

Southern Association of Forensic Scientists

2023 Annual Meeting

Gulf Shores. Alabama



Office of the Mayor



Welcome to Gulf Shores 2023 Southern Association of Forensic Scientists April 24-28, 2023

As Mayor of the City of Gulf Shores and on behalf of the City Council and the citizens of this community, I would like to welcome all those attending the 2023 Southern Association of Forensic Scientists Annual Meeting, to our beautiful city. As you cruise the Gulf Coast, we hope you are able to thoroughly enjoy all that our "Small Town, Big Beach" has to offer.

Gulf Shores is known for having several family-friendly restaurants that serve delicious food and provide fantastic dining experiences. Whether it's fresh Gulf Coast seafood or a juicy cheeseburger, you're sure to find something that everyone will enjoy.

If it's an adventure you're seeking, make sure to check out our long list of attractions that visitors enjoy year-round. Everything from boating, fishing, golf, shopping, and more are all waiting for your arrival.

Once again, the City of Gulf Shores is excited to be a part of this exciting event. We hope you all have a wonderful time enjoying our "Small Town, Big Beach."

Sincerely,

Robert Craft, Mayor Gulf Shores, AL

Post Office Box 299 Gulf Shores, AL 36547



Greetings Forensic Scientists,

Welcome to beautiful Gulf Shores, Alabama, and the 2023 Annual Meeting!

We are excited that you are joining us for this meeting and are ecstatic to be together again after so long! This is our first in person meeting since 2019 and we cannot wait to see y'all!

As the planning committee for this event, we have put forth much effort to ensure that you have an educational and enjoyable conference. We don't mean to brag, but we think our lineup of workshops and the plenary session is one of our best. The meeting this year is short, only three and a half days long, but not short on content, as a full agenda is in place. It is our hope that you take full advantage of available workshops, vendor exhibits, plenary session, and of course the opportunity to share information with other forensic scientists – either at one of the two receptions or in the hospitality suite!

Again, welcome to Gulf Shores. We hope that you have a great meeting and thoroughly enjoy your stay.

Sincerely,

Your SAFS 2023 Planning Committee

Kristen Fripp, Tanja Kopp, April Brown, Allison Galassie, and Adam Lewis



The Lodge AT GULF STATE PARK ARTUR FOR SAFS Annual Meeting 2023 Gulf Shores. Alabama



Meeting information, including the 2023 Annual Meeting Program, can be found on our meeting website safsannualmeeting.com

Inside of your swag bag you will find:

- Tickets for door prizes: winners announced at the vendor reception; you must be present to win! ٠
- Information about Gulf Shores along with a map of the area •
- Discount coupon book to Tanger Outlets ٠
- Informational flyers from some of our exhibitors ٠
- Goodies from SAFS: a water bottle and USB hub •

Inside your name badge you will find lunch tickets if you have registered for both morning and afternoon workshops on the same day. You will need to turn in the ticket to receive the boxed lunch.

- Blue tickets are for Tuesday lunch
- Red tickets are for Wednesday lunch

If you have any special dietary needs, please let one of us know as soon as possible.

Please wear your name badge during all meeting events to ensure entry, including the vendor reception, banquet with cocktail hours and hospitality suite.

Workshop and meeting attendance certificates will be disseminated electronically by May 24th to the emails you provided with your registration or on the workshop sign-in sheets. If you do not receive your certificates by May 25th, please email: kristen.fripp@gbi.ga.gov

Enjoy your visit to Gulf Shores!

If you need any help or have any questions, please do not hesitate to find a Board Member and they will be happy to assist you.





Monday, April 24, 2023	
1:00 p.m2:30 p.m.	SAFS Board Meeting
Sea Oats	
2:30 p.m 5:30 p.m.	Registration
Conference Room Foyer	
6:00 p.m. – 8:00 p.m.	Optional: Informal Welcome with your SAFS Board
Woodside Restaurant	(Shuttle runs from hotel to Woodside)
9:00 p.m 11:30 p.m.	Hospitality Suite
Corner Meeting Suite (2216)	





Tuesday, April 25, 2023		
7:00 a.m 5:00 p.m.	Registration (closed from 12:00 pm to 1:00 pm)	
Conference Room Foyer		
7:00 a.m. – 8:30 a.m.	Continental Breakfast with Sandwiches	
Gulfview Ballroom I		
8:00 a.m5:30 p.m.	Workshops	
Dogwood	GCMS Troubleshooting and Tips	
	(Alexis Willey and Kirk Lokits, GCMS Applications Scientists - Agilent Technologies)	
Cypress	Improving Internal Auditing Skills	
	(David Feist, ANAB)	
8:00 a.m12:00 p.m.	Workshops	
Live Oak I	Using Next-Generation Sequencing to Improve Casework Outcomes	
	(Meredith Turnbough and Bobby LaRue, Qiagen)	
	Accurate Liquid Chromatography Solutions for THC Quantitation in Forensic	
Live Oak II	(Ciara Pitman and Nishi Rochelle, Shimadzu Scientific Instruments, Inc)	
10:00 a.m 10:30 a.m.	Break	
Conference Room Foyer		
12:00 p.m. – 1:30 p.m.	Boxed Lunch (use blue ticket found in welcome packet)	
Conference Room Foyer		





1:30 p.m5:30 p.m.	Workshops Life Technologies Tech Talks	
Live Oak I		
	(Pete Delaune and Chris Furr, Thermo Fisher Scientific)	
Live Oak II	Quality Management: Where does it come from, how does it work, and what does it mean to you?	
	(Robert Ollis, Spectre Scientific)	
Live Oak III	An Ounce of Prevention: Understanding and Avoiding Cognitive Bias in Forensic Decisions (Dr. Jeff Kukucka, Townson University)	
3:00 p.m. – 3:30 p.m. Conference Room Foyer	Break	
7:00 p.m. – 9:00 p.m. The Burrow	Alabama State Fair Snack Party (7:00 p.m8:00 p.m.)	
Dunes Terrace	Stargazing Program (8:00 p.m-9:00 p.m.)	
9: 00 p.m. – 11:30 p.m.	Hospitality Suite	
Corner Meeting Suite (2216)		





Wednesday, April 26, 2023		
7:00 a.m5:00 p.m.	Registration (closed from 12:00 pm-1:00 pm)	
Conference Room Foyer		
7:00 a.m. – 8:30 a.m.	Deluxe Continental Breakfast	
Gulfview Ballroom I		
8:00 a.m12:00 p.m.	Workshops	
Live Oak I	Testimony: Expert Witness Tips and Preparing for an Admissibility Hearing	
	(Michelle Shepherd and Emily Schmidt, Georgia Bureau of Investigation)	
Live Oak II	Agilent Tech Talks	
	(Kirk Lokits, Agilent Technologies)	
Live Oak III	Ethics in Forensic Science	
	(Robin Bowen, West Virginia University)	
10:00 a.m10:30 a.m.	Break	
Conference Room Foyer		
12:00 p.m. – 1:30 p.m.	Boxed Lunch (use red ticket found in welcome packet)	
Conference Room Foyer		





1:30 p.m5:30 p.m.	Workshops
Live Oak I	Forensic Investigative Genetic Genealogy: A comprehensive laboratory review
	(Danny Hellwig, Intermountain Forensics)
Live Oak II	Forensic Statistics
	(Robert Ollis, Spectre Scientific)
Live Oak III	From Striving to Thriving: Resilience for the Forensic Scientist
	(Kristy Sekedat, M.S., Michigan State Police)
3:00 p.m. – 3:30 p.m.	Break
Conference Room Foyer	
1:30 p.m5:30 p.m.	ABC Examination
Cypress	
7:00 p.m. – 9:00 p.m.	Exhibitor Sponsored Reception
Gulfview Ballroom I	
9:00 p.m. – 11:30 p.m.	Hospitality Suite
Corner Meeting Suite (2216)	





7:00 a.m. – 8:30 a.m. Gulfview Ballroom I	Breakfast with the Exhibitors
9:00 a.m. – 11:30 a.m.	Plenary Session
Live Oak I-III	Tulsa Race Massacre & Tulsa Race Massacre DNA Identification Project: Update and Lessons Learned (J. Kavin Ross, Greenwood Tribune and Danny Hellwig, Intermountain Forensics)
12:30 p.m. – 3:00 p.m. Live Oak I-III	Lunch and SAFS Business Meeting
5:00 p.m10:30 p.m.	Cocktails and Banquet
Dunes Terrace	"Happy Hours" (5:00 p.m. – 7:00 p.m.)
Gulfview Ballroom I	Dinner (7:00 p.m. – 8:30 p.m.)
	Nature Craft (9:00 p.m. – 10:00 p.m.)
10:30 p.m 12:00 a.m.	Hospitality Suite
Corner Meeting Suite (2216)	





Friday, April 28, 2023		
7:00 a.m. – 8:00 a.m. Dogwood	Breakfast	
9:00 a.m11:00 p.m.	Discipline Specific Breakout Session	
Live Oak I	Chemistry/Toxicology	
Live Oak II	Biology	
Live Oak III	TBD/General Forensics	



SAFS Annual Meeting 2023



WORKSHOP DESCRIPTIONS

BIOLOGY

Using Next-Generation Sequencing to Improve Casework Outcomes

Presenter(s): Meredith Turnbough and Bobby LaRue, Qiagen

In the last few years, next-generation sequencing (NGS) has demonstrated that it can extract additional information from DNA samples for investigations when current technology fails. When a CE-based STR profile does not produce a hit in traditional databases, NGS capabilities such as higher-plex marker panels, more discriminatory SNP data, and forensic genetic genealogy can provide insights that lead to identifications. The forensic community is recognizing this technology as a viable option for missing persons and unidentified human remains investigations, sexual assault cases, and other violent crimes and are exploring how it can be integrated as more than just a specialty tool. The questions being asked are now focused on the practical aspects of implementation, such as whether this technology is a good financial investment, whether NGS can benefit everyday investigations, and how do you validate. This workshop seeks to share the journey of adopting NGS into their operational casework, and will provide useful information, arguments, case studies, and soft skills as you prepare for your own.

Life Technologies Tech Talks

Presenter(s): Pete Delaune and Chris Furr, Thermo Fisher Scientific

Join FAS Pete Delaune and FSE Chris Furr to discuss common 7500 and 3500 troubleshooting issues and how to resolve them, both from an applications perspective and an instrument hardware standpoint. We'll cover the instruments, software, chemistry, consumables, and general tips and tricks for streamlining the HID workflow for more efficient sample processing in the lab. We'll end the workshop with a discussion about how State CODIS laboratories and booking stations are using the RapidHIT ID system to automate the search of arrestee DNA against unsolved cases in NDIS; how crime laboratories and law enforcement are working together to form Rapid DNA investigative lead programs; and how laboratory and medical examiner/coroners consider Rapid DNA for its speed, mobility, and ease of operation for their disaster recovery and identification programs.

Forensic Investigative Genetic Genealogy: A Comprehensive Laboratory Review

Presenter(s): Danny Hellwig, Intermountain Forensics

This workshop aims to provide a detailed understanding of the process of investigative genetic genealogy, from laboratory techniques to investigation processes. Participants will receive an in-depth overview of the instrumentation used in genetic genealogy, such as microarray, next-generation sequencing, and whole genome sequencing, as well as the bioinformatics tools required to transform data into useful information. Furthermore, the workshop will cover the databases utilized by genetic genealogists, including how they are accessed and the methods used to analyze and compare the data. Participants will gain insights into the investigation process, including how genetic genealogists use the data to narrow down suspects and identify unknown individuals. This workshop is designed to provide clarity to the forensic community, which is new to this process. It will provide a comprehensive review of the investigative genetic genealogy process, allowing participants to gain a greater understanding of how it can be utilized in forensic investigations. Overall, the workshop is intended to provide a solid foundation for the forensic community to begin using investigative genetic genealogy as a tool in their investigations.

CHEMISTRY

GCMS Troubleshooting and Tips

Presenter(s): Kirk Lokits and Alexis Willey, GCMS Application Scientists

The GCMS workshop will focus on the fundamental aspects of operational theory, troubleshooting, and maintenance of GC (Split/Splitless) inlets and MS EI sources. Column selection and inlet and flow path troubleshooting, and maintenance will be discussed. The workshop format will be PowerPoint based but will have hands on labs involving split/splitless inlet modules and MS EI sources. The MS workshop will also cover the fundamental aspects of MS operational theory, optimizing acquisition parameters for spectral fidelity and method stability. Attendees will have the opportunity to perform hands-on dis-assembly and reassembly of an EI source, discuss best practices for cleaning the source, and logical troubleshooting and maintenance of MS and vacuum system. An in-depth discussion of the tuning process and what's occurring during the tuning process will be presented. Initial plans are to have a standalone MS system in the room for discussion and troubleshooting tips. The amount of individual hands-on participation will depend on the size of the class.

Accurate Liquid Chromatography Solutions for THC Quantitation in Forensic Labs

Presenter(s): Ciara Pitman and Nishi Rochelle, Shimadzu Scientific Instruments, Inc.

The cannabis/hemp market continues to grow, with more states legalizing marijuana, as well as the 2018 Farm Bill removing hemp from the controlled substance list. This bill defines that any cannabis sativa L. strain with a total tetrahydrocannabinol (THC) concentration of $\leq 0.3\%$ can be considered hemp, not cannabis. Consequently, there is strong demand to differentiate hemp from cannabis based on THC concentration. Traditional qualitative methods use gas chromatography mass spectrometry (GCMS) to identify and confirm the presence of marijuana in criminal cases. GCMS could be used for quantitation, however full separation of the acid forms is not feasible as it is converted to native THC in the source. More recently, adulterated hemp samples containing THC variants are increasing and there is a need to fully identify and quantify each of them. Most laboratories are only monitoring and reporting delta-9 THC. This workshop will describe the use of liquid chromatography (LC) techniques for accurate separation of common cannabinoids, Cannabis or Hemp analyzer for THC quantitation, and LCMS separation methods. Learning objectives: discuss the difference between GC and LC, learn about the cannabis or hemp analyzers for THC quantitation, learn how to expand capabilities of LC to include MS and additional cannabinoid isomers such as delta-8 and delta-9, delta-10 and delta-6a/10a THC, and hands-on portion to see the analyzer run in real-time samples.

Agilent Tech Talks

Presenter(s): Kirk Lokits, Agilent Technologies

Real Time GCMS Analysis of Powders, Solids and Liquids using Agilent's QuickProbe[™] Technology: This presentation demonstrates the capabilities of performing fast GCMS analysis in under 1 minute, requiring minimal to no sample preparation prior to analysis, and utilizes classical EI commercial libraries. This work seeks to illustrate how Agilent's QuickProbe[™] can be used as a fast-qualitative forensic screening tool on an existing 5977A/B/C/7890B or 5977A/B/C/8890 GCs, while allowing for the continued use of a co-resident split/splitless GC inlet for routine conventional capillary confirmational GCMS analysis.

Understanding the Science and Concerns Behind the Possible Conversion of Helium to Hydrogen Carrier Gas for El GCMS systems: Helium has historically, with valid scientific reasons, been the preferred carrier gas for GCMS and the majority of GC analysis. Within the last decade there has been an increase in the difficulties to procure UHP helium in the quantities required for full laboratory operations and or a drastic increase in the overall cost of UHP helium tanks. Due to its chemical and physical characteristics, high resolution chromatographic separations can be achieved with minimal analyte interactions. GCs with atmospheric detectors often utilize alternative carrier gases such as nitrogen, argon, and hydrogen. However, when the GC is coupled to a mass spectrometer under high vacuum, parameters based on a mean free pathway of ion molecules, vacuum, low background, and high sensitivity come into play. Based on these parameter limitations, of the previously mentioned carrier gases, hydrogen is the practical alternative. Nonetheless, hydrogen does have disadvantages that may cause a GCMS analyst to re-evaluate the urgency to convert to hydrogen carrier based on its reactivity with some analytes, reduced sensitivity, increased peak tailing, and reduced spectral fidelity when compared to helium generated reference spectra. Ultimately, helium is the preferred carrier gas choice, but if not available, hydrogen may be considered. The purpose of this presentation is to help analysts determine if hydrogen can be used as a carrier gas for their specific analysis. Furthermore, the illustration of best practices, specific MS source configurations, forensic drug data examples, and the acquisition parameters necessary to help determine if the transition of a specific application is or is not compatible for hydrogen carrier gas on a GCMS system, will be discussed.

GCMS Analysis of Street Drugs Utilizing Hydrogen Carrier Gas in Combination with a Hydroinert El Source: Analysis of street drugs in the forensic realm has routinely utilized capillary chromatography with mass selective detectors (MSD). The MSD provides sensitivity, selectivity, and permits structural identification of the specific compounds found in forensic street drug samples. The purpose of this research is to demonstrate that several recent advances in inert coatings on the mass spec source assembly, found in the Agilent Technologies Hydroinert[™] Source, can be successfully incorporated into utilizing hydrogen as an alternative carrier gas in the current screening methods involving street drug samples. This work seeks to demonstrate the improvements in source reactivity, increases in analyte response, spectral fidelity, and speed of analysis when using the Hydroinert[™] source in combination with hydrogen as the carrier gas. This study applied Method Translation software to convert a conventional street drug screening method without changing peak elution patterns or negatively affecting peak resolution. The advancement of the Hydroinert[™] Source design facilitates the GCMS solution, utilizing hydrogen as the carrier gas, and generating spectral library matches from commercial libraries and or the generation of custom libraries for targeted drug compounds.

GCMS Analysis of Explosives in Soil Utilizing Hydrogen Carrier Gas in Combination with a Hydroinert El Source: Analysis of explosives and explosive residues has routinely utilized capillary chromatography with mass selective detectors (MSD). The MSD provides sensitivity, selectivity, and permits structural identification of the specific compounds found in explosives and residue matrices. The purpose of this research is to demonstrate that several recent advances in inert coatings on the mass spec source assembly, found in the Agilent Technologies Hydroinert[™] Source, can be successfully incorporated into utilizing hydrogen as an alternative carrier gas in the current proven methods of explosive analysis. This work seeks to show that this can be done with minimal disruption to the established practices of data acquisition and analysis while demonstrating the improvements in source. This study utilized an existing conventional explosives GC method and applied Method Translation software to translate method parameters from helium carrier to hydrogen carrier gas, without changing the peak elution patterns or negatively affecting peak resolution.

GENERAL

Improving Internal Auditing Skills

Presenter(s): David P. Feist, Senior Manager – Training Business, ANAB

An integral part of a successful management system is an effective audit program that includes trained and competent auditors. But what makes a trained and competent auditor and what key competencies, or skills should be evaluated during training? At a minimum, we should ensure that auditors possess sufficient auditing skills, both hard and soft skills, and abilities that allow the auditor to collect, verify and record sufficient objective evidence to support the audit findings. The hard skills or technical skills, acquired and developed through training and education, typically come easier to most auditors. However, the soft skills or interpersonal skills, are often not fully considered or developed during auditor training. Both hard and soft skills are essential for a successful and reliable audit.

This course will focus on the competencies and auditing skills that are essential for managers to consider when developing their internal audit program and teams, and when training their internal auditors. During this course, auditing skills will be defined and an overview of the various types of auditing skills, both hard and soft skills, will be provided. Additionally, we will discuss how these auditing skills are integral to the audit methods that are used for collecting, verifying, and recording objective evidence. Participants will have the opportunity to develop and/or enhance their auditing skills using numerous hands-on practical exercises.

Quality Management: Where does it come from, how does it work, and what does it mean to you?

Presenter(s): Robert J. Ollis, Jr., Spectre Scientific

Quality management techniques have finally grasped a strong foothold in forensic science after years of trying. But where does this come from? This entertaining workshop is designed to enlighten and encourage the participant to view quality management principles in a way that demonstrates how it has shaped other industries and disciplines. There is a little bit of fascinating history, hands on application, and discussion. Problem solving and improvement are the real focus of QM principles and will be discussed.

An Ounce of Prevention: Understanding and Avoiding Cognitive Bias in Forensic Decisions

Presenter(s): Jeff Kukucka, Ph.D., Townson University

Forensic science can be a powerful tool in solving crimes -- but in recent years, researchers have identified ways in which psychological factors (such as context, unconscious bias, and stress) can undercut the power of forensic science and increase the risk of costly errors. In this workshop, I will describe various psychological influences on forensic analyses -- including how labs can take practical steps to combat these influences, and why some labs have resisted while others have benefitted from doing so.

Testimony: Expert Witness Tips and Preparing for an Admissibility Hearing

Presenter(s): Michelle Shepherd and Emily Schmidt, Georgia Bureau of Investigation

Whether you've testified hundreds of times or are still anxiously anticipating that first time you are deemed "qualified as an expert in ______", this workshop will provide informative tips for navigating the courtroom and confidently presenting and defending your findings. Regardless of your specialization and the applicable admissibility standard in your state, at the conclusion of this workshop you will have the tools to prepare yourself, fellow staff, and prosecutors for a challenge to the admissibility of evidence. Come prepared to be an active participant as we better prepare to be an "Expert Witness" in forensics.

Ethics in Forensic Science

Presenter: Robin Bowen, West Virginia University

Although people may think of ethics as a personal matter, it also includes professional and public issues. Proper ethical behavior is required by scientists making complex decisions about the interpretation of data, about which problems to pursue, and about when to conclude an experiment, all which help to improve the quality of forensic science. While the workshop includes many "basics," the course relates those ideas to the forensic science profession. To understand forensic-specific ethics, it is important to look at the interactions between the cultures of science, law, research, and law enforcement.

Upon completion of this course, the student will be able to:

- Demonstrate the relationship between science, technology, and society in ethics
- Examine the various types of conflicts and the problems they may create
- Analyze what ethical standards are in place for forensic scientists and related professions
- Evaluate how codes of ethics in science may contradict other professions
- Defend how and why unethical situations occur
- Analyze when and how to report misconduct and associated consequences

Attendees are given the opportunity to interact and discuss ethical situations that have taken place within the forensic science community. Attendees will be presented with scenarios and the ethical considerations involved with each. The attendees will provide insight from their work environments and represent the "real-world" of ethics in forensic science. Participants should be open to discuss and debate, while keeping an open-mind and a positive environment.

Forensic Statistics

Presenter(s): Robert J. Ollis, Jr., Spectre Scientific

Many scientists have taken statistics, as well as many from all other disciplines in the job market. But how does the application of statistics improve our ability to demonstrate the veracity of our conclusions? How do we testify to these statistics? More importantly, what can we say and what shouldn't we say about these important tools when reporting, consulting, and testifying? How does measurement uncertainty affect our results and how do we know we are doing it correctly? This and many other topics will be covered in this workshop.

From Striving to Thriving: Resilience for the Forensic Scientist

Presenter(s): Kristy Sekedat, M.S., Michigan State Police

Although the effects of vicarious and direct trauma have been studied for decades within the criminal justice and law professions, the mental health of forensic scientists has historically been overlooked. Despite rigorous preparation during our education to perform the technical aspects of our careers, there was most likely little to no discussion of how to mentally prepare ourselves for the images and stories we would be exposed to throughout our careers. Due to the lack of awareness surrounding this issue and the potential lack of organizational support, it's no surprise that forensic scientists have experienced burnout in some form. Fortunately, occupational stress and wellness in the forensic science field have gained much interest over the last several years, which has helped pave the way for organizational change and support. By attending this workshop, we will begin to explore the possible effects on our mental health, discuss wellness practices that can be applied to our daily routines, and learn different forms of self-care that are meaningful to each participant. This workshop will also discuss ways in which the Michigan State Police has supported its employees and welcomes a conversation to share stories from other agencies. Whether your work is performed solely in the lab or is a combination of the lab and scene response, the goal of this workshop is for all attendees to leave feeling empowered to establish the healthy boundaries needed to give way to a successful and rewarding career.



SAFS Annual Recting 2023



Presenters' Biographies

Robin Bowen is a Teaching Assistant Professor and FIS Minor Coordinator with the Department of Forensic Science at West Virginia University. Bowen is the author of Ethics and the Practice of Forensic Science, The Significance of Ethical Practices in Forensic Science in the Encyclopedia of Forensic Sciences, and various chapters on ethics in forensic science. She has participated as an advisory member of the Outreach and Communication Interagency Working Group (IWG) under the National Science and Technology Council Subcommittee (NSTC) on Forensic Science and as a member of the Editorial Advisory Board for the revised edition of Encyclopedia of Forensic Sciences. Bowen is the primary developer of the Forensic Educational Alliance, an initiative to offer a variety of forensic science continuing education online courses. She has an undergraduate degree in Forensic and Investigative Sciences, a graduate degree in Secondary Science Education, and a doctorate in Instructional Design and Technology.

Pete Delaune has been a Field Applications Scientist (FAS) for Thermo Fisher since 2019 supporting customer training and troubleshooting needs in the Southeast. Prior to joining Thermo Fisher he worked for the U.S. Army Criminal Investigation Laboratory (USACIL) as a Biologist from 2015 – 2019. After attending Emory University for a B.S. in Biology and Georgia State University for a M.S. in Biology he worked as a Research Assistant at the VA Hospital in Atlanta analyzing micro-RNA quantities in blood. He currently resides in Biloxi, MS with his wife and two kids.

David Feist is an accomplished Quality Professional, experienced in multiple disciplines of International Business, manufacturing, process mapping, organizational effectiveness, Emergency management planning for business continuity, Six Sigma Quality Improvement Methodologies and Total Quality Management and software development. He currently Manages Training for ANAB – (ANSI National Accreditation Board). And prior, managed 17020 Inspection Body Accreditation for ANAB. He is the former owner of China Sourcing, Inc,(Hangzhou, PRC) an Asia-Pacific manufacturer of Industrial Products sold throughout US industry with over 20 years of experience in Project Management and large-scale project implementation. He is a consultant Laboratory Systems (Environmental, Water Quality, Destructive and Dimensional) on manufacturing, international product teams, project management, software validation and Project Management. He is a Lead in ISO/IEC17025:2005, ISO/IEC 17020:2012 and DoD ELAP (Environmental Laboratory Accreditation Program). Mr. Feist established and ran 13 testing laboratories globally, guiding them through the ISO/IEC17025 registration process. He has conducted over 95 accreditation assessments to the ISO17025:2005 standard, including 10 DoD ELAP assessments. He has lead multiple training classes for private clients, qualifying them for Internal Assessment of Laboratories, along with Process Improvement.

Chris Furr has been a Field Service Engineer (FSE) for Thermo Fisher since February of 2021 working to maintain, repair and install various qPCR and CE analyzers in the Southeast. Prior to joining Thermo Fisher he worked at the American Type Culture Collection in Gaithersburg, MD, maintaining various organoid cell lines from 2019 – 2021. Chris attended George Mason University, completing his B.S. in Biology and Microbial Genetics and moved on to work with various clinical labs as a Research Associate for Virginia Tech and Oklahoma State University. Chris currently lives with his Fiancé in Charleston, SC.

Daniel Hellwig holds an M.S. in Forensic Science and is a 19+ year veteran of both Public and Private Crime Forensic DNA Laboratories. He has served as a DNA analyst, technical leader and in executive management of Forensic DNA laboratories over that time. He has provided training to hundreds of Forensic DNA labs and conferences on a variety of different topics. Armed with a black belt certification in Lean/Six Sigma process improvement and extensive experience in both quality and operational leadership, he provides executive oversight, develops and maintains laboratory partnerships, case consultation and directs the future development of the laboratory, Intermountain Forensics.

Dr. Jeff Kukucka received his Ph.D. in Psychology from the CUNY Graduate Center (2014) and is now an Associate Professor of Psychology at Towson University in Maryland. He is also Vice Chair of the Human Factors Task Group of the OSAC for Forensic Science--a federal organization that develops and promotes best practices for all forensic disciplines. Broadly, his research examines the psychological causes of forensic science errors, including practical ways to mitigate cognitive bias, and how non-experts understand (and often misunderstand) forensic science.

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

Robert J. Ollis, Jr. is originally from and currently resides in Marietta, Georgia, a suburb of Atlanta. He earned a Bachelor of Science degree in chemistry from Kennesaw State University. He was formerly employed in Quality Management and Forensic Chemistry at the Defense Forensic Science Center, home of the United States Army Criminal Investigation Laboratory (USACIL), and the Forensic Exploitation Directorate (FXD). Robert served in the Drug Chemistry Branch of USACIL before serving as the ISO Program Coordinator for USACIL's transition to the International Standard. He also served as lead scientist for FXD where he managed a team of scientists deployed to the Afghanistan Theater of Operations. During his seven month tour he supervised DNA, latent print, firearm and toolmark, and explosives analysis forensic work in support of Operation Enduring Freedom. His previous experience includes environmental chemistry in the private sector before going into forensic science. He was employed with the Georgia Bureau of Investigation for twelve years as technical leader and primary trainer in drug chemistry and fire debris. During this time the GBI attained accreditation to the ISO

9002 standard, ASCLD-LAB Legacy, and finally the ISO/IEC 17025 standard. He was certified as a clandestine laboratory investigator, as well as technical and lead assessor to the ISO 17025 standard for ANSI-ASQ FQS. He was previously certified as a fellow (previous technical specialist) in forensic drug analysis by the American Board of Criminalistics, and was previously certified in calibration by the American Society for Quality. He is co-author of *Instrumental Data for Drug Analysis, 3rd Edition (2005)*. He has authored and delivered workshops in Measurement Uncertainty, Spectral Interpretation and Instrumental Analysis, and ISO 17025 transition at regional and national meetings of various forensic associations. Robert was the Program Chair for the 2007 Annual Southern Association of Forensic Scientists (SAFS) Meeting held in Atlanta. He served as President of SAFS from 2009-2010

Ciara Pitman joined the SSI team in September 2021 as a HPLC Product Specialist. She received her bachelor's degree in chemistry from Niagara University and her doctoral degree in analytical chemistry from the University of Maryland Baltimore County (UMBC). At Niagara, Ciara developed methods optimizing sugar analysis in biofuels using liquid chromatography mass spectrometry. Her graduate studies consisted of utilizing ambient ionization mass spectrometry and liquid chromatography UV for spice authentication and drug detection in varying matrixes. During her time at Shimadzu, Ciara has started researching and optimizing cannabinoid methods.

James Kavin Ross is a connoisseur of all things Black Wall Street of America. Since his return from Houston, Texas, now over two decades, Ross hit the ground running in the quest of researching the hidden and untapped history of Tulsans of the Greenwood community. Inspired by the works of Dr. John Hope Franklin, a native Tulsan and world-renowned author and historian, Ross was lead on the path in search of history of Black Wall Street of America. Researching the history and culture of his hometown is just one of his many passions. Photojournalism, videography, graphic designing and publishing are accompanied with music composition and performance and the arts. A following the footsteps of his father, State Representative Don Ross (Ret), Kavin is very active in his community of North Tulsa past present and future. Contact J. Kavin Ross at Kavtrib@gmail.com

Emily Schmidt currently serves as the Forensic Biology Technical Leader with the Georgia Bureau of Investigation Division of Forensic Sciences in the Forensic Biology discipline where she has held that position since 2017. Prior to being hired as a Forensic Biologist at the Georgia Bureau of Investigation in 2012, she obtained her Bachelor of Science in Forensic Science with minors in Biology and Chemistry from Baylor University as well as her Master's in Forensic Science from Marshall University with areas of emphasis in DNA Analysis and Crime Scene Investigation. She is responsible for overseeing the day-to-day technical and analytical operations of the four Forensic Biology lab locations across the state. Her duties also include overseeing quality assurance and quality control, validations and implementation of new protocols, and continued qualifications and training of all staff within the discipline. In the last six years Mrs. Schmidt has been working with State and Federal attorneys and Georgia Bureau of Investigation Forensic Biology staff to advise and prepare for Harper and Daubert Hearings challenging the admissibility of Serology and DNA evidence. In collaboration with the Prosecuting Attorney's Council of Georgia, she has presented at multiple trainings and meetings across the state to advise and prepare state prosecutors on challenges to the admissibility of DNA evidence interpreted using the TrueAllele® Casework system. Emily has testified approximately 50 times in State and Federal courts and testified as an expert witness in nine pre-trial admissibility challenge hearings and prepared with attorneys for multiple others for which either a stipulation, consent, or plea was agreed upon prior to the scheduled hearing.

Kristy Sekedat has been a professional in the field of forensic science for approximately 19 years. Her career began as a bench scientist in the Crime Laboratory at the New York City Police Department in the Hair & Fiber Unit in 2004. After relocating to Michigan, she began working at the Michigan State Police Lansing Forensic Laboratory in 2012 in the Controlled Substances Unit. Missing the world of trace evidence, Ms. Sekedat transferred to the Trace Evidence Unit of the Michigan State Police Northville Forensic Laboratory in 2015 before being promoted to supervisor of that unit in 2017. Her main duties currently consist of managing a team that conducts analysis in all three subdisciplines of Trace Evidence, performing casework in fiber analysis (which includes fabric impressions, rope/cordage, and fabric damage examinations), and responding to crime scenes. Her interest in resiliency and mental wellness was sparked after witnessing and experiencing the hardships that come with the responsibilities of working in the field of forensic science. Ms. Sekedat recently became a resiliency instructor, an initiative that began with the creation of the Wellness and Resiliency Unit within the Michigan State Police.

Michelle Shepherd currently serves as a Senior Forensic DNA Analyst with the Georgia Bureau of Investigation at the Coastal Regional Crime Lab located in Pooler. Holding a bachelor's degree in Laboratory Technology from Auburn University, with a minor in Criminal Justice, she began her forensic and human identity career over 35 years ago as a student intern in the Alabama Crime Lab System, in the Birmingham and Auburn labs. Following graduation, Michelle was hired as a Forensic Serologist/Biologist in the Headquarters lab of GBI in Decatur, and successfully completed a yearlong training course. She completed graduate level coursework at the University of AL at Birmingham and received graduate level DNA training at GBI and advanced DNA training in autosomal and mitochondrial methods at the FBI Academy in Quantico, VA.Her responsibilities as a DNA Analyst include conducting DNA analysis and interpretation of evidence submitted by Peace Officers in the State of GA, generating and peer reviewing reports, and presenting and defending findings in court. After spending over a decade performing independent casework, Michelle moved to the private sector as an Applications Specialist and District Manager of Technical Support for Human Identity and Tissue Transplant Typing labs with Perkin-Elmer/Applied Biosystems. While there she conducted trainings at over 280 crime labs in the US and military conflict zones. Michelle returned to State service in 2015 and transferred to the Coastal Lab within the GBI Crime Lab system and continues to serve as a DNA analyst. She is a Board-Certified member of the American Board of Criminalistics in Molecular Biology and General Forensic Knowledge, and a longtime member of the Southern Association of Forensic Sciences. Michelle has testified over 300 times in State, Superior, and Federal courts in both civil and criminal cases.

Alexis Willey started with Agilent in 2017 as a Field Service Engineer supporting GC/GCMS products and Markes Thermal Desorption. She has taught GC courses internally for incoming engineers as well as participated in local seminars and lunch & learns around her district to customers. Since June of 2022, Alexis joined the GC/GCMS applications group focusing on customer needs in the environmental and forensic areas. Prior to joining Agilent, Alexis worked 7 years at DuPont/Chemours as an applications chemist responsible for GC, GC/MS, IC, SFC and LC/MS/MS method development and transfer to manufacturing labs for fluorochemicals and environmental pollutants. Previously, she was a GCMS lab for 5 years in an industrial hygiene group, part of a contract environmental lab in New Jersey, testing for air quality and drug screening.



SAFS Annual Recting 2023



Thank you to the following vendors for your participation at our meeting

From exhibiting, to advertising, to sponsoring breaks -We could not do it without your support.

Leeds designs and manufactures firearms, tool marks, and trace evidence comparison microscopes including the LCF3, LCF2, Discovery, LCT, and Trace-Z, as well as forensic imaging tools, the LSV2 and N-IRC, with alternate light source and near-infrared capabilities for analysis of bodily fluids, accelerants, explosives, and gunshot residue evidence. Leeds is ISO/IEC 17025:2017 accredited and provides service by factory-trained service technicians on all Leeds forensic products. Leeds' forensic products can now be purchased on GSA schedule contract #GS-07F-097CA. In addition, Leeds is the exclusive



North American distributor of the Evofinder® Automated Ballistic Identification system. For more information please visit: www.leedsmicro.com.



Bruker provides a range of analytical solutions that enable **UKER** rapid, unambiguous characterization of forensic evidence that meet the best standards for criminal investigation. Learn more about using FT-IR for paint, fiber and particle identification and

Mass Spectrometry for confirmatory tests in blood stains and blood marks. Bruker also provides solutions for glass, hair, tape and analysis of other residues at crime scenes.



The world leader in serving science

Thermo Fisher Scientific is the world leader in serving science. Our mission is to enable our customers to make the world healthier, cleaner, and safer. Through a broad and complementary offering, we help the worlds toxicology community in forensics, clinical research, and sports antidoping solve complex analytical challenges and increase laboratory productivity.

Our unique solutions address the entire toxicology workflow, from sample collection, screening with drugs of abuse kits and analyzers through to analytical confirmation. Our mass spectrometry solutions with triple quadrupole and Thermo Scientific[™] Orbitrap[™] technologies deliver confident, high-quality results supported by extensive mass spectral libraries for improved identification confidence. Differentiated front-end solutions limit the need for sample preparation and LC separation prior to MS analysis, increasing overall throughput.

Through these and other service brands – Thermo Scientific, Applied Biosystems, Invitrogen, Fisher Scientific, and Unity Lab Services – we offer an unmatched combination of innovative technologies, purchasing convenience and comprehensive services. For more information, please visit www.thermofisher.com/toxexplorer.





GC, GC-MS, HPLC, HPLC-MS, UV-VIS, FTIR, AA, ICP, ICP-MS

At Thermo Fisher Scientific our company mission is to enable our customers to make the world healthier, cleaner, and safer. We have long history of partnership with the Forensic Science and Law Enforcement communities by providing essential analytical tools to advance their investigations. Whether it is drug identification, confirming unknown materials, examining trace evidence, or conducting advance forensic research, we offer solutions to meet your toughest analytical tools to advance their science with confidence.





SAFS Annual Meeting 2023



We would like to express our appreciation to the following businesses that provided donations for door prizes or the swag bags.

THANK YOU!!!!!!!

Gulf Shores & Orange Beach Tourism	Leeds Forensic Systems, Inc.
The Lodge at Gulf State Park	Waters Corporation
Tanger Outlets	Cayman Chemical
Bruker	Promega

SAFS