hanisee has been a Deputy District Attorney for the County of Los Angeles for 25 years. For the last 14 years she has been in the Major Crimes Division and is currently in the Cold Case Unit of that division. Prior to that, she spent five years in the Hardcore Gang Division. She has tried over 100 felony jury trials including 46 murders and three capital murders which resulted in death sentences. She is author of the "California Gang Crimes Manual" and teaches for the California District Attorneys Association on topics including homicide, gangs, and death penalty law. She is also a presenter for Verogen's Forensic Investigative Genetic Genealogy Masterclass. She has worked as a technical consultant on crime shows including Netflix's Monster Season 1: Dahmer. She co-authored Proposition 66, the Death Penalty Reform and Savings Act of 2016, which was enacted by the voters. She is also currently the President of the Association of Deputy District Attorneys, the union which represents nearly 800 Los Angeles Deputy District Attorneys.

Amanda Harbison

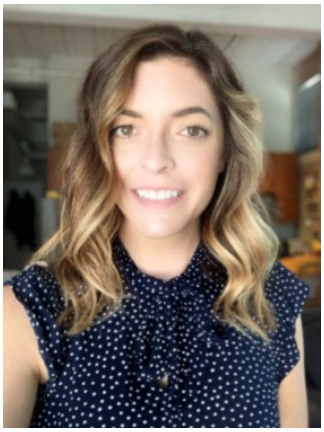
Amanda Harbison has served as a criminalist at the Los Angeles Police Department for over 14 years, currently assigned to the Firearm Analysis Unit. During this time, she has honed her expertise in various aspects of forensic science, including firearms comparison and crime scene investigation. Prior to her role at the LAPD, she spent 11 years as a research scientist at HRL Laboratories, where she made significant contributions to the aerospace and automotive fields. Her work at HRL Laboratories resulted in the filing of 17 patents, showcasing an innovative approach and deep understanding of scientific research and development. This combination of experience in both law enforcement and scientific research underscores her proficiency in forensic methodologies and dedication to advancing the field of forensic science.

Maurice Hastings

PRESENTER BIOGRAPHIES

John Houde

John Houde, Senior Criminalist (ret, Ventura), was the art director for the CACNews from 1991 to 2021 and is the author of several books including the award-winning Crime Lab: A Guide for Nonscientists, and the adult fiction novel The Criminalist. He is a board-certified, twenty-five year veteran criminalist whose articles have appeared in such publications as The California Narcotic Officer and the Journal of Forensic Sciences. John has spent much of his career educating juries, investigators and attorneys in various topics of forensic science. His specialty areas include the analysis of narcotics, trace and fire debris evidence. John now lives in Washington state.



Danielle Jardel

Danielle Jardel is a Field Application Scientist at Thermo Fisher Scientific. For the last four years she has supported the entire core Human Identification product line as well as Rapid DNA and automation solutions. Before joining Thermo Fisher Scientific, Danielle spent 10 years working as a Forensic Biology Supervisor and a Forensic DNA Analyst in private crime labs.

Brian Kim

Brian Kim is a supervising criminalist for the Los Angeles Police Department. Brian joined LAPD in 2011 and was assigned to the Serology DNA Unit. He has served as a DNA analyst and trainer for the DNA unit over the last five years and has worked on multiple validation projects ranging from quantitation chemistry, amplification kits, and robotics. He is currently a part of the research and development team which evaluates and implements new technology to assist in forensic DNA analysis.

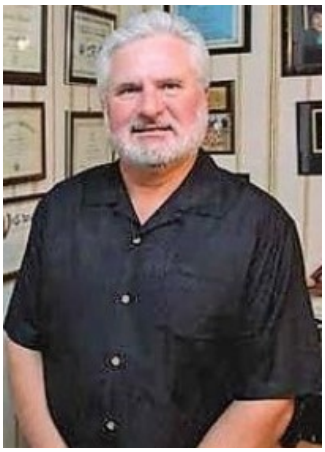
PRESENTER BIOGRAPHIES

Chuck Knolls

Chuck Knolls had a 32 year career with the Los Angeles Police Department. He worked patrol, as an academic instructor, detective assignments, field sergeant, Gang Enforcement Detail sergeant, and spent 20 years as a homicide investigator assigned to South Bureau Homicide, Foothill Homicide, and Robbery Homicide Division. When Knolls retired he remained a LAPD reserve officer. He retired with 4 cases in the court system and is still involved in a 2009 homicide that will be going back to court on an appeal. In order to retain his POST status, he became a Burbank Airport Police Officer and is currently with California Health and Human Services, Office of Law Enforcement Support as an internal affairs investigator.

Lisa LaHendro

Lisa LaHendro is a Criminalist III with over 24 years of experience with the Los Angeles Police Department, Forensic Science Division. For the majority of her career she has been assigned to the Trace Analysis Unit, where she analyzes hair, fiber, paint, physical or fracture fit and footwear and tire impression evidence. She received her Bachelor's Degree in Health Science from California State University Northridge and her Master's Degree in Criminalistics from California State University Los Angeles. She is currently empty nesting in Los Angeles with her husband Gary and her dog Sparky.



Gregory E. Laskowski

Gregory E. Laskowski is a retired Supervising Criminalist with the Kern County District Attorney Forensic Science Division in Bakersfield, California where he supervised the Major Crimes Unit. He has over forty-five years' experience as a forensic scientist. His university degrees include a BS degree in Biochemistry from the University of Southern California and a MPA degree from California State University Bakersfield. He is Past President of the CAC and Life Member, Distinguished Fellow of the AAFS, Life Active Member of the IAI, and Distinguished Member of AFTE. He is also the former Chair of the Science and Practice Committee, and former member of FEPAC.

In addition, Gregory has lectured on forensic science techniques and case histories in the former Soviet Union, the FBI Academy in Quantico Virginia, and for various professional societies and associations in the United States and Europe. He has published papers in Journal of Forensic Sciences, The Journal of Identification, and Association of Firearm and Tool Mark Examiners Journal. His memberships in professional associations include: Fellow of the Criminalistics section of the American Academy of Forensic Sciences; Distinguished Member of the Association of Firearms and Toolmark Examiners; Distinguished and Life Member of the International Association for Identification, where he serves as the subcommittee Chairman for General Forensics as well as a member of subcommittee on Firearms and Toolmarks, and on the Science and Practices Committee; Member and past-president of the California Association of Criminalists; and past Member of the California Association Of Crime Lab Directors, where he served on the Sexual Assault Evidence Kit Standardization Committee. He is also a commissioner and certified inspector for the Forensic Science Education Program Evaluation Commission FEPAC. Gregory also consults or has consulted for the following television shows: CSI and CSI: Miami, Law and Order, Numbers, Killer Instinct, Vanished, Bones, Rizzoli and Isles, The Mob Doctor, and The Blacklist. He is also the subject of three Court TV television series Forensic Files episodes, which can be seen on the Headline News Network (HLN).

Kirk E. Lokits

Kirk received his B.S. in Forensic Science and Chemistry from Eastern Kentucky University and began working as a Forensic Drug Chemist in the Miami Valley Regional Crime Laboratory in Dayton, Ohio. He then moved to Orlando, Florida where he worked as a Forensic Toxicologist for the Florida Department of Law Enforcement in the Orlando Regional Crime Laboratory and later as Crime Analyst Supervisor in the Pensacola Regional Crime Laboratory. Kirk left the forensic realm and began his tenure with Hewlett Packard/Agilent Technologies, working as a Customer Service Engineer (CE) supporting the LC, GC, LCMS, GCMS, and ICPMS products. While working for HP Kirk earned his M.S. in Analytical Chemistry from Middle Tennessee State University and in 2005 Kirk left Agilent Technologies to attend the University of Cincinnati and earned his Ph.D. in Analytical Chemistry. After receiving his PhD., Kirk worked for the Midwest Research Institute (MRIGlobal) in Kansas City, MO where he worked as a Principal Chemist and Sr. Program Manager on Department of Defense projects, staffing, designing, and building remote laboratories for placement throughout the world. In 2014, Kirk re-joined Agilent Technologies as a GCMS Applications Scientist focusing on forensic applications within the GCMS product line.

Allison Manfreda

Allison Manfreda joined the Los Angeles Police Department (LAPD), Forensic Science Division in 2005. She developed expertise as a firearm examiner, crime scene and shooting incident field responder, and instructor at various investigative schools before promoting to Supervising Criminalist in 2016 and then Assistant Laboratory Director in 2019. She managed both the Firearm Analysis Unit and Field Investigation Unit until recently where she now manages the Narcotics, Toxicology, and Trace Analysis units. Prior to joining LAPD, she worked at NASA's Jet Propulsion Laboratory researching and developing the E-Nose (an 'electronic nose' for monitoring air quality) which spent 6-months on the Space Shuttle in an experimental capacity. She earned her Bachelor of Science in Chemistry from California State Polytechnic University, Pomona and completed most of the Criminalistics Master's program at California State University, Los Angeles prior to starting her forensic career.

PRESENTER BIOGRAPHIES

Greg Matheson

Greg Matheson worked a total of 33 years with the LAPD as a criminalist, supervisor, manager and the Lab Director. Matheson has been teaching ethics for over 30 years - first to his unit, then to his section, then to all LAPD staff. He has done ethics related presentations at CAC, CACLD, and ASCLD seminars and is currently teaching 3 separate ethics classes for CCI; Ethics fore Forensic Scientists, Ethics for Supervisors and managers, and Ethics for Non-Forensic Scientists.

Nora Matossian

Nora possesses a B.S. in Microbiology, Immunology, and Molecular Genetics from UCLA. She has held a variety of laboratory positions across different industries until beginning employment at the Verdugo Regional Crime Laboratory in 2020. She began as a DNA technician within the Forensic Biology Unit and has been qualified as a DNA analyst since 2022.

Larry McVay

Larry recently retired from a 27-year career as a Special Agent with the FBI. In that position, he was on the frontlines of the agency's mission to provide security in critical situations, including as a member of its elite SWAT team and Hostage Rescue Team, where he flew as a tactical helicopter instructor pilot. He has also served in a supervisory position for a Protective Security Detail for several U.S. Attorneys General whose travels spanned over 40 countries to include two combat theaters.

Larry is also a former U.S. Army Infantry and Aviation Officer, and later used this experience when he volunteered to embed as a tactical FBI agent with the Army's Combined Joint Special Operations Task Force operating in the Kandahar Province of Afghanistan. He has extensive experience as an FBI firearms and tactical training instructor, and has trained hundreds of security personnel in these disciplines.

As a certified Advanced Law Enforcement Rapid Response Instructor, SIG Sauer Certified Firearms and Armorer Instructor, he currently shares his Executive Protection and training experience with frontline law enforcement personnel around the country.

Tahnee Mehmet

Tahnee Nelson Mehmet is a Criminalist in the Forensic Biology/DNA section of the Santa Clara District Attorney's Crime Laboratory. Tahnee started her career at the San Francisco Police Department Crime Laboratory's Forensic Biology/DNA Unit and continued her career in Santa Clara serving a total of 18 years as a Criminalist. Tahnee is a member of the American Academy of Forensic Sciences as well as the California Association of Criminalists. She is also certified in Biological Evidence Screening and Forensic DNA by the American Board of Criminalistics. Tahnee has participated in the development of statewide Sexual Assault collection protocols and the CA Standardized Sexual Assault Forensic Evidence kit. She continues to serve as a partner in the Santa Clara County SART Team to collaborate on process improvements with district attorneys, nurses, advocates, and law enforcement.

Paula Mitchell

Paula Mitchell is the director of the Los Angeles Innocence Project, joining LAIP after serving as the Legal Director at the Loyola Project for the Innocent at Loyola Law School for seven years.

Paula's work focuses on exonerating the wrongly convicted, exposing systemic flaws in the criminal justice system, improving standards for using forensic evidence in courtrooms, and advocating for criminal justice reforms needed to increase fairness in the system. In addition to her work at LAIP, Paula has taught law school courses in habeas corpus, prisoner civil rights litigation, and appellate advocacy. She has also written extensively on California's flawed and costly death penalty system.

Paula is a graduate of Loyola Law School. Prior to joining LAIP, Paula was Appellate Counsel at Reed Smith LLP, where she represented clients in all stages of civil and criminal appeals. She clerked for six years for Senior Judge Arthur L. Alarcon of the Ninth Circuit Court of Appeals, where she reviewed over 200 prison civil rights appeals and habeas corpus petitions filed by individuals incarcerated in California state prisons. She received her BA, cum laude, from the University of Massachusetts, Amherst, and an MA from the London School of Economics and Political Science. She is former Chair of the State Bar's Committee on Appellate Courts, served on the board of Death Penalty Focus, and currently serves on the board of the California Appellate Project.

PRESENTER BIOGRAPHIES

Chelsea Murillo

Chelsea Murillo is a dedicated criminalist with 5 years of professional experience in forensic science, currently serving in the esteemed Field Investigation Unit of the Los Angeles Police Department. Holding a Bachelor of Science degree in Forensic Science from the University of Central Florida, Chelsea Murillo brings a strong academic foundation to their work in the field of law enforcement. Prior to work with the LAPD, she interned with Orange County Sheriff's Office in Orlando, Florida. In July 2021, Chelsea Murillo played a pivotal role in enhancing the investigative capabilities of their unit by spearheading the transition from luminol to Bluestar, a blood enhancing technique. This initiative showcased Chelsea Murillo's leadership, strategic thinking, and commitment to advancing forensic techniques to better serve the community and enhance criminal investigations. Throughout their career, Chelsea Murillo has demonstrated a steadfast commitment to upholding the highest standards of integrity and professionalism in every aspect of her work.

Dr. Scott Musgrove and Dr. Shiloh Catanese

Dr. Scott Musgrove and Dr. Shiloh Catanese are forensic psychologists based in Los Angeles and co-hosts of the podcast, L.A. Not So Confidential. Dr. Musgrove is licensed as both a Clinical Psychologist and a Marriage and Family Therapist, having specialized in correctional and forensic psychology. He currently serves as a clinical expert in a law enforcement co-responder program.

Dr. Catanese is a former police officer and current law enforcement psychologist, with extensive experience working with high-risk post-incarceration offenders. Their true crime podcast explores forensic psychology concepts from a research perspective, featuring notable cases and advocating for the destigmatization of mental illness.

Joe Pasternak

Joe Pasternak earned his B.S. in Biology from Arizona State University and his M.S. in Forensic Science from the University of Florida. He lives in Missoula, Montana where he was a forensic scientist at the Montana Forensic Science Division for 18 years, the last 10 years serving as the Biology Bureau Chief and DNA Technical Leader for the laboratory. Prior to his employment at the Montana Forensic Science Division, Joe was employed for 3 ½ years as a Forensic Serologist at the City of Phoenix Police Department Crime lab in Phoenix, Arizona. In addition, he has served as a Lead and Technical DNA Laboratory Assessor for the National Science Technology Center (NFSTC), an ANAB QAS Technical Assessor, and was formerly a member of the California Association of Criminalists. Joe is currently employed by Promega Corporation as a Global Validation Scientist for the Genetic Identity Division.

Courtney Patterson

Courtney Patterson is an Application Scientist in Clinical and Forensic Toxicology at Thermo Fisher Scientific based out of San Jose, CA. Her previous role was working as a Forensic Toxicologist for the US Army in their Forensic Toxicology Drug Testing Laboratory (FTDTL) in Fort Meade, MD. Recently, she has been developing fast, quantitative LCMS workflows for drugs of abuse and novel psychoactive substances (NPS) to be utilized by forensic labs in a production setting.

Alan Perez

Alan Perez is a seasoned forensic scientist with 18 years of experience in the field. Specializing in firearms analysis he meticulously conducts cartridge case and bullet comparisons, bullet path analysis and test fires firearms. Alan also responds to crime scenes, particularly officer-involved shootings, where he applies his expertise to gather crucial evidence. Throughout his career, Alan has processed approximately 400 crime scenes, contributing significantly to the investigations and resolution of criminal cases. Passionate about his work, Alan remains dedicated to upholding the integrity of forensic science and serving justice.

Rodger Polk

I was born and raised in Los Angeles and started my career with the Los Angeles City Fire Department in 1999. As a firefighter and firefighter/Paramedic, I have had the opportunity to work in multiple communities in the City of Los Angeles. I've experienced all types of emergency incidents from structure fires, flooding/mudslides, swift water rescues, brush fires, medical emergencies, and Hazardous Materials to name a few. I have been a member of the Arson Counter Terrorism Section for one year.

As an Arson investigator, my duties and responsibilities consist of determining the origin and cause of a fire, investigating fires with deaths or serious injuries, collecting and booking evidence, completing necessary reports, and making arrests of arson suspects. During my time in the section, I have investigated and been involved in over 150 investigations.

My career consists of thousands of hours of training in firefighting, paramedic/medical training, as well as in fire investigation. I'm excited about my future as an arson Investigator in the Arson Counter-Terrorism Section and look forward to the learning and dedication this section requires.

Joshua Rice

Josh Rice has over two decades of experience as an improviser, theater practitioner, and teacher. He co-developed this workshop to integrate the Alda Method and related improvisation theater techniques into training curricula tailored to testifying forensic scientists. Mr. Rice has taught graduate and undergraduate courses in Science Communication at Stony Brook, and has designed curricula for Alda Center professional development workshops for Climate Communications, Communicating Science to Policymakers, and Translational Communication for Development Professionals working in STEM, Meteorologists, as well as specializing in custom curriculum design for clients. He has facilitated Alda workshops for various organizations and universities including The Gates Foundation, NASA, the CDC, NOAA, The U.S. Department of Defense, the Nature Conservancy, Ocean Conservancy, Yale, Columbia, the Broad Institute of MIT/Harvard, Scripps Research, among others. As a professional theater practitioner, Mr. Rice is a member of Actor's Equity, and is the Founder & Producing Artistic Director of Shake on the Lake (SOTL), a rural-focused professional theater company in Western New York State.

Dr. Michelle Rippy

Dr. Michelle Rippy earned undergraduate and graduate degrees in forensic science and a doctorate in organizational change and leadership from the University of Southern California. Michelle spent over ten years as a medicolegal death investigator, supervisor, and chief operating officer in the San Francisco Bay Area. Michelle trained medicolegal personnel, developed formal training programs for death investigators and forensic autopsy technicians, and wrote policies to remain current with best practices in the field.

Currently, Michelle is an associate professor in the Department of Criminal Justice at California State University East Bay, where she also serves as the department chair and the director of the Forensic Science Research Center. The Forensic Science Research Center currently has 31 interns and is partially funded by a National Science Foundation grant. Michelle is on the NIST Organization of Scientific Area Committees for Forensic Science, serving as the executive secretary for the Medicolegal Death Investigation sub-committee, is a member of the Academy Standards Board's Medicolegal Death Investigation Consensus Body, and is on the Board of Directors for the International Association of Coroners and Medical Examiners.

Katherine A. Roberts

Katherine A. Roberts is a professor of criminalistics and director of the MS degree program in criminalistics in the School of Criminal Justice and Criminalistics at California State University, Los Angeles. She also serves as the Executive Director of the California Forensic Science Institute (CFSI), overseeing the advancement of the forensic sciences through a multidisciplinary program focusing on research development, professional training, student support, and community engagement. Professor Roberts is collaborating with the Human Genomics Unit, Los Angeles County Department of Medical Examiner-Coroner, to investigate 1) the accuracy of phenotype/biogeographical ancestry-informative genetic markers using Next Generation DNA Sequencing and 2) forensic applications of fluorescence-activated cell sorting. She collaborates with university faculty and private industry on projects related to fingerprint donor aging, activity-level propositions, and trace evidence analysis. Dr. Roberts has been the principal investigator on NSF and United States Department of Justice grants, including the National Institute of Justice and the Bureau of Justice Assistance. She is currently the PI for a BJA-funded grant on Postconviction Testing of DNA Evidence in partnership with

Mei Ling Robinson

Supervising Criminalist Mei Ling Robinson has worked for the Los Angeles Police Department (LAPD) since 2007. She attained her undergraduate degree in Integrative Biology from the University of California, Berkeley and a Master of Science in Criminalistics from California State University, Los Angeles. She specializes in the forensic science disciplines of Serology/ DNA and Crime Scene Investigation. She is currently assigned to the Serology/ DNA Unit at the LAPD Forensic Science Division. Additionally, she is a member of the California Association of Criminalists (CAC), International Association of Bloodstain Pattern Analysts (IABPA), the American Academy of Forensic Sciences (AAFS), the California Association of Crime Laboratory Directors (CACLD), and the International Association for Identification (IAI). When she's not hard at work, you'll find Mei Ling indulging in her passions: chasing the wind on the water in competitive sailing races, hitting the trails for exhilarating runs, and delving into captivating conversations as a part-time podcast host.

Pamela Rowell

Pamela has worked extensively in forensic DNA, including parentage/kinship testing, casework, databasing, wildlife forensic DNA, and mtDNA. She is qualified and experienced as an assessor for ISO/IEC 17025 and QAS. Pamela's work has included technical and laboratory/operations management positions such as Director of Relationship Testing with Chromosomal Laboratories; Laboratory Manager with The Bode Technology Group; DNA Technical Leader with the Research and Productivity Council; General Manager (including DNA Technical Leader, Quality Manager, and R&D Director) with DNA Solutions Pty. Ltd., Forensic Applications Scientist with Qiagen, Inc., General Manager at Sorenson Forensics, and is now a Technical Account Manager with Bode Technologies.

PRESENTER BIOGRAPHIES

Timothy Saldana

I'm a Los Angeles City and Disneyland Firefighter. I've been an Arson Investigator for over eight months and a Firefighter for over 27 years. I started at 19 with the Orange County Fire Authority as a Paid Call Firefighter at Station 3 in Sunset Beach; I was also an Ocean lifeguard for five years at Sunset Beach. My duties and responsibilities include Origin and Cause determination, evidence collection, photography, report writing, assistance with fire scene reconstruction, and apprehension and prosecution of suspects responsible for the crime of Arson. I've assisted in training other investigators as a scenario coordinator for Fire Investigation 2A and 2B. I've introduced technology components like security cameras, hard drives, social media, and cell phone evidence into older scenarios to create a more realistic feel to actual investigations. I have my Associate's degree in Fire Science and a Bachelor's in Criminal Justice. I have over 380 hours of online and in-class modules from Certified Fire Investigators (CFI), International Association of Arson Investigators (IAAI), and New Fire and Arson Investigators Academy through the Public Agency Training Council (PATC).

Samuel Serraz and Florian Tharin

Samuel Serraz is an entrepreneur and marketing and sales executive with 25 years experience in biotechnology & high-tech industries. Serraz Co-founded AXO Science in 2010 together with researchers from CNRS and UCBL. AXO Science is a biotechnology company focused on innovation in the field of molecular biology and forensic science. AXO Science creates and manufactures ready-to-use forensic solutions for Crime Labs experts and crime scene investigators to empower their fight against sexual violence.

Florian Tharin has been a worldwide business developer of the STK Sperm Tracker technology since 2021.

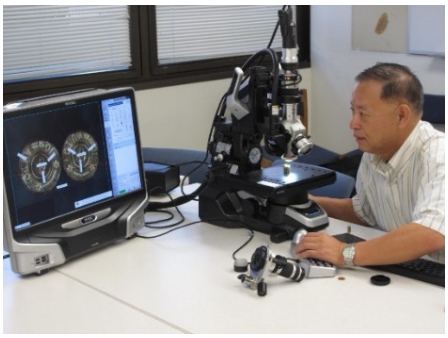
Mark D. Stolorow

Mr. Stolorow retired in 2019 from his position at the National Institute of Standards and Technology (NIST), U.S. Department of Commerce in Gaithersburg, Maryland as the Deputy Director of the Office of Special Programs (OSP). He was also the Director for OSAC Affairs (Organization of Scientific Area Committees for Forensic Science) and the NIST Ex-Officio member of the OSAC Forensic Science Standards Board. The mission of OSAC is to produce consensus documentary standards to improve quality and consistency of work in the forensic science community.

Mr. Stolorow currently serves the NIST Special Programs Office as a contractor responsible for helping forensic science service providers to implement standards on the OSAC Registry.

Mr. Stolorow has significant forensic laboratory and courtroom experience, having served as the training coordinator for the statewide forensic serology program and as the research program administrator for the Illinois State Police Bureau of Forensic Science, as well as serving as the Executive Director of Orchid Cellmark, a forensic DNA testing laboratory.

Mr. Stolorow led teams that performed DNA analysis for high-profile cases such as the 1995 criminal investigation of O.J. Simpson, the 1996 murder case of JonBenet Ramsey, and the 1998 Unabomber case of Theodore Kaczynski. Mr. Stolorow served as co-chair of the National Science and Technology Council Subcommittee on Forensic Science from 2009 through 2012. He is a member of the Midwestern Association of Forensic Scientists and received the 2005 Midwestern Association of Forensic Scientists Distinguished Service Award. Mr. Stolorow is a Fellow of the American Academy of Forensic Sciences and the recipient of the 2014 Criminalistics Section Mary E. Cowan Outstanding Service Award. Mr. Stolorow was also awarded the ASCLD President's Medallion Award for Excellence through Leadership in Forensic Science Management in 2018. Mr. Stolorow received a B.S. from the University of Michigan, an M.S. in Forensic Chemistry from the University of Pittsburgh, and an M.B.A. from Eastern Michigan University.



John Z. Wang, Ph.D.

Dr. John Wang is a full professor of the forensic studies program in the School of Criminology, Criminal Justice & Emergency Management at California State University-Long Beach since 1999. He is a fellow of American Academy of Forensic Sciences since 2018. In addition, he is serving under AAFS's OSAC as a voting member of the National Firearm & Tool-marks Consensus Body since 2016, a voting member of the National Footwear and Tire-print Consensus Body since 2023, and an observer of the National Friction Ridge Consensus Body since 2021. Since 2009, he has been conducting Comparative Forensic Sciences as a summer study abroad program in the UK, Scotland, and Canada. Since 2009, he has been an adjunct faculty member for California Law Enforcement Command College under the Commission on Peace Officer Standards and Training (POST Certified). He has many publications in peer reviewed journals and is completing a book on Forensic Studies for Criminology and Criminal Justice Students.

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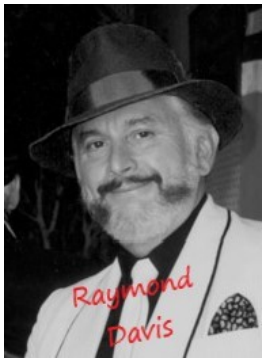

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CONFERENCE EVALUATION

Conference Title: 138th CAC Seminar – Once Upon a Crime in Hollywoodland

Conference Dates: April 15-19th, 2024

We would like to hear from conference participants about what you liked and what you didn't like at this conference. Please take a minute to complete the evaluation and either deposit it in the box marked "Conference Evaluations" near the registration table or return it to our office later. Thank you.

0 = Worst	6 = Above Average
1 = Very Poor	7 = Significantly Above Average
2 = Poor	8 = Good
3 = Significantly Below Average	9 = Very Good
4 = Below Average	10 = Best
5 = Average	

1. Conference Registration: 0 1 2 3 4 5 6 7 8 9 10

Comments:
_____

2. Opening Session: 0 1 2 3 4 5 6 7 8 9 10

Comments:
_____

3. General Session Topics: 0 1 2 3 4 5 6 7 8 9 10

Comments:
_____

4. General Session Speakers: 0 1 2 3 4 5 6 7 8 9 10

Comments:
_____

5. Provided Food: 0 1 2 3 4 5 6 7 8 9 10

Comments:
_____

6. Overall Quality of Workshops: 0 1 2 3 4 5 6 7 8 9 10

Comments:
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7. Special Events: 0 1 2 3 4 5 6 7 8 9 10

Comments:
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8. Was the purpose of the conference clear to you when you registered?

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Comments: _____

9. What were you looking for from the conference? _____

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10. Did you find what you were looking for?

Yes _____ No _____ Somewhat _____

Comments: _____

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11. What did you enjoy most about the conference? _____

_____

12. What did you enjoy least about the conference? _____

_____

13. Is there anything else you would like us to know about the conference?

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Please deposit in the "Conference Evaluations" box at the conference registration table or return to:

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