NEAFS Newsletter

Volume 49, Issue 2 Summer 2024

2024

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2024

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LCT Trace Evidence Comparison Microscope

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MEET THE 2024 BOD

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Nassau County Office of the Medical Examiner, Division of Forensic Service, Controlled Substance Analysis 2011-present
NYPD Police Laboratory, Controlled Substance Analysis 2008-2011
BS in Forensic Science- Long Island University/CW Post
MS in Biology- Long Island University/CW Post

Alanna Laureano– President-elect

Westchester County Department of Labs & Research, Division of Forensic Sciences Since 2007
Senior Forensic Scientist and DNA Technical Leader
BS in Molecular Biology and Biochemistry- University at Albany, SUNY
MS in Forensic Biology- University at Albany, SUNY

Matthew Marino - Treasurer

New Jersey State Police Office of Forensic Sciences, East Regional Laboratory Since 11/2011
Forensic Scientist 2 in the Drug Unit, Criminalistics Unit and Quality Assurance Unit
Forensic Technician, Westchester County, NY Forensic Laboratory from 07/2007 to 09/2011
BS in Natural Sciences with a concentration in Chemistry-St. Thomas Aquinas College

Amanda White - Secretary

New York State Police Crime Laboratory, FS III- Controlled Substance Analysis from 2019-Present
Westchester County Department of Labs & Research, Controlled Substance Analysis 2016-2019
NYPD Police Laboratory, Controlled Substance Analysis/Latent Print Development 2011-2016
MS Biomedical Forensic Science, Boston University
BS Biology & Anthropology, SUNY Oneonta

Anisha Paul M.S.F.S, D-ABFT-FT - Director

Vermont Forensic Laboratory, Department of Public Safety - Forensic Chemist Toxicology division since 2017
Adjunct professor at Champlain College since 2017
Masters of Science in Forensic Science from Arcadia University
Certified as a Diplomate by the ABFT in the field of Forensic Toxicology

Danielle Malone - Director

NYC Office of Chief Medical Examiner, Department of Forensic Biology from 2004- Present
BS Forensic Science with a concentration in Criminalistics, CUNY John Jay College of Criminal Justice

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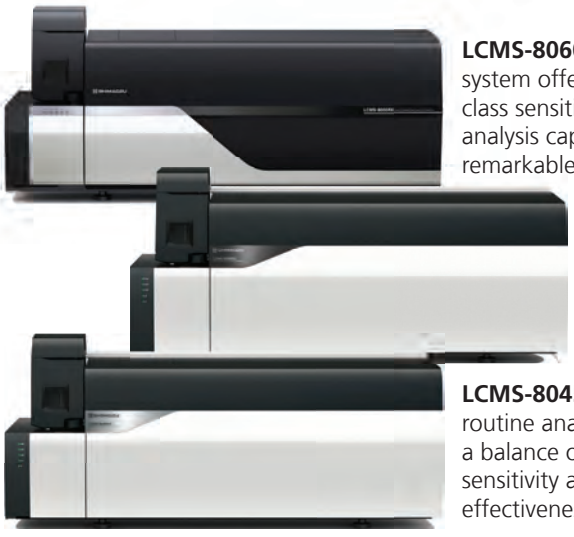

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Stephanie Minero

President

With a blink of an eye, the long-awaited summer months are upon us. They say time flies when you are having fun, and here at NEAFS we certainly have been busy creating new and exciting opportunities for our membership.

To kick things off, registration for the **50th Annual Meeting** is open for the taking. Program Chair and President-Elect Alanna Laureano has worked tirelessly to create an absolutely amazing program – just wait and see what she has put together! While early registration ends on June 30th, there is still plenty of time to take advantage of our affordable rates by registering before September 24th during the regular registration period. As promised, NEAFS will not increase student rates from early registration to regular registration pricing. There will still be an increased cost for on-site registration, which is a necessary evil for meeting planning. NEAFS understands that registering students during a time frame when school is not in regular session is challenging, and we are committed to doing everything we can to support the next generation of forensic scientists. I would like to remind all of our members in academia that our new **student member** tier is available to individuals who wish to enjoy the benefits of the NEAFS organization and additionally discounted registration at the annual meeting. During the fall semester, I will do my best to meet with colleges and universities within our region to not only speak with students on the importance of our organization, but also to provide them with the opportunity to join a **student committee**. While this endeavor is in its infancy, the aim is for such committee to guide our organization on the current needs of students and in turn to provide them with educational, professional, and networking opportunities within the field. If students have an avenue to truly be involved within the organization, our hope is to not only increase the number of new members but also to retain them. At this time, the board of directors is considering the possibility to discount or potentially waive the fee for student members to upgrade to an associate member tier upon graduation to assist with this goal.

As announced in last quarter's newsletter, NEAFS is proud to have partnered with the American National Standards Institute, National Accreditation Board (ANAB) to provide a virtual full-day training course entitled "Validation and Verification of Analytical Methods" on August 14th at a significantly discounted rate. This is a members-only/active applicants perk, so you have to be in it to win it. The first 20 NEAFS members who registered for the course were granted free registration, and the remaining 30 seats are open to any member or active

applicant at a deeply discounted rate of $250 (from a $690 list price). This course is also ABC approved – so don't miss this opportunity to get your recertification points!

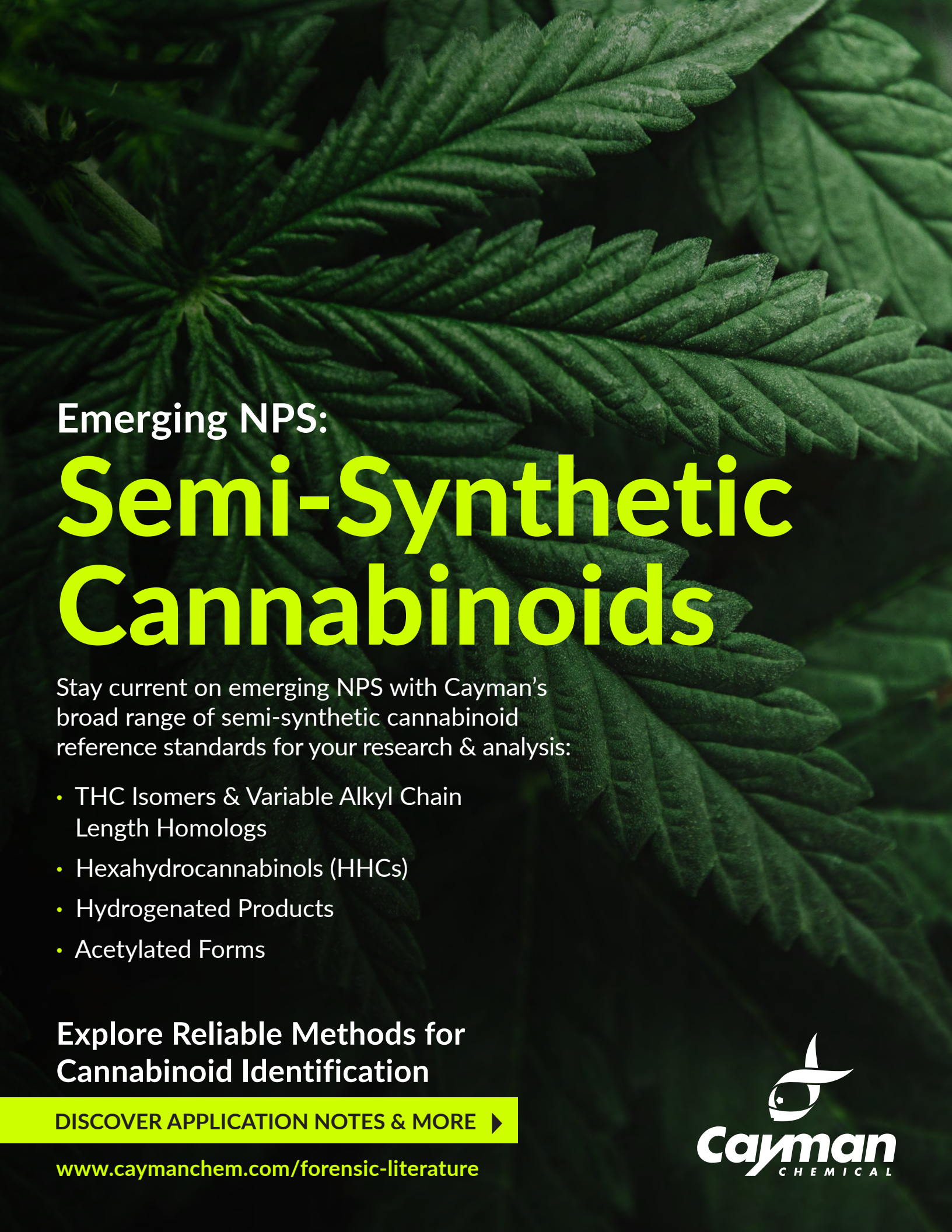
Partnering with ANAB has paved the way for us to pursue collaborations with other national organizations. We are stronger, greater, and more powerful together and we are thrilled to announce upcoming collaborations with the American Society of Crime Laboratory Directors (ASCLD), the American Society of Trace Evidence Examiners (ASTEE), and the Mid-Atlantic Association of Forensic Scientists (MAAFS). At the upcoming Annual Meeting, ASCLD will be hosting a full-day workshop as an amuse bouche for their renowned "Leadership Academy". In addition, they are providing a "Professional Skills for Students" workshop as part of our free student forum. For our trace examiner attendees, ASTEE will be hosting three workshops for glass analysis, hair root staining, and gun shot residue. And last but not least, a memorandum of understanding has been signed, sealed, delivered and the 2026 Annual Meeting will officially be a joint meeting with MAAFS! A fully joint meeting is a tremendous task and is a feat that we have not accomplished in almost 15 years – exciting times!

It is with equal excitement to also announce that thanks to the ongoing recruitment efforts of our outreach coordinator Scott Rubins, the Outreach and College Fair will finally come to fruition! Thank you to all of our members who reached out with contact information – it worked! If you are interested in volunteering your time and expertise, please contact Scott at outreach@neafs.org. If you are a college or university, you can expect to hear from me shortly with information on registering for a free booth at the event. Our goal is to not only engage the future of our field, but to also support the colleges and universities that have been the backbone of the NEAFS organization.

In closing, make sure to follow us on social media, visit our website, and check your e-mails for meeting updates and information on upcoming trainings and member benefits. I thank you all for your continued support of this wonderful organization and am honored to serve you in this role.

Sincerely,

Stephanie Minero
2024 NEAFS President



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ATLANTIC CITY, NJ
OCTOBER 20TH-25TH, 2024

2024 ANNUAL MEETING PRELIMINARY SCHEDULE

MONDAY, OCTOBER 21ST

2:30pm - 4:30pm
Board of Directors and Staff Outing
6:30pm - 9:30pm
Board of Directors and Staff Dinner

TUESDAY, OCTOBER 22ND

7:30am - 9:15am
Registration
7:30am - 9:00am
Breakfast
9:00am - 5:00pm
Full Day Workshops
9:00am - 12:30pm
Half Day AM Workshops
10:30am - 10:45am
Morning Break
12:30pm - 1:45pm
Registration
12:30pm - 1:30pm
Lunch on your own
1:30pm - 5:00pm
Half Day PM Workshops
3:00pm - 3:15pm
Afternoon Break
5:00pm - 8:00pm
Exhibits Set-Up
5:00pm - 6:00pm
Registration
5:30pm - 8:30pm
Student Forum
6:00pm - 8:00pm
Educators' Forum

WEDNESDAY, OCTOBER 23RD

7:30am - 9:30am
Registration
7:30am - 9:00am
Breakfast
8:00am - 8:00pm
Exhibits
9:00am - 5:15pm
Scientific Sessions
10:30am - 10:45am
Morning Break
12:30pm - 2:00pm
Annual Business Lunch
3:15pm - 3:30pm
Afternoon Break
5:30pm - 7:30pm
Welcome Reception and Poster Session
6:30pm - 7:30pm
Registration
7:30pm - 9:30pm
Evening Plenary Session

THURSDAY, OCTOBER 24TH

7:30am - 9:15am
Registration
7:30am - 9:00am
Breakfast
8:00am - 11:30am
Exhibits
9:00am - 11:30am
Morning Plenary Session
10:15am - 10:30am
Morning Break
11:30am - 1:30pm
Exhibits Break-Down
12:00pm - 2:00pm
Annual President's Award Luncheon
2:30pm - 5:00pm
Afternoon Plenary Session
3:30pm - 3:45pm
Afternoon Break
5:30pm - 6:30pm
George W. Chin Cup Competition
7:00pm - 11:00pm
President's Reception

FRIDAY, OCTOBER 25TH

7:30am - 9:00am
Breakfast
9:00am - 12:00pm
ABC Exams
9:00am - 12:00pm
Outreach Event

www.neafs.org/preliminary-schedule

2024 NEAFS ANNUAL MEETING

REGULAR REGISTRATION ENDS

SEPTEMBER 30TH

MEMBER: $210
NON-MEMBER: $325
STUDENT MEMBERS: $105
STUDENT NON-MEMBERS: $160
GUEST*: $170
DAILY MEMBER: $110
DAILY NON-MEMBER: $160
STUDENT DAILY MEMBER: $55
STUDENT DAILY NON-MEMBER: $80
GUEST* DAILY: $90

*SEE WEBSITE FOR DETAILS ON GUEST REGISTRATION

Register Now!

REGISTRATION COSTS INCREASE ONSITE. PLEASE NOTE THAT IF YOU REGISTER ON-SITE, YOU WILL NOT RECEIVE A MEETING BOOKLET, MEAL OR DRINK TICKETS AND REGISTRATION IS ONLY PAYABLE WITH CREDIT CARD, CASH OR MONEY ORDER. NO CHECKS WILL BE ACCEPTED.

NORTHEASTERN ASSOCIATION OF FORENSIC SCIENTISTS
50 TH ANNUAL MEETING
OCTOBER 21ST -25TH , 2024

HARRAH'S RESORT AND CASINO ATLANTIC CITY , NJ

CALL FOR PAPERS AND POSTERS

MEMBERS AND ACTIVE APPLICANTS

ELIGIBLE FOR $75 REIMBURSEMENT IF SUBMITTED PRIOR TO AUGUST 15 TH

DEADLINE: SEPTEMBER 2ND , 2024

Note: All presenters must register for the meeting. Request for reimbursement must be submitted after presentation has been given and submitted to the NEAFS Treasurer using the electronic Travel and Expenses form. Must include proof of registration, payment, and listing in program booklet to qualify.

Note: Author designations, associations, and presentation titles will be printed in the meeting booklet and proceedings **as submitted**. Contact individual session chairs with revision requests.

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Atlantic City, NJ

OCTOBER 20TH-25TH

Room Rate: $119/night + applicable taxes & $20 resort fee/room night
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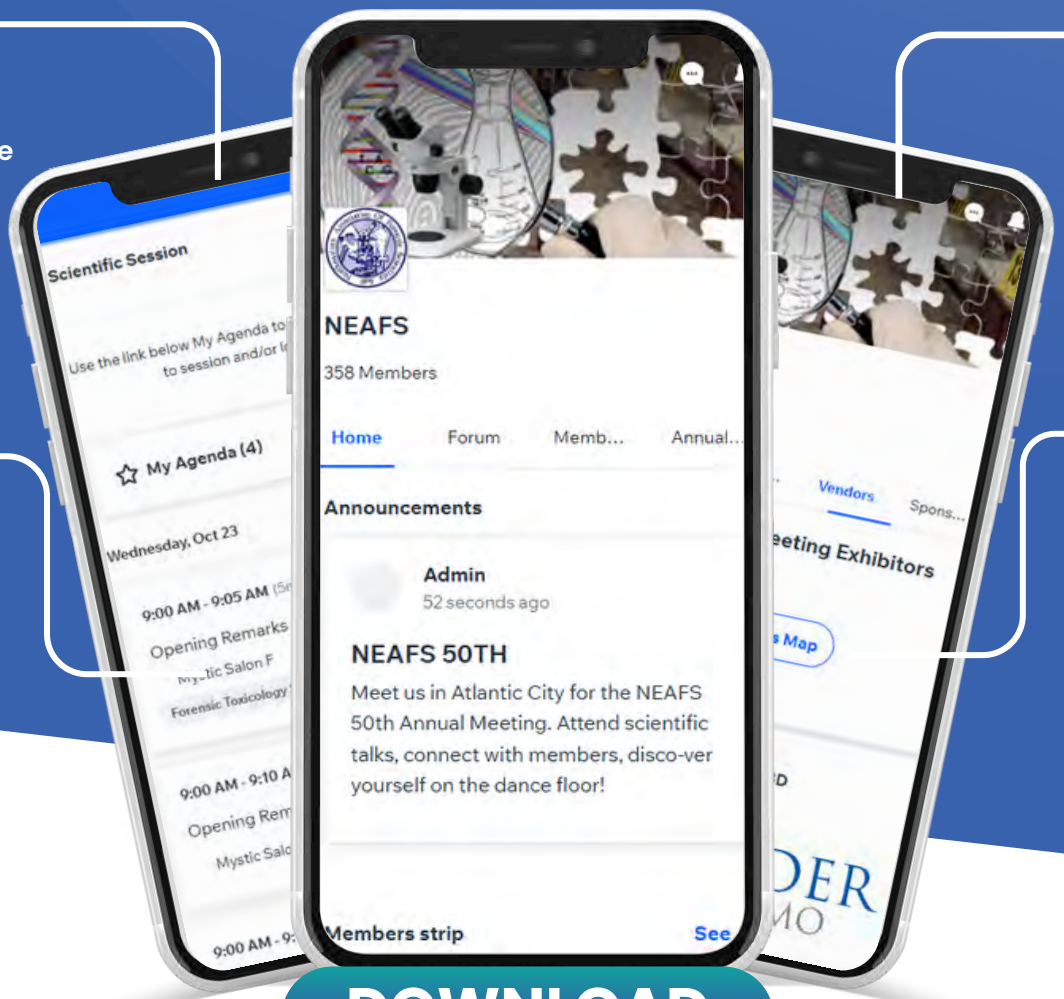

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TUESDAY, OCTOBER 22ND, 2024

WORKSHOPS at the NEAFS 50TH ANNUAL MEETING

NEAFS

REGISTRATION IS OPEN AT WWW.NEAFS.ORG/REGISTRATION

ASTEE

Workshop attendees must register for Full meeting registration or Tuesday daily registration (at least).

Cost for Full-Day Workshops:

Member/Member of Another Regional Organization: $65
Non-Member: $110
Student Member: $43
Student Non-Member: $65

Cost for Half-Day Workshops:

Member/Member of Another Regional Organization: $33
Non-Member: $55
Student Member: $23
Student Non-Member: $33

e-mail inquiries:
workshops@neafs.org * registration@neafs.org * presidentelect@neafs.org

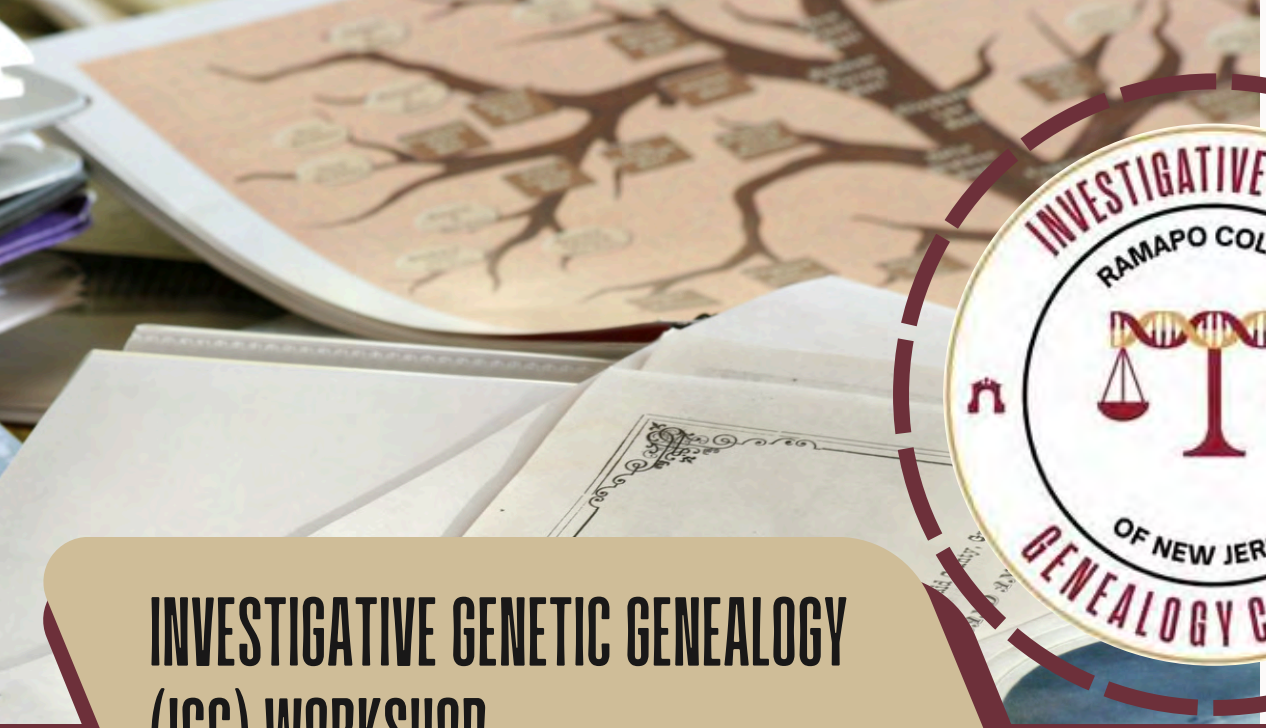
TRACE EVIDENCE WORKSHOP:

PRACTICAL ID OF ENVIRONMENTAL PARTICLES SIMILAR TO GUNSHOT RESIDUE & UNUSUAL ELEMENTAL PROFILES

The recognition and identification of environmental particles similar to gunshot residue (GSR) has long been the goal of every GSR examiner. In this workshop we will give a brief overview of GSR analysis and identification by SEM/EDS, an overview of environmental sources of particles similar to GSR and provide tools and practical exercises to assist GSR examiners in distinguishing environmental particles from gunshot residue. We will also go over various types of ammunition and the elemental profiles they produce, including some nontoxic or "green" ammunition, as well as, ammunition produced in Europe and Eastern bloc countries. The workshop will consist of short lecture portions followed by practical exercises involving data interpretation. The goal of the workshop is to provide both new and seasoned GSR examiners with practical tools to assist them in casework.

Instructors:
Mary Keehan and Nicole Palmer

TUESDAY, OCTOBER 22ND
FULL-DAY WORKSHOP 9 AM - 5 PM



INVESTIGATIVE GENETIC GENEALOGY (IGG) WORKSHOP

Investigative genetic genealogy (IGG) has recently emerged as a leading method for human identification in unidentified human remains cases as well as violent crimes. In this all-day workshop, students will be introduced to the investigative genetic genealogy from case selection through lead confirmation.

After attending this workshop, students will be able to:

- Identify elements influencing the likelihood of success of investigative genetic genealogy including demographic factors, DNA quality/quantity, and other characteristics.
- Understand the IGG laboratory process and compare and contrast public and private lab options for IGG.
- Review mitochondrial, X-, and Y-DNA inheritance patterns.
- Understand the IGG research process including identification and analysis of genetic matches, ascendancy research, identification of common ancestors, and descendancy research.
- Perform documentation in IGG research including communication with partner agencies, progress reports, and final reports.
- Articulate ethical and legal issues in IGG.

Case studies and active learning activities will be utilized to help attendees understand the IGG process and prepare to work their own IGG cases.

Instructors:
Professor David Gurney, JD/PhD
Cairenn Binder, MS

Ramapo College of New Jersey
Investigative Genetic Genealogy Center

TUESDAY, OCTOBER 22ND
FULL-DAY WORKSHOP 9 AM - 5 PM

TRACE EVIDENCE ON BULLETS

Instructor:
Peter Diaczuk, Ph.D.
John Jay College

This workshop will cover some of the phenomena that must be taken into consideration when assessing a shooting scene. Several different types of ammunition will be discussed, along with their interactions with several different substrates commonly encountered.

Attendees will also become familiar with evidence recognition, documentation, and recovery for laboratory analysis.

The complex nature of a shooting incident may generate a variety of firearm-related evidence, such as the firearm itself, cycled or discharged ammunition components, gunshot residue, trace evidence on a bullet, or impact sites with traces of the bullet's prior presence. Whether considered firearm evidence or trace evidence, this information may have to be integrated by the scientist to be most beneficial.

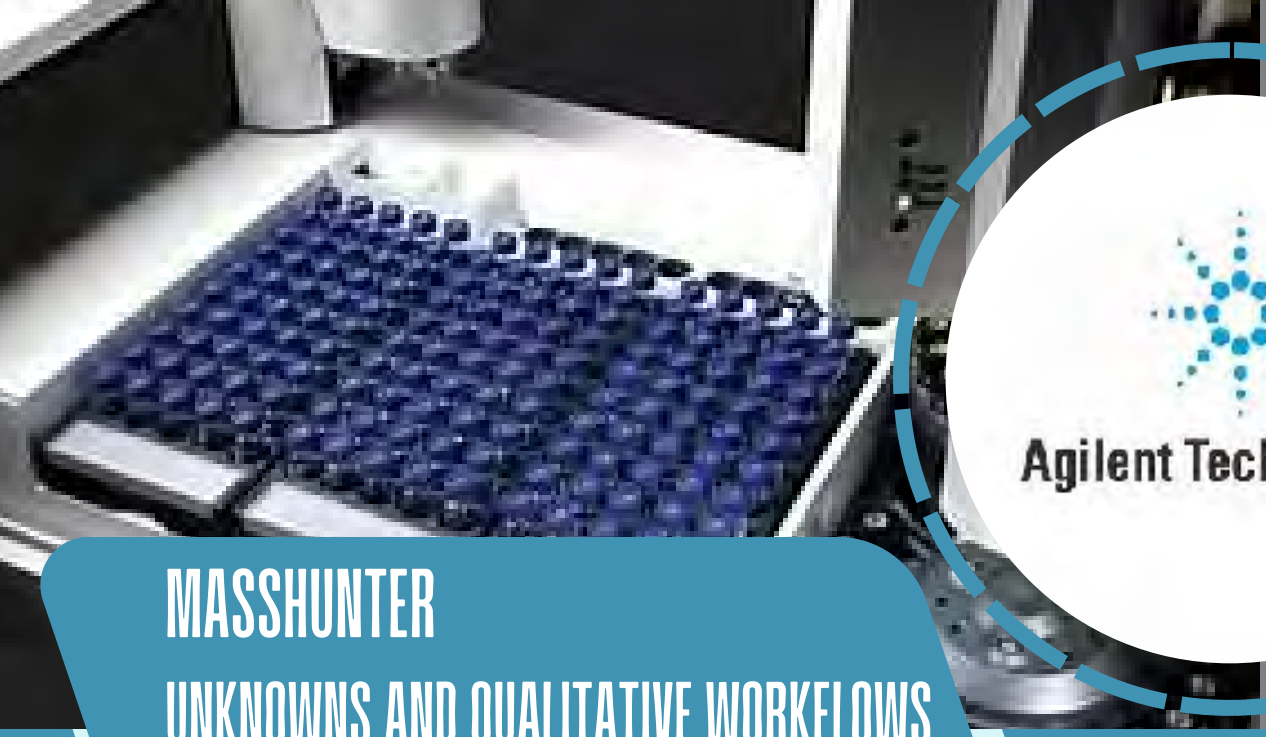
Pulling the trigger of a firearm initiates a series of events that culminates with the discharge of a bullet with considerable energy, along with primer and propellant resides as secondary ejecta. The bullet may not only impact its intended target; it may perforate an intermediate object or objects on its way to the target or it may pass completely through the target and retain sufficient energy to continue downrange and impact an unintended object.

These types of interactions and impacts invariably impart information about the event onto the bullet and onto the impacted substrates. If information from the inadvertent or intended impact is recognized, examined, and deciphered, it can be helpful in developing a more accurate shooting scene reconstruction. This workshop will consider the transfer of material from the substrate to the bullet, per the Locard Exchange Principle, the overall change to both the bullet and substrate from the energy exchange, the potential path the bullet followed, and the possibility of ricochet.

Determining the angle at which a bullet will successfully ricochet is essential information when a shooting investigation involves indirect fire. This information provides the forensic scientist with fundamental data required for the scientific reconstruction and assessment of a shooting scene.

Click here to find out more.

Tuesday, October 22nd
Full-Day Workshop 9 am - 5 pm



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UNKNOWNS AND QUALITATIVE WORKFLOWS FOR FORENSIC DATA ANALYSIS

The full day workshop is designed to introduce the audience to the workflows involved when using Unknowns Analysis in the MassHunter software. The workshop begins with an ~20-minute explanation of the deconvolution process, differences between deconvolution and peak integration, and some of the variables involved when using this powerful data analysis tool. Running through workflows, utilizing forensic data, the session will illustrate how to translate established workflows within MSD ChemStation Data Analysis to MassHunter Unknowns Analysis. The workshop will include how to generate an in-house library in Unknowns Analysis, how to link retention time and or retention indices to each library entry and apply these entries to increase your Library Match Score (LMS) confidence level. Examples of Unknowns Analysis reporting templates will be demonstrated from the workshop exercises. Qualitative Analysis software will also be introduced. Laptops with MassHunter software and forensic data will be provided through this full day of hands-on learning.

The course is limited to the first 16 registrants due to the number of laptops available. However, additional students (~10) may join the course if they can provide their own laptop with MassHunter Quantitative and Qualitative Analysis software pre-loaded (rev 12.0 is preferred but not required) on the laptop. The forensic data files can be loaded in the morning prior to the start of the course. Please contact the course instructor at Kirk.Lokits@Agilent.com if you have additional questions.

Instructor:
Kirk E. Lokits, Ph.D.
Agilent Technologies

TUESDAY, OCTOBER 22ND
FULL-DAY WORKSHOP 9 AM - 5 PM

LEADERSHIP UNLIMITED – ASCLD LEADERSHIP ACADEMY MINI-COURSE

Instructor:
Henry Maynard

At the 2024 NEAFS Conference, ASCLD will be providing a Leadership Academy Mini-Course which will provide an overview of the Leadership Academy Program, while also providing instruction on important key topics related to forensic science leadership. Participants can expect informative presentations, skill-building exercises, impactful self-assessments, and more. Additionally, this Mini-Course will help NEAFS determine if there is sufficient interest to host the Full ASCLD Leadership Academy during the 2025 NEAFS Conference.

Please join us and experience the great instruction and exercises which has been provided to over 1,000 participants across 47 states and a dozen countries!

Background information on ASCLD Leadership Academy
The ASCLD Leadership Academy is a training program offered by the American Society of Crime Laboratory Directors for managerial personnel in forensic science laboratories. It is designed to deliver training of the highest quality at a cost that recognizes the current strained budgets of labs across the US. The mission of the ASCLD Leadership Academy is to train managers to become LEADERS.

Started in 2014, the ASCLD Leadership Academy has more than a decade of experience training all levels of leaders within forensic laboratories with more than 1,000 students have attended from 47 states, the District of Columbia, Puerto Rico, The Bahamas, Canada, Costa Rica, Guyana, India, Mexico, Panama, South Africa, the United Arab Emirates, and Uganda.

The Leadership Academy is a blended training model, combining weekly lecture-style webinars with a “Management Lab” at the annual ASCLD symposium where students will participate in hands-on, practical exercises to develop their skills.

Three different Academy levels are offered, with leadership perspectives focusing on varying levels within an organization (supervisor, manager, executive).

Cohorts are offered every Spring beginning in January with registration typically opening the previous November. Registration often fills up within a few days of opening.

Click here for more information on the three different levels offered.

Tuesday, October 22nd
Full-Day Workshop 9 AM - 5 PM

UNDERSTANDING FIGG:

A DEEP DIVE INTO HOW FIGG WORKS AND HOW YOU CAN IMPLEMENT FIGG INTO YOUR WORKFLOW

Over the past few years, advancements in Forensic Investigative Genetic Genealogy (FIGG) have made headlines with successes associated with cases where traditional STR workflows have provided little insight. Examples are instances where perpetrators are not entered into the CODIS database system and missing persons cases. In the majority of those cases, GEDmatch and its law enforcement-only side GEDmatch Pro are often used as the database for FIGG kinship analysis. The parent company of GEDmatch and GEDmatch Pro, QIAGEN, would like to invite you to a workshop in order to answer your questions and leave you with a better understanding of the mechanisms by which long-range FIGG kinship analysis is done in our databases. This workshop will include everything from the basics of how FIGG profiles are generated, to more advanced topics such as how kinship analysis is calculated. At the end of this workshop you should not only have a better understanding of how current FIGG workflows operate, but also the ease in which it could be implemented in your laboratory.

Instructors:
Jade Gibbons, PhD
Amber McManus, MS
QIAGEN

TUESDAY, OCTOBER 22ND
HALF-**DAY WORKSHOP 9 AM - 12:30 PM**

Trace Evidence Workshop:

HAIR ROOT STAINING: HOW TRACE EVIDENCE AND DNA CAN COLLABORATE FOR EFFICIENT CASEWORK

Instructors:
Lindsey Admire and Evie Nguyen
NC State Crime Laboratory

Hair evidence collected as part of a forensic investigation has the potential to provide valuable sourcing information through DNA analysis of its root. However, what can be done when traditional hair root suitability determinations for DNA analysis aren't yielding results as expected? At the North Carolina State Crime Laboratory, hair examiners noticed in years prior to 2019 that hair roots being sent for DNA analysis were not yielding DNA profiles as expected. To combat this problem, it was decided through research and community outreach that hair roots should be stained prior to sending them for in house DNA analysis for most efficient evidence processing. At the NCSCL, hematoxylin was chosen as the preferred staining method.

This workshop will discuss the process of utilizing Hematoxylin staining in forensic casework as an indicator of hair root DNA suitability. The instructors will walk participants through the entirety of the NCSCL's journey with Hematoxylin staining – from the process of background research, to data-gathering, our in-house validation process, results since implementation into casework, to training new analysts in the staining procedure. The process of staining hair roots with Hematoxylin will be demonstrated, and visual examples of stained hair roots will be provided. Participants will also get the opportunity for hands-on root staining experience as well as live "nuclei counting" practice with the instructors as we discuss the different staining categories we set for our laboratory's validation purposes. We also plan to discuss any root staining anomalies that may arise through true casework samples. This workshop will highlight the benefits of implementation of hair root staining into casework in terms of increased DNA yields, improved casework efficiency, and preservation of non-viable hair root evidence.

Our aim is to be as transparent about our experience as possible to allow you to decide how hair root staining may best fit your laboratory's goals – whether your laboratory is DNA only or functions as the NCSCL with collaborative Trace and DNA sections. Please come prepared to discuss your laboratory's current approach to DNA analysis of hair roots, as well as any hair root staining procedures you may already be utilizing. We hope to run this workshop more as a breakout session, with informal discussion encouraged so that we may all learn together.

Tuesday, October 22nd
Half-Day Workshop 9 am - 12:30 pm

THE BASICS OF AGILENT CHEMSTATION MACROS

Instructor:
Eugene Zegocki
Monroe County Crime Lab

Agilent GC/MS instruments are the core instrumentation for the majority of laboratories performing fire debris and controlled substances analyses.

Many analysts use the simple and reliable Agilent ChemStation software for data analysis. Agilent's newer software, MassHunter instrument control, uses ChemStation macros as well.

Macros are blocks of code that make ChemStation software work. Therefore, even basic knowledge about ChemStation macros is beneficial. It allows one to customize existing macros, design and modify reports, automate tasks, and search for data, ultimately saving time and reducing manual repetitive routine tasks.

The workshop covers the following topics:

- General ChemStation software info
- ChemStation variables
- ChemStation commands and functions
- Control statements
- Working with files
- Working with windows
- Printing
- Integration and library searches
- Some other often used commands
- Explanation of two commonly used macros
-

It is expected that as a result of the workshop attendees will understand the basics of Agilent ChemStation software programming.

Attendees are encouraged to bring their own laptop with installed Agilent ChemStation, however,
this is not required.

Tuesday, October 22nd
Half-Day Workshop 9 am - 12:30 pm

TRACE EVIDENCE WORKSHOP:

ELEMENTAL ANALYSIS OF GLASS: COMPARING INTERPRETATION PARADIGMS AND PRACTICING WITH LIKELIHOOD RATIOS

The use of glass microtraces as forensic evidence is a recognized practice in forensic casework. During this workshop, we will briefly review the chemical and optical properties traditionally used for sourcing glass, the methods available for their analysis, and the paradigms used in interpreting those features. We will also review the use of likelihood ratios for interpretations at activity level and exemplify the value of microtraces for this level of interpretation during forensic investigations. There will be space to share and discuss your extraordinary encounters with glass evidence.

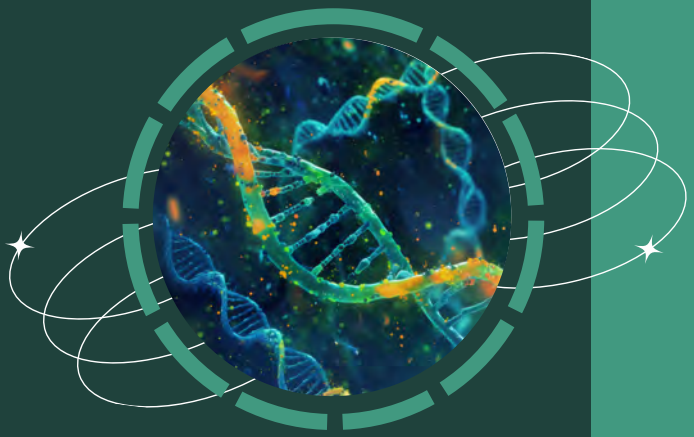
The goal of this workshop is to provide you with hands on experience on the interpretation of glass evidence, particularly the use of likelihood ratios for the interpretation of elemental profiles of glass. Bringing a laptop for the complete experience is strongly recommended but you are encouraged to participate even without one.

Instructor:
Shirly Montero
Arizona State University

TUESDAY, OCTOBER 22ND
HALF-DAY WORKSHOP 1:30 PM - 5 PM

THE FUNDAMENTALS OF COUNTING AND DETECTING DNA

Instructor:
Catherine Grgicak, Ph.D.
Rutgers University Camden



A forensic genetics laboratory can be described as carrying two broad scientific responsibilities [1]: To produce genetic data able to maximally discriminate forensically relevant hypotheses; and to report the value of them. The branch of forensic science dedicated to improving the quantity of genetic information has supported advances in mega-plex panels that simultaneously target more than 20 forensically relevant markers, the emergence of NGS in forensics, and the development of novel collection devices that recover more biological material from a substrate. With these practical advances also came improvements to the way in which data were interpreted and included the adoption of Bayesian reasoning by forensic scientists, articulation of a hierarchy of propositions, and the implementation of probabilistic genotyping.

With the interpretive framework being mostly constructed, attention is being paid to efforts seeking to appraise the consistency of evaluations within and across forensic science service providers (FSSPs), as was done in [2, 3]. The findings show that, in the main, mixture interpretation is subject to sometimes impactful effects originating from service provider's policy decisions on matters pertaining to NoC and suitability [3] or the laboratory treatments and settings used to generate the data [4].

If generating as much useful information is as valued as making the best interpretive use of that data, the question then becomes: Is it possible to uncover what laboratory treatments give maximal amounts of relevant information for a given technology? If so, can the level of useful information across laboratories be similar despite differences in platforms and assays? In this workshop we attend to these questions.

The workshop is structured as follows: To begin, we review counting techniques, relevant definitions, and known distributions like the binomial distribution. Then we apply the concepts to predict the number of amplified DNA molecules of a given type. Next, we convert these numbers to a fluorescence, finally producing a distribution of peak heights for different extract fractions carrying an unknown number of target DNA molecules. We explore these distributions to examine if it is possible to uncover data generating procedures from which we receive maximal levels of genetic information across the broadest number of donors for a single amplification, regardless of platform or assay. Lastly, the group will explore the implications of the findings and discuss their impacts in light of the recent report in Forensic DNA Interpretation and Human Factors [5].

Click here for more information and references.

Tuesday, October 22nd
Half-Day Workshop 1:30 PM - 5 PM

NEAFS 50TH ANNUAL MEETING

OCTOBER 21ST-25TH

2024

Speakers

7:30-9:30 pm

Wednesday Oct 23rd
Evening Plenary Session

Jerry Buting, Attorney at Buting, Williams & Stilling, S.C.

The Past 50 Years and the Future of Forensic Science:
The Criminal Defense Perspective

9:00-11:30 am

Thursday Oct 24th
AM Plenary Session

Panel

- **Judge Richard Geiger, Special Adjudicator, New Jersey Superior Court**
- **Raymond Valerio, Assistant District Attorney, Director of Forensic Sciences Queens County District Attorney's Office, NY**
- **Jerry Buting, Defense Attorney, Buting, Williams & Stilling, S.C.**

Forensic Science in the Courtroom:
Legal Challenges and Collaborative Solutions

12:00-2:00 pm

Thursday Oct 24th
Annual Luncheon

JoAnn Buscaglia, PhD, Research Chemist, FBI Laboratory

Inspiring words from the 1st NEAFS Student Award Winner!

2:30-5:00 pm

Thursday Oct 24th
PM Plenary Session

Pamela Marshall, Ph.D., Dir. & Associate Professor Duquesne University
Robin Cotton, Ph.D., Dir. Biomedical Forensic Science Program, Boston University

Inspiring Minds: The Evolution of the Next Generation Forensic Scientist

More details to come, subject to change.

EVENING PLENARY

Speaker

10/23
7:30 PM
TO
9:30PM

JEROME F. BUTING

Jerome F. Buting is a partner in the Brookfield, Wisconsin law firm of Buting, Williams & Stilling, S.C. He received his undergraduate degree in Forensic Studies from Indiana University and his law degree from the University of North Carolina - Chapel Hill. He is a past board director of the National Association of Criminal Defense Lawyers, and the recipient of the 2017 NACDL Champion of Justice Legal Award, and a past president of the Wisconsin Association of Criminal Defense Lawyers. He was a trial public defender for 9 years in Milwaukee. His present private practice is entirely criminal defense, both trials and appeals. He has defended the citizen accused in many serious high profile trial cases, including the Steven Avery case as shown in the Netflix documentary, “Making a Murderer.”

Mr. Buting lectures worldwide and is frequently sought after for his knowledge of the criminal justice system, the use of expert witnesses, DNA and other forensic evidence. His first book is **Illusion of Justice: Inside Making a Murderer and America’s Broken System**, (Harper 2017).

MORNING PLENARY
MORNING PLENARY
MORNING PLENARY
MORNING PLENARY

Abstract

10/24
9 AM
TO
11:30 AM

Forensic Science in the Courtroom:
Legal Challenges and Collaborative Solutions

Panel:

- Judge Richard Geiger, Special Adjudicator, New Jersey Supreme Court
- Raymond Valerio, Assistant District Attorney, Director of Forensic Sciences Queens County District Attorney's Office, New York
- Jerry Buting, Defense Attorney, Buting, Williams & Stilling, S.C.

Description: Join us for a dynamic plenary session featuring a panel of three distinguished legal experts—a prosecutor, a judge, and a defense attorney—who will provide unique insights into the challenges forensic scientists face when presenting their findings in the courtroom.

Keywords: Expert Testimony, Admissibility, Federal Rules of Evidence

MORNING PLENARY
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MORNING PLENARY

Speaker

JUDGE RICHARD GEIGER

Judge Richard Geiger graduated magna cum laude from Case Western Reserve University in 1975 and earned his law degree from Rutgers - Camden Law School in 1978. Following a one-year judicial clerkship, he joined Davidow, Sherman, Eddowes and Geiger in Bridgeton, New Jersey, where he advanced from associate to partner.

Judge Geiger served as Cumberland County Counsel from 1993 to 2002. In 2002, he was appointed as a Superior Court judge, presiding over the Civil, Criminal, Family Divisions, and Probate Part during his fifteen years as a trial judge. Judge Geiger was elevated to the Appellate Division in 2017 and served six years, authoring thirty published opinions and hundreds of unpublished opinions.

Currently, Judge Geiger is the Special Adjudicator in the pending New Jersey Supreme Court appeal concerning the admissibility of Alcotest 9510 device test results in DWI trials. In this role, he will conduct hearings, make findings, and provide recommendations to the Supreme Court, applying the Daubert-type admissibility standard adopted by the Court.

MORNING PLENARY

Speaker

RAYMOND VALERIO

Raymond Valerio has been an Assistant District Attorney in New York City for nearly 20 years. Currently, he is the Director of Forensic Sciences at the Queens County District Attorney's Office, overseeing all forensic science-based prosecutions.

Mr. Valerio received the Thomas E. Dewey Medal from the New York City Bar Association for his accomplishments in forensic science as a prosecutor. Scientific American published his opinion editorial ""Firearm Forensics Has Proven Reliable in the Courtroom. And in the Lab" and WIRE Interdisciplinary Journal, a peer-reviewed journal, published Mr. Valerio's article titled "Likelihood Ratios For Lawyers...I Didn't Go to Law School for This."

Mr. Valerio is a member of the Organization of Scientific Area Committees Firearm and Toolmark Subcommittee, the Firearm Toolmark and Friction Ridge American Standards Consensus Bodies of the American Academy of Forensic Sciences, the National District Attorneys Association Forensic Science Working Group, and serves on the Strategic Advisory Board for the Center for Statistics and Applications in Forensic Evidence. Mr. Valerio has participated on various Organization of Scientific Area Committees Scientific Technical Review Panels. He frequently lectures and consults with prosecutors across the country on issues related to forensic evidence.

Mr. Valerio received his Bachelor of Arts from the University of Pennsylvania in 2001, his Juris Doctor from Temple University School of Law in 2004.

MORNING PLENARY

Speaker

JEROME F. BUTING

Jerome F. Buting is a partner in the Brookfield, Wisconsin law firm of Buting, Williams & Stilling, S.C. He received his undergraduate degree in Forensic Studies from Indiana University and his law degree from the University of North Carolina - Chapel Hill. He is a past board director of the National Association of Criminal Defense Lawyers, and the recipient of the 2017 NACDL Champion of Justice Legal Award, and a past president of the Wisconsin Association of Criminal Defense Lawyers. He was a trial public defender for 9 years in Milwaukee. His present private practice is entirely criminal defense, both trials and appeals. He has defended the citizen accused in many serious high profile trial cases, including the Steven Avery case as shown in the Netflix documentary, “Making a Murderer.”

Mr. Buting lectures worldwide and is frequently sought after for his knowledge of the criminal justice system, the use of expert witnesses, DNA and other forensic evidence. His first book is **Illusion of Justice: Inside Making a Murderer and America’s Broken System**, (Harper 2017).

PRESIDENT'S LUNCHEON

Speaker

10/24
12 PM
TO
2 PM

JOANN BUSCAGLIA, PHD

Dr. JoAnn Buscaglia is a Research Chemist with the FBI Laboratory in the Research and Support Unit. JoAnn's research is primarily focused in the areas of microscopy, microanalysis, and elemental analysis of trace materials, impression and pattern evidence, and the interpretation of data in a forensic context. JoAnn received her PhD from the City University of New York, and a B.S. and M.S. in Forensic Science (Criminalistics) from John Jay College of Criminal Justice. Prior to joining the FBI Laboratory, JoAnn worked for 10 years in academia and as a consultant scientist and quality assurance director for both private- and public-sector forensic science, environmental, and industrial hygiene laboratories.

Click here for additional information.

AFTERNOON PLENARY
AFTERNOON PLENARY
AFTERNOON PLENARY
AFTERNOON PLENARY

Abstract

10/24
2:30 PM
TO
5PM

Inspiring Minds: The Evolution of the Next Generation Forensic Scientist

Pamela Marshall, Ph.D. and Robin W. Cotton, Ph.D.
Forensic Science & Law Program, Duquesne University, Pittsburgh, PA 15282, USA.
Boston University School of Medicine, Boston, MA 02215, USA.

Best practices in forensic education and training of new forensic scientists will be discussed to help develop a more resilient, and better-educated, workforce. Specifically, the presenters will examine forensic science curricula, accreditation standards, forensic discipline standards, and employment trends to help align stakeholder goals and objectives with educational goals and objectives. Additionally, the discussion will focus on improving communication between key criminal justice stakeholders, such as FEPAC (Forensic Science Education Programs Accreditation Committee, ASCLD (American Society of Crime Laboratory Directors), and groups who are writing standards such as the SWGS, the OSAC committees, and the ASB. These standards and decision-making guidelines address the education needed (hiring standards) for working in the various forensic disciplines. We will make the argument for enhancing communication amongst these stakeholders. Without a doubt, if all stakeholders come together, we could better align our missions, with the objective being a higher-quality graduate ready to tackle the forensic landscape.

Keywords: Forensic Education, FEPAC, Forensic Workforce

AFTERNOON PLENARY

Speaker

DR. PAMELA MARSHALL

Director, Forensic Science and Law Program
Director, Cyril H. Wecht Institute of Forensic Science and Law
Duquesne University, Pittsburgh, Pennsylvania

Dr. Pamela Marshall has been involved in the field of forensic analysis since 2002. Upon the completion of her MS in Forensic Genetics in 2002, she worked as a Forensic Scientist III at the Maryland State Police Forensic Sciences Division. While in Maryland, she was the Sexual Assault Forensic Examiner (SAFE) Coordinator for the state, helped to promote 120-hour SAFE collection legislation, and assisted in the training of over 200 SAFE nurses. Pam has also traveled abroad to Luanda, Angola, Africa to train analysts in forensic DNA analysis. She has been qualified as an expert witness in the fields of serology and DNA in Maryland, New Jersey, Texas, and West Virginia.

Click here for additional information.

EDUCATORS FORUM

TUESDAY, OCTOBER 22ND | 6-8 PM

2024 NEAFS Annual Meeting

STUDENT FORUM

22 OCT,2024 | 5:30-4:30 PM

Students

Are you a current full-time undergraduate student in your junior or senior year, or are you either a part-time or full-time graduate student completing his or her degree in a forensic program at a regionally accredited institution located in the Northeastern U.S.*?

Then you are eligible to apply for:

George W. Neighbor Jr. Memorial Scholarship (undergraduate) - Award is $1750
George W. Neighbor Jr. Memorial Scholarship (graduate) - Award is $1750
George W. Chin Memorial Scholarship – Award is $2000

Carol De Forest Forensic Science Research Grants - Award is $2500
*Note – eligibility is for both full-time undergraduate and graduate students
** Note – Two Research Grants will be Awarded.

All submission materials for either the scholarships or the research grants must be completed, and electronically submitted by April 30th. The Awards recipients will be notified no later than September1st .

For more information and eligibility requirements
visit https://www.neafs.org/scholarships-awards

Questions or comments? Please email awards@neafs.org

*Connecticut, Rhode Island, Massachusetts, New Hampshire, Vermont, Maine, New Jersey, New York, and Pennsylvania

Chin Up Competition

Thursday, October 24th

5:30PM - 6:30PM

Come out and support your team
and then celebrate at the
President's Reception!

NEAFS PRESENTS

DISCO PARTY 70S THEME PRESIDENT'S RECEPTION

24 OCTOBER 2024 AT 7PM

LIVE MUSIC AND DRINKS

OUTREACH & COLLEGE FAIR

2024 NEAFS ANNUAL MEETING

10/25/24
9a-12p

Harrah's Resort
777 Harrah's Blvd
Atlantic City, NJ

Experts needed to present on their chosen field(s) with Q&A to follow.

Colleges and universities may participate and reserve a table to interact with students after the presentations.

TO REGISTER YOUR COLLEGE

Stephanie Minero
president@neafs.org

TO VOLUNTEER AS AN EXPERT

Scott Rubins
outreach@neafs.org

CANT MAKE IT?

YOU CAN STILL HELP BY SHARING THE NEXT PAGE TO STUDENTS AND SOCIAL MEDIA!

Northeastern Association Of Forensic Scientists
1976

EXPERIENCE FORENSIC SCIENCE

Come Alive!

MEET AND HANG OUT WITH
THE FORENSIC SCIENTISTS WHO MAKE IT HAPPEN!

HEAR THEIR STORIES.
NETWORK WITH REAL SCIENTISTS.
LEARN WHAT IT TAKES.
ASK YOUR QUESTIONS.
GET YOUR ANSWERS.

COLLEGE FAIR TO FOLLOW!

10/25/24
9a-12p

Harrah's Resort
777 Harrah's Blvd
Atlantic City, NJ

SCAN FOR FREE REGISTRATION

SNACKS PROVIDED

Email outreach@neafs.org with questions

ABC EXAM SITTING 9AM-12PM

HTTPS://WWW.CRIMINALISTICS.COM/

The Forensic Science community has an obligation to:

- Establish professional levels of knowledge, skills and abilities;
- Define a mechanism for achieving these levels;
- Recognize those who have demonstrated attainment of these levels;
- Promote growth within the profession.

CERTIFICATION

Certification is a voluntary process of peer review by which a practitioner is recognized as having attained the professional qualifications necessary to practice in one or more disciplines of criminalistics. The ABC offers a certifications in biological evidence screening, forensic DNA, molecular biology, drug chemistry, and comprehensive criminalistics.

NORTHEASTERN ASSOCIATION OF FORENSIC SCIENTISTS

Certification Reimbursement

The NEAFS Board of Directors has voted to reimburse the American Board of Criminalistics and International Association for Identification exam sitting fees for five NEAFS members (regular or associate) in good standing who pass the ABC, IAI, or ABFT exam. This offer is for any exam completed during the current year. After passing the examination, please fill out the Certification Reimbursement Form (https://www.neafs.org/certification). The reimbursement is based on a first come first served basis. Remember you must pass the ABC, IAI, or ABFT exam to be considered for reimbursement.

For more information about the examination sitting, please contact...

Peter Diaczuk
certification@neafs.org

For more information about certification with the ABC, please visit...

American Board of Criminalistics
http://www.criminalistics.com

For more information about certification with the IAI, please visit...

The International Association for Identification
https://www.theiai.org/certifications.php

Welcome

NEW MEMBERS

CATHERINE WONG. SHANNON ROBERTSON. SARAH MCCOLLUM. VALERIA ALCARAZ
BAY PATH UNIVERSITY

ASHLEY BUCHMAN
CENTENARY UNIVERSITY

JUSTIN HOANG. HOLLY FOX
CUMBERLAND COUNTY DISTRICT ATTORNEY'S OFFICE FORENSIC LABORATORY

MADISON COSSETTE
DIVISION OF SCIENTIFIC SERVICES - STATE OF CT

ALEXANDRA SCHWARTZ. JESSE CARON
MASSACHUSETTS STATE POLICE CRIME LABORATORY

ELIZABETH GIROUX
NH STATE POLICE FORENSIC LABORATORY

CORINNE MARTIN
NY STATE POLICE FORENSIC INVESTIGATION CENTER

MARILYN AGUILAR MEJIA
NMS LABS

KELSEY GOBER
PA STATE POLICE

Welcome
NEW MEMBERS

KRISTY LOX
RI DEPARTMENT OF EMERGENCY SERVICES - DIVISION OF SCIENTIFIC SERVICES

NICOLE MILLER
STATE OF MAINE- HETL

Welcome
BACK

JENNIFER OLLOCK
NJ STATE POLICE - OFFICE OF FORENSIC SCIENCES

MICHAEL CORBETT
ONTARIO TECH UNIVERSITY (RETIRED)

DANIELLE BROWNELL
PROMEGA CORPORATION

JENNIFER HAYES
US DHS - CBP NY LABORATORY

NEAFS has partnered with

SPEAKHIRE

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SPEAKHIRE develops the social and cultural capital of individuals from immigrant families to become leaders in the workforce.

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SPEAKHIRE ensures diverse individuals get a fair chance of pursuing colleges and careers of their choice. We envision a future workforce with more professionals of color of all backgrounds in positions of power across a variety of careers.

If you're looking for an opportunity to empower the next generation of leaders, join SPEAKHIRE as a Career Pathways Champion. Deliver a Seminar about a career skill, coach a young person through the Foundational Year, or share your school to career pathway through Pathways Days or SPEAKHIRE Series. As a Champion, you help young people explore careers and learn early career skills, supporting them as they pursue a career pathway, preparing them for future careers, and empowering them toward life success.

LEARN MORE AT HTTPS://WWW.NEAFS.ORG/SPEAKHIRE

>>> NOW ACTIVE <<<

SCIENCE DIRECT SUBSCRIPTION

ScienceDirect

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INFORMATION

>>> READ MORE

Our organizational subscription to Science Direct is now active, and we are thrilled to announce that all members may now submit a request to receive their login credentials. The subscription covers almost 800 scientific journals (list attached) in the Physical Sciences category – one which we felt covered as much of the diverse and technical disciplines within our organization as possible while also maintaining a financially responsible commitment.

HOW TO ACCESS

READ MORE <<<

In order to request your credentials, you must log in to the Member Area of the NEAFS website by navigating to www.neafs.org and selecting “Member Area” under the “Membership” header on the main page. There you will be prompted to enter your name, preferred e-mail address, and member number. In return, you will receive an e-mail from a member of our board and staff with your registration ID and password. Instructions on how to activate will be attached to the email.

ADDITIONAL INFORMATION

>>> READ MORE

By requesting your Science Direct credentials, you agree to the following terms and conditions listed on the NEAFS website. All of this information will also be hosted on the Member Area of the website for future reference along with a listing of journals that can be accessed with the subscription. If you have any questions, please contact Stephanie Minero (presidentelect@neafs.org).

NEAFS 51ST ANNUAL MEETING

Program Chair
Matthew Marino

OCTOBER 20 - 24, 2025

Lancaster Marriott at Penn Square, Lancaster, PA

Email treasurer@neafs.org

NEAFS
MERCHANDISE

CHOOSE BETWEEN
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AND
SCREEN PRINTING

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Proceeds go to the Carol De Forest Research Grant Fund

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YOURSELF

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NORTHEASTERN ASSOCIATION OFFORENSIC SCIENTISTS

MERITORIOUS SERVICE AWARD NOMINATION

THE NORTHEASTERN ASSOCIATION OF FORENSIC SCIENTISTS IS ACCEPTING NOMINATIONS FOR THE MERITORIOUS SERVICE AWARD.

ALL NOMINATIONS MUST BE RECEIVED BY SEPTEMBER 1ST. THE WINNER OF THE NEAFS MERITORIOUS SERVICE AWARD WILL BE ANNOUNCED DURING THE ANNUAL MEETING.

FOR MORE INFORMATION AND REQUIREMENTS VISIT THE NEAFS WEBSITE OR CLICK THE LINK BELOW.

HTTPS://WWW.NEAFS.ORG/MERITORIOUSSERVICEAWARD

TRAINING OPPORTUNITIES

SAVE THE DATE!

AUGUST 14TH, 2024
9:00 - 5:00 EST

VALIDATION & VERIFICATION OF ANALYTICAL METHODS

NEAFS HAS PARTNERED WITH ANAB TO PROVIDE A FULL-DAY, ABC APPROVED, VIRTUAL COURSE ON METHOD VALIDATION AND VERIFICATION FOR OVER 60% OFF THE REGULAR RATE OF $690. FULL COURSE DESCRIPTION CAN BE FOUND AT WWW.ANAB.ANSI.ORG.

ANAB
ANSI National Accreditation Board

MEMBERS OR ACTIVE APPLICANTS

$250*

REGISTRATION IS OPEN AT WWW.NEAFS.ORG

*THE FIRST 20 NEAFS MEMBERS RECEIVED FREE REGISTRATION. ONLY PAID SEATS REMAIN.

AFQAM Cooperative Training Program

The AFQAM Executive Board is pleased to announce the release of the AFQAM Cooperative Training Program! This training program is designed for those new to forensic quality assurance and will provide a key steppingstone to achieving success in the position and with the responsibilities. The training program was developed by experienced forensic quality assurance experts and is broken up into courses that focus on key topics in quality assurance. The first two courses available are 'Introduction to ISO' and 'Accreditation – What Is It Good For?'.

The AFQAM Cooperative Training Program is open to everyone, and you do not need to be an AFQAM member to participate. Each course can be purchased individually, and a certificate of completion will be given to the student at the successful completion of the course. The interactive training will keep you engaged, motivated, and eager to learn as you progress through the course.

This training program is ideal for those new to quality assurance or interested in quality assurance such as new Quality Manager's, Technical Leader's, new hires, or other roles that assist with quality assurance in the laboratory. Whether you are simply seeking to learn more about what the job entails, or seeking tools to help you succeed in your job, this is for you!

To review the available courses and register please follow this link: https://afqam.org/cooperative/. Additional courses will be released in the near future. For questions, please email contact@afqam.org.

TRAINING OPPORTUNITIES

New Jersey Institute of Technology Forensic Science Program

Summer Boot Camps
Host Agency: New Jersey Institute of Technology (NJIT)
Location: NJIT Campus, Newark, NJ

1) Basic Footwear Analysis Course for new Footwear Examiners
Course Dates: July 8-12, 2024

2) Advanced Bloodstain Pattern Analysis (BPA) Course for experienced BPA analysts
Course Dates July 22-26, 2024

REGISTER NOW

TRAINING OPPORTUNITIES

NORTHEASTERN ASSOCIATION OF FORENSIC SCIENTISTS

TRAINING SCHOLARSHIP FUND

OPEN APPLICATION PERIOD
JANUARY 1st to DECEMBER 31st
OF THE CURRENT YEAR

APPLICATION REQUIREMENTS

The Northeastern Association of Forensic Scientists(NEAFS) is proud to offer its members a Training Scholarship Fund (TSF). Members in good standing are eligible to receive up to $400 towards training, workshop or non-NEAFS meeting registration and travel expenses. Individuals will only be allowed reimbursement once per application period. Any NEAFS Annual Meeting expenses are ineligible to receive funding. Reimbursement will occur upon receipt of a certificate showing successful attendance and completion of the course along with an article summarizing the course for the NEAFS newsletter.

APPLICATION INSTRUCTIONS

Applicants must submit a Pre-Approval Application prior to attending the training for which they wish to obtain funding. For additional instructions, requirements and forms visit the NEAFS website.

https://www.neafs.org/trainingscholarshipfund

Carol de Forest Research Grant Progress Report
Mary Corrigan

Effects of Ethanol on GABA Transaminase

Ethanol is the primary active ingredient in alcoholic beverages, and functions in the body as a central nervous system (CNS) depressant. The overt effects ethanol has on the body, e.g. diminished cognitive ability, loss of motor control, slurred speech, impaired balance, etc., are well documented. While the behavioral consequences of consumption are well understood, how ethanol actually functions on a mechanistic level to elicit those effects has yet to be satisfactorily elucidated.

The structural homology between ethanol and the C3 and C4 carbons of gamma-hydroxybutyric acid (GABA), the major inhibitory neurotransmitter in the mature CNS, has led us to hypothesize that the mechanism by which ethanol causes CNS depressant effects may be related in part, to the inhibition of GABA catabolic enzymes. This inhibition would be expected to increase the functional concentration of GABA in the inhibitory neuronal pre-synaptic neurotransmitter vesicles, and the inter-neuronal synaptic space following a depolarization event.

The two primary enzymes involved in GABA catabolism are GABA-Transaminase (GABA-T) and Succinyl Semialdehyde Dehydrogenase (SSADH). GABA-T exchanges an amine group from GABA with the keto group from the co-substrate α-ketoglutarate to produce succinyl semialdehyde (SSA) and glutamate. SSA is subsequently oxidized to succinic acid via SSADH, with either NAD+ or NADP+ as the oxidizing agent. Inhibition of either, or both, enzymes would slow the catabolism of GABA, resulting in increased intracellular concentration. We have evaluated aspects of this hypothesis using a combined GABA-T/SSADH mix, and have demonstrated an overall effect of ethanol on the biphasic enzyme system. This research is focused on an effort to distinguish the effects of ethanol, if any, on each enzyme in the linked system.

To test this hypothesis, we modified the enzyme assay protocol outlined in Tsukatani, Higuchi & Matsumoto (2005). Activity of the enzyme system was measured indirectly by the amount of NADH produced using a UV-Vis spectrophotometer @ 340 nm. A series of substrate-velocity experiments were conducted with varying concentrations of GABA to evaluate the ethanol-based inhibition of the enzyme system. To isolate the effect on GABA-T, we utilized a pre-incubation period where the necessary cofactor for the oxidation by SSADH, NAD+, was initially withheld. After the pre-incubation, NAD+ was added to the reaction and the absorbance was monitored. As such, if and to the extent that ethanol inhibited the GABA-T reaction, the concentration of SSA available as a substrate for the subsequent NAD+ dependent reaction would be reduced.

Michaelis-Menten coefficients (K_M) and maximal reaction rates (V_{MAX}) were then determined to evaluate the type inhibition recorded. V_{MAX} was unaffected by the addition of ethanol. K_M of the enzyme system as a whole, and specifically for GABA-T, was increased upon the addition of ethanol. These findings are characteristic of competitive inhibition. Therefore, at physiologically relevant levels, (e.g. 0.1, 0.2 and 0.37 g/dL) ethanol acts as a competitive inhibitor of GABA-T, which can explain a least in part, some of the GABA-nergic behavioral effects seen with alcohol consumption.

Investigation and Detection Methods for Digital and Penile Penetration without Ejaculation

Brianna M. Gregory, B.S., Amrita Lal-Paterson, M.S.F.S., Lawrence Quarino, Ph.D., and Janine Kishbaugh, M.S.F.S., Cedar Crest College*

6 Month Progress Report

Material and Methods Update:

A total of eight male/female couples volunteered to participate in in this research project ranging from 23-48 years old. Of the eight couples, two couples only completed the digital penetration collections (with and without saliva) and one couple only completed one time interval (24 hours) of the penile penetration collection.

All vaginal smears from the penile penetration samples were examined with Christmas Tree Stain. The cells were fixed to the microscope slide by gently heating on the hot plate. The cells were then covered with a few drops of nuclear fast red stain (Serological Research Institute, Richmond, CA) and were covered by a petri dish for five minutes. This was then washed away with DI water. Afterward, one drop of PIC (green) stain (Serological Research Institute, Richmond, CA) was added to the slide and allowed to sit for 5 seconds. This was then washed away with absolute ethanol and allowed to dry. The slide was thoroughly examined at both 200x and 400x to determine if there was any sperm present on the slides. All slides observed indicated that there was no presence of sperm cells, so those samples were analyzed further.

Each swab used was cut in half and one half was retained, and the other half was analyzed. Each half swab used for analysis was placed in its own tube (1). Two external genitalia swabs were collected. One half was retained, and the other half was analyzed. Each swab half used for analysis was placed into a separate tube for DNA extraction for a total of 2 tubes. There were 4 vaginal swabs collected and each was cut in half. Each half used for analysis was put into a separate tube for DNA extraction for a total of 4 tubes. The extraction method used was a modified QIAGEN® QIAamp DNA Investigator Kit (QIAGEN – Catalog #56504) with DNA IQ Spin Baskets

(Promega – Catalog #V1225) (2). The initial incubation times were increased from 1 hour to 16 hours at 56°C shaking at 900 rpm. The lysate from each separate tube for a particular sample was transferred to one column therefore for a vaginal swab sample, one final column would hold the lysate from each of the 4 tubes. A modified elution method was used where 12.5 mL of Buffer ATE was applied to the center of the membrane and was allowed to incubate with the lid closed for 4 minutes at room temperature. The column was then centrifuged at 13,200 rpm for 1 minute. This was repeated a second time for a total elution volume of 25 mL.

Quantitation of the control swabs was performed using Plexor™ HY System (Promega, Catalog DC1001, Madison, WI) following manufacturer's guidelines on the Rotor-Gene 6000 Real-Time PCR Instrument (Corbett Robotics San Francisco, CA) (3). Control swabs that had negligible male DNA present were amplified and genotyped. No DNA profiles were obtained from the control swabs and therefore all experimental samples were deemed suitable for analysis.

Amplification of all samples was carried out using the Promega Powerplex® Y23 System (Promega, Catalog #DC2305, Madison, WI) according to the manufacturer's guidelines (4). Samples were analyzed using the SeqStudio™ Genetic Analyzer (Catalog #A3564423 Thermo Fisher, Waltham, MA). The injection times used were 10, 15 and 20 seconds with an injection voltage of 1200, a run voltage of 11,000 and a run time of 1120 seconds.

After the samples had been genotyped, the amplified products that did not achieve 23 alleles were then purified using a MinElute® PCR Purification Kit (QIAGEN – Catalog #28004) following the technical manual (5). Due to a large amount of allelic drop in and off-ladder calls, this data was not included in the results.

24-hour results:

Couples 1, 2, 3, 4 and 5 submitted a complete collection packet. For the 24-hour time interval, couple 1 exhibited a full profile for the external genitalia and vaginal swabs from the digital penetration with saliva samples. At the 24-hour time interval, couple 2 obtained a full profile for both external genitalia samples collected during the digital penetration with saliva and the digital penetration with no saliva. Additionally, couple 3 obtained a full profile for the vaginal swabs from the digital penetration with saliva samples. Couple 4 obtained two full profiles for the vaginal swabs from the penile penetration sample and the digital penetration with saliva sample. Couple 5 exhibited a full profile for the vaginal swabs from the digital penetration with saliva samples.

Couples 6 and 7 participated in only the digital penetration samples. At the 24-hour time interval, couple 6's most complete profile obtained had 13 out of 23 alleles (57%). This profile was obtained from the digital penetration with saliva swabs. For couple 7, two full profiles were obtained for the external genitalia swabs from the digital penetration with saliva samples and the digital penetration with no saliva samples.

Couple 8 only participated in the 24-hour time interval penile penetration sample set. This sample resulted in a full profile for the vaginal swabs from the penile penetration samples.

The best profiles obtained for each sample from each couple were compiled. The results from the 24-hour time interval were compiled into TABLE 1. The maximum number of alleles obtained was compared to the maximum number of alleles possible which was 23. The ratio of the number of obtained alleles to the total possible number of alleles was converted to a percentage. A graphical representation of the percentage of alleles in a profile for each couple at each sample type for the 24-hour time interval can be seen in FIG. 1. Seven couples produced a full profile for

at least one type of sampling interval at the 24-hour time interval that 8 couples participated in (88%). For the remaining couple, the highest percent profile obtained was 56.5% from the vaginal swab collected from digital penetration with saliva. All couples produced results at the 24-hour sampling time interval. Another graphical representation of the percentage of alleles in a profile for each sample type per couple for the 24-hour time interval can be seen in FIG. 2. Couples consistently obtained profiles with all 5 sample types and full profiles were seen in all sample types except for the internal vaginal swabs for digital penetration without saliva.

TABLE 1 – *The total number of alleles and percent profile of each sample type at 24 hours.*

Couple #		PP	EDS	VDS	EDNS	VDNS
1	Total Allele #	20/23	23/23	23/23	16/23	20/23
	Percent Profile (%)	87.0	100.0	100.0	70.0	87.0
2	Total Allele #	2/23	23/23	15/23	23/23	12/23
	Percent Profile (%)	8.7	100.0	65.2	100.0	52.2
3	Total Allele #	9/23	21/23	23/23	11/23	6/23
	Percent Profile (%)	39.1	91.3	100.0	47.8	26.1
4	Total Allele #	23/23	17/23	23/23	0/23	7/23
	Percent Profile (%)	100.0	73.9	100.0	0	30.4
5	Total Allele #	15/23	20/23	23/23	20/23	16/23
	Percent Profile (%)	65.2	87.0	100.0	87.0	70.0
6	Total Allele #	NA	0/23	13/23	1/23	6/23
	Percent Profile (%)	NA	0	56.5	4.3	26.1
7	Total Allele #	NA	23/23	16/23	23/23	3/23
	Percent Profile (%)	NA	100.0	70.0	100.0	13.0
8	Total Allele #	23/23	NA	NA	NA	NA
	Percent Profile (%)	100.0	NA	NA	NA	NA

PP=penile penetration, EDS=external genitalia digital penetration with saliva, VDS=vaginal digital penetration with saliva, EDNS = external genitalia digital penetration no saliva, VDNS=vaginal digital penetration no saliva, NA = not applicable

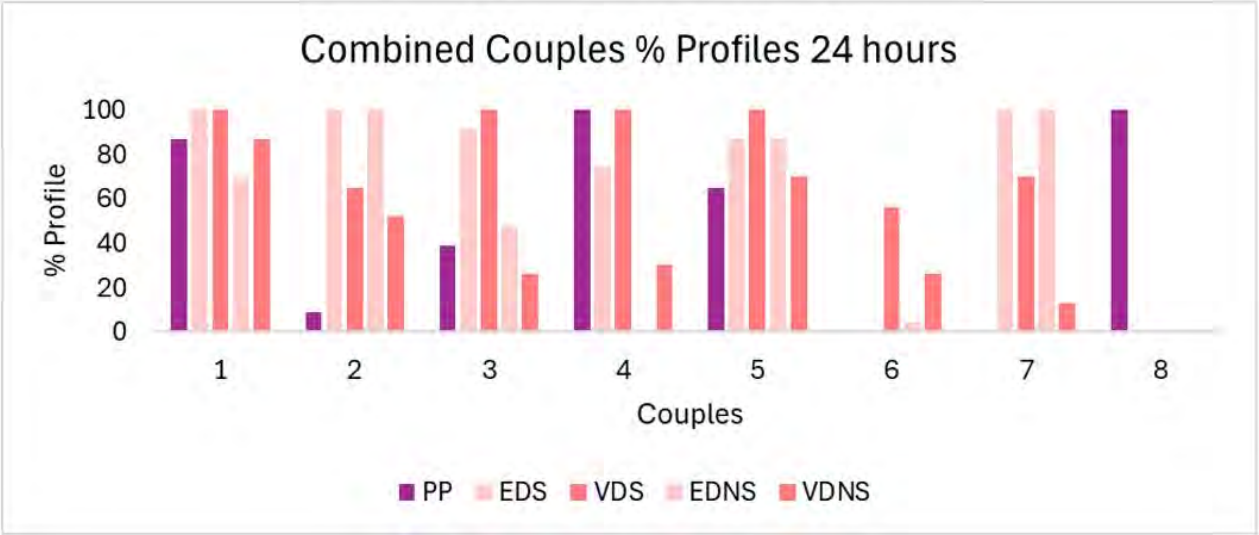

FIG. 1 – *Percent profile from each couple at each different sampling location at the 24-hour time interval.*

PP=penile penetration, EDS=external genitalia digital penetration with saliva, VDS=vaginal digital penetration with saliva, EDNS = external genitalia digital penetration no saliva, VDNS=vaginal digital penetration no saliva

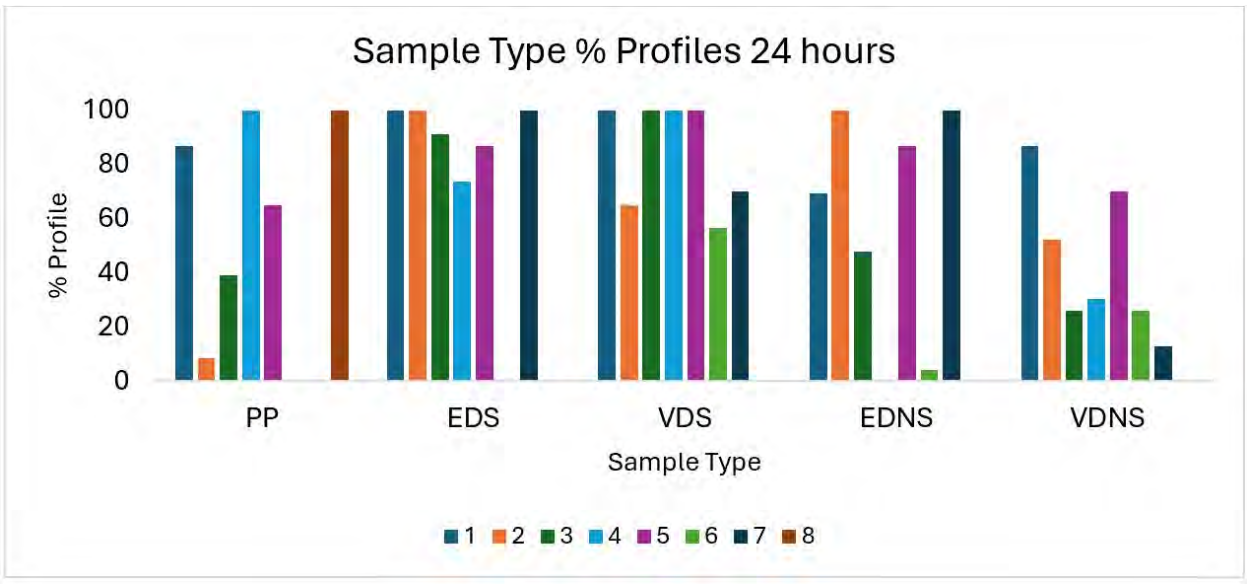

FIG. 2 – *Percent profile at each sampling location for each couple at the 24-hour time interval.*

PP=penile penetration, EDS=external genitalia digital penetration with saliva, VDS=vaginal digital penetration with saliva, EDNS = external genitalia digital penetration no saliva, VDNS=vaginal digital penetration no saliva

Conclusions based on 24-hour results:

Based on these results it is possible to detect male DNA profiles from all areas sampled as well as for each type of penetration. All participants were allowed to shower during the interval between the act of penetration and the collection at 24 hours, so it's interesting there are a lot of full profiles detected from the external samples collected. Results vary between couples as can be seen in couple 6's noticeably lower results. This can be due to a multitude of variables which can include the fact that participants were blind swabbing internally. Blind swabbing could have resulted in the sample being collected from a different part of the female's vaginal cavity. It has been determined that sperm can survive longer in the cervix than the vaginal cavity which demonstrates the difference of possible sample collection in the female's vaginal cavity (6). In addition, the shedder status of the male could have played a role depending on the amount of skin cells shed during either penetration type. A women's natural vaginal environment and menstrual cycle should also play a role. One couple may have had a woman who has a harsher vaginal environment or more vaginal discharge which could have caused less male DNA to have remained in the vaginal cavity to be collected.

Overall, there was no clear determination if one penetration type obtained more results than another. This variable seemed to differ depending on the couple. In addition, digital samples with saliva present typically had fuller profiles compared to those with no saliva present. This does not negate the fact that there were still full profiles present for digital penetration samples without saliva. Lastly, in terms of internal and external collection there was no clear indication if one area obtained more alleles than another, but rather the indication that it is possible to obtain alleles from both areas.

It is important to note that in typical SAKs, external samples are not always collected from either a child or adult victim and internal samples are not typically recommended to be collected

from a child. Based on the data thus far, it can be recommended to always collect all types of samples. In addition, it can be recommended that blind swabbing be used as an alternative method for the collection of internal vaginal samples for child sexual assault cases. In terms of analysis recommendations, the optimized extraction method of the separation of half swabs could be implemented to increase the amount of DNA extracted. Furthermore, incorporating an increased injection time for genotyping in the typical workflow can help to increase peak heights of the alleles present in the sample.

Future Work:

Data from the 24- and 72-hour time intervals are being compiled as well as overall future recommendations based on the results. A thesis on this project is currently being completed and this work will be presented at the NEAFS conference fall 2024.

References:

1. Hinojosa RJ, Quarino L, Conte J, Kishbaugh J. Comparison of three DNA collection methods on Nile Red fluorescent areas of a porous substrate. Forensic Genomics 2023;3(2):38–46. https://doi.org/10.1089/forensic.2022.0016.
2. Qiagen. QIAamp ® DNA Investigator Handbook. Bethesda, MD: Qiagen, 2020.
3. Promega Corporation. Plexor ® HY System for the Applied Biosystems 7500 and 7500 FAST Real-Time PCR Systems Technical Manual. Madison, WI: Promega, 2017.
4. Promega Corporation. PowerPlex ® Y23 System for Use on the Applied Biosystems ® Genetic Analyzers Technical Manual. Madison, WI: Promega, 2023.
5. Qiagen. MinElute ® Handbook MinElute PCR Purification Kit. Bethesda, MD: Qiagen, 2020.
6. Morrison AI. Persistence of spermatozoa in the vagina and cervix. Br J Vener Dis 1972;48(2):141–3. https://doi.org/10.1136/sti.48.2.141.

EMPLOYMENT OPPORTUNITIES

County of San Diego, CA
Toxicologist III-24430604
Salary $101,878.40 - $125,257.60 Annually

Toxicologists are professional laboratory scientists responsible for conducting chemical and toxicological analysis as part of the investigation to determine the cause of death. Toxicologist classes are allocated only to the Medical Examiner's Department. This class differs from the Criminalist class series in that Criminalists perform a wide variety of forensic analyzes on physical evidence that is used in law enforcement investigations.

Toxicologist III is the lead level professional class in the Toxicologist series. The ideal candidate will oversee daily operations and serve as a lead worker providing technical guidance, training subordinate toxicologists and conducting the most complex examinations. This class differs from the next higher class, Forensic Toxicology Laboratory Manager, in that the latter is a first line supervisor responsible for the Toxicology Section of the Medical Examiner's department and the overall supervision and evaluation of all toxicologists.

For more information and to apply visit: https://www.governmentjobs.com/careers/sdcounty/jobs/4544925/toxicologist-iii-24430604?keywords=criminalist%20I&pagetype=jobOpportunitiesJobs

Closing Deadline: 7/11/2024 11:59 PM Pacific

Onondaga County Health Department Forensic Laboratories, Syracuse, NY
Senior Latent Print Examiner

The work involves responsibility for supervising the staff and technical aspects of the latent print section and possibly other sections of the laboratory. Under the general direction of the Director of Laboratories, an employee in this class is responsible for supervising, training, and performing work varying in complexity and responsibility in the area of latent print development and comparison. The work is performed in accordance with Federal and State accreditation requirements and departmental procedure manuals and guidelines. Supervision is exercised over personnel within the Latent Print section. Does related work as required.

TO APPLY
Please email a cover letter, curriculum vitae, transcript(s), employment application (P-200) and criminal background questionnaire (P-202) to: Lauren Pyland, Director of Operations at laurenpyland@ongov.net.

Official job description, including minimum qualifications, can be found on the Personnel page at Onondaga County Job Descriptions. Or see the brochure.

Closing Deadline: 8-27-2024

Onondaga County Health Department Forensic Laboratories, Syracuse, NY
Latent Print Examiner I, II, or III
Salary: $63,068 - $81,833

The work involves responsibility for processing items of physical evidence for the purposes of developing latent print friction ridge detail (fingerprints, footprints, palm prints) using various physical and chemical methods. These latent prints are permanently recorded through the use of digital photography. An employee in this class determines the best technique to develop each specific print and may, if appropriate, conduct comparisons of latent or patent prints to known prints. In addition, the work involves explaining analysis to a jury and providing demonstrations/visual displays. General supervision is received from the Senior Latent Print Examiner. Does related work as required. All work is performed in accordance with Federal and State accreditation requirements and departmental procedure manuals and guidelines. Full job specifications are available here: Latent Print Examiner I, Latent Print Examiner II and Latent Print Examiner III.

TO APPLY
Please email a cover letter, curriculum vitae, transcript(s), employment application (P-200) and criminal background questionnaire (P-202) to: Lauren Pyland, Director of Operations at laurenpyland@ongov.net.

Official job description, including minimum qualifications, can be found on the Personnel page at Onondaga County Job Descriptions.

Closing Deadline: 8-2-2024

District of Columbia Government, Department of Forensic Sciences (DFS), Washington, DC
Forensic Scientist (DNA)
Salary: CS-0401-13, Starting Salary $103,651

This position is located in the District of Columbia Government, Department of Forensic Sciences (DFS). The Forensic Scientist (DNA) ensures the technical aspects of the DNA Analysis program(s) are in compliance with ISO 17025 accreditation standards and the Quality Assurance Standards (QAS) for Forensic DNA Testing Laboratories established by the Federal Bureau of Investigation (FBI) and is responsible for ensuring seamless unit operations including all aspects of forensic biology casework from case intake through lab processing and communication with customers.

The incumbent performs laboratory analyses of physical evidence in one or more of the specialty disciples of the FSL, regularly demonstrates proficiency in assigned forensic specialty; participate in and completes externally administrated proficiency test; demonstrates competency and on-going proficiency in laboratory processing, interpretation, comparisons, statistical analysis and technical review as authorized by the technical leader; ensures methodologies and procedures used are compliant with established standards, and is responsible for quality assurance and accreditation compliance activities.

Application Process
To be considered for this employment opportunity, you will be required to submit a formal application. Please visit the DC Careers website at: https://careers.dc.gov (reference Job ID #26633). We look forward to reviewing your application!

Closing Deadline: 07/13/2024

Cuyahoga County Medical Examiner's Office
Forensic Scientist 2 - DNA
Salary: $78,042.00/year

The purpose of this classification is to recognize, collect, and analyze DNA evidence; to produce DNA reports for analyses performed; and to testify in the court of law as to the results of the DNA examinations. This is a journey-level classification responsible for the collection and analysis of DNA evidence. Incumbents establish and maintain quality control and ensure proper preservation and documentation of evidence. Employees receive instruction or assistance as new or unusual situations arise and perform work in accordance with established departmental policies and procedures, federal/state guidelines, and accreditation standards.

Essential Job Functions
Recognizes, collects, and processes DNA evidence; conducts biological evidence screening; logs in evidence; swabs and cuts evidence sections for processing; documents collection, screening, and testing activities in accordance with laboratory policies and procedures; photographs evidence items; transfers and maintains evidence in storage; extracts, quantifies, and amplifies DNA; prepares DNA for analysis on genetic analyzer. Documents observations and results of DNA analysis; reviews, analyzes, and compiles instrument data; performs statistical analysis; provides opinion and interpretation of results; uploads DNA profiles into the Combined DNA Index System (CODIS), the national DNA database; compiles case records; issues reports; communicates with and explains results to appropriate law enforcement, attorneys, and Medical Examiner staff; testifies in court as an expert witness; performs administrative and technical review of data, DNA case files, and reports generated by other scientists. Performs regular maintenance of DNA laboratory spaces, equipment, and instruments;

stocks laboratory supplies; cleans and maintains worksite and laboratory equipment; checks performance of equipment after repairs, maintenance, or malfunction; performs safety checks in accordance with unit laboratory safety program procedures. Performs related administrative responsibilities; prepares and maintains various records and other documents; responds to emails and phone calls; attends and participates in professional group meetings, conferences, seminars, and trainings; gives presentations; keeps current on new trends, information, and technology in the field; participates in assigned method improvement, validation, and/or research projects; assists with providing training to new employees, interns, and visitors as directed.

Minimum Requirements
Bachelor's degree in biology, chemistry, or a related field with coursework in Molecular Biology, Biochemistry, Population Genetics and Bio-Statistics and two (2) years of forensic DNA analysis experience; or an equivalent combination of education, training, and experience.

Additional Requirements
Completion of FEMA ICS 100, 200, and 700 courses is required within probationary period (180 days).

Application Process
IMPORTANT NOTICE: A profile and application must be created/submitted on Cuyahoga County's job portal at https://www.cuyahogacounty.gov/human-resources. The is a non-competitive, classified position. The Personnel Review Commission (PRC) will check your application to make sure you meet the minimum qualifications. If you do, the PRC will put your name on an eligibility list. To fill this opening, the PRC sends the hiring department and Human Resources (HR) a certified eligibility list. HR helps the hiring department decide who from the certified list to follow up with for interviews and then a job offer. Most of our communication with candidates is through email. Regularly check the email address you gave us in your job profile. Watch your Spam folder, just in case. If we offer you a job, you must pass a drug screen and background check before the offer becomes final. Prior criminal convictions do not automatically disqualify you from employment; the County looks at criminal convictions on a case-by-case basis using the guidelines in Chapter 306 of the County Code.

Department of Public Safety (DPS), Waterbury, VT
Forensic Chemist II - Limited Service

The Department of Public Safety (DPS) is seeking a Forensic Chemist to work in the Toxicology Section of the Vermont Forensic Laboratory.

Job duties include, but are not limited to:
- Calibration and maintenance of infrared evidential breath testing instrumentation
- Testing blood samples for alcohol and impairing drugs
- Reviewing current research and literature on drug and alcohol physiology
- Pharmacology
- Analysis methods
- Providing expert opinion

Candidates with experience using toxicological methods such as infrared analysis, immunoassay, solid phase sample extraction, GC/FID, and LC-MS/MS are encouraged to apply. Prior experience performing instrument maintenance and repair a plus. Ideal candidates will have experience testifying as an expert witness and are comfortable with public speaking and communicating complex scientific concepts in a simple to understand manner. An ABFT certification is preferred, but not required.

This is an ongoing position currently authorized through 6/30/2026 with Federal funding appropriated on an annual basis; the position is expected to continue beyond 2026. For more information on the Vermont Forensic Lab, please visit this site.

This position, Forensic Chemist II (Job Opening #50231), is open to all State employees and external applicants. This is a Limited Service position, which is non-tenured and authorized through 06/30/2026, with anticipated continued funding. Limited Service positions are established for specially funded projects or programs.

Minimum Qualifications
Master's degree in biology, chemistry, biochemistry, cellular or molecular biology, toxicology, forensic science, or a related science field.
OR
Bachelor's degree in biology, chemistry, biochemistry, cellular or molecular biology, toxicology, forensic science, or a related science field AND EITHER two (2) years or more of professional laboratory experience performing biochemical, organic, physical, or toxicological chemical analysis OR one (1) year or more of professional forensic laboratory experience performing analysis on items of forensic evidence.

If you would like more information about this position, visit Forensic Chemist II - Limited Service Job Details | State of Vermont or please contact Amanda Bolduc at amanda.bolduc@vermont.gov. Resumes will not be accepted via e-mail. You must apply online to be considered.

Suffolk County Crime Laboratory, Hauppauge, NY
Forensic Scientist 2 (Trace Evidence)
Salary: approx. $86,000

The Forensic Scientist will be responsible for the examination of hairs, fibers, and physical evidence. Additional examination may include paint, glass, tape, tire and footwear impressions and other trace evidence. The Forensic Scientist will also be responsible for the interpretation of data with reporting, and testimony as an expert witness at criminal trials. In addition, the duties may include crime scene response.

Applicants should be a current Trace Evidence analyst capable of signing casework reports.

Minimum Qualifications: A Bachelor's Degree in one of the natural or forensic sciences from an accredited college or university; including or supplemented by sixteen (16) credit hours in chemistry;
1) At least 4 years of Trace Evidence casework experience and a current casework signing analyst. Experience in Microscopy is a plus.
Or
2) A Master's Degree in one of the natural or forensic sciences from an accredited college or university (including or supplemented by sixteen (16) credit hours in chemistry) may be substituted for one year of casework experience, and a current casework signing analyst. Experience in Microscopy is a plus.

For more information, use this link: https://apps2.suffolkcountyny.gov/civilservice/specs/2265spe.html

Contact by email: thomas.zaveski@suffolkcountyny.gov
Thomas Zaveski, Forensic Scientist IV, Supervisor, Trace Evidence, Suffolk County Crime Laboratory, William J. Lindsey Complex, Building 487 725 Veterans Memorial Highway, Hauppauge, NY 11787-0099; Phone: 631-853-5585

Deadline: 8/1/2024

Columbus Police Crime Laboratory, Columbus, OH
Latent Print Examiner III

The Columbus Division of Police Crime Laboratory is hiring a Latent Print Examiner III for a full-time position. In this role, you will be the technical leader and administrative supervisor for a staff of 6 examiners conducting latent print comparison and latent print processing.

Technical duties may include: examination of evidence using the ACE-V methods; using local, state and federal databases; performing latent print processing and other evidence collection, preparing technical reports; performing verifications, technical and administrative reviews; ensuring conformance with accreditation standards, preparing and conducting training for laboratory staff and external customers, and resolving technical disagreements. Supervisory duties may include

prioritization of caseload; initiating disciplinary action when needed; conducting performance evaluations; managing leave requests and overtime; and managing budgetary and supply needs.

Closing Date: open until filled

Hyperlink to the posting: Latent Print Examiner III (Vacancy) - EXTENDED | Job Details tab | Career Pages (governmentjobs.com)

Raleigh/Wake City-County Bureau of Identification (CCBI), Wake County, Raleigh, NC
DNA Analyst
Hiring Range: $61,737 - $104,959
This position is eligible for a Tiered Sign-on Bonus up to $5,000

The Raleigh/Wake City-County Bureau of Identification (CCBI) is adding DNA analysis to the forensic services provided by the CCBI Laboratory and is seeking applicants for the position of DNA Analyst. With the addition of a DNA unit, the current role of the DNA Analyst will include participation in the validation of a laboratory information management system (LIMS), validation of instrumentation and probabilistic genotyping software and analysis of validation data in order to achieve accreditation. This role will involve working with DNA unit team members to meet this challenging goal.

Two positions to fill, open until filled. For more information and to apply visit: https://ewaketalent.csod.com/ux/ats/careersite/3/home/requisition/7234?c=ewaketalent

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Cuyahoga County, Medical Examiner's Office, Cleveland, Ohio
Forensic Scientist 2 – Firearms and Toolmarks
Salary $95,000/year

IMPORTANT NOTICE: To be considered for this position, please visit https://www.cuyahogacounty.gov/human-resources to create a profile and apply. Consideration will only be given to those who apply on the Cuyahoga County job portal.

Summary
The purpose of this classification is to examine and interpret firearms and toolmarks evidence associated with alleged criminal acts; to inspect and test fire all kinds of firearms and examine fired ammunition recovered from a crime scene to determine if it was fired by a particular firearm, interpret results and prepare reports for assigned casework and testify in the court of law.

Distinguishing Characteristics
This is a journey-level classification working under general supervision. Positions in this class are expected to independently perform recurring, well-precedented projects using standard methods and techniques. Incumbents establish and maintain quality control, an ensure proper preservation and documentation of evidence. Employees receive instruction or assistance as new or unusual situations arise, and are expected to become fully aware of methods, protocols, procedures, applicable regulations, and of methods for the analysis of data and results.

Essential Job Functions
Conducts examinations and comparisons of firearms, bullets, shells, casings, tool marks and other related items; applies instrumental, physical, and/or chemical techniques in the examination of firearm and tool mark evidence; disassembles, reassembles, renders safe, and tests firearms to determine operability, safety, and accuracy; documents unique characteristics and records physical parameters using measuring projections, micrometers, etc.; performs distance determination and examination of gunshot patterns with test standards; uploads into and reviews data from NIBIN, the National Integrated ballistic Information Network; prepares findings and issues reports based on the results of the examination. Reviews/compiles case files and firearm evidence. Cleans and maintains worksite and laboratory equipment; transfers and maintains evidence in storage. Testifies in court as an expert witness; communicates with attorneys and law enforcement personnel; attends meetings.

Minimum Requirements
Bachelor of Science degree in natural/physical science and two (2) years of laboratory experience performing firearms and toolmark evidence analysis; or an equivalent combination of education, training, and experience.

Application Process
This is a non-competitive, classified position. The Personnel Review Commission (PRC) will check your application to make sure you meet the minimum qualifications. If you do, the PRC will put your name on an eligibility list. To fill this opening, the PRC sends the hiring department and Human Resources (HR) a certified eligibility list. HR helps the hiring department decide who from the certified list to follow up with for interviews and then a job offer. Most of our communication with candidates is through email. Regularly check the email address you gave us in your job profile. Watch your Spam folder, just in case.

If we offer you a job, you must pass a drug screen and background check before the offer becomes final. Prior criminal convictions do not automatically disqualify you from employment; the County looks at criminal convictions on a case-by-case basis using the guidelines in Chapter 306 of the County Code.

City of Henderson Agency, Henderson, Nevada
Forensic Scientist (Controlled Substances)
Job Number 1022APR24-P-TNB

The City of Henderson announces an examination to create an eligibility list and to fill one (1) vacancy for the classification of Forensic Scientist (Controlled Substances) in the Police Department. The eligibility list may be utilized to fill vacancies for this classification for up to one (1) year.

Forensic Scientist I:
Under general supervision, performs a variety of scientific laboratory examinations and analyses on physical evidence for one or more Forensic science disciplines including **Controlled Substances**, Toxicology, Latent Print Examination, Trace Chemistry-Flammables, Firearms and Toolmarks, Questioned Documents, and Biology/DNA; and performs related duties as assigned.

Forensic Scientist II:
Under general supervision, performs a variety of scientific laboratory examinations and analyses on physical evidence in a discipline of the Forensic Laboratory, (including **Controlled Substances**, Toxicology, Latent Print Examination, Trace Chemistry-Flammables, Firearms and Toolmarks, Questioned Documents, and Biology/DNA); interprets test results, formulates conclusions, and prepare reports; provides scientific assistance to external parties and testifies in court as an expert witness; and performs related duties as assigned.

Ideal Candidates for Forensic Scientist (Controlled Substances) will possess the following:
- Experience working in an ISO/IEC 17025 Accredited Laboratory
- Experience determining proper scientific testing techniques and performing chemical, instrumental, microscopic, chromatographic, and comparative laboratory tests on suspected controlled substances and illicit drugs
- Experience isolating and separating analytes (qualitatively) from various matrices, including solid dose samples
- Knowledge and experience in preparing and validating standards
- Experience with Liquid Chromatograph/Mass Spectrometer (LC/MS), Gas Chromatograph/Mass Spectrometer (GC/MS) instruments, and Fourier-transform infrared spectroscopy (FTIR)
- Knowledge of controlled substances and seized drugs
- Courtroom testimony experience

For more information, minimum qualifications and to apply visit: Forensic Scientist (Controlled Substances)* | Job Details tab | Career Pages (governmentjobs.com)

Suffolk County Crime Laboratory, Hauppauge, NY
Forensic Scientist I (Trace Evidence)
Salary: approx. $76,000

The Forensic Scientist will be responsible for the examination of hairs, fibers, and physical evidence. Additional examination may include paint, glass, tape, tire and footwear impressions and other trace evidence. The Forensic Scientist will also be responsible for the interpretation of data with reporting, and testimony as an expert witness at criminal trials. In addition, the duties may include crime scene response.

Applicants should be a current Trace Evidence analyst capable of signing casework reports.

Minimum Qualifications: A Bachelor's Degree in one of the natural or forensic sciences from an accredited college or university; including or supplemented by sixteen (16) credit hours in chemistry;

1. At least 2 years of Trace Evidence casework experience and a current casework signing analyst. Experience in Microscopy is a plus. OR
2. A Master's Degree in one of the natural or forensic sciences from an accredited college or university (including or supplemented by sixteen (16) credit hours in chemistry) may be substituted for one year of casework experience, and a current casework signing analyst. Experience in Microscopy is a plus.

Click on the link for more information: https://apps2.suffolkcountyny.gov/civilservice/specs/2264spe.html

Contact by email: thomas.zaveski@suffolkcountyny.gov.
Thomas Zaveski, Forensic Scientist IV
Supervisor, Trace Evidence
Suffolk County Crime Laboratory
William J. Lindsey Complex, Building 487
725 Veterans Memorial Highway
Hauppauge, NY 11787-0099
Phone: 631-853-5585

Deadline: 8/1/2024

Suffolk County Crime Laboratory, Hauppauge, NY
Forensic Scientist I (Firearms)
Salary: approx. $76,000

The Forensic Scientist will be responsible for identification and analysis of various types of firearms, ammunition, tools, and toolmarks, issuance of reports and testimony as an expert witness in legal proceedings.

Click on the link for more information:
https://apps2.suffolkcountyny.gov/civilservice/specs/2266spe.html

Send cover letter and resume to Sean Hopkins at sean.hopkins@suffolkcountyny.gov.
Sean Hopkins
Supervisor, Firearms Section
Suffolk County Crime Laboratory
725 Veterans Memorial Highway
Hauppauge, NY 11788

University of New Haven, West Haven, CT
Faculty: Henry C. Lee College of Criminal Justice and Forensic Science

The successful candidate will be expected to teach coursework in the undergraduate and graduate forensic science programs at University of New Haven. Some of these courses will be consistent with the faculty member's area of expertise, and other courses will be more generalized, such as Survey of Forensic Science. In addition, this candidate must be competent

in advising and mentoring students at various levels, including undergraduate and graduate level thesis projects. Research and professional development are critical elements of this position as well.

Qualifications
The minimum requirement is an M.S. in a natural science or some closely related forensic science discipline. Preferred areas of interest are crime scene investigation and crime scene reconstruction. Strong candidates with Biology or Chemistry backgrounds will be considered. Practical and courtroom testimony experience are important qualifications for the position. The successful candidate must have significant knowledge of crime scene investigation techniques (both in a field and laboratory setting) and knowledge of crime scene reconstruction methodologies. Previous teaching experience in higher education is preferred but not required. The successful candidate must be willing to teach nights and weekends as needed.

Application Instructions
Interested applicants should submit a cover letter and curriculum vitae to Search #24-31F, University of New Haven, 300 Boston Post Road, West Haven, CT 06516, or via email to hrdept@newhaven.edu. Please include the Search #24-31F in the email subject line to ensure proper delivery. Review of applications will begin immediately. The position is open until filled. The anticipated start date is September 1, 2024.

For additional information, contact Search Committee Chair, David San Pietro, at phone no. (203) 479-4598.

The University of New Haven is home to one of the oldest and most well-respected forensic science programs in the United States. Our graduates can be found in forensic science laboratories throughout the US and abroad. We have newly renovated lab space in addition to the internationally-recognized Henry Lee Institute of Forensic Science facility. Modern equipment, including various DNA analysis platforms, SEM, XRD, Raman Spectroscopy, GC/MS, LEEDS comparison microscopy, etc., are available for teaching and research.

Phoenix Police Department, Phoenix, AZ
Toxicology

Are you ready to make a difference in your community and Rise to Serve? Join us in making a positive impact to ensure safety, uphold justice, and become a proud member of the Phoenix Police Department family! The mission of the Phoenix Police Department is to build and foster strong relationships with the community through our outreach and engagement while adhering to the highest standards and traditions of the Phoenix Police Department.

We seek a highly skilled individual to fill the Forensic Science Section Supervisor position and oversee tasks within the Toxicology section at the Phoenix Police Department's Laboratory Services Bureau. The successful candidate will possess specialized knowledge in the principles, analytical procedures, and techniques for analyzing biological specimens for alcohol/volatiles and/or drugs to develop information to assist criminal investigations. The Toxicology Forensic Science Section Supervisor position supervises and manages the activities of the Phoenix Police Department's Forensic Science Laboratory and performs highly specialized forensic science evaluations in the area of Toxicology.

Download flyer for more information.

Phoenix Police Department, Phoenix, AZ
Controlled Substances

Are you ready to make a difference in your community and Rise to Serve? Join us in making a positive impact to ensure safety, uphold justice, and become a proud member of the Phoenix Police Department family! The mission of the Phoenix Police Department is to build and foster strong relationships with the community through outreach and engagement, while adhering to the highest standards and traditions of the Phoenix Police Department.

We seek a highly skilled individual to fill the Forensic Science Section Supervisor position and oversee tasks within the Controlled Substances section at the Phoenix Police Department's Laboratory Services Bureau. The successful candidate will possess specialized knowledge in the principles, analytical procedures, and techniques used in the analysis of suspected controlled substances and have extensive experience completing controlled substances casework developing information to

assist with criminal investigations. The Controlled Substances Forensic Science Section Supervisor position supervises and manages the activities of the Phoenix Police Department's Forensic Science Laboratory and performs highly specialized forensic science evaluations in the area of Controlled Substances.

Download flyer for more information.

Phoenix Police Department, Phoenix, AZ
Latent Print

Are you ready to make a difference in your community and Rise to Serve? Join us in making a positive impact to ensure safety, uphold justice, and become a proud member of the Phoenix Police Department family! The mission of the Phoenix Police Department is to build and foster strong relationships with the community through outreach and engagement, while adhering to the highest standards and traditions of the Phoenix Police Department.

We seek a highly skilled individual to fill the position of Forensic Science Section Supervisor and oversee tasks within the Latent Print section at the Phoenix Police Department's Laboratory Services Bureau. The successful candidate in this section will possess specialized knowledge in the principles, analytical procedures, and techniques used in the analysis and comparison of friction ridge evidence and have extensive experience completing both Automated Biometric Identification System (ABIS) and comparative casework in support of developing information to assist with criminal investigations.

Download flyer for more information.

Penn State, University Park, PA
Assistant/Associate Teaching Professor; Forensic DNA/Molecular Biology

The Forensic Science Program offers both undergraduate and graduate (MPS) degrees, is home to a broad range of resident instruction and distance learning offerings and conducts extramurally funded research. The Program seeks a dynamic and innovative individual to instruct and develop courses for undergraduate and graduate students. Forensic DNA/molecular biology expertise preferred.

To apply: https://psu.wd1.myworkdayjobs.com/PSU_Academic/job/Penn-State-University-Park/Assistant-Associate-Teaching-Professor_REQ_0000054374

Suffolk County Crime Laboratory, Hauppauge, NY
Forensic Scientist II (Biological Sciences)
Salary: approx. $86,000, 1 position

The Forensic Scientist will be responsible for the examination of physical evidence, body fluid analysis, performing DNA-STR (autosomal and Y-STR) analysis, interpretation of data with reporting, and testimony as an expert witness at criminal trials. In addition, the duties may include crime scene response.

Applicants should be a currently qualified DNA analyst capable of signing casework reports.

Minimum Qualifications: A Bachelor of Science Degree in Biology, Forensic Science or a closely related field from an accredited college or university; Coursework required by the FBI Quality Assurance Standards For Forensic DNA Testing Laboratories 2020 (Genetics, Molecular Biology, Biochemistry and Statistics);

1. At least 4 years of Forensic Biology casework experience including DNA-STR (autosomal and Y-STR) analysis, and a current casework signing analyst. Experience with probabilistic genotyping is a plus.
   OR
2. A Master of Science Degree in Biology, Forensic Science or a closely related field from an accredited college or university may be substituted for one year of casework experience including DNA-STR (autosomal and Y-STR) analysis, and a current casework signing analyst. Experience with probabilistic genotyping is a plus.

For more information, use this link: https://apps2.suffolkcountyny.gov/civilservice/specs/2263spe.html

Contact by email: karen.galindo@suffolkcountyny.gov - Karen Galindo, Forensic Scientist IV, Supervisor, Biological Sciences, Suffolk County Crime Laboratory, William J. Lindsay Complex, Building 487, 725 Veterans Memorial Highway, Hauppauge, NY 11787-0099; Phone: 631 853-5585

Deadline: 08/01/2024

Suffolk County Crime Laboratory, Hauppauge, NY
Forensic Scientist I (Biological Sciences)
Salary: approx. $76,000, 2 positions

The Forensic Scientist will be responsible for the examination of physical evidence, body fluid analysis, performing DNA-STR (autosomal and Y-STR) analysis, interpretation of data with reporting, and testimony as an expert witness at criminal trials. In addition, the duties may include crime scene response.

Applicants should be a currently qualified DNA analyst capable of signing casework reports.

Minimum Qualifications: A Bachelor of Science Degree in Biology, Forensic Science or a closely related field from an accredited college or university; Coursework required by the FBI Quality Assurance Standards For Forensic DNA Testing Laboratories 2020 (Genetics, Molecular Biology, Biochemistry and Statistics);

1. At least 2 years of Forensic Biology casework experience including DNA-STR (autosomal and Y-STR) analysis, and a current casework signing analyst. Experience with probabilistic genotyping is a plus.
   OR
2. A Master of Science Degree in Biology, Forensic Science or a closely related field from an accredited college or university may be substituted for one year of casework experience including DNA-STR (autosomal and Y-STR) analysis, and a current casework signing analyst. Experience with probabilistic genotyping is a plus.

For more information, use this link: https://apps2.suffolkcountyny.gov/civilservice/specs/2262spe.html

Contact by email: karen.galindo@suffolkcountyny.gov - Karen Galindo, Forensic Scientist IV, Supervisor, Biological Sciences, Suffolk County Crime Laboratory, William J. Lindsay Complex, Building 487, 725 Veterans Memorial Highway, Hauppauge, NY 11787-0099; Phone: 631 853-5585

Deadline: 08/01/2024
